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THE

TRIAL

OF

A CAUSE inſtituted by RICHARD PEPPER ARDEN, Eſq; his Majeſty's Attorney General, by Writ of *Scire Facias*, to REPEAL a PATENT granted on the Sixteenth of *December* 1775,

TO

Mr. Richard Arkwright,

For an Invention of certain Inſtruments and Machines for preparing Silk, Cotton, Flax, and Wool for Spinning;

BEFORE

The Honorable FRANCIS BULLER,

One of the Judges of his Majeſty's Court of King's Bench,

At WESTMINSTER-HALL,

On *Saturday* the 25th of *June* 1785.

LONDON:

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M.DCC,LXXXV.

THE

TRIAL, &c.

The PROCEEDINGS originated in the Petty-Bag of the Court of Chancery; and were tranſmitted by the Lord High Chancellor to the Court of King's Bench, to be there tried, and were as follows:

" PLEAS *before our Lord the King at Weſtminſter, of the* " *Term of the Holy Trinity, in the Twenty-fifth Year of the* " *Reign of our Sovereign Lord George the Third, by the Grace* " *of God, of Great Britain, France, and Ireland, King, De-* " *fender of the Faith, and ſo forth, and in the Year of our* " *Lord One thouſand Seven hundred and Eighty-five.*

Middleſex: to wit. " BE it remembered, that on *Friday* the eleventh day " of *June* next after fifteen days of the Holy Tri- " nity, in the term aboveſaid, *Edward* Lord " *Thurlow*, Baron *Thurlow*, Lord High Chancellor of *Great Britain*, before " our Lord the King at *Weſtminſter*, with his own proper hands, delivered " here in court, a certain record, had before our ſaid Lord the King in " his chancery, in theſe words, that is to ſay, PLEAS before our Lord the " King in his chancery at *Weſtminſter*, in the county of *Middleſex*, of the " term of the Holy Trinity, in the twenty-fifth year of the reign of our " Sovereign Lord *George* the Third, by the grace of God, of *Great Britain*, " *France*, and *Ireland*, King, Defender of the faith, and ſo forth, and in " the year of our Lord one thouſand ſeven hundred and eighty-five. " *England* to wit, our Lord the King ſent to the ſheriff of *Middleſex* his

" writ

Scire Facias.

" writ closed in these words, to wit; GEORGE the Third, by the grace of
" God, of *Great Britain*, *France* and *Ireland*, King, Defender of the faith,
" &c. To the sheriff of *Middlesex*, Greeting, Whereas, we lately, by our
" letters patent, under our great seal of *Great Britain*, bearing date at
" *Westminster* the 16th day of *December*, in the 16th year of our reign,

Patent granted to Mr. Arkwright, dated 16th Dec. 1775.

" reciting, That, Whereas *Richard Arkwright* of *Cromford*, in our county
" of *Derby*, had, by his petition, humbly represented unto us, that he
" had by much study, application and expence, contrived, invented, and
" *brought to perfection certain instruments, and machines*, which he conceived
" would be of public utility, in preparing silk, cotton, flax, and wool, for
" spinning; that the said instruments, or machines, were constructed on
" easy and simple principles, very different from any that had ever yet been
" contrived, that in regard the petitioner was the *first* and sole *inventor*
" thereof, and that the same had *never* been *practised by any other person* or
" persons whomsoever, to the best of his knowledge and belief, he had
" humbly prayed us that we would be graciously pleased to grant unto him,
" his executors, administrators, and assigns, our royal letters patent, under
" our great seal of *Great Britain*, for the sole use, benefit, and advantage
" of his said invention, within that part of our kingdom of *Great Britain*,
" called *England*, our dominion of *Wales*, and town of *Berwick upon Tweed*;
" and also in our colonies and plantations abroad, for the term of fourteen
" years, according to the statute in that case made and provided. And
" we being willing to give *encouragement to all arts* and inventions, that
" might be *for the public good*, were graciously pleased to condescend to
" his request. Know ye therefore, That we of our special grace, certain
" knowledge, and mere motion, for ourself, our heirs and successors,
" did give and grant unto the said *Richard Arkwright*, his executors,
" administrators and assigns, our especial licence, full power, sole privi-
" lege and authority, that he the said *Richard Arkwright*, his executors,
" administrators and assigns, and every of them, by himself and them-
" selves, or by his and their deputy or deputies, servants or agents, or such
" others as he the said *Richard* his executors, administrators, and assigns,
" should at any time agree with, and no others, from time to time, and at
" all times thereafter, during the term of years therein expressed, should
" and lawfully might make, use, exercise, and vend his said invention,
" within that part of our kingdom of *Great Britain*, called *England*, our do-
" minion of *Wales*, and town of *Berwick upon Tweed*; and also in our
" colonies and plantations abroad, in such manner as to him the said
" *Richard Arkwright*, his executors, administrators or assigns, or any of them
" should, in their discretions seem meet. And that he the said *Richard*
" *Arkwright*, his executors, administrators and assigns, should and lawfully
" might, have and enjoy the whole profit, benefit, commodity and ad-
" vantage from time to time, coming, growing, accruing, and arising
" by reason of the said invention, for and during the term of years therein
" mentioned. To have, hold, exercise and enjoy the said licence, powers,
" privileges and advantages therein before granted, or mentioned to be
" granted unto the said *Richard Arkwright*, his executors, administrators and
" assigns, for and during, and unto the full end and term of fourteen years,
" from the date of the said letters patent, next and immediately ensuing,
" and fully to be compleat and ended, according to the statute in such
" case made and provided; and to the end that he the said *Richard*
" *Arkwright*, his executors, administrators and assigns, and every of them

" might

" might have and enjoy the full benefit, and the ſole uſe and exerciſe of " the ſaid invention, according to our gracious intention therein before " declared. We did by the ſaid letters patent, for us, our heirs and ſuc- " ceſſors, require and ſtrictly command all and every perſon and perſons, " bodies politic and corporate, and all other our ſubjects whatſoever, " of what eſtate, quality, degree, name or condition ſoever they be " within that ſaid part of our kingdom of *Great Britain*, called *England*, " our dominion of *Wales*, and town of *Berwick upon Tweed*, and alſo in our " colonies and plantations abroad aforeſaid, that neither they nor any of them " at any time during the continuance of the ſaid term of fourteen years, " thereby granted, either directly or indirectly, ſhould make, uſe or put " in practice the ſaid invention, or any part of the ſame ſo attained unto " by the ſaid *Richard Arkwright*, as aforeſaid; nor in any wiſe counter- " feit, imitate, or reſemble the ſame, nor ſhould make or cauſe to be made " any addition thereunto, or ſubſtraction from the ſame, whereby to pre- " tend himſelf or themſelves the inventor or inventors, deviſor or devi- " ſors thereof, without the licence, conſent or agreement of the ſaid " *Richard Arkwright*, his executors, adminiſtrators and aſſigns, in writing, " under his or their hands and ſeals, firſt had and obtained in that behalf, " upon ſuch pains and penalties as could or might be juſtly inflicted " on ſuch offenders for their contempt of that his ſaid Majeſty's " royal command; And further to be anſwerable to the ſaid *Richard* " *Arkwright*, his executors, adminiſtrators and aſſigns, according to law, " for his or their damages thereby occaſioned. And, moreover, we did " by the ſaid letters patent, for us, our heirs and ſucceſſors, will and " command all and ſingular the juſtices of the peace, mayors, ſheriffs, " bailiffs, conſtables, headboroughs, and all other officers and miniſters " whatſoever, of us, our heirs and ſucceſſors for the time being, that they, " or any of them did not, nor ſhould at any time thereafter, during the ſaid " term thereby granted, in any wiſe moleſt, trouble or hinder the ſaid " *Richard Arkwright*, his executors, adminiſtrators or aſſigns, or any of " them, or his or their deputies, ſervants or agents, in or about the due " and lawful uſe or exerciſe of the aforeſaid invention, or any thing re- " lating thereto. Provided always, and the ſaid letters patent were, " and ſhould be upon this condition, that *if at any time* during the ſaid term " thereby granted, it ſhould be *made appear to us*, our heirs or ſucceſſors, " or any ſix or more of our, or their privy council, that, that our *grant* was " *contrary to law*, and *prejudicial or inconvenient* to our ſubjects in general, *or* " *that* the ſaid *invention was not a new invention as to the public uſe* and " exerciſe thereof, *in* that ſaid part of our kingdom of *Great Britain*, called " *England*, our dominion of *Wales*, and town of *Berwick upon Tweed*, and alſo " in our colonies and plantations abroad aforeſaid; *or not invented* and found " out *by* the ſaid *Richard* as aforeſaid. Then upon ſignification, or declara- " tion thereof to be made by us, our heirs or ſucceſſors, under our or their " ſignet, or privy ſeal, or by the lords and others of our or their privy " council, or any ſix or more of them, under their hands, the ſaid letters " patent ſhould forthwith ceaſe, determine, and be utterly void to all intents " and purpoſes, any thing therein before contained to the contrary thereof in " any wiſe notwithſtanding. Provided alſo, that the ſaid letters patent, or " any thing therein contained, ſhould not extend or be conſtrued to ex- " tend, to give priviledge unto the ſaid *Richard*, his executors, adminiſtrators " or aſſigns, or any of them, to uſe or imitate any invention or work what- " ſoever, which had theretofore been found out and invented by any other

" of our ſubjects whatſoever, and publickly uſed or exerciſed in that ſaid
" part of our kingdom of *Great Britain* called *England*, our dominion of
" *Wales*, our town of *Berwick upon Tweed*, or in our colonies and planta-
" tions abroad aforeſaid, unto whom like letters patent or privileges had
" been already granted for the ſole uſe, exerciſe and benefit thereof, it be-
" ing our will and pleaſure that the ſaid *Richard Arkwright*, his executors,
" adminiſtrators and aſſigns, and all and every other perſon and perſons to
" whom like letters patent or privileges had been already granted as afore-
" ſaid, ſhould diſtinctly uſe and practice their ſeveral invention by them in-
" vented and found out, according to the true intent and meaning of the
" ſame reſpective letters patent, and of the ſaid letters patent to the ſaid
" *Richard Arkwright*. Provided likewiſe nevertheleſs, and the ſaid letters pa-
" tent to the ſaid *Richard Arkwright* were upon this expreſs condition, that if
" the ſaid *Richard Arkwright*, his executors or adminiſtrators or any perſon
" or perſons which ſhould or might at any time or times thereafter, during the
" continuance of that grant, have or claim any right, title or intereſt in law
" or equity, of in or to the power, privilege and authority of the ſole uſe
" and benefit of the ſaid invention thereby granted, ſhould make any tranſ-
" fer or aſſignment, or any pretended transfer or aſſignment of the ſaid li-
" berty and privilege, or any ſhare or ſhares of the benefit or profit thereof,
" or ſhould declare any truſt thereof, to or for any number of perſons
" exceeding the number of five; or ſhould open or cauſe to be opened, any
" book or books for public ſubſcriptions to be made by any number of per-
" ſons exceeding the number of five, in order to the raiſing of any ſum or
" ſums of money, under pretence of carrying on the ſaid liberty or privi-
" lege thereby granted, or ſhould by him or themſelves, or his or their
" agents or ſervants receive any ſum or ſums of money whatſoever, of any
" number of perſons exceeding in the whole the number of five, for ſuch
" or the like intents and purpoſes, or ſhould preſume to act as a corporate
" body, or ſhould divide the benefit of the ſaid letters patent to the ſaid
" *Richard Arkwright*, or the liberty and privileges thereby by us granted into
" any number of ſhares exceeding the number of five; or ſhould commit
" or do, or procure to be committed or done any act, matter, or thing
" whatſoever, during ſuch time as ſuch perſon or perſons ſhould have any
" right or title, either in law or equity, in or to the ſaid premiſes, which
" would be contrary to the true intent and meaning of a certain act of par-
" liament, made in the ſixth year of the reign of our late royal great
" grandfather, king *George* the Firſt, Intituled, " An act for the better ſe-
" curing certain powers and privileges intended to be granted by his ſaid
" Majeſty, by two charters for aſſurance of ſhips and merchandizes at ſea,
" and for lending money upon bottomry, and for reſtraining ſeveral ex-
" travagant and unwarrantable practices therein mentioned:" Or in caſe the
" ſaid power, privilege or authority, ſhould at any time thereafter become
" veſted in or in truſt for more than the number of five perſons or their
" repreſentatives at any one time (reckoning executors or adminiſtrators) as
" and for the ſingle perſon whom they might repreſent as to ſuch intereſt
" as they were or ſhould be entitled to, in right of ſuch their teſtator or in-
" teſtate, that then and in any of the ſaid caſes, the ſaid letters patent to
" the ſaid *Richard Arkwright*, and all liberties and advantages whatſoever
" thereby granted, ſhould utterly ceaſe, determine and become void, any
" thing therein before contained to the contrary thereof in any wiſe not-
" withſtanding. Provided alſo, that if the ſaid *Richard Arkwright* ſhould

" not

" not particularly deſcribe and aſcertain the nature of his ſaid inven-
" tion, and in what manner the ſame was to be performed, by an inſtru-
" ment in writing under his hand and ſeal, and cauſe the ſame to be in-
" rolled in our High Court of Chancery, within four calendar months next and
" immediately after the date of thoſe our letters patent, that then theſe our let-
" ters patent, and all liberties and advantages whatſoever thereby granted,
" ſhould utterly ceaſe, determine, and become void, any thing therein be-
" fore contained to the contrary thereof in any wiſe notwithſtanding. And
" laſtly, We did by thoſe letters patent, for us, our heirs and ſucceſſors,
" grant unto the ſaid *Richard Arkwright*, his executors, adminiſtrators and
" aſſigns, that thoſe our letters patent, or the inrollment or exemplification
" thereof, ſhould in and by all things be good, firm, valid, ſufficient and
" effectual in the law, according to the true intent and meaning thereof,
" and ſhould be taken, conſtrued, and adjudged in the moſt favourable and
" beneficial ſenſe, for the beſt advantage of the ſaid *Richard Arkwright*, his
" executors, adminiſtrators and aſſigns, as well in all our courts of record
" as elſewhere, and by all and ſingular the officers and miniſters whatſoever
" of us, our heirs and ſucceſſors whatſoever, in that part of our ſaid king-
" dom of *Great Britain* called *England*, our dominion of *Wales*, and town
" of *Berwick upon Tweed*, and alſo in our colonies and plantations abroad
" aforeſaid, and amongſt all and every the ſubjects of us, our heirs and ſuc-
" ceſſors whatſoever and whereſoever, notwithſtanding the not full and cer-
" tain deſcribing the nature or quality of the ſaid invention, or of the ma-
" terials thereto conducing and belonging, as by the ſaid letters patent in our
" chancery inrolled is manifeſt, and more fully and at large appears. And
" whereas we are given to underſtand that our ſaid grant is *prejudicial and*
" *inconvenient* to our ſubjects in general, and that the ſaid invention, at the
" time of granting our ſaid letters patent, was *not a new invention*, as to
" the public uſe and exerciſe thereof within that part of *Great Britain* called
" *England*, and that the ſame was *not invented and found out by the ſaid Ri-*
" *chard Arkwright*. And we are alſo given to underſtand, that although
" the ſaid *Richard Arkwright* did cauſe a certain inſtrument in writing
" under his hand and ſeal, together with a plan thereof, (a copy of which is
" hereunto annexed) to be inrolled in our High Court of Chancery within
" four calendar months next and immediately after the date of our ſaid let-
" ters patent, pretending particularly to deſcribe and aſcertain the nature of
" his ſaid invention, and in what manner the ſame was to be performed,
" in the words following, that is to ſay, " To all to whom theſe preſents
" ſhall come: I *Richard Arkwright*, of *Cromford* in the county of *Derby*,
" ſend Greeting; Whereas I the ſaid *Richard Arkwright*, did, by my peti-
" tion, humbly repreſent to his preſent moſt excellent Majeſty king *George*
" the Third, that I had by much ſtudy, application and expence, con-
" trived, invented, and brought to perfection certain inſtruments or ma-
" chines, which would be of public utility in preparing ſilk, cotton, flax,
" and wool for ſpinning, and conſtructed on eaſy and ſimple principles,
" very different from any that had ever been contrived; that in regard I
" was the firſt and ſole inventor thereof, and that the ſame had never been
" practiſed by any other perſon or perſons whomſoever, to the beſt of
" my knowledge and belief, I humbly prayed his ſaid Majeſty to grant
" unto me, my executors, adminiſtrators and aſſigns, his royal letters patent
" under his Great Seal of *Great Britain*, for the ſole uſe, benefit and ad-
" vantage of my ſaid invention within that part of his ſaid Majeſty's king-

Mr. Ark-wright's ſpe-cification.

" dom

" dom of *Great Britain* called *England*, his dominion of *Wales*, town of " *Berwick upon Tweed*, and alſo in his colonies and plantations abroad, for " the term of fourteen years, according to the ſtatute in that caſe made and " provided; his ſaid Majeſty being willing to give encouragement to all arts " and inventions that might be for the public good, was graciouſly pleaſed " to condeſcend to my requeſt; and therefore, by his royal letters patent " bearing date at *Weſtminſter* the ſixteenth day of *December*, in the ſixteenth " year of his reign, of his eſpecial grace, certain knowledge, and mere mo- " tion, did give and grant unto me the ſaid *Richard Arkwright*, my execu- " tors, adminiſtrators and aſſigns, his eſpecial licence, full power, ſole " privilege and authority, that I the ſaid *Richard Arkwright*, my executors, " adminiſtrators and aſſigns, and every of us, by myſelf or themſelves, " or by mine and our deputy or deputies, ſervants or agents, or ſuch others " as I the ſaid *Richard Arkwright*, my executors, adminiſtrators or aſſigns " ſhould at any time agree with, and no others, from time to time and at " all times thereafter during the term of years therein expreſſed, ſhould and " lawfully might make, uſe, exerciſe and vend my ſaid invention within " that ſaid part of his Majeſty's ſaid kingdom of *Great Britain* called *Eng-* " *land*, his dominion of *Wales*, and town of *Berwick upon Tweed*, and alſo " in his colonies and plantations abroad, in ſuch manner as to me the ſaid " *Richard Arkwright*, my executors, adminiſtrators and aſſigns, or any of " us, ſhould in our diſcretion ſeem meet; And that I the ſaid *Richard* " *Arkwright*, my executors, adminiſtrators and aſſigns, ſhould and law- " fully might have and enjoy the whole profit, benefit, commodity, and " advantage from time to time coming, growing, accruing and ariſing by " reaſon of the ſaid invention, for and during the term of years therein " mentioned, to have, hold, exerciſe and enjoy the ſaid licence, powers, pri- " vileges and advantages therein before granted, or mentioned to be granted " unto me the ſaid *Richard Arkwright*, my executors, adminiſtrators and aſſigns " for and during and unto the full end and term of 14 years from the date " of the ſaid preſents next and immediately enſuing, and fully to be com- " pleat and ended, according to the ſtatute in ſuch caſe made and provided: " In which ſaid letters patent is contained a proviſo, that if the ſaid *Richard* " *Arkwright* ſhould not particularly deſcribe and aſcertain the nature of my " ſaid invention, and in what manner the ſame is to be performed by an in- " ſtrument in writing, under my hand and ſeal, and cauſe the ſame to be in- " rolled in his ſaid Majeſty's High Court of Chancery within four calendar " months next, and immediately after the date of the ſaid letters patent, " that then the ſaid letters patent and all liberties and advantages what- " ſoever thereby granted, ſhould utterly ceaſe, determine and become void, " any thing therein before contained to the contrary thereof in any wiſe " notwithſtanding; as in and by the ſaid letters patent, relation being there- " unto had may more fully and at large appear. Now, know ye, That " I, the ſaid *Richard Arkwright*, in compliance with the ſaid proviſo, do " hereby deſcribe and aſcertain the nature of my ſaid invention, and de- " clare that the plan thereof drawn in the margin of theſe preſents is com- " poſed of the following particulars, (that is to ſay) No. 1. a beater or " breaker of ſeeds, huſks, &c. and a finer of the flax, hemp and other " articles which are to be prepared for dreſſing, in which (a,) is a wheel with " teeth, which by acting upon a lever, raiſes the hammer (C,) the lever be- " ing moveable upon the center (d).—No. 2. an iron frame with teeth at " (a,) working againſt a lower frame with like teeth at (b,) this lower frame is

Vide, the plan in the Frontiſpiece.

" firmly

" firmly connected to a wooden frame by means of the ſcrews (c, c,) the " upper teeth are made to act againſt the lower, by means of the joints " (d, d, d, d.)—No. 3. is a piece of cloth with wool, flax, hemp, or any " other ſuch materials ſpread thereon, as at (a.)—No. 4. is a crank and a " frame of iron with teeth at (a,) being moveable at the joints (b, b, b, b,) " by means of a crank, and by a cord turning the pulley or wheel (c.) This " motion of the teeth (a,) works them backwards and forwards upon the " cylinder No. 5. and diſchargeth the cotton, wool, &c. from it at (d.)— " No. 5. is the laſt mentioned cylinder, which hath fillet cards; behind this " cylinder No. 3. delivers its contents upon another cylinder.— No. 6. " conſiſts of rollers fixed to a wooden frame, the contents of No. 5. being " brought to it at (a,) and going through at (b,) produceth it a proper ſize " (f,)—(c, c,) are bruſhes for cleaning the machine.—No. 7. a cylindrical box " for twiſting the contents of No. 6. at (b,)—(a, a,) are two rollers, one mov- " ing the other, between which the contents of No. 6. paſſeth into the cylin- " der (b)—(c,) is a dead pulley fixed to the frame;—(d,) a cord which paſ- " ſing from the pulley (c,) moves the rollers (a, a)—(F,) a wheel, the move- " ment of which is brought from (F,) to No. 10. and is fixed to No. 6.— " No. 8. a machine for twiſting the contents of No. 6. in which (d, d,) is " a frame of iron; (b,) a roller on which a bobbin (c,) is fixed, this is " turned the ſame as No. 7. that is, by a dead pulley or wheel, fixed to a " wooden frame at (g)—No. 9. a ſpindle and flyer being fixed to No. 6. " for twiſting the contents from (b,) in No. 6.—(d,) is a pulley under " the bobbin, which hath a communication by a band to No. 10. at " (d, d,) it being a conical or regulating wheel which moves the bobbin " quicker or ſlower as required. No. 10. a ſpindle, which being fixed to " No. 6. at (a,) worketh No. 7, No. 8, or No. 9 at (F, F, F,) by the pulley " (F, c),—(d,) a regulator for No. 9.—(b,) a ſocket, having a bolt going " through, (d, d,) and (F, c,) to (G,) ſtops or ſets the whole going by " means of a catch (a,) for the pulley (G, G,) being looſe upon the ſpindle, " (o,) a lever, moveable about (k,) raiſeth or falleth the bolt (h). In witneſs " whereof, I the ſaid *Richard Arkwright* have hereunto ſet my hand and ſeal " the tenth day of *April*, in the ſixteenth year of the reign of his ſaid moſt " excellent Majeſty *George* the Third, by the grace of God, of *Great Britain*, " *France*, and *Ireland*, King, defender of the faith, &c. and in the year of " our Lord one thouſand ſeven hundred and ſeventy ſix, *Richard Ark-* " *wright*, (L. S) Sealed and delivered by the above-named *Richard Ark-* " *wright* (being firſt duly ſtamped) in the preſence of *John Harker*, *JJſ.* " *D Croſts*, clerk to Mr. *Evans*, in *Nottingham*. Yet that the ſaid *Richard* " *Arkwright hath not*, in and by the ſaid inſtrument in writing, ſo by him in- " rolled in our High Court of Chancery, or by any other inſtrument in writing, " under his hand and ſeal, inrolled in our High Court of Chancery, *particu-* " *larly deſcribed* and aſcertained the *nature of his ſaid invention*, and in what " manner the ſame is to be performed; but hath wholly neglected ſo to do, " contrary to the form and effect of the ſaid letters patent; by means of which " premiſes the ſaid letters patent, ſo as aforeſaid granted to the ſaid *Richard* " *Arkwright*, are and ought to be void and of no force or effect in law. And " we being willing that what is juſt ſhould be done in the premiſes, com- " mand you, that by good and lawful men of your Bailiwick you give notice " to the ſaid *Richard Arkwright*, that he be before us in our Chancery, in " fifteen days from the day of *Eaſter*, whereſoever we ſhall then be in *Eng-* " *land*, to ſhew if he hath, or knows any thing to ſay for himſelf, why the ſaid

" letters

" letters patent ſo as aforeſaid granted to the ſaid *Richard Arkwright*, and " the inrollment of the ſame, for the reaſons aforeſaid ought not to be can- " celled, vacated, and diſallowed, and thoſe letters patent reſtored into our " ſaid chancery, there to be cancelled; and further to do and receive thoſe " things which our ſaid chancery ſhall conſider in this behalf, and have " there the names of thoſe by whom you ſhall give him notice, and this " writ, Witneſs ourſelf at *Weſtminſter*, the twelfth day of *February*, in the " twenty-fifth year of our reign."

" And now at this day, that is to ſay, on the morrow of the Holy Tri- " nity in this ſame term, to which day the ſaid *Richard Arkwright* had " leave to imparle to the ſaid writ, and then to anſwer the ſame before our " ſaid lord the King in his Chancery at *Weſtminſter*, comes the ſaid *Richard* "" *Arkwright*, by *William Mitford*, Eſquire, his attorney, and ſays, That " the ſaid letters patent, ſo as aforeſaid granted to him the ſaid *Richard* " *Arkwright*, and the inrolment of the ſame, by reaſon of any thing in the " ſaid writ of *Scire Facias* alledged, ought not to be cancelled, vacated, " and diſallowed, and the ſaid letters patent reſtored into his ſaid Majeſty's " Chancery, there to be cancelled; becauſe he ſays, that the ſaid grant of " our ſaid lord the King is not prejudicial and inconvenient to the ſubjects " of our ſaid lord the King, in general, as by the ſaid writ of *Scire Facias* " is ſuppoſed, and of this the ſaid *Richard Arkwright* puts himſelf upon the " country, *&c.* And *Richard Pepper Arden*, Eſquire, attorney-general of " our lord the King, who proſecutes for our ſaid lord the King in this be- " half, being preſent here in Court in his own proper perſon, doth ſo like- " wiſe: And the ſaid *Richard Arkwright* further ſays, that the ſaid invention, " at the time of the granting of the ſaid letters patent, was a new inven- " tion as to the public uſe and exerciſe thereof within that part of *Great* " *Britain* called *England*, and of this he alſo puts himſelf upon the country, " *&c.* and the ſaid *Richard Pepper Arden*, who proſecutes as aforeſaid, doth " ſo likewiſe. And the ſaid *Richard Arkwright* further ſays, that the ſaid " invention was invented and found out by him the ſaid *Richard Arkwright*, " and of this he alſo puts himſelf upon the country, *&c* and the ſaid " *Richard Pepper Arden*, who proſecutes as aforeſaid, doth ſo likewiſe: And " the ſaid *Richard Arkwright* further ſays, that he hath, in and by the ſaid " inſtrument in writing, ſo by him inrolled in the ſaid High Court of Chan- " cery of our ſaid lord the King, particularly deſcribed and aſcertained the " nature of his ſaid invention, and in what manner the ſame is to be per- " formed, and of this he alſo puts himſelf upon the country, *&c.* And the " ſaid *Richard Pepper Arden*, who proſecutes as aforeſaid, doth ſo likewiſe: " Therefore to try the ſaid ſeveral iſſues above joined, the ſheriff of *Mid-* " *dleſex* is commanded that he cauſe to come before our lord the King, from " the day of the Holy Trinity in three weeks now next, whereſoever he " ſhall then be in *England*, twelve good and lawful men of his bailiwick, " each of whom ſhall have ten pounds by the year at the leaſt of lands, tene- " ments, or rents, by whom the truth of the matter may the better be known, " and who are in no wiſe of kindred to the ſaid *Richard Arkwright*, to take " cognizance upon their oath of the truth of and concerning the premiſes, " *&c.* becauſe as well the ſaid *Richard Arkwright*, as the ſaid *Richard Pepper* " *Arden* who proſecutes as aforeſaid, have put themſelves upon that jury, *&c.* " The ſame day is given to the ſaid *Richard Arkwright* there, *&c.*"

At

At WESTMINSTER-HALL,

25th of JUNE 1785.

MR. JUSTICE BULLER came into Court exactly by Nine o'Clock in the Morning, when the following Gentlemen were called, and ſworn on the Special Jury:

George Scott of Knightſbridge, Eſq;
William Little of Kenſington, Eſq;
Richard Heaveſides of Fulham, Eſq;
Thomas Browne of Drayton Green, Eſq;
Thomas Cogan of Iſlington, Eſq;
Alexander Anderſon of Hornſey, Eſq;
Thomas Saunders of the ſame, Eſq; and
William Young of Featherſtone Buildings, Eſq;

The reſt of the Special Jury not appearing, Mr. *Bearcroft*, as Counſel for the Crown, produced a Warrant from the Attorney General, praying a *Tales*, upon which the following Perſons were added:

William Watſon of Chelſea, Broker,
William Wood of Knightſbridge, Bell Manufacturer,
John Read of the ſame, Gentleman, and
William Storer of Piccadilly, Chinaman.

Mr. Bearcroft,
Mr. Lee,
Mr. Erſkine,
Mr. Serjeant Bolton, *and*
Mr. Wood,
} *Counſel for the Crown.*

Mr. Serj. Adair,
Mr. Cowper,
Mr. Wilſon,
Mr. Chambre,
Mr. Baldwin, *and*
Mr. Anſtruther.
} *For the Defendant.*

Mr. Jones and Mr. Fox, *Mancheſter*, and Mr. Lowten, *Temple*, } *Attornies for the Proſecution.*

Mr. Goodwyn, *Winſter, Derbyſhire*,
Mr. Ince, *Wirkſworth, Derbyſhire*, and
Mr. Kinderley, *Symond's Inn.*
} *For the Defendant.*

Mr.

Mr. BEARCROFT addreſſed the Court and Jury as follows:

MAY it pleaſe your Lordſhip, and you Gentlemen of the Jury, I am of Counſel upon the part of theſe proceedings, which are by the King's Writ of *Scire Facias* againſt Mr. *Arkwright*, in order to repeal, for certain grounds and reaſons which I ſhall endeavour to explain to you, a Patent for 14 years, which Mr. *Arkwright* has had the good fortune to obtain, and the ſtill better fortune to enjoy the advantage of, for upwards of ten years, without any good ground in point of law or in point of fact, which I undertake to ſatisfy you is the truth of the caſe.

Gentlemen, I have to inform you, that the nature of the preſent enquiry, and the conſequence of that deciſion, which you will be called upon to pronounce between the contending parties, demand your utmoſt patience, and your cloſeſt attention to every thing which ſhall be ſaid, and every thing that ſhall be produced in evidence in this cauſe.

The nature of the enquiry, and the ſubject matter which you are to look at, being a piece of machinery, conſiſting of many parts, ſome of them minute, the whole of it conſiderably complicated, with which perſons in common life have no acquaintance or familiarity; I truſt you will at once, as men of ſenſe, ſay it does require that which I claim at your hands—extreme patience, and very cloſe attention; for if it ſhould ſo fall out, that in the courſe of going on in this cauſe, any one of you ſhould not accurately and perfectly underſtand, but ſhould happen to miſs a link in the chain of this buſineſs, you will be totally loſt and gone, you will not be able to underſtand or to form a proper judgment upon this ſubject.

Gentlemen, what I ſaid with reſpect to the conſequence of your deciſion, ariſes from the importance of the caſe, becauſe in my mind I ſee it, and I have no difficulty to ſtate it, that a caſe of greater importance, of greater value to the individuals diſputing it, and to the public in general, was never yet tried in this or any other Court.

Gentlemen, Upon the part of the defendant *Arkwright*, it is a queſtion of great property; for if he is right and well founded in this patent, notwithſtanding there are but about four years and an half to come of it, it is of ſuch value to him, that I doubt not it will produce to him great ſums of money; I allow it. Upon the other hand, if we are right in contending that this patent has no validity in point of law, and yet you ſhould determine that it has, the conſequence will be, that ſome individuals, well worthy of conſideration, will be loſers of ſums much greater than any Mr. *Arkwright* can aſſume to be intereſted in, great as I verily believe they are. There is too, a matter of infinite importance behind, I mean, that if you ſhould determine for the validity of this patent, you will endanger the loſs of the moſt valuable manufactory that this country knows, I mean, the Manufactory of Cotton.

Gentlemen, I have not overſtated the nature of the queſtions, I have juſt touched upon them in order to intitle myſelf to your cloſe attention, without which, the ſubject and I (who am now about to endeavour to explain it to you) ſhould have no chance to be underſtood.

Gentlemen, It is impoſſible upon a ſubject of this kind, by words merely, for any advocate to convey the ideas that are neceſſary to be apprehended in order at all to underſtand this caſe.—If I ſpeak in the terms of art that

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are uſed by the manufacturer, I might probably with the few leſſons that I have had, miſapply them myſelf.—If I ſhould have the good luck to avoid doing that, if I only uſe the language of the manufacturer to you, who are not manufacturers, you would not comprehend me, it would really be like trying an Engliſh cauſe in another language; of neceſſity therefore we muſt have recourſe to the machines—and to your ocular inſpection; deſirous, as undoubtedly you are, to give a judgment upon the true grounds, you will grudge no patience or attention in examining the parts ſufficiently, in order to attain a perfect acquaintance with it, that you may be able to follow the arguments and the evidence that will afterwards be given.

The firſt thing I ſhall attend to, ſince theſe proceedings, are totally to render void a patent, is to acquaint you with the nature of that patent, and the machine, from which Mr. *Arkwright* has derived great advantages; and of which he contends, by virtue of this patent, he has the ſole uſe and property during the fourteen years, for which a certain act of parliament, in certain caſes, allows a monopoly to be granted by the crown.—Once for all, it may be convenient to ſtate the date of this patent, and the language of it, in order to ſhew you what is the kind of invention in general, upon the merit of which Mr. *Arkwright* bottoms himſelf to have the benefit of this patent.—The date of the patent now in queſtion is the 16th of *December* 1775.

The manner in which Mr. *Arkwright* deſcribes his invention, upon the footing of the merit of which he aſks and obtains the patent, and derives all the conſequences which by law he may; the expreſſions he uſes it is extremely fit you ſhould attend to, and, in my opinion, almoſt every word uſed by him in his patent (that is) uſed in his petition, and ſtated as the ground of the grant, are extremely material for your attention; I will ſtate them therefore ſlowly and as clearly as I can from the patent.

Mr. *Arkwright* is recited by his patent to have ſuggeſted that he has invented certain inſtruments or machines.—I really think, Gentlemen, every ſyllable he ſays is important in the view of the caſe I ſhall ſtate by and by, and wiſh you to take notice of it as it were of a *Text*, upon which much depends:—he had invented, it ſays, certain inſtruments or machines which he conceived would be of public utility in preparing ſilk, cotton, flax, or wool for ſpinning; that the ſame inſtruments or machines were conſtructed upon eaſy and ſimple principles, *very different from any yet contrived.*

Gentlemen, Do me the favour to remember that, "*very different from* "*any yet contrived.*"

This is a general deſcription of his invention—ſo he ſtates it—and ſo he muſt and ought to ſtate it in order to intitle himſelf to a patent that ſhould have the effect for which the patent is granted.

Gentlemen, I undertake to ſatisfy you, that in truth ſo far is this from being the true deſcription of theſe machines, they deſerve a deſcription the very reverſe of this; for, in fact, they are not materially different from ſome before contrived; on the contrary, I pledge myſelf to ſatisfy you that they are the ſame. Therefore it is, I call upon you to advert to that language of his; he felt that it was important to give an idea to the public, that this invention was upon principles very different from any yet contrived. It will behove you to attend to and ſee whether that is the truth, or any thing like the truth, or whether the reverſe is not the truth.

Gentlemen, it will be impoſſible for you to underſtand a ſtep of what remains behind, and much does remain behind, without firſt having a general acquaintance with the nature of the ſpinning of cotton, and of the proceſs towards the ſpinning of it, together with an acquaintance with the patent machine of *Arkwright* that is to perform the operation for preparing for that ſpinning.

Gentlemen, I expect, and I believe that you, as well as all of us that have lived a few years in the world, have ideas enough upon this ſubject to underſtand what I am now going to ſtate to you, independant of any thing like a complicated machine.

The various manufactures which are performed in and about *Mancheſter*, and with which you muſt be well acquainted, are fabrics ſo ingenious, ſo beautiful, and ſo uſeful, that they have all the qualities that can recommend them to human nature; and I verily believe in that article we are univerſally envied, and that ſort of manufacture is coveted by every nation under the ſun, which has at all turned itſelf to manufactures; I believe I am not miſtaken in affirming, that the baſis and principle of all thoſe manufactures are, the fineneſs and excellence in the ſpinning and twiſting of the cotton thread, of which they are compoſed:—you will ſee, therefore, that every part of the proceſs towards the making of that fine and excellent cotton thread, is of the utmoſt importance to the kingdom in general.

Gentlemen, All of us know the nature of the common proceſs to procure a fine thread of cotton.—In the firſt place the cotton muſt be carded:—We all of us almoſt are well acquainted with carding or currying, which is ſomething of the ſame nature.—I take it the operation of carding all of us have ſeen in the infancy of this manufacture, it is done in a great degree by putting the cotton upon one card with teeth, and taking another and combing it off; this ſort of operation uſed to be performed by the hand, with a card in each hand, and it took up a great deal of time, and employed a great many perſons, and of courſe, the operation in that way, was very expenſive: — the effect of it was to diſpoſe the fibres of the cotton into a form and ſituation better calculated for the purpoſe of procuring a fine even twiſted thread, for that is the great object that I conceive this kind of manufacture has conſtantly aimed at.—You have a perfect idea therefore, I have no doubt, what we mean by the word *Carding*.

Gentlemen, When that was performed by the operation of two cards, the next proceſs was, what the manufacturers called, *Roving*, in plain Engliſh; for I ſhall endeavour to tranſlate every unuſual word, in order that we may perfectly underſtand what we are talking about.—*Roving*, means neither more nor leſs, than taking the cotton, after it is carded, and performing the operation of ſpinning by a wheel, the common hand wheel, as it is called:—you ſee the women and children at work all over the kingdom with them, making it into a coarſe yarn, thread, or webb; all theſe words convey the ſame idea —This was called *Roving*, and the thing that is called *Roving* is making the firſt coarſe thread of cotton — and is the next proceſs which immediately ſucceeds the operation of *Carding*.

This coarſe thread, the *Roving*, will not anſwer the purpoſe, it is neceſſary that it ſhould undergo another operation, it muſt be *re-ſpun*.—It muſt be ſpun again in order to make it fine and give it a proper twiſt, and that ſort of conſiſtency, which is the foundation, as I conceive, of the excellence of what they call the *Mancheſter* manufacture; this too uſed to be done by hand, as I have ſtated to you:—this laſt fine ſpinning of the

cotton,

cotton, in effect the ſecond ſpinning, and called the ſpinning to diſtinguiſh it from the firſt coarſe ſpinning, or the roving. (If I appear to repeat things over and over again, I do it purpoſely, meaning to repeat and impreſs it upon your minds, that you may fully comprehend) I ſay this ſpinning was the laſt and important finiſhing. — If therefore a machine could be found out that in leſs time, and conſequently at leſs expence, and in a better manner, could contrive to ſpin a ſecond time the firſt coarſe ſpinning, called roving — it moſt undoubtedly was an improvement and an invention of great value, an invention of great merit, and an invention of great importance to the public; and for which, I am free to confeſs, the real inventor was fairly intitled to all that reward that can be derived from the monopoly permitted by law, which is the ſole enjoyment of the patent itſelf for fourteen years.

Now, Gentlemen, you are to be informed that Mr. *Arkwright* was in poſſeſſion of a patent for that operation of *Spinning*, which makes the roving into that fine thread.

That patent for the ſpinning, expired upon the 3d of *July* 1783, you will find it material to take notice of that date.

The language of that patent was a machinery "never before found out "for the making of Webb or Yarn of Cotton, Flax or Wool, which will be "of great utility to manufacturers."—I ſay, the meaning of thoſe words, "making webb or yarn," is in plain Engliſh, *ſpinning*.

That patent machine, which was exceſſively ingenious, it is of great importance you ſhould be thoroughly acquainted with; and I ſhall endeavour, in the courſe of going on, to bring you acquainted with that, for, upon that you will find a great deal turns, and that alone, when truly underſtood, if I have any comprehenſion of this cauſe, which I flatter myſelf I have, is alone ſufficient to overturn this patent, and make out one of the propoſitions which we have alledged upon the *Scire facias*, that is to ſay, that this patent, of the 16th of *December* 1775, was not for a machine that was at that time, on the 16th of *December* 1775, a new invention, or any thing like a new invention.

Gentlemen, The machine for ſpinning, is not that immediately before you, for it is the machine that is beyond it; and I am happy to obſerve, that the parts of it, which it is neceſſary for you to become acquainted with, are ſo ſituated in the court, that you will preſently catch them with your eye, and underſtand what I am going to ſay about it.

You will remember what I ſaid; the roving was the coarſe thread, the firſt operation after the carding.

The next buſineſs was, to make it into a fine thread by ſpinning: this the machine under the firſt patent performed in the way you will ſee by the machine I am now pointing at, the roving. The coarſe thread was put upon thoſe ſpindles fartheſt from me, four of them in a row. Oppoſite to them was placed a double ſet of rollers, ſuch as you ſee there, fluted, and ſome of them covered with leather, to which rollers the roving was attached. The working thoſe rollers draws the rovings through the rollers, and that performed the operation of the ſecond ſpinning, which is called the ſpinning, and making the old coarſe ſpinning or roving the fine and the new thread, webb, or yarn, or any of thoſe words uſed by Mr. *Arkwright* in his former patent.

Gentlemen, In order to give that fine thread the twiſt, which is the important quality for the purpoſe of ſmoothneſs, they are continued to

thoſe four ſpindles that turn round—an old invention, and very common in this kind of manufacture. I am forced to go back and rehearſe, or I have no chance of being underſtood upon ſuch a ſubject; but what I mean to convey is this:

Let one of the men point, while I ſhew the wax-work: there is no harm; you will not grudge the time, I muſt repeat it again. Thoſe round ſpindles, next the man that ſtands behind them, you will obſerve:

Theſe contain the roving, or the firſt coarſe ſpinning.

The buſineſs is, to make it into a fine thread, by the ſecond ſpinning. That operation is performed by producing the roving, ſo as to touch that double ſet of rollers. The rollers go to work, being moved by the wheel: they draw it off, they produce it, they prolong it, it paſſes through them, they render it finer; and thoſe ſpindles below are well known in the buſineſs; that is no new diſcovery at all; they give the twiſt, at the ſame time as the threads are going through the rollers.

I the more labour this, for, when you underſtand the ſubject, you will find it the moſt important foundation, in the way I am explaining it. If you are fully poſſeſſed of that idea, I am ſatisfied for the preſent. Mr. *Arkwright* then had a patent for performing that work in that manner, which patent expired upon the 3d of *July* 1783.

There will be no great harm if I tell you now, that that machine will either make the roving, the coarſe thread, or the ſpinning the fine thread; it will be material to keep that idea correctly. You will remember, the roving is the next operation after the carding; in truth, it is the firſt *thread* in the buſineſs, but it is the coarſe one. That coarſe thread ſhall be made before your eyes, this is very important, you will ſee it preſently made by the operation of that very machine. The ſpinning machine, by this ſimple method only, by taking the carded cotton and putting it behind thoſe rollers, which immediately, in the way you ſee, make a fine thread; but if you take the roving when it is made (the coarſe thread, you recollect), take it back again, and inſtead of putting the carded cotton there to the rollers, which produces the roving, let the roving (the coarſe thread) go under the operation a ſecond time, and it comes out a fine thread. Now the idea I mean to give you is this, That both the roving and ſpinning are threads, the one a coarſe thread, the other a fine one, equally performed; for I will demonſtrate to your ſenſes, it ſhall be done by that very ſpinning machine: at preſent, I muſt beg you will give me credit for it; it is a very important thing, and they muſt be explained, which cannot at once be done, but I wiſh you to be poſſeſſed of that idea.

Gentlemen, Having given you the idea of the machine for ſpinning, and ſhewn you it will operate to ſpin either a coarſe or a fine thread, I come now to ſhew you the ſort of patent which is in queſtion, and which machine Mr. *Arkwright* does not ſell ready made, but gives the permiſſion to uſe, at a price that produces a princely income into his pocket.

Now the patent for *ſpinning* expired in *July* 1783; Mr. *Arkwright* therefore had loſt a glorious and profitable monopoly. He was, like any other man, unwilling to part with his term and with his profit, becauſe the term was expired, if by any means he could contrive by another kind of ingenuity than that which invents machines, to keep up the enjoyment of that monopoly in another ſhape. It was not however right or juſt to do it, and I pledge myſelf to ſatisfy you, that ſuch was the idea which Mr. *Arkwright* had in his mind. Upon that idea he took every ſtep in the buſineſs, from

that moment to this. I will trace his footſteps from time to time all in that line. Becauſe he was unwilling to part with the benefit he was entitled to of fourteen years, he choſe to have it as long as he could. Before this cauſe is at an end, you will ſee that this was in truth what paſſed in Mr. *Arkwright*'s mind. When Mr *Arkwright*, upon the expiration of this patent for ſpinning the fine thread, could no longer in thoſe words enjoy that thing at all: but inaſmuch as the cotton manufactory depends upon all the ſeveral things that are already ſtated to you, the *carding*, the *roving*, and the *ſpinning*; though he had loſt the patent for the ſpinning, if he could contrive to get a patent, and to gull the world to ſubmit to that patent as a new invention for the roving and the carding, it would anſwer all his purpoſes; for ſtill he would be in poſſeſſion of a monopoly of two thirds, and that of the important parts of the ſpinning. In the name, therefore, he would not have the ſpinning; but if he got a patent for the carding and roving, the ſpinning would follow: in truth, the whole operation would be his, and he would keep poſſeſſion of it againſt the world.

Gentlemen, Suppoſe any two men ſtruggling for a yard which conſiſts of three feet; if Mr. *Arkwright*, with one hand, got hold of one foot, which he is forced to part with, yet contrives to get hold of the other two feet with his other hand, he certainly would have the better hold. I have loſt the ſpinning, ſays he; but I will contrive to get the carding and the roving, and then I ſhall keep the ſpinning. For that purpoſe, he procures the preſent patent. What is it for? For ſpinning? No: that would be too groſs. The ſame word is very apt to deſcribe the ſame thing; and you will ſee that Mr. *Arkwright*, both in writing and in drawing this ſpecification, has moſt diligently avoided any words, or any thing that could too plainly ſtrike the imagination, and ſhew that his new patent was in effect his old one. For the foundation of his new patent, he ſays, "I have in-
"vented machines of great public utility in preparing ſilk, cotton, flax and
"wool for ſpinning."

What are the preparations for it? What I told you; the carding and roving.

Now it is for me to ſhew you what theſe machines conſiſt of.—Mind what he ſays, he invented, and what the patent is for; it is for preparing cotton for ſpinning. Again, I ſay, it conſiſts of two proceſſes, carding and roving: his invention and machines, therefore, are for doing that thing. I repeat it to my Lord particularly, becauſe it applies in point of law, as you will find by-and-by, therefore it is fit to have that kept in the mind of the court. The patent is for preparing the article for ſpinning; thoſe two purpoſes of carding and roving have begot that complicated machine which is the preſent machine; and he diſpenſes his royal will and pleaſure to permit perſons to buy it and to uſe it, for none can uſe it without his (Mr. *Arkwright*'s) will and pleaſure. It is really a royal will and pleaſure, under this patent and monopoly. The way he does it, is by that machine before you; and it is neceſſary you ſhould become intimately acquainted with the parts. If you do not go along with me, and it ſhould be obſcure to you, I beg you will interrupt, and aſk me. As thoſe things can never be done in common affairs and ſpeech, without underſtanding each other, therefore it is fit we ſhould underſtand one another in this caſe. At preſent I am going to explain to you the preſent patent machine for preparing the cotton for ſpinning.

Now we are going to the machine, to prepare it for ſpinning that cotton.

Gentlemen, I am not now ſtating my objections, and applying them; I am bringing you acquainted with ſtrange things you were not acquainted with before, that you may underſtand when I go to argue; for if I were to do what the zeal of a friend behind me wants, which is, to begin arguing, I ſhould puzzle the buſineſs—I want to bring you acquainted with the thing, before I begin talking about it.

Firſt, I ſhall endeavour to explain the patent machine now in uſe. There is a quantity of cotton ſpread upon a cloth, which is to be prepared for this operation of ſpinning. The cotton, ſo placed on the cloth, is drawn through the rollers in a ſmooth manner; and then it next is attached upon that great cylinder, which great cylinder is ſtuck full of pins, and is in truth a card, though not a flat card; it is a card, becauſe it has pins of the name, and in the ſame nature the card has.

That is but one part, but one card, that will not perform the operation of carding. There is a piece of ſecret hiſtory belonging to that. It is covered with a board, and your eyes cannot ſee that; if you take one of thoſe, and turn it inſide out, you will ſee that too has teeth.

[*To the man at the machine.*] Pleaſe to ſhew one of them.

[*Part of the top of the machine taken off, to ſhew the teeth.*]

Gentlemen, You ſee, then, the cotton having got through the rollers upon the great cylinder, which great cylinder is turned round:

[*Here the man turned the wheels, and ſet the cylinder in motion.*]

Gentlemen, We will keep to one part, we will follow the proceſs—— The cotton gets upon the larger cylinder, which is turned round, and, of neceſſity, the cover having teeth as well as the rollers, the operation is performed the ſame as by two hands and two cards; this therefore is the courſe of preparation. Firſt, the carding which I talked to you of originally: Gentlemen, when it is carded through by this operation, the next thing is, by a certain contrivance, to put it in a way to be roved, or ſpun into a coarſe thread. In order to do that, the firſt thing that muſt happen, muſt be, to take it off the great cylinder, after that cylinder has performed a circumvolution under the incumbent points or cards above; becauſe then it has been carded, then it is to be taken from between thoſe two cards. That is performed by a very ingenious machine; I have no difficulty to call it ſo, for it is not Mr. *Arkwright*'s, nor any body's that can be traced now, I mean the next adjacent cylinder, which is much ſmaller, which contains carding-fillets, with pins of the ſame kind, that take from the large cylinder the whole previouſly carded by that large cylinder.—Now we have got the carded cotton off the great cylinder upon another ſmaller cylinder.

But we have not got a bit further in the proceſs; it is ſtill nothing but carded cotton: your Lordſhip ſees it muſt be roved, and it muſt be ſpun. In order to rove it, you muſt take it off even from the ſecond cylinder. Then it may be aſked, Why the ſecond cylinder? why not the firſt? Becauſe you will ſee it is of great uſe to have a machine that will go on continually carding, and that cannot be but by the means of a ſecond cylinder, to take off the carding performed by the firſt cylinder, as faſt as the firſt cylinder is filled. Therefore you ſee the whole effect of the ſecond cylinder, is, to take off the cotton when completely carded upon the firſt. We then are ſtill going on with one wheel, one operation ſucceeding after the other, perpetually carding and filling that original cylinder as faſt as it is

taken

taken from it, or emptied, if I may uſe the phraſe, by the ſecond cylinder.—Still we have got nothing but carded cotton.

The next thing is the *roving*; for the preparation, you remember, ſtill conſiſts both of carding and roving.—Now for the other part of Mr. *Arkwright's* machine.

Before I come to that, you will obſerve, it certainly muſt be taken off from the ſecond cylinder, or elſe the quantity that goes on continually will not be delivered off, for the purpoſe of roving. How is that to be done? It is done by a very ingenious contrivance, I admit, and the very contrivance that was the deſtruction of us in another place: it was ſo ingenious, it was ſo clever, that I remember perfectly well, my learned friend, that then had the firſt ſhew in another court, in which Mr. *Arkwright's* good genius ſuggeſted, after laying by two or three years, thought it convenient to try it over again. My learned friend ſhewed the machinery with ſuch ſkill and addreſs, and performed the operation ſo well, he tickled the fancy of the jury like ſo many children, that it was impoſſible to put them out of love with their plaything to the end of the cauſe, till they finally decided in its favor.—I have no objection to your examining it here, for a clever one it is: I know the hiſtory belonging to it now; we were not inſtructed in it then, which makes it very different; and whether you conſider it as a clever thing, or no, in truth it is ſo.

We have got thus far: we muſt now take off the carded cotton from the ſecond roller, in order to make the roving that comes behind. [*To the man.*] Firſt, fill that ſecond roller with cotton, then ſhew how you take it off with the crank.

[*The two cylinders were then filled.*]

Obſerve now: you ſee how he takes it off the ſecond cylinder. I will not call that thread. You have ſeen the operation enough for my purpoſe. Now that is a crank, which you ſee with teeth. I pledge myſelf to ſatisfy you, that is not Mr. *Arkwright's* invention. Now we have done with the operation of carding.—The carding is performed by means of the great cylinder. It is taken off the great cylinder by means of the little one; and it is taken off the little cylinder by means of the crank with the teeth. And the next operation for preparing it for ſpinning, muſt be the operation of *roving*.

[*To the man.*] Now ſhew the roving machine.

Gentlemen, You will remember that particular machine that has been ſhewn you; there we leave it.

[*To the man.*] Hold up the cotton high, that the gentlemen may ſee the roving.

Now I am going to the roving. We have done with the carding, and got it off the cards: the buſineſs is, to rove it. And now you ſee why I talked to you about that ſpinning. It is put behind thoſe two pair of rollers, twin brothers to the original patent rollers that expired; ſo like it, the very parent cannot tell the one from the other. They are put to work, and that groſs cotton is roved into a coarſe thread.

[*Now work the rollers,* N° 6 *in the ſpecification: thoſe bruſhes are for bruſhing off the duſt.*]

We will take it up, if you pleaſe, juſt from this ſide of the rollers. That coarſe piece juſt now being taken and put behind theſe rollers, is ſpun, I ſay *emphatically* into a coarſe *thread*, which is called the roving.—The firſt thread.—But that roving is to have a kind of twiſt.

Now

Now if you continue your eye from the rollers to that nozzle, you will ſee that coarſe thread or roving is continued into a tin cann; that cann receives it through two rollers.

It is not improper to ſtop you now: it will anſwer ſome purpoſe to explain it. Through thoſe rollers it falls into that cann, whilſt the cann receives it; an old invention, as we ſhall ſhew you by evidence. That cann turns round upon a centre, upon a ſpindle. That firſt thread is delivered (if turned over your finger, it would be the ſame thing) into that cann, whilſt that cann turns round, and gives it a gentle twiſt. When the roving is performed, it rolls itſelf up like a worm by a ſimple operation; but I do deny that there is any thing different from what was done before.—This cann turning round and round upon its axis, gives it a twiſt that is the roving.

Now, Gentlemen, I venture to think I have got you acquainted with the things concerning which I am about to talk; and unleſs I have ſucceeded to do that, you will not underſtand a word I ſay more; but I truſt we do underſtand one another pretty clearly, and I truſt you will ſay this time at leaſt has not been waſted.

I am now to tell you upon what ground of law and of fact I contend upon the behalf of the crown and the public; for the king's name never was employed more for the public benefit than it is at this moment, in my apprehenſion. That theſe two machines, which are put in one patent, and which therefore muſt be taken to be one invention, and the invention for which he has this privilege; I will tell you upon what grounds of law and fact they ought to be vacated, nullified, and held of no validity.

Now, Gentlemen, I get rather more home into my own buſineſs, and perhaps we all of us do; for we are now, for a moment at leaſt, to talk plain Engliſh.

By an act of parliament in king *James*'s reign, which put an end to great and growing evils that the world at that moment very properly complained of, it was thought right (but how wiſely, even wiſe men have differed upon it ſince) to reſerve a power of monopoly that might be made uſe of for the benefit of the public; and it was thought, that if a reward to ingenious men, who ſhould ſtudy to invent any matter of great uſe to the public, was given to thoſe inventors, in ſhape of a monopoly, for a given time, it would be a benefit to the public. That was the idea of the legiſlature in that act of parliament, and, of courſe, there was a power given to the crown to grant patents for new inventions, beneficial inventions, for a term of fourteen years. But, adopting that idea, the framers of the act of parliament were clearly of opinion *that* power ought to be guarded for the ſake of the public; and the way in which they guarded it was this: In the firſt place, ſays the act of parliament, it ſhall ever be an expreſs condition with the inventor, to whom a patent is granted for a monopoly of his invention for fourteen years, that he ſhould pay for it in this coin:—he ſhould diſcloſe the manner in which he performs his invention, in an *honeſt* and *fair* and a *plain* way, ſo that the world at large ſhall be in complete poſſeſſion of all he knows upon the ſubject, at the end of the fourteen years.—That is the expreſs bargain and ſtipulation required by the act, and, of conſequence, inſerted in this and in every other patent that is granted.

Gentlemen, You will find it is likewiſe an expreſs condition to make a patent have any operation at all, that the grant of it ſtates, however ingenious it is, however new, and however excellent the invention may be, that

it

it ſhould not have an effect prejudicial and inconvenient to the king's ſubjects in general; in other words, to the public. You will find it worth while to remember thoſe words *not prejudicial*; you will find, the grant ſtates it muſt not be inconvenient to the ſubjects in general. It muſt alſo be abſolutely a new invention; for if it exiſted before, and others were in poſſeſſion of it, there is no merit, except that of applying for a patent; and the man that comes for the patent, muſt not apply for a patent for any thing that ſhould be prejudicial or inconvenient to the public in general; and, whoever invented it, it ſhould be a new invention.

Again: Another eſſential circumſtance to the validity of a patent is, it muſt not only be a new invention, and not prejudicial to the public, but it muſt be a new invention by the patentee himſelf: Mr. *Arkwright*, therefore, if this is a new invention, muſt have been the inventor of it himſelf; of this new invention, by his good fortune. We all know there is a deal of accident in finding out the moſt ingenious thing in the world, ſtudy will not always do it. You pick it out ſometimes in working. It does not ſignify however ingenious or curious the invention is, it muſt be, as I ſtated before, that the invention, and the manner of performing it, muſt be honeſtly and fairly diſcloſed by a ſpecification, and the ſpecification muſt be regiſtered in a certain time in the court of chancery. All thoſe things are neceſſary; none of thoſe things exiſt in this caſe, none of them. Theſe are the grounds, any one of which if I can maintain to your ſatisfaction in point of law, you muſt find a verdict for the crown to vacate this patent.

Theſe, then, are the grounds we go upon, theſe are the things we are to be talking about this day.—I am come now to the different heads of objections, which I have already ſtated to you; and under thoſe different heads I will, as ſhortly as I can, conſiſtently with being underſtood, ſtate to you the nature of thoſe objections, the application to the preſent ſubject, and the ſort of teſtimony and witneſſes which I ſhall produce to maintain it.

Gentlemen, The firſt objection and the moſt ſerious, not to the parties, but to the public, and therefore I ſay the moſt ſerious, is, that this grant is prejudicial and inconvenient to the public in general; and I confeſs it appears to me moſt clearly to be ſo; and not only to endanger the loſs to this country of a manufacture, which before, I truſt I properly and truly ſaid, was the moſt envied and coveted of any we can boaſt; and not only endangers the loſs of it, but, in my apprehenſion, renders it extremely probable, and tends to draw off, from the induſtrious exerciſe of this buſineſs in this country, a multitude of labourers who ſupport themſelves to the benefit of the public; it drives them away by the moſt potent of all force, as it would carry the carding into foreign countries, and they would carry this art with them to foreign countries. You ſee, that muſt be the conſequence; but if there is any danger that is within the meaning of this clauſe, it is this objection that I have ſtated; for can any thing be more prejudicial and inconvenient to the ſubject, than a patent to a private man, which endangers the loſs of a trade of ſuch importance to this country as a nation; for it is impoſſible any-body can have thought ſeriouſly upon public affairs, that will not ſtate at this moment, that the well being and exiſtence of us as a nation, depends upon the flouriſhing of our trade and manufactures: the moment there is a dangerous wound to any one of them, that moment the public are eſſentially injured, and the whole is un-

doubtedly in danger. Now you will ſee the danger here: if this patent remains good in point of law, it prevents every individual from the preparation of cotton for all the cotton manufactures of this country. Other countries have got wiſer than they were in former days; princes, potentates, and ſtates have learned [for the ſake of this country, I am ſorry that they have] that the true wealth and power of a country does not depend upon a multitude of men in their armies, but that it depends upon the trade that they can get in their country; and I appeal to any ſober man, that has exerciſed his judgment upon the ſubject, whether at this moment, and for years (I am ſorry to ſay it) the eyes of all civilized countries are not turned upon this, with an endeavour, if they can, to take from us our trade and manufactures. And this will have the effect of it: If this is held to be a good patent by Mr. *Arkwright* only, for the term he has to come, about four years, you will rob upwards of 30,000 people of their manual labour in this buſineſs, and of the means of their ſupporting themſelves by their induſtry.

Gentlemen, You will ruin people, who, upon the ſtrength of what has paſſed, have laid out near 300,000 l. in this kind of buſineſs. Theſe are ſerious things. If it be aſked, Why did they invade another man's right? If they do it, they do it at their own peril: they do a diſhoneſt, a wrong thing, and they muſt ſuffer for it.

Gentlemen, The argument is right, if founded on fact. I aſked the queſtion, in order to give you an anſwer. Permit me to inform you, that in the ſittings after Trinity term, that is, at this time of the year, in 1781, Mr. *Arkwright*, who ſtands now as the defendant in this proceeding, was the plaintiff in nine cauſes that he brought here againſt ſeveral perſons for invading this patent of his. The fate of thoſe cauſes was ſingular; by an accident, I bore, as my learned friend ſays, ſomething like a principal part of it, I think I do remember very particularly, and I will ſtate it very faithfully.

The nine cauſes Mr. *Arkwright* was plaintiff in, againſt perſons invading this patent, and uſing thoſe machines without his licence. Mr. *Arkwright*, who is a ſharp man himſelf, and well adviſed by a great many very able counſel, moſt of them upon the northern circuit I believe, except one or two of them, and men born in that diſtrict, which is very apt to produce ſharp and penetrating men, who managed and marſhalled his cauſes with infinite addreſs and cunning indeed.

It ſo happened, one of his actions was brought againſt a colonel *Mordaunt*, a gentleman of family, but not of much fortune, and who did not mend it by dabbling in this kind of manufacture. Mr. *Mordaunt* was thought, from his temper, and from the lightneſs of his purſe, out of all the nine cauſes, as the fitteſt to be put in the front Mr. *Arkwright* had nine: he choſe to put the action which was to be tried againſt colonel *Mordaunt* firſt. There was a particularity in colonel *Mordaunt*'s temper at that moment; it was no reflection upon him; but, ſomehow or other, he took it into his head to wiſh to have different council in his cauſe, to defend it, from the gentlemen concerned in the other eight cauſes. The gentlemen that were concerned in the other eight had been upon the northern circuit, very able perſons, and Mr. *Mordaunt* the colonel was fool enough to come to me, and depended upon my aſſiſtance, and I remember Mr. *Erſkine* was of counſel in all the cauſes, and I believe Mr. *Erſkine* was my only aſſiſtant; for colonel *Mordaunt* I had a brief which was written upon

upon a ſheet of paper; my other friends were concerned in the other cauſes, and I was to defend colonel *Mordaunt*. I was a little piqued, I muſt confeſs, and I did heartily wiſh I could overſet Mr. *Arkwright*, notwithſtanding my poor paltry fee, and my brief which hardly conveyed any ideas. By good luck, Mr. *Erſkine*, who was of counſel in one of the cauſes was with me, I ſtole from him his knowledge, I borrowed a witneſs, he communicated his knowledge out of his other briefs. By good luck I comprehended the matter, by the help of my learned friend's communication; I am very free to acknowledge I am obliged to him for it — it was this; that if this was a new invention, Mr. *Arkwright* had not fairly communicated it by his ſpecification, but had abſolutely contrived to hide it. Upon that ſimple ground we went, we had no other to proceed upon; we picked it up, not from my brief I vow to God, for not a ſyllable of it was to be found there. Mr. *Erſkine* communicated his ideas from his other inſtructions, and I had the good fortune to comprehend them while they were turning the machine about. I made my objections, he lent me a witneſs or two, and to the perfect ſatisfaction of the judge who tried it in 1781, the jury found the patent was of no validity; *for Mr. Arkwright, inſtead of diſcloſing his invention, did all he could to hide and ſecrete it*; and upon that ground a verdict was given for my client, colonel *Mordaunt*; and I don't know whether Mr. *Arkwright* repented putting him in front — but I dare ſay he imagined the ſame thing would be done in the others, that, that objection would be admiſſible, though the caſes were ſomewhat different in their nature from each other; there was an end of his patent from that time, and I contend all the world had a right to take it ſo. From that time in 1781, Mr. *Arkwright* never dared to raiſe this queſtion again, till by good luck he found a certain diſpoſition to go into the common pleas. Why did he not conteſt that verdict? — there was not a word ſaid againſt it till in the court of Common pleas, in the ſittings after hilary term 1785, three years and an half after this cauſe was tried. The firſt fault I ever heard found with it was, my learned friend, the learned ſerjeant that ſits by me, who having got upon his own ground, indeed it was not meeting us handſomely; he very fairly ſtated,—I believe I have got the words in my own brief. — "The judge, "counſel, and jury of the court of King's Bench, though very ingenious "men, yet *Quoad hoc*, this buſineſs, were perfectly fools, and knew nothing "about it." The counſel for Mr. *Arkwright*, as well as the reſt, did not know a bit of what they were about. That the counſel for Mr. *Arkwright* at that time, did not know what they were about: I wiſh to God I could fill this place a tenth part as well as that counſel did. I am ſure that obſervation alone communicates to the profeſſion whom I mean to ſpeak of, he has not left his equal behind for diſcretion and knowledge. Both Mr. *Wallace*, and all the counſel were blockheads; Mr. *Dunning* too was one, a notorious blockhead it muſt be allowed. All thoſe gentlemen knew nothing at all about the matter, it followed, therefore, that ingenuity and apprehenſion, equal to ſuch a cauſe as this, were only to be found in the court of common pleas.

Mr. Juſtice *Buller*. When was this diſcovery made?

Mr. *Bearcroft*. The ſittings after hilary term 1785, this very year. So it was they complimented themſelves into this ſuperiority over the court of King's Bench, being their own judges about the right to it, they determined they had the right, and it was no great wonder, therefore they kept poſſeſſion of it as long as they could.

But

But now to the verdict in 1781.—Did he grumble about it? Did he diſpute it as a man ought to do? Did he think it wrong? Why did he not do as all men who are not ſatisfied with a verdict do, and are adviſed to do, apply to the court for a new trial. Upon ſuch a ſubject as this, my Lord will correct me if I am not right; there is a great inclination in a court to grant a new trial; becauſe ſo far I will agree with my learned friend, the court will be cautious upon a ſubject of this kind. It is not very impoſſible, the firſt time it might not be truly underſtood, I agree, and therefore if he could have laid his finger upon a fault, ſo as to have created a doubt in the mind of the court of King's Bench, I venture to ſay, that would be enough to grant a new trial, if he had applied for it; and if the court would not grant it, he might have granted himſelf a new trial. He had no occaſion to apply to the court of King's Bench for it, he might have granted himſelf eight new trials if he had thought proper, for there was but one of the nine lives of this cat (Mr. *Arkwright*) extinguiſhed at that time, there were eight left, but he never applied for a new trial, never tried any one of thoſe eight cauſes; what were his reaſons I cannot deviſe, they were good ones I doubt not: for Mr. *Arkwright*, who remained for three years and an half before he thought proper to go to another place to try this queſtion. Gentlemen, what had my client and the world at large to conclude from that? what are notorious trials in a great court, and what is to be the effect if the eyes of the world are turned upon a deciſion, and the party intereſted to diſpute the rectitude of that deciſion, ſubmits to it for three years and an half without a ſtruggle? Has not all mankind a right to conclude as my client did, he had given up all thoughts of the validity of this patent, and that he had totally loſt it.

Gentlemen, You will find ſtill ſtronger evidence, that he was ſatisfied of the fact himſelf. For now you will find, inſtead of applying to a court of juſtice, he applied to parliament, to the houſe of commons, in order to ſet him right, in reſpect to the conſequences which he ſubmitted to, in a court of law. I ſaid, I remember, before the court of Common Pleas, and I repeat it now, "Oh that mine enemy would write a book!" Mr. *Arkwright* has written a book, and out of his own mouth will I condemn him; and without all doubt he himſelf was conſcious, that, inſtead of complying with that eſſential condition of the patent—inſtead of complying with the condition of the act of parliament, and fairly diſcloſing his knowledge of the manner of carrying the invention into effect, that other people might have it at the end of the term, he had purpoſely ſecreted it.

Another thing I will ſay too (you will do me the juſtice to recollect I ſuggeſted to you a long while ago, I was ſorry to take up your time, but neceſſity required it). Gentlemen, he ſtill hankered after his ſpinning machine. You will ſee that, and you will ſee his application to parliament was for a prolongation of his ſpinning machine: That was what he wanted. He gave up all ideas of the validity of this patent, and ſtated in terms, he had purpoſely avoided diſcloſing the invention by his ſpecification out of a public ſpirit; people now and then do think of themſelves, and at the ſame time have the ſpirit of patriotiſm; you know he ſays it is merely out of public ſpirit, becauſe the French ſhould not ſteal it. I will read to you ſome ſtatements of Mr. *Arkwright*'s opinion in this ſame cauſe of his. And I am to tell you, that though I ſtated it in the Common Pleas, I had not the good fortune to give evidence that was thought legal to entitle me to read it. I am not now about to play a *Niſi prius* trick, to read a caſe I cannot bring home to Mr. *Arkwright*; I will prove it in a different manner than I did before;

before; and I tell you at once, before I ſtate what it is, I will prove Mr. *Arkwright* himſelf, in his own perſon, came to a witneſs, and I will produce to you proof that he ſhewed him this printed caſe, and ſaid, read it. I am about to apply to parliament, this is my caſe, you ſhall read it. Mr. *Arkwright* left it, and he read it; and Mr. *Arkwright* ſaid, I will ſend my ſervant to you with a few more. He left one inſtantly and ſent the ſervant with four more, and two out of the five of the identical papers that witneſs ſhall produce.

I think we were exceſſively unfortunate in the evidence not being admitted, exceſſively unfortunate in my apprehenſion, this evidence is beyond objection to be ſure, it is ten times the amount of what we then produced. This evidence I will read to you, for it ſtates in terms, his deſign of ſecreting the invention, for thoſe are the words; "At the time Mr. *Ark-*
"*wright* obtained his laſt patent," (this patent that is here) "he juſtly con-
"cluded, that his inventions were of great national importance" (I have argued they are) "and conceived they would be ſought after by foreigners
"to introduce it into other countries." He therefore purpoſely, in prevention of that evil, he had almoſt himſelf ſaid, national injury "omitted to
"give ſo full and particular a deſcription of his inventions in his ſpecifica-
"tion, attendant on his laſt patent as he otherwiſe would have done; and,
"in order the more effectually to guard againſt foreigners, it has been Mr.
"*Arkwright's* uniform rule to forbid the admiſſion of them into any of his
"works. Other gentlemen, natives of this kingdom, were moſt generally
"admitted upon proper application. Mr. *Arkwright* was the more inclined
"to omit ſo full a deſcription of his inventions, as by a clauſe in the ſaid
"letters patent, he was led to believe it was not eſſentially neceſſary, becauſe
"it is therein ſaid, that the ſaid letters patent ſhould be good and effectual in
"the law, according to the true intent and meaning thereof, notwithſtand-
"ing the not full and certain deſcribing the nature and quality of the ſaid
"invention, or of the materials thereunto conducing and belonging."

Gentlemen, If there is ſuch a clauſe in ſuch patents, I will venture to ſay, indeed, they may as well leave it there, undoubtedly it will have no effect in point of law if it is found there; becauſe it is the expreſs condition of the act of Parliament itſelf, he ſhould fully and fairly diſcloſe. What is the conſequence of this language? I would—but that I have guarded againſt. And thoſe are his words, the reaſon, ſays he, I did not diſcloſe it ſo fully is, becauſe foreigners would have underſtood it. I purpoſely do it leaſt they ſhould (as their underſtanding and ours are exactly equal) and when he ſaid I meant they ſhould not underſtand it, that is exactly the ſame thing as if he had ſaid, I meant it ſhould not be underſtood. Did he do ſo?—If he has, there is an end of his patent, let the conſequence be what it will.

Gentlemen, There are other parts extremely important that will be read; I wiſh to ſpare your time whenever I can—I ſhall have an opportunity hereafter perhaps of taking notice of them.

Gentlemen, I come now to my ſecond objection, which is the allegation upon this *Scire facias*; that this invention at the time of the letters patent, which was the 16th of *December*, 1775; (and you will keep this in your mind) was not itſelf a new invention; for I will ſhew you that at the time all the parts that go to compoſe it, with very little or no eſſential difference, exiſted and were uſed, and they were applied to the purpoſe.

Gentlemen, I will ſhew you that the larger cylinder, that performs the operation of carding, was in common and conſtant uſe; I ſhall ſhew you,

that the ſmaller cylinder, for the purpoſe of taking off the carded cotton was in conſtant uſe, covered as I ſhall ſhew you in evidence, all over, not only with parallel, but ſpiral carding fillets; that which he uſes now is the ſpiral one, which I will explain as the evidence goes on. I ſhall endeavour to make myſelf underſtood as well as I can, I ſhall ſhew you that very crank which I ſaid before, and ſhall die with the belief of it, ran away with the verdict in the Common Pleas. That ingenious operation of the crank taking off the cotton from the ſecond cylinder, is no invention of Mr. *Arkwright's*, it is no new invention, nor any thing like it, I will ſhew you clearly it was in uſe. I ſhall call upon my learned friend, (for I now foreſtall argument) I ſhall call upon my learned friend to ſhew you in what the novelty of this invention conſiſts, I pledge myſelf to prove, all its parts and operation were in uſe before, except the rollers which I have explained; and upon thoſe I have this ſhort obſervation to make, they were not new at the time of the date of this patent, in 1775; for you will recollect, I have already ſhewn you thoſe rollers were uſed in the firſt patent, that expired in 1783, and that roving is ſpinning, and that ſpinning is roving, and all is performed by the rollers, and it is either one or the other as you put the rough cotton or thick thread; in the firſt place it is roving, or a coarſe thread; in the ſecond place, ſpinning, or the fine thread. Now have not I told you how he hankered after his ſpinning patent, is not this his ſpinning patent? —Surely the more you think of it, the more you will ſee it; another head will occur to you, which I ſhall reſerve to ſpeak more fully of when I come to it; but another thing is, if this is a new invention it is not Mr. *Arkwright's*, *ſic eos non vobis*, with all the changes we uſed to ring upon it at ſchool; in the courſe of your lives, ſince you left ſchool, you may have had many occaſions to obſerve it, and this is a ſtrong inſtance of it, this was not the invention of Mr. *Arkwright*, I will prove it, and that it was the invention of a very poor man, now alive, whom I will produce to you, he did it, he will ſhew you, and ſwear it; but he was poor, and could not carry it much into execution, he communicated it as a great ſecret to another man, of the name of *Kay*, and like men, that ſometimes are entruſted with ſecrets, he ſold it to Mr. *Arkwright*; ſuch are my inſtructions, that ſuch things have been uſed before, we will prove now beyond all doubt. If I ſhew you this was the invention of a Mr. *Hayes*, that he imparted it to a Mr. *Kay*, who communicated it to Mr. *Arkwright*, it is not Mr. *Arkwright's* invention, that is clear, it requires no great argument to make that out; as it depends ſimply upon evidence, I ſhall not delate upon that evidence, you will expect it from me, and I ſhall produce it.

I come now to our laſt objection, and I muſt require again a little of your cloſeſt attention, as it depends upon the parts of this machine. I have before me, copies of the ſpecification, I wiſh them to be handed up to you and his Lordſhip, together with a written explanation.

[*Here copies of the ſpecification were handed up to the jury, for which ſee the Frontiſpiece.*]

Now, Gentlemen, I come to the other poſition, which is a very important one, if not the moſt important in the buſineſs, which is, that he has not fairly diſcloſed his invention, if he has, it is by the means of the drawing in your hands, referring to the explanation, and referring to the figures, by which the ſeveral parts are noted. What does it do? What is it he is deſcribing?—His machine, which is for the purpoſe of preparing ſilk, cotton, and other things for ſpinning—mind what I ſay, he not only does not diſcloſe it, but I ſhall ſhew you marks as I go on, by which you will

ſee

ſee he ſtated his own caſe rightly and truly to the Houſe of Commons, that is, that he did not diſcloſe it by his ſpecification.

No. 1. The firſt article deſcribes a beater, or breaker of ſeeds, huſks, &c. and a finer of the flax, hemp, and other articles which are to be prepared for dreſſing, in which (a) is a wheel, with teeth, which by acting upon the lever, raiſes the hammer (C) the lever being moveable upon the centre (d).

Now, you expect, as that is the ſpecification, and the diſcloſure of the invention for which this patent is granted, that this hammer is neceſſary for the performance of the work. It is never uſed, and is put in the front of the ſpecification for no other purpoſe but to puzzle and confound thoſe who ſhould inſpect this ſpecification. So it begins; this is the Alpha, and I promiſe you the Omega will be exactly like it; this is not all, this hammer not only is uſeleſs, but I will prove to you, by witneſſes, it is miſchievous; the deſcription is a beater or breaker of ſeeds, huſks, &c. and a finer of the flax, hemp, and other articles, which are to be prepared for dreſſing.

Now, if you put cotton under this hammer, and work the wheel about, you will abſolutely ſpoil it for the operation of roving and ſpinning.

We ſhould be late indeed, in the diſcoveries of this country, if we were to reſort to Mr. *Arkwright* in the year 1775, for the invention of the lever, with an hammer at the end, to be turned by a wheel upon a center.

It was in the books on mechanics, when I was at the univerſity; I will ſhew it you in the books that there is no new invention in it; no man can tell you who was the inventor, it is ſo old and well known, yet this is put in the front of the battle to diſcloſe the invention; it is to ſhut the door and ſtop it up, to prevent the entrance of any chance of underſtanding what it is, this invention conſiſts in.

Let us ſee whether the next is any better.

No. 2. is an iron frame with teeth, at (a) working againſt the lower frame with like teeth, at (b) this lower frame is firmly connected with a wooden frame, by means of the ſcrews, (c, c) the upper teeth are made to work againſt the lower, by means of the joints, (d, d, d, d).

So here are artificial teeth, but for what purpoſe, except that of confuſion, cannot be ſhewn, for in fact it is not, nor ever was applied in this buſineſs

Now we come to ſomething that is meant to deſcribe the thing you have ſeen; but here too, Mr. *Arkwright* is exceedingly ſparing of his diſcloſures.

Gentlemen, You remember the cloth with wool upon it, which I ſhewed you; and you will be ſo good as to remember, that cloth with the wool upon it, which was called the feeder, there is in the center of it, a little roller, like a truncheon, upon which it turns round with firmneſs, without which, the cloth and the cotton and all would be of no uſe, but get within the wheel.

But that which is the moſt eſſential part of it, I defy any body to point out to you, if you look at No. 3, for it looks more like a worm, or a curl, than any thing elſe. But this is beginning to talk in a dark way, about ſomething that really does belong to the machine. Now, Gentlemen, that was about No. 3, and you will now let me aſk you this queſtion, if you were about to explain a complicated machine, that was to perform a proceſs in a manufacture, and you meant to communicate it to other men, would not you have taken the courſe I felt myſelf bound to take with you; that is, to ſpeak of that part of the machine which firſt begins the work, then to

ſpeak

ſpeak of that part of the machine which ſucceeds in the next part of the operation, and ſo on to the end. Method and order throw light upon any ſubject, therefore it was not for *Arkwright's* purpoſe to proceed in any order; the next thing to that feeder, and to the rollers, is a very important part of it; it is a great carding cylinder, of that not one ſyllable is ſaid: your Lordſhip ſees, after the feeder and the rollers, the cotton is put on a great carding cylinder. I ſee not a ſyllable about it in the ſpecification —Why? I know the anſwer that was given, and I am not diſpleaſed with it. Oh, we have no occaſion to deſcribe that—the great carding cylinder, as you ſee with the wheels that perform the operation of carding.—That was well known and common in the trade—Was it ſo?—Yes, it was. But ſay they, we apply our new invention to that old carding frame and cylinder, in the ſame way as the other invention applied to the old ſtocking frame.—Do they ſo? Then it is a flat objection to your patent, for it ought to be for the application of that novelty, and produce an effect by its application to the old machine that ſhould be ſtated, and many of thoſe patents have been queſtioned, and that point has been ſolemnly determined by the Court; becauſe you are inventing a new thing that will produce a new operation; you are not to take that which is an old invention and put it together, and call it a new invention; but he ſhould ſtate, that it is for an addition to an old invention. It is eſſential to the deſcription, he is to tell you how he performs this invention, Is he not?—How does he do it?—Does he not do it with the aſſiſtance of the old carding cylinder? Ought he not to tell you ſo, and that the application is that addition to it? but he has not ſaid a ſyllable of it.

Gentlemen, After the cloth, which is the feeder of the cotton, what is the next important parts of the machine? Are they not the rollers? Do they not occur next in order? Are they not a very important part of it? you would expect to find that next, No; that might have explained the thing, and put people in mind, and too early in mind of the rollers, and the former patent for ſpinning. But for the purpoſe of confuſion in general, as well as to avoid that neceſſary information which ought to be given, you will find thoſe that ought to occur next No. 4, after No. 3; but they are poſtponed to No. 6; and inſtead of ſpeaking of them, for the purpoſe of elucidation, no doubt, that crank with teeth is mentioned, which you ſaw take off the cotton from the ſmaller cylinder; that is put to No. 4. Is that the natural place for it? Put the rollers out of the queſtion, put the old carding cylinder, the large one out of the queſtion, is that crank that takes it off, the next thing that occurs, No. The next thing that occurs will be held forth to you by and by, as of great merit, I mean the ſecond cylinder that takes off the carding from the great one, you will be told ſo; for what purpoſe is it that is omitted, and a ſkip directly over to the crank with the teeth in it that takes it off.

Now, I would not wiſh to overſtate the effect of my own argument; have you not gone thus far with me, that you begin to ſuſpect at leaſt, this *Arkwright*, the inventor of a machine, though an ingenious man, has not meant to ſtate it fairly. Let my learned friend, if he can, account why you find theſe diſorders in the parts, why ſhould it not be put in its natural progreſſion, certain it is, that is the beſt way to explain it.

We now come to No. 5. In the ſpecification, which is deſcribed to be a cylinder, which has fillet cards behind this cylinder. No 3. delivers its contents upon another cylinder.

Now,

Now, No. 5, if you look at it, I am ſure you have eyes enough to ſee what thoſe fillets are. If you look at your ſpecification, No. 5, you will ſee it is a cylinder with fillets on it; but it is a cylinder with parallel fillets; you will be told truly, by and by, that, that ſpiral cylinder is better, for reaſons that will be explained to you, the ſpiral carding fillets are the beſt, they uſe them; then why inſert parallel ones in the ſpecification. There are intervals, or interſtices for them; the conſequence of which you will ſee, as it takes it from the great carding machine, a great deal of cotton will remain untaken off, it would be perpetually receiving from the feeder, freſh cotton taken off by the carding fillets. It is ingenious, therefore, to make the fillets upon the ſecond cylinder ſpiral, for the effect of that, you will ſee, at one time or other, it touches every part of the great carding cylinder, which is ſufficient for the purpoſe, and in time it takes off every part of the cotton. Do I make myſelf underſtood?

Jury. Yes.

Mr. *Bearcroft.* Then it appears for the ſame reaſon, that he has not diſcloſed the contents; in order to puzzle, he has put in his ſpecification, parallel fillets, which, for the reaſons I have ſtated to you, are by no means ſo convenient.

Then we come to an important part of the caſe indeed, we come to the rollers; and here let me remember you of what I ſuggeſted before. Mr. *Arkwright* was vaſtly ſhy in talking about the rollers, and he is right; you will ſee why, preſently. He certainly could deſcribe them, for he has deſcribed them in his firſt patent, and I will read that deſcription and ſpecification: he thought it neceſſary to deſcribe them then, and he has deſcribed them compleatly then, Why not now? I will tell you why, becauſe if he had deſcribed them, he muſt have deſcribed them in the ſame manner; and if he had ſo done, the greateſt blockhead upon earth that could read, would ſee *it was the ſame thing as his former patent.* And that, after his former patent expired, ſtill he wanted to have it again, and that is the reaſon why he ſtopped ſhort of the deſcription; you will form your own judgment upon that; but here again, I put you in mind, thoſe rollers are in fact the ſame rollers, producing the ſame effect. I will produce it before your eyes as the former one did. Here you will ſee it is manifeſt, and I will make my words good; I will ſhew Mr. *Arkwright* is endeavouring, in effect, by other words, and a freſh patent, ſubſtantially and in truth to prolong the former one which is expired.

We then come to No. 7, which is that cann, which I ſhewed you upon the roving machine. Now that cann will be by and by enlarged upon, as a principal part of the novelty and merit of the invention. There is nothing new in that cann; I pledge myſelf to ſhew you, by evidence, except a pair of rollers at (a) it was like the firſt expired patent, like the rollers above it, it is put for no other purpoſe than to confound and puzzle, and to hide the identity of the thing. I will ſhew you by witneſſes, that, that cann, produces no new effect, nay, at this moment, thoſe that uſe Mr. *Arkwright's* machine, moſt frequently uſe it without; and that roving, inſtead of dropping through the rollers into that cann, drops through a plain funnel without the aſſiſtance of any cann, and without your ſeeing it, it takes its form, and turns juſt as the other did. You will now be very much ſurpriſed to find I have gone through all the ſpecification, and yet you find No. 8, 9, and 10. remain; look at one of thoſe ſpindles that turn round, that is No. 9, that is no new invention; but No. 9. and 10. are exactly like No. 1. and 2, that

is to ſay, have no relation to the ſubject, and never were uſed at all. No 8. to be perfectly correct, is not uſed at all, you will have that from the witneſſes. Now then, Gentlemen, to recollect a little what we have been ſaying about this, and to ſtop here a moment upon the ſpecification: Do not you join with me? are not you got ſo far as to *ſuſpect* at leaſt, this gentleman really meant not to diſcloſe? I will call to you a witneſs, that was actually employed to draw the ſpecification by Mr. *Arkwright*; a man of good common ſenſe; the man himſelf was ſo ſtruck with the ſingularity of the inſtructions, and the lameneſs of the ſpecification, and its inadequacy to convey the idea of a new invention, he himſelf ſaid, I don't think this will do, nobody will be able to do it by this; Hold your tongue, ſays Mr. *Arkwright*, never mind that, do as I bid you, I don't mean they ſhould—I don't pledge myſelf to prove every tittle of theſe words of the dialogue between them, but I pledge myſelf to prove it was to that effect. What muſt occur to the man in doing it? He muſt ſee it was not to be done as it ought to be. He remonſtrated to Mr. *Arkwright*, but he, for the purpoſes ſtated by himſelf in the caſe, ſaid it ſhould be ſo—that you will find from a poſitive witneſs.

I juſt want to give you this idea, that the rollers No. 6, and the ſpindle No. 9. is exactly the old way of ſpinning, under the old expired patent. I think that is the way which is to perform this roving—that is to ſay, it performs the ſpinning, and that concurs with the argument I before troubled you with.

Gentlemen, This is the nature of the caſe we have to lay before you; I have taken up a great deal of your time, and I heartily beg your pardon; but I could not expect, without taking the pains which I have, that you ſhould underſtand it, and I am perſuaded you will think it was neceſſary to go through all this to make myſelf underſtood. If I am underſtood, it is all I wiſh for at this moment; for if I am, you will underſtand the evidence that will be produced to you, and I have no doubt you will be of opinion, every one of the objections I have ſtated, will be fairly made out, that it is a great inconvenience to the public, that it was not a new invention, at the time of the patent being granted, that it is not a new invention by Mr. *Arkwright* at all, and that he has not diſcloſed his invention. If I make out theſe points, or any one of them, I am intitled to a verdict; we ſhall call our witneſſes, you will be ſo good to attend particularly, and I hope you will be able to ſupply the omiſſions I may have made, which I hope are not many; I ſhall not make any further comments, which might be waſting your time, as I ſhall have an opportunity of making them hereafter more effectually.

Mr. Juſtice *Buller*. Mr. *Bearcroft*, What do you underſtand to be the meaning of the firſt iſſue?

Mr. *Bearcroft*. The evidence upon our ſide will be to ſhew, that the grant is prejudicial and inconvenient to his majeſty's ſubjects in general. I meant to ſay, there is great danger from ſuch a grant as this, that it will go into foreign countries if the monopoly is permitted.

Your Lordſhip will permit me to ſtate it; I mean to ſay it is of ſuch a ſort, that it may be taken into other countries without all doubt, and if you can only work it here, loaded with a monopoly, and in another country it may be worked without, it will be a great danger to the whole trade, as applied to all the cotton manufacturers.

Mr. Juſtice *Buller*. I don't ſee, with reſpect to that iſſue, you can be permitted to give any evidence at all, it is merely a conſequential iſſue, it is a queſtion

queſtion of law, whether it is prejudicial or not? When the facts are ſtated therefore, if you thought it neceſſary to attack the patent upon thoſe general words of the act of parliament, you ſhould have ſtated it in what reſpect it was ſo then—the fact would be put in iſſue. This is ſuch a ſurpriſe upon the party he can never come prepared to anſwer it.

Mr. *Lee.* It ſtrikes me, the prejudice muſt be in the nature of it, a matter of fact, and your Lordſhip ſees it is a condition annexed to every patent, by the terms of the act of parliament. Now there is no making any ſenſe, uſe, or application of that, but upon ſome idea the patent is to ſtand or fall upon the aſcertainment of that fact.

My Lord, If the patent is to be void, if proved prejudicial to the public; and good, if no ſuch prejudice ariſes from it, in the nature of it; then *ex vi termini*, there muſt be ſome mode of aſcertaining it.

Mr. Juſtice *Buller.* That is no anſwer to my queſtion, Mr. *Lee*; my idea is, if the patent is void as a queſtion of law, it prejudicial or hurtful to the country, you can only take iſſue upon ſome fact that makes it ſo, therefore your iſſue ſhould not be in general terms, prejudicial to the country, but you ſhould ſtate how? and then the party comes prepared to anſwer it.

Mr. *Bearcroft.* Then, according to your Lordſhip's obſervation, it is an immaterial iſſue, and we ſhould ſtate the fact, in order to give notice to the party.

Mr. Juſtice *Buller.* Upon that iſſue, upon this record, I muſt take it thus—the other three are preciſe pointed iſſues, but the firſt is of conſequence to ſtand or fall as they are proved.

Mr. *Lee.* Suppoſe this principle is aſſumed, and I conceive it may be fairly aſſumed, there is no one thing of equal importance, in any country, to the employing of the inhabitants that compoſe it. I will ſuppoſe any invention, and you have a right to put the moſt extravagant ſuppoſition upon earth: I will conceive all that manufactory, which has been for ages carried on by men, women and children; and the ſuſtenance of them all to be performed by an invention that don't admit of any human hands at all. It is poſſible in the nature of the thing, all thoſe ſpindles might, for ought I know, be worked by a turnſpit dog, and afford no ſubſiſtance at all to any human being. I ſhould conceive ſuch a thing, upon proof, would be directly a public inconvenience, and deſtructive of the happineſs of mankind. And yet it would not be neceſſary to ſhew that was the nature of it, but only to ſtate that.

Mr. Juſtice *Buller.* Then you ſhould ſtate the fact upon record, then he knows what he comes to anſwer. Whether you attack it upon the one ground or the other, as to the inconvenience to the public, it is impoſſible for a man to come to anſwer that.

Mr. Serjeant *Bolton.* This is taken upon the words of the patent; they are the words of the law, requiring ſuch and ſuch qualities, he has joined iſſue generally upon it, he might have demurred, and have ſaid, I will not join in that iſſue.

Mr. *Bearcroft.* Is it not too much to determine at *Niſi prius*, that it is an immaterial iſſue?

Mr. Juſtice *Buller.* It is neceſſary to ſettle that, it muſt be the rule to direct yourſelves by, it muſt be determined, whether the iſſue is to be laid before the jury.

Mr.

Mr. *Lee.* Your Lordſhip ſees the order in which it is placed; my idea is, that it ſhould ſtand laſt, and now it ſtands firſt.

Mr. Juſtice *Buller.* If it ſtood laſt, it is a conſequential iſſue, like the iſſues in *Quo warrantos.* Here are iſſues joined upon particular facts, the party has notice of them by the record, and comes prepared to controvert it, and the laſt is a general complicated thing, which muſt ſtand or fall by the other particular iſſues.

Mr. *Lee.* I conceive the firſt queſtion is, Is it a new invention at all? The next is, Is it the man's who pretends it is his? The third is, Is it ſufficiently and accurately aſcertained? When theſe points are all ſettled; Suppoſe he had particularly ſpecified, that he is the inventor, yet if it is a nuiſance inſtead of a public utility, it ſhould not ſtand.

Mr. Juſtice *Buller.* Then you ought to have ſtated it.

Mr. *Lee.* They ſhould have demurred then; but they go on to ſay this; I defy you to prove this is not a new invention, or that it is not properly ſpecified, or that it is a public inconvenience.

Mr. Juſtice *Buller.* You cannot go into any facts, but thoſe upon which the iſſue is joined upon the record, in order to ſuſtain that iſſue.

Mr. *Lee.* Suppoſe we put the moſt extravagant thing in the world, I ſuppoſe this principle will hardly be diſputed, that the ſtrength of this country depends upon its navy, and perhaps that may depend upon the *Newcaſtle* colliery, and that having great communication with this capital by ſea. Now if a man was to invent a method of carrying all the coals from *Newcaſtle* to *London* by air balloons, and by that means exclude every hand that uſed to be employed by ſea, and go to the annihilation of every ſailor and mariner: I ſhould think it tryable upon that ſtate of it.

Mr. Juſtice *Buller.* Then ſtate it.

Mr. *Lee.* If the jury could, or could not ſay this would tend to great public objects, which we all know it does; I conceive it tryable under the head of public inconvenience.

Mr. *Erſkine.* I have always underſtood it to be a rule, that you need not be more preciſe in pleading upon the ſtatute, than the ſtatute is in the deſcription itſelf. It is not above a term ago, in the Court of Exchequer, I took the objection in arreſt of judgment, that the crime was not ſufficiently ſet forth upon record. I was told by the judges in that court, it was ſet forth in the language of the act of parliament which made the offence, and therefore the act of parliament was to be the rule of pleading. In this inſtance the act of King *James* ſays, the king ſhall have no right to grant a patent, that ſhall be prejudicial and inconvenient to the king's ſubjects in general It ſeems, therefore, a ſufficient objection to any patent to ſay in the words of the ſtatute, it is not in the power of the crown to grant that patent, and the party that comes to ſupport it, is bound to ſupport it, and to ſhew it is within that king's power to grant. If you are too general, it is for the party, likely to ſuffer by the generality, to check it by a demurrer; but if I aver it is prejudicial in the language of the ſtatute, and he joins iſſue upon the ſubject, it may be a queſtion, How far we are, or not, allowed to go into evidence to ſupport that? It ſtruck me very forcibly, when Mr. *Baron Eyre* made that anſwer, it ſeemed to me concluſive then, though there ſeemed to be ſufficient ground to arreſt the judgment, if it was a common offence, as the party has not notice of it upon the record; but the Court ſaid, when you lay an information upon the ſtatute, it is ſufficient in a criminal caſe, if you lay it upon the words of the ſtatute. Here then the ſtatute ſays, no patent

ſhall

ſhall be enforced which is inconvenient to the ſubjects; and we aver, that is the caſe.

Mr. Juſtice *Buller*. Where the act of parliament ſtates particular facts, and makes certain acts a crime, there it is ſufficient to ſtate it in the words of the act; but here no act at all is ſtated, no notice is given upon what ground you mean to go; if it is open to inconvenience, it is open to every reaſon you can ſuggeſt; and the party is not prepared to bring an anſwer to it, he has no opportunity of anſwering.

Mr. *Wilſon*. My Lord, it ſeems to be an *Iſſue in law*.

Mr. Juſtice *Buller*. So I think, Mr. *Wilſon*.

Mr. *Wilſon*. Provided it is not contrary to law, or is a general inconvenience, that is an iſſue in law.

Mr. Juſtice *Buller*. Therefore they ſhould ſtate thoſe facts that they think prove the general inconvenience, and it will be for the jury to decide upon the truth or falſhood of thoſe facts; if once eſtabliſhed by the jury, ſuch facts exiſted, then it would be a queſtion of law, whether this was an inconvenience.

Mr. *Bearcroft*. I underſtand that; but does it not go to this—they ought to have demurred? and he has waived that objection, by joining iſſue upon it. He ſays, I do know what you mean.

Mr. Juſtice *Buller*. I muſt ſee a little what is to be tried; I muſt find, that, by the record upon this iſſue, there is no fact at all of that ſort: I conſider it as a conſequential iſſue, like the *Quo Warranto*; the law is well ſettled; if you cannot upon that conſequential iſſue attack the defendant, you may upon the other iſſues, upon the three iſſues; it may be properly tried upon the ſecond, third, and laſt. I am to try thoſe, and conſider the firſt as a conſequential iſſue; if, upon the part of the proſecution, either of the three laſt are eſtabliſhed, the other muſt follow.

Mr. *Bearcroft*. If you pleaſe, then, we will begin with the ſecond: that it was not a new invention.

Mr. *Lee*. We will put in all the patents, as the jury ſhould ſee the firſt.

[*The Specification of Mr.* Arkwright's *firſt patent of* 1769, *read*].

[*The Specification of the patent, dated* 16*th of* December 1775, *read*].

Mr. *Erſkine*. We ſhall begin with No. 1.

Mr. Serjeant *Adair*. I believe we may ſhorten this, by ſaying No. 1. and 2. are wholly out of the queſtion.

Mr. *Erſkine*. You may indulge us, by admitting any thing you pleaſe; but we chuſe to go on our own way.

Mr. *Lee*. In the firſt place, we ſay No. 1. is not new.

John Immiſon ſworn. Examined by Mr. *Erſkine*. Evidence of John Immiſon.

Q. Do you know any thing of this Book, Sir? which I ſee is the third edition, corrected, in the year 1773.—What book is that?

A. *Emmerſon*'s Mechanics.

Mr. *Erſkine*. That is a book that has been printed ſome years?

A. It is, Sir.

Q. if my judgment don't deceive me much, we have got No. 1. here from *Emmerſon*'s book, if your Lordſhip will compare it?

Mr. Juſtice *Buller*. Yes, it is here.

Mr. *Erſkine* [Q. *to the Witneſs*] You don't diſcover any difference between that and this?

A. Not any at all.

Q. It is the ſame thing?
A. It is the ſame thing exactly.
Q. Now I ſhould be glad to know, whether this thing (which to be ſure is older than this patent) is of any uſe to cotton?
A. A very great diſuſe, if applied to it.
Q. It would hurt it very much, if applied to it?
A. It would, Sir.
Q. What effect would this beating with the hammer have upon it, if uſed?
A. It would bruiſe the ſeeds ſo much among the cotton, it would be of great diſuſe when it came to be roved and ſpun.
Q. It is not only not uſed in the manufacture of cotton, but by no means applicable to it?
A. Not uſed, and by no means applicable to it.
Q. If it were applied, it would be miſchievous to it?
A. If it were applied, it would do miſchief naturally to it.

Croſs-examined by Mr. *Wilſon.*

Q. Is that machine uſed in beating of hemp?
A. Yes.

Mr. *Benjamin Pearſon* ſworn. Examined by Mr. Serjeant *Bolton.*

Evidence of Benjamin Pearſon.

Q. Take that in your hand.
Mr. Serjeant *Adair.* Pray are you concerned in any cotton mills upon the conſtruction of Mr. *Arkwright*'s?
A. I am not.
Q. In no partnerſhip concern whatſoever?
A. No: I have no connection upon any account in the world with it?
Q. You have not?
A. I have not.
Q. You ſwear it?
A. I ſwear it.
Mr. Serjeant *Bolton.* Perhaps you worked for Mr. *Arkwright* once?
A. I did.
Q. Was you in fact employed by him at the time of his procuring his patent? do you recollect?
A. I recollect I was.
Q. Now look at No. 1. in that ſpecification. It is called a beater or breaker of ſeeds: I will aſk you firſt, if in fact Mr. *Arkwright* ever uſed it in his manufactory?
A. I never ſaw him uſe it.
Q. I would aſk you, whether, if it was uſed, it would be of uſe or of miſchief in the preparing of cotton?
A. It would be of no uſe, but rather a detriment, if you beat cotton before it is picked.
Q. You ſee it is called a breaker of ſeeds—The ſeeds are in the cotton before it is picked?
A. Yes.
Q. Picking out ſeeds is picking cotton?
A. Yes.
Q. You would think it a detriment to the cotton, if uſed?
A. I believe it would.
Q. Explain to the jury how it would hurt the cotton?

A. It

A. It would beat the ſeeds ſo ſmall, they could not be picked out; it could not be picked clean; the cotton could not work without more expence.

Q. Before we quit that intirely, do you happen to know this breaker is no new invention?

A. I underſtood not.

Mr. Juſtice *Buller*. You know it yourſelf?

(*No anſwer*).

Q. Mr. Serjeant *Bolton*. Did you ever ſee that uſed before?

A. I have, only for the purpoſe of a forge hammer?

Q. Raiſed and let fall the ſame way by a wheel and cogs?

A. Yes.

Q. Now No. 2. in the ſpecification; it is called in the ſpecification an iron frame with teeth at (a) working againſt the lower frame with like teeth at (b) this lower frame is firmly connected to a wooden frame by means of the ſcrews (c, c). The upper teeth are made to work againſt the lower by means of the joints (d, d, d, d) Did you ever ſee that in uſe at *Arkwright*'s?

A. I do not recollect that I did: I don't know what it is; for if I have ſeen it, it is more than I know.

Q. Then No. 2. you never ſaw Mr. *Arkwright* uſe; nor did you ever ſee it uſed by any-body, in preparing cotton?

A. I cannot ſay I ever did.

Mr. Juſtice *Buller*. How long, after granting the patent, did you work with *Arkwright*?

A. I dare ſay, ſeven years after the patent was granted.

Q. He never uſed it in all that time, that you recollect or remember?

A. Not that I remember.

Q. Nor you never ſaw it uſed any-where for the purpoſe of preparing cotton?

A. Not any-where, that I remember.

Mr. Serjeant *Bolton*. I don't know whether it would not be clearer, to confine ourſelves within the numbers of the ſpecification, and clear each of them.

Mr. Juſtice *Buller*. Follow your own courſe; I have been taking the numbers in the margin, with a view to ſum it up ſo to the jury at all events: ſo take it in that courſe.

Joſhua Wrigley ſworn. Examined by Mr. *Wood*.

Evidence of Joſhua Wrigley.

Q. Now, Sir, will you be ſo good as to tell us, whether that beater, No. 1. is uſed in preparing cotton?

A. I never ſaw it uſed.

Q. Would it be of any ſort of uſe now in preparing of cotton?

A. None at all.

Q. None at all?

A. No, Sir.

Q. Would it be of any detriment?

A. I ſuppoſe it would.

Q. Why do you ſuppoſe it would be a detriment?

A. It would break the ſeeds, and fill the cotton full.

Q Now you ſee No. 2. is an iron frame?

A. Yes.

Q. Is that of any ſort of uſe; or is that ever uſed?

A. No, I never ſaw it uſed.

Q. You

Q. You never ſaw it uſed at all in the buſineſs?
A. Never.
Q. How long have you been in the buſineſs?
A. About four or five years.
Q. During that time, you have never known either of thoſe things, the beater, or iron frame, uſed in preparing cotton?
A. Never, Sir.
Q. Who have you worked for?
A. Several gentlemen; one Mr. *Gregg* was the laſt perſon.
Q. Did you ever work for *Arkwright*?
A. Never.
Q. What is your trade?
A. A millwright.
Q. Did you make cotton machines?
A. Yes, I have done.
Q. And therefore you are well acquainted, of courſe, with the nature of them, I ſuppoſe?
A. Yes, Sir.
Q. You ſay thoſe things were never uſed in a machine of that ſort?
A. No, I never ſaw them uſed.
Q. You ſee No. 3. called the cloth-feeder?
A. Yes.
Q. You know that feeder which Mr. *Arkwright* uſes?
A. Yes, I have ſeen it worked.
Q. Put on the old feeder.
[*The old feeder put on*].
Mr. Juſtice *Buller.* What do you call that?
Mr. Serjeant *Bolton.* The feeder they are putting on, to lay the cotton upon the cloth.
Mr. Juſtice *Buller.* That is no part of the ſpecification?
Mr. Serjeant *Bolton.* It is his No. 3. the old feeder, I am going to ſhew your Lordſhip; the ſame feeder was then in uſe.
Mr. *Lee.* It is the ſame in its operation; I don't know whether it is better or worſe.
Mr. *Erſkine.* I am going to ſhew your Lordſhip, the feeder deſcribed at No. 3. or rather not deſcribed at No. 3. involves in fact no new principle.
Mr. Wood. [*Q. to the Witneſs*] Will you tell us, Was that the feeder that was uſed before Mr. *Arkwright*'s patent?
A. I believe that was the feeder before Mr. *Arkwright*'s patent.
Q. Does that perform the ſame operation Mr. *Arkwright*'s does?
A. Yes it does.
Q. Which is the better?
A. The old feeder.
Q. Perhaps you can give the reaſon?
A. It needs no ſpreading upon the table, as there does with the other; nor taking the cloth off or on; it is always ready.
Q. Now, Sir, this, you ſay, needs no taking off and on?
A. No, Sir.
Q. Are you obliged to take Mr. *Arkwright*'s off?
A. Yes, Sir, every time the cloth is filled.
Q. Are you obliged to do ſo with that?
A. No, Sir, not at all; we never need take it off at all.

Q. Which

Q. Which is the better?
A. That is the better.
Q. The old one?
A. Yes.
Q. Which is moſt uſed?
A. That is moſt uſed.
Q. That is more in uſe now than his?
A. Yes.
Q. The old feeder is more uſed than *Arkwright*'s?
A. Yes, Sir.
Q. Now?
A. Yes, Sir.
Q. It is more in uſe now than his?
A. It is.
Q. You are pretty well acquainted with moſt of the cotton works in *England*?
A. Yes, Sir.
Q. And you can tell which is moſt uſed, the old one or *Arkwright*'s?
A. This is moſt uſed.
Q. That old one is, to the beſt of your knowledge?
A. Yes.
Q. Have you ſeen the old one uſed, before Mr. *Arkwright*'s patent?
A. Yes, Sir.

Elizabeth Hargrave called.

Mr. *Wood.* The objection we are going to now, is, to No 4. the crank; if this is not ſufficiently ſatisfactory about the feeder, we can ſhew that form was uſed before, by calling the inventor.

Q. [to *Wrigley*] Here, look at the ſpecification, and *Arkwright*'s feeder—Now is that properly ſpecified there?
A. No, it is not.
Q. You will tell us wherein it is deficient?
A. It does not ſhew how it is to be worked at all, nor how the cotton is to come off it.
Q. Is there any centre or roller there?
A. No, Sir.
Q. No centre or roller deſcribed there in *Arkwright*'s ſpecification?
A. No roller.

Mr. Juſtice *Buller.* What are your objections to it, beſides not ſhewing how the cotton is to come off?

Mr. *Wood.* It does not ſhew which way it is to work; how it is to turn the cloth about.

Q. Can it be worked without that roller?
A. It cannot.
Q. That is not ſhewn at all in the ſpecification?
A. It is not, Sir.

Mr. Juſtice *Buller.* Is there any thing in that machine, which, in form or appearance, is any thing like that?
A. In this?
Q. Ay.
A. No, not now.
Q. Is there any in Mr. *Arkwright*'s machine?
A. No; there is no roller ſhewn at all in this.

Mr. Juſtice *Buller*. It does not ſeem as if it was at all applied to this in point of form?

A. No, it has no reſemblance at all, no more than this— (*holding up a piece of cloth*).

Mr. *Erſkine*. Before we carry your Lordſhip to the crank, No. 4. I wiſh to call *John Lees*, the inventor of the old feeder; he will tell your Lordſhip it is ſimilar to the new one, and does its work better; and the inventor of the old feeder, will never make a new one by the ſpecification.

John Lees, upon his ſolemn affirmation, was examined by Mr. *Erſkine*.

Evidence of John Lees.

Q. I believe, Sir, you are well acquainted with the feeder that conveys the cotton to the carding machine, in uſe before *Arkwright*'s invention?

A. Yes, Sir.

Q. Was you at all concerned yourſelf in inventing that feeder before in uſe?

A. I was the inventor of it; I never ſaw one before it.

Q. You never ſaw one, before you made one?

A. No.

Q. And how long is that ago?

A. I began it the 15th of *June* 1772, and I had it finiſhed the latter end of *July*, or the beginning of *Auguſt*, in Mr. *Walmiſley*'s warehouſe in *Manchester*.

Q. Is that feeder, that you tell us you yourſelf invented and brought into uſe in the year 1772, as fit for the purpoſe of conveying cotton to the carding machine, as that uſed by *Arkwright*?

A. Why I never did ſee *Arkwright*'s work; but it is what is commonly uſed.

Q. Then your feeder was in common uſe?

A. It is in common uſe.

Q. It is in common uſe now?

A. Yes; that is in common uſe, and has been a great while.

Q. This which Mr. *Arkwright* deſcribes, ſeems to me to be a deſcription of yours; I will read it you—"A piece of cloth with wool, flax, hemp "or any other materials ſpread thereon"—That is the deſcription you would give of yours?

A. Yes, Sir.

Q. You obſerve no roller there, do you?

A. No.

Q. Would you, by looking at that ſpecification, and reading that which I juſt now read to you, make that feeder which Mr. *Arkwright* calls his invention, with the roller in the centre of it?

A. No, Sir.

Q. Now do you think the feeder, with the roller in the centre of it, is a better feeder, and more calculated for the purpoſe, than yours ſo much in uſe?

A. No, Sir, I don't think it is.

Q. You think your own the beſt?

A. Yes.

Q. But if diſpoſed to think the other the beſt, you could not make it from this ſpecification, could you?

A. No, Sir.

[*No Croſs Examination.*]

Thomas

Thomas Hall upon his ſolemn affirmation, was examined by Mr. *Lee*.

Evidence of Thomas Hall

Q. You know the laſt witneſs, Mr. *Lees*?
A. I do.
Q. When did you firſt know him?
A. I have known him many years.
Q. Had you ever any employment with him, or under him, about making any feeder?
A. I had.
Q. How long ago is that?
A. It was in the year 1772, *June* and *July*.
Q. What did you make together, what did you aſſiſt him in making?
A. In making a carding engine.
Q. Pray was there a feeder to that?
A. There was.
Q. Did you ſee any thing like it put to that machine, which you ſee there?
A. It was a cloth put on in the manner of that.
Q. Did you ever ſee it before, or hear of it in any body's uſe?
A. I never ſaw, or heard of it.
Q. As to you it was a new invention?
A. It was.
Q. Is that feeder now in uſe?
A. It is.
Q. Was it much uſed, or only by a few people?
A. Very much uſed in our country.
Q. Your country is the *Lancaſhire* country?
A. Yes, it is.
Q. The great ſeat of this manufacture—it performed its office, and it was much uſed in your country?
A. Yes, it anſwers.
Q. Have you ſeen Mr. *Arkwright's* feeder, or what they *call* Mr. *Arkwright's* feeder?
A. I have ſeen it, but I cannot tell much about it.
Q. Have you ſeen his drawing of the ſpecification about it?
A. I have ſeen it.
Q. Is it poſſible to make that which Mr. *Arkwright* deſcribes as his, to be uſed as his, by that drawing and ſpecification of his patent, or not, does it contain a perfect deſcription of it, or would any man know any thing about it?
A. It does not anſwer that uſe.
Q. Is there any roller in that deſcription?
A. No, there is not.
Q. Attend now, while I read the ſpecification; No. 3. a piece of cloth, with wool, flax, hemp or any other ſuch materials ſpread thereon—was that the caſe with Mr. *Lees's* invention, was that feeder of Mr. *Lees's* a piece of cloth, with wool, flax, hemp or any ſuch materials ſpread thereon?
A. Yes, it was.
Q. Then that anſwers the deſcription of yours diſcovered in 1772?
A. Yes, it was ſpread upon the cloth, and went round.
Q. For the purpoſe of feeding the carding cylinder?
A. Yes.

Q. Are

Q. Are you a mechanic?
A. I make engines, carding engines.
Q. I aſk, if you never heard of a feeder, or ſaw any feeder before: is it poſſible to have made ſuch a feeder Mr. *Arkwright* is ſuppoſed now to uſe, by that drawing, and that ſpecification?
A. I think it would not
Q You ſay there is no roller at all to it?
A. There is no roller at all here.
Q. Could it have performed its office without a roller?
A. I don't underſtand much of his.
Q. Can any man underſtand any thing of that ſort, do you think?
A. I don't know what other men could.
Q. You could not, as an engine-maker.
A. No.
Q Nor make any thing of it?
A. No, I could not.

Henry Marſland, ſworn; Examined by Mr. *Serjeant Bolton*.

Evidence of Henry Marſland.

Q. Do you, Sir, remember the uſe of the feeder for the cylinder, in carding of cotton?
A. Yes.
Q. When did you firſt uſe that part of the machine?
A. I think I uſed it in 1771
Q. Sir, when you was in the act of uſing this, did Mr. *Arkwright* at any time come to ſee your works?
A. Yes, Sir.
Q. He did?
A. Yes.
Q. Did he ſee this feeder of yours at work?
A. Yes, Sir.
Q Do you recollect at what time that might be?
A. He called ſoon after it began a few months.
Q. That muſt have been in 1771 or 1772?
A. Yes, in 1771, or 1772, I cannot tell how long it might be, it was not long, it was a very little time after.
Q. Did he at that time make any remark upon the feeder, any objection to it, or any obſervation upon it?
A. None that ever I remember at that time.
Q. Now I want to know, whether after Mr. *Arkwright* had got his patent, you ſaw him?
A. I ſaw *Arkwright* often, he called upon me very often.
Q. Now did Mr *Arkwright* make any objections, on ſeeing your works, to this feeder, after he had got his patent?
A. Not that I recollect.
Q. What parts of your works did he object to?
A. It was a crank that he objected to ſometimes.
Q That is the crank?
A. That is it I ſuppoſe—the crank, I ſubmitted to; he was not very particular in deſcribing what part of the machine, but the crank at that time I believed to be his, and ſo I gave it up.
Q. So believing it his, you made a ſubmiſſion upon that account?
A. Yes, Sir, I did.

Q. Did

Q. Did he, at any time, ſay any thing to you, about the feeder afterwards?
A. I cannot recollect, I know it was mentioned, and I know very well that I ſaid, I would not give it up, what converſation brought it up I cannot tell.
Mr. Serjeant *Adair.* Q. He mentioned it himſelf, but what led to it, you cannot tell?
A. No, Sir.
Mr. Serjeant *Bolton.* Q. Was there an objection made beſides that of the crank to the feeder?
A. I cannot recollect, I never gave it a-thought after, I did not expect I ſhould be called upon.
Q. You did mention it you remember?
A. Yes.
Q. Was it mentioned between you and *Arkwright*?
A. I cannot recollect in what manner it was brought up, I never believed that was his, nor would I give it up.
Q. The ſubmiſſion you made was for the crank?
A. Yes.
Q. But to the feeder you would not?
A. No.
Q. The feeder you would not give up, but the crank only?
A. Yes, Sir, I did to that.
Mr. Serjeant *Bolton.* We ſhall call no more witneſſes to this point.

[*Elizabeth Hargrave*, ſworn. Examined by Mr. *Lee.*]

Evidence of Elizabeth Hargrave.

Q. What was the name, Mrs. *Hargrave*, of your huſband?
A. *James Hargrave.*
Q. Is he living or dead?
A. He is dead.
Q. How long ago?
A. About eight years.
Q. I believe he was in partnerſhip with ſomebody, was not he?
A. Yes, with Mr. *James.*
Q. Where did he live, at *Nottingham?*
A. Yes.
Q. Do you remember his making any machinery at any time.
A. Yes—he worked by himſelf at odd times in a room.
Q. Do you know pray Mrs. *Hargrave*, what is meant by the word crank?
A. Yes, I know it very well, he took a deal of pains with that.
Q. Did he ſucceed at laſt, or did he fail with it?
A. No, Sir, it was worked.
Q. When was it found out, do you recollect?
A. I cannot juſtly tell, it was about thirteen or fourteen years ſince he began the working.
Q. For what purpoſe was the inſtrument, what part of the machine?
A. I cannot tell, he carded wool with it—we called it *carding.*
Q. You called it carding, with that crank?
A. Yes.
Q. You have ſeen him do it?
A. Yes.
Q. What did he take the carding off from?
A. From off the cylinder.

Q. You ſaw him do it over and over again, taking off the carding, as the carding was made upon the cylinder, this was to take it off?

A. Yes, and put it into a box.

[*Here the witneſs was deſired to look at the machine, which was ſet in motion.*]

Q. Such a crank as that, was it?

A. Yes.

Q. It took it off in that way?

A. Yes, it took it off in that way.

Q. Exactly in that faſhion?

A. Yes, exactly in that faſhion I am certain.

Q. You ſaw that, thirteen or fourteen years ago, performed by your own huſband at *Nottingham*?

A. Yes.

Q. Now did he uſe it himſelf, was he a workman himſelf, or did he make it for the purpoſe of other people uſing it?

A. He was partner with *James*, and uſed it with him I believe.

Q. Partner with *James*, and uſed it in his own buſineſs?

A. Yes, in the factory.

Q. What ſort of factory, cotton or worſted factory?

A. It was a cotton factory, for ſpinning jennies.

Q. Not for ſpinning by the wheel?

A. No, but jennies.

Q. I don't know whether at *Nottingham* it was for the purpoſe of making ſtockings or hoſiery ware?

A. It was for ſtockings, it was all for ſtockings.

Q. Did you ſee it yourſelf uſed over and over again?

A. Yes, many a time, years ago.

Q. Between thirteen and fourteen, you are ſure?

A. Yes, quite ſure of that.

[Croſs Examined, by Mr. *Cowper*.]

Q. Where did your huſband live when he firſt uſed this crank?

A. In the town of *Nottingham*.

Q. Did you know Mr. *Arkwright* then?

A. Yes.

Q. He lived at *Nottingham*, and then was in buſineſs there?

A. Yes.

Q. Your huſband, you tell us, was partner with one *James*?

A. Yes.

Q. Carried on buſineſs?

A Yes.

Q Now did you ever ſee this crank at any other place than in your huſband's room?

A. No.

Q. Never in your life?

A. No.

Q. Did you ever hear of it in any other place than your huſband's room?

A. No.

Q. And who worked with your huſband at that time?

A. He worked by himſelf.

Q. Was

Q. Was there no other perſon worked with him?
A. No, not in his room.
Q. Was there any other perſon that worked in the houſe, or in any part of the manufactory?
A. Yes—in the manufactory.
Q. But upon his premiſes?
A. No.
Q. They had no opportunity of going into his room?
A. No.
Q. Do you happen to remember a perſon of the name of *John Hackett*?
A. I do.
Q. Was there any connection between *John Hackett* and your huſband?
A. Not that I know of.
Q. Did you ever ſee them together?
A. Yes, I have ſeen them together.
Q. Do you happen to know whether there was any connection in the article of buſineſs, whether *Hackett* did any thing for your huſband about this crank, or for *James*?
A. Not that I ever heard of.
Q. What buſineſs is *Hackett*?
A. He worked for Mr. *Arkwright*, I believe.
Q Do you know in what branch of buſineſs he worked for Mr. *Arkwright*?
A. No.
Q. How long has your huſband been dead?
A. About eight years.
Q. Do you know one *Kay*?
A. Yes.
Q. What was Mr. *Kay*?
A. He worked with Mr. *Arkwright*.
Q. Do you know whether Mr. *Kay* lent your huſband any aſſiſtance about this crank?
A. Not that I know of.
Q. You know nothing at all of that?
A. No, I know he took pains to make the carding frame.
Q. And he took pains to keep it a ſecret?
A. Yes, while he worked it.
Mr. Juſtice *Buller*. You ſaid juſt now, when you was firſt examined, your huſband made uſe of it in his factory; do you mean uſed in a public ſhop, where all the workmen came?
A Yes, it went there after he had compleated it.
Q. It was uſed in the ſhop, where all the workmen had acceſs to it?
A. Yes.
Mr. *Cowper*. *Q.* I thought I aſked you very plainly, whether your huſband did not keep it privately in his own room; I underſtood you to anſwer it, he did?
A. Yes, he did, he made the roving things, a rover and that crank he took away, and carried it down to the ſhop.
Q. I aſk, whether the uſe of the crank you ſpoke of, the thing that takes the cotton off, your huſband did not cónfine it to his own room, and not uſe it in public in the ſhop?
A. Yes, when he made it at firſt.

Q. Then

Q. Then you are of opinion, from what your huſband told you, it was he that made it?

A. He invented it.

Q. Do you think he made it?

A. No, the ſmith made it.

Q. Do you know who that ſmith was who made it?

A. It was Mr. *Whitaker* made it.

Q. Did he not confine the uſe of it to his own room, or was it publicly uſed?

A. He took it out to the ſhop.

Q. When it was made, he took it down to the factory?

A. Yes.

Q. When was that? Be particular, it is material.

A. I cannot ſay.

Q. How many years ago?

A. It is about thirteen years ago, or above, ſince he took it into the factory.

Q. That you ſwear?

A. Yes.

Mr. *Lee.* Your huſband, you ſay, invented it; the ſmith made the iron work of it?

A. Yes.

Q. What had your huſband invented it in; was it in wood, or what elſe?

A. It was wood; when he had invented it, he employed *Whitaker* to make it in iron.

Mr. *Cowper.* Did you ever hear your huſband ſay, he had applied to *Arkwright* for permiſſion to uſe it?

A. I never heard him ſay ſo in my life.

Q. To that effect?

A. I don't think he ever did.

Q. Did you ever hear him ſay Mr. *Arkwright* had uſed it?

A. No, I cannot ſay.

Q. How ſoon after?

A. I cannot tell.

Q. Did you hear of his uſing it two or three months after?

A. I cannot ſay.

Q. Nor a quarter of a year after?

A. I think it might be ſomewhere thereabouts.

George Hargrave ſworn. Examined by Mr. *Erſkine.*

Evidence of George Hargrave.

Q. You are the ſon of the laſt witneſs I believe?

A. Yes, Sir.

Q. By her huſband *James Hargrave*, your father?

A Yes, Sir.

Q. Look at that, and tell my Lord and the Jury if you have ſeen it worked?

A. Yes, the crank.

Q. Tell my Lord and the Jury, whether you ever ſaw your father uſe that crank?

A. Yes, I have.

Q. Where did he uſe it?

A. At *Nottingham.*

Q. In his public ſhop, or privately?

A. In his public ſhop.

Q. Of

Q. Of courſe, where all the workmen came?
A. Yes, in the common courſe of work.
Q. It was open and public to every-body?
A. Yes, any-body might ſee it, that had a mind.
Q. And all the workmen that came and went to work, of courſe?
A. Yes.
Q. Not any ſecret, but public, like any other machine?
A. None at all, I ſaw none.
Q. Can you recollect when it was?
A. In 1773?
Q. You are ſure of that?
A. Yes.
Q. I believe, before 1773 you did not live with your father?
A. No; I came from *Lancaſhire* to *Nottingham* in 1773.
Q. When you came to *Nottingham*, your father then ſhewed you this crank?
A. Yes.
Q. Which he then was publicly uſing in his ſhop?
A. Yes, it was.
Q. Did you ever ſee it in any other place?
A. Yes, at one *Bird*'s.
Q. *Bird?* what was he?
A. A cotton manufacturer.
Q. Did he uſe it publicly in his factory?
A. Yes.
Q. In ſhort, if I underſtand you right, it was uſed at *Bird*'s and your father's—Do you recollect any other place?
A. No.
Q. At Mr. *Bird*'s and your father's, was it as publicly uſed as any other machinery?
A. It was really.

Croſs-examined by Mr. *Wilſon.*

Q. You know what part of the machine it is, this crank?
A. Yes, it takes off the ſame way as that exactly.
Q. You left *Lancaſhire* in 1773?
A. I went from *Lancaſhire* to *Nottingham* in 1773.
Q. Had you ſeen it in *Lancaſhire*, or any thing of the ſort?
A. No, I never ſaw it before I came to *Nottingham*.
Q. When you came to *Nottingham*, it was in common uſe?
A. I never ſaw it in any but thoſe two ſhops.
Q. What was it uſed for?
A. For taking off cotton, and making it into rovings from the carding.
Q. Making it into rovings from the carding?
A. It was to take it off cards, to prepare it.

George Whitaker ſworn. Examined by Mr. Serjeant *Bolton.*

Evidence of George Whitaker.

Q. What buſineſs are you, pray, Sir?
A. A frame-maker.
Q. Are you a ſmith alſo?
A. Yes, Sir.
Q. Will you be kind enough to come and look at this crank?
A. Sir, I have ſeen it before, and ſeen it work.

Q. Now,

Q. Now, Sir, the time of Mr. *Arkwright*'s patent was in 1775; did you ever ſee one before that time?

A. Oh! yes, many times.

Q. Pray, Sir, did you yourſelf ever make one?

A. Many, Sir.

Q. Do you know *James Hargrave?*

A. Very well.

Q. Did you ever make one for him?

A. He came to me, I believe it was in 1772.

Q. He came to you in 1772?

A. I believe it was; and he told me he wanted a machine, and he told me the purpoſe he wanted it for: I ſet to work with his directions and my own judgment, we ſet about and made one.

Q. Now was that one you made, with a crank, and like this?

A. Theſe joints were turned this way, or elſe it was the ſame, and worked in the ſame manner; but the joints we turned that way.

Q. The ſame machine, the ſame principle, the ſame form, only the turn of the joints the other way?

A. The joints the other way.

Q. Did it take off cotton from the cylinder exactly as this does?

A. Exactly the ſame.

Q. You have ſeen it worked frequently?

A. Yes.

Q. Was that the firſt you ever ſaw or heard of?

A. I never knew of one before.

Q. By his deſcription you made it?

A. He did not ſay much, he only told me the purpoſe he wanted it for, and left almoſt the reſt to me.

Q. What name did he give it at that time?

A. I can hardly tell what name, it went by many names; ſome called it the taker off, ſome the comb, and many different things.

Q. You have ſaid already, you have made a good many?

A. A great many.

Q. Now I will be obliged to you, if you will tell me and the jury the names, if you recollect, for whom you made thoſe at that time?

A. In 1773 and 1774 I made a great many, but the chief account I have loſt.

Q. Tell us the names of the gentlemen you made them for in 1773 and 1774, if you remember them?

A. I could remember a many; but as to the time, I cannot ſay the particular account; the ſecond was for Mr *James*, in *September* 1773.

Q. That was the houſe of *James* and *Hargrave?*

A. *James*, I believe, was the firm.

Q. You made another for them?

A. Yes.

Q. Now tell us ſomebody elſe, if you can; do you know *James Hudſon* of *Nottingham?*

A. Yes.

Q. Did you make any for him?

A. A good many.

Q. Do you know *John Grimſhaw* of *Nottingham?*

A. Yes.

Q. Was

Q. Was that before 1775 you made them for *Hudſon*?
A. The 28th of *May* 1774 I made one.
Q. Do you know *John Grimſhaw* of *Nottingham*?
A. Yes.
Q. Did you make any for him?
A. Yes, more than one.
Q. How many?
A. I made three for him.
Q. What time was that?
A. One in 1773.
Q. Were the others before 1775?
A. I will not pretend to ſay that.
Q. One before 1773 you made?
A. Yes.
Q. Do you remember *Liſter*, the Quaker, in *Yorkſhire*?
A. Yes.
Q. Did you make any for him?
A. Yes, one.
Q. About what time?
A. About 1773.
Q. *Charles Smoke* of *Nottingham*, did you make any for him?
Mr. Juſtice *Buller*. I don't think it neceſſary to go through all this.
Witneſs. I think I could name twenty.
Q. Have you ſeen them put up in manufactories in thoſe places?
A. Oh! common.
Q. Do you mean before 1775?
A. In 1773; we put up the firſt in 1773: it worked in the public ſhop, only they did not let ſtrangers come in that did not belong to the ſhop.
Q. But the workmen all went there, it was worked in common among them?
A. It was ſo; I repaired one there in 1774, the chief parts of which were worn out.
Q. Have you, or not, a memorandum of the repairs of that very machine ſo long in uſe?
A. The 20th *February* 1774.
Q. That was for repairing one you had made, that was worn out almoſt?
A. There were two new fliders, and two heads, and two ſcrews and buttons, and two new holes in the needle bar to make it ſomething wider, and two new ſcrews.
Q. Now is that the original entry you made in your book at the time?
A. I never had any other.
Mr. *Lee*. That aſcertains the date with exact preciſion.
Mr. Serjeant *Bolton*. Did you publicly ſee them uſed in other places?
A. A great number; this I made myſelf, and it was wore ſo, we were obliged to repair it.

Croſs-Examined by Mr. *Chambre*.

Q. Did Mr. *Hargrave* tell you where he learnt the method of making this?
A. No, he only told me what he wanted the thing for.

Q. You

Q. You had no converſation with him about the mode in which he had learnt the uſe of a machine of this ſort?

A. No.

Q. He ſaid nothing of the permiſſion he had to make uſe of it, for his proper uſe?

A. No.

Q. Do you know *Hackett*?

A. No, I cannot ſay I do know him, he lives at a great diſtance from their mills, I only know him by his coming to me.

Q. From whence come thoſe memorandums?

A. At the time I did the work, *thoſe* memorandums are what I made the entries of.

Q. You ſtopped, I perceive, in the year 1774; did you continue to make them publicly after 1775?

A. The millwrights in 1775, began to get them made elſewhere, we did not do buſineſs for the millwrights, and we were the firſt makers; there were ſeveral made, which we did not do. They brought it to us to repair it in the beginning of the year 1774, there were one made by *Hackett*, another by *Holden* in 1774.

Q. How long is it ſince you left off, after 1775, in your neighbourhood?

A. Left off! No.

Q. Was the public and general uſe left off after 1775?

A. No, they were common conſtantly, never left off, that I know of.

Q. When did you firſt relate the particulars you have been giving an account of?

A. I cannot tell.

Q. Why did you not attend upon the former trials?

A. I was here every time, but not called as a witneſs.

Mr. *Lee.* That went upon the defect of the ſpecification.

Mr. Juſtice *Buller.* That was not the caſe in the Common Pleas.

Mr. *Lee.* I went upon the teſtimony of one *Croſt.*

Mr. *Erſkine.* We can ſhew that very man's evidence was ſtated, it is in the very firſt brief here, your Lordſhip may think it is material, this man's evidence was ſtated in our brief, in 1781.

Mr. Juſtice *Buller.* The queſtion is, how came he not to be examined; that is ſtrengthening the objection.

Mr. *Erſkine.* No, they were knocked up on the ſpecification.

Mr. Juſtice *Buller.* But in the Common Pleas?

Mr. *Erſkine.* We had every reaſon to ſuppoſe we ſhould have had the ſame ſucceſs in every part of the caſe.

Mr. *Cowper.* You were defendants in the Common Pleas.

Mr. *Lee.* *Whitaker*, I will aſk the queſtion of you, Do you remember a cauſe being tried in the other Court, on the other ſide of the Hall, a few months ago?

A. Yes, I was there the laſt trial in *February*, I think it was.

Q. You were there?

A. Yes.

Q. Was you ſubpœna'd?

Mr. *Chambre.* Q. You have ſeen the machine itſelf?

A. Yes.

Q. Did

Q. Did it take off the cotton in a continued line, as that before you, or in ſhort lengths?

A. I cannot tell that, I did not take that particular notice.

Q. You that made the machine, muſt know how to operate it?

A. I do know.

Mr. *Richard Hudſon* ſworn. Examined by Mr. *Wood*.

Examination of Richard Hudſon.

Q. Where do you live?

A. At *Nottingham*.

Q. What is your buſineſs?

A. A millwright.

Q. Did you ever make any carding engines?

A. Yes, Sir.

Q. You have made carding engines?

A. Yes, Sir.

Q. How long have you made carding engines?

A. I made in 1774 a great many.

Q. A great many carding engines?

A. Yes.

Q. Did you make any before 1774?

A. I think I did, but I am not ſure.

Q. You are ſure in 1774 you made them?

A. Yes.

Q. Did you uſe cranks in thoſe carding engines you made?

A. All of them, every one.

Q. Every one of them in 1774?

A. Yes, Sir.

Q. Were they ſuch cranks as that, look at it?

A. Yes, that is the ſame.

Q. Did it work in the ſame manner as that?

A. Yes, the ſame.

Q. Who did you employ to make the cranks for your engines?

A. One *Whitaker*.

Q. Did you employ any body elſe to make cranks for you?

A. No, I did not.

Q. You think you only employed *Whitaker* to make them for you, you will tell us what carding engines you made with cranks, and for whom?

A. I never made none without cranks.

Q. Can you mention any people for whom you made thoſe carding engines?

A. Yes.

Q. Mention them.

A. I made one that went to *Scotland*, to one *Brotherton*.

Q. *Brotherton* was in *Scotland*?

A. Yes, another for *Charles Smoke*.

Q. Where did he live?

A. At *Nottingham*.

Q. Did you make any for any body elſe?

A. Yes, Sir, many. I made one for Mr. *Rawſon* and Company, in *Nottingham*.

Q. Do you recollect the names of any body elſe you made the ſame ſort of cranks for?

Mr. Juſtice *Buller*. He does not carry it a bit further than *Whitaker*, he ſays he employed *Whitaker* to make all the cranks in the machines he made.

Mr. *Wood.* Q. I will aſk, whether the machines, made with the cranks in them were publicly uſed in preparing cotton in 1774?

A. They were afterwards uſed in that way, they were not all uſed in that way, I made one for *Liſter*, for carding wool.

Q. That was upon the ſame principle with the others?

A. The very ſame, I made another for carding *hemp*.

Q. Were they in uſe before the year 1774?

A. Quite in uſe, I made, I believe, ten.

Q. And they were quite in public uſe in 1774?

A. They were.

Q. Mr. *Lee.* We have a number of other witneſſes, if your Lordſhip thinks it neceſſary that we ſhould prove the uſing, having confined ourſelves to the making, at preſent, but we have given ſome evidence of the uſe.

Mr. Juſtice *Buller.* If that evidence ſtands uncontradicted, I proteſt I don't know how to ſtate a doubt to the Jury, becauſe it has been made for the trade, and uſed in the public ſhops.

Mr. *Erſkine.* It may be neceſſary to bring evidence to put it out of doubt.

Mr. Juſtice *Buller.* At preſent I have no idea of a defence about it.

Elizabeth Hargrave called again.

Mr. *Lee.* You have given an account of your huſband uſing the crank, to take off carding, now what ſort of cylinder did it take it off, how was the cylinder covered, with card, was it all covered or a part?

A. It was all covered.

Mr. *Bearcroft.* She ſpoke of the ſmaller cylinder, ſhe ſays it was covered all over, it puts me in mind of an omiſſion I made, I will juſt touch upon it, your Lordſhip ſees that theſe are fillets, at a diſtance from each other, but the additional cylinder uſed, was covered all over with the card; you ſpoke of it ſo, good woman?

A. Yes.

Q. Now, Mrs. *Hargrave*, you ſay, when your huſband firſt uſed cranks, the card was covered all over?

A. He made a trial the firſt time that he uſed it, before he had it covered all over, he made his trial with what he called ribband cards, and then he made a roving cann.

Q. Did you ſee your huſband uſe it with ribband card, or what is called fillet cards?

A. Yes, I ſaw him uſe it.

Q. Now mind, in what year did you ſee your huſband ever uſe the cylinder covered with riboand cards, they call them ſometimes, ribband fillet, or garter cards?

A. About fourteen years ſince, he uſed it with the ribband cards; but he never brought it into the ſhop or factory—The crank he took down to the factory.

Croſs-examined by Mr. Serjeant *Adair.*

Q. When did he uſe the ribband-cards in that manner?

A. Fourteen years ago.

Q. Look at that, was that the ſort of thing he generally uſed?

[*The ſmall cylinder ſhewn*]

A. Yes, a card a little broader than that.

Q. Covered like that?

A. Yes, when they brought it down to the ſhop.

Q. Covered

Q. Covered in that manner?
A. Yes.
Q. And ſo made the carding that length?
A. Yes.
Mr. Juſtice *Buller*. Is that one, more uſeful than the other?
Mr. *Lee*. At leaſt equal to it.
Q. He began with the ribbon cards, and ended with that?
A. Yes.
Q. That was carried to the factory with a crank to it?
A. Yes, Sir.
Q. That made it better, he thought?
A. Yes.

John Bird ſworn. Examined by Mr. *Erſkine*.

Examination of John Bird.

Q. Do you know this thing, this crank here?
A. Yes.
Q. When did you ſee that firſt?
A. In 1773.
Q. When, did you ſee it in 1774?
A. I had it for my own, Sir.
Q. In 1774?
A. Yes.
Q. Did you uſe it in 1774?
A. It was uſed in 1774.
Q. Where did you uſe it?
A. In *Nottingham*.
Q. Do you mean, you uſed it in your ſhop?
A. In my own ſhop.
Q. Like any other machine in the manufactory at that time?
A. Yes.
Q. You uſed it in common in your ſhop in 1773?
A. In 1773, Sir.

Croſs-examined by Mr. *Cowper*.

Q. Who made it for you?
A. Mr. *Whitaker*.
Q. What branch of buſineſs was you in?
A. Making cotton ſtockings.

Thomas Chatterton ſworn. Examined by Mr. Serjeant *Bolton*.

Examination of Thomas Chatterton.

Q. Look at that crank which takes off?
A. Yes.
Q. When did you firſt ſee one of them?
A. I think I ſaw it in *January* 1774, at Mr. *Bird*'s, in *Nottingham*.
Q. Was it in common uſe in the manufactory there?
A. I ſuppoſe ſo, I was taken to it as a public thing.
Mr. Juſtice *Buller*. Whoſe ſhop.
A. Mr. *Bird*'s, of *Nottingham*, I think his name was *Bird*; it is in *Woolpack Lane* I fancy *Bird* lives.
Q. Did you, after ſeeing it, order one to be made for yourſelf?
A. I did, Sir.
Q. Had you one made?
A. Yes.
Q. Who made it?
A. *Richard Hudſon*.
Q. Did you uſe it?
A. I did, Sir.

Q. When?

Q. When?
A. In *April* 1774.
Q. You actually uſed it in your manufactory?
A. Yes.
Q. Where?
A. At *Aſhborn*; I have the bill and receipt; there is the bill and receipt for it, it is dated 1774.

Croſs examined by Mr. *Wilſon.*

Q. Did you continue to uſe it in 1775 or 1776?
A. Yes; I don't work it now.
Mr. Juſtice *Buller.* Why?
A. I have laid the buſineſs aſide.
Mr. *Wilſon.* When was it you quitted the buſineſs?
A. I ſuppoſe about two years ago, or two years and a half, or three years.

Thomas Ragg ſworn. Examined by Mr. *Wood.*

Examination of Thomas Ragg.

Q. Do you know *George Whitaker?*
A. Yes.
Q. Was you apprentice to him?
A. Yes.
Q. Do you remember his making any cranks?
A. Yes.
Q. When do you remember his firſt making cranks?
A. I remember it in 1773.
Q. Were theſe cranks in public uſe before the year 1775?
A. They were.
Q. Do you remember any being made by a number of people?
A. I remember a great number being made.
Q. And in uſe before 1775?
A. Yes.
Mr. Juſtice *Buller.* Do you know of any being made but by *Whitaker?*
A. No, Sir.

George Hargrave called again.

Mr. *Lee.* I call him as to the Fillet Card, No. 5.
Q. Do you remember what ſort of card? as you are a manufacturer, you muſt have taken notice of thoſe things; what ſort of card have you ſeen your father uſe to take off the cotton by means of that crank?
A. There were ſuch as theſe nailed on.
Q. Was it all covered, or fillets in that manner?
A. No, not covered, it was nailed on like this.
Q. What name do you call them?
A. Ribbands or fillets.
Q. You ſay, they are ribbands or fillets?
A. Yes, but there are different ſorts.
Q. Did you ever ſee your father have any of them?
A. No.
Mr. *Lee.* He never ſaw them.
A Juror. He came in 1773 to his father.

Robert Pilkington ſworn.

Examination of Robert Pilkington.

Mr. Serjeant *Adair.* Are you concerned in any cotton mills now?
A. No.
Q. Are

Q. Are you clear you are not now?
A. Not now I am not.
Q. You have no intereſt at all in them?
A. Only in a common carding engine, not the ſpinning mill.
Q. That is the very thing you are concerned in, a common carding engine?
A. Yes, a common carding engine I am.
Q. Upon the ſame conſtruction as this is?
A. No, Sir, carding for ſpinning jennies.
Q. This is for carding, but not for jennies?
Mr. Serjeant *Adair*. This is for preparing cotton for the jennies.
Mr. *Erſkine*. Are you employed in any thing that relates at all to this?
A. No, Sir, not to the taking off part.
Q. Are you employed in uſing this cylinder?
A. Not in the preſent ſtate it is.
Q. Then you are not intereſted at all in this?
A. No.
Q. Are not the carding machines ſuch as this?
A. No, not the leaſt, only the common cards.
Mr. *Bearcroft*. Q. You only talk of the common carding machine, which has not this leaſt cylinder?
A. Yes.
Mr. Serjeant *Adair*. Q. Is yours the old machine, that you are concerned in now?
A. Yes.
Q. Are you concerned in none? Have you no ſhare of the profit in any one ſhape in this buſineſs, upon this principle?
A. No.
Q. You rs is the old common cardinghis hine?
A. Yes.
Mr. *Erſkine*. I am going to talk of the filleting cylinder, that takes off the cotton from the other.
Q. Do you remember having a cylinder made with fillet cards?
A. Yes.
Q. Tell when?
A. The firſt engine that I was concerned in, was made in 1770.
Q. By whom was that engine made?
A. By one *Richard Liveſay* and myſelf.
Q. How was that filleting cylinder conſtructed?
A. That engine was deſigned for carding, in ſuch a method as I have been ſpeaking of before; but at the time I got the cards for it, I got one that was ſtriped.
Q. Explain that to the jury, what you mean by one that was ſtriped?
A. It had rows ſtrait up the cylinder.
Q. With intervals where there were no points?
A. There were no teeth.
Q. So that was filleted, and had intervals?
A. It was meant merely for a trial, I did not mean to put it in public uſe then—It was meant merely for a trial, to try if I could take the cotton off that way.
Q. What improvement did you make, after you made that experiment?
A. Afterwards, Mr. *Wood* and I conſtructed an engine for roving.
Q. Now what ſort of one was that?
A. We got a ring card; the cylinder was quite covered.

Q. Did you prefer that, to the card that was filleted in that way?

A. That was meant for tumming.

Q. What is that?

A. The firſt proceſs.

Q. Taking it off the great card?

A. Yes, in ſeparate engines; we carded it twice over, tumming was the firſt.

Q. You had a card like this?

A. It was quite ſewed together, and drawn upon the cylinder, and ſeparate teeth, the ſame as all thoſe.

Q. I ſuppoſe you put that in the machine, to ſee how it acted?—Did it produce the ſame effect of perpetual carding, when put againſt the large carding wheel, as this does now?

A. Yes, in the tumming we took it off in one continued carding, inſtead of ſo many lengths, and received it upon a reel.

Q. You have ſeen the one and the other of thoſe?

A. Yes.

Q. Do you think this one now in the machine is a different principle, or does it do the very ſame thing yours did before?

A. Why ours being quite covered with cotton, it took it off without any further trouble.

Q. There is a great deal of difference, I apprehend, by having a right to uſe both—Which would you prefer?

A. According to the operation I meant to perform; if I meant it for tumming, I ſhould uſe the old one.

Croſs-examined.

Q. But if you meant it for carding, you would uſe the other?

A. Our engine roved it; the ſecond operation after tumming, was roving, then we had it in rings, what came off every ring, we called roving.

Mr. *Erſkine.* Look at that cylinder which they are now putting into the machine; there is no difference between that and this, except the interſtices between, and this is covered all over?

A. Yes.

Q. Before you uſed this, you had uſed ringed ones with rings to it?

A. We never uſed one with theſe cards.

Mr. Juſtice *Buller.* Q. Does the filleted one anſwer any purpoſe which that does not?

A. I do not know that it does.

Mr. *Erſkine.* Q. It is very neceſſary your Lordſhip and the Jury ſhould attend to this; this ſpiral one is the one uſed by *Arkwright* in his new machine. He does not ſpecify that by the parallel one, which would choak up after a few revolutions of the wheel. I aſked the witneſs whether that ſpiral one, covered all over, is not better than the parallel; for if they uſe the parallel one it choaks it by a few revolutions, and this runs round like a worm. The jury will look at No. 5. you will ſee the fillets drawn perpendicular to the axis, and drawn parallel to one another, inſtead of being ſpiral, for the ſpiral one is not in the patent at all.

Mr. Serjeant *Bolton.* That is the one he uſes, this parallel one, is the one he deſcribes.

Mr. *Erſkine.* There is the one he deſcribes, which that gentleman has in his hand—that is the ſpiral one, which by its continued motion comes in contact with every part of it.

Mr.

Mr. *Wood.* That takes it all off.

Mr. *Erſkine.* This, which is ſpiral, comes in its revolutions, in contact with every part, and cleans it, for this is intirely covered; that parallel cylinder never touches in that part where it is ſmooth, as the other does, and leaves the cotton to choak it up. If your Lordſhip and the jury will look at the ſpecification you will there ſee, as any man that knows any thing of perſpective, muſt, theſe fillets are parallel to each other.

Mr. Juſtice *Buller.* Brother *Adair*, I ſuppoſe you don't accede to the fact which they now ſtate, that one will choak up and not work at all.

Mr. Serjeant *Adair.* No, certainly not. I will explain that to your Lordſhip preſently, but that the ſecond is deſcribed in the ſpecification, is true, without all doubt.

Mr. Juſtice *Buller.* Turn it round.

[*The machine ſet in motion*]

Mr. Juſtice *Buller.* There is no apparent difference between that and the other.

Mr. *Erſkine.* Q. To Mr. *Pilkington:* Be ſo good as to tell his Lordſhip and the jury, when you uſed the two cylinders againſt one another?

A. The latter end of the year 1775.

Q. When did you ſee it firſt?

A. I cannot pretend to fix the preciſe time.

Q. Was it before the month of *December*?

A. I believe it was in *September*.

Mr. Juſtice *Buller.* What did he uſe then?

Mr. *Erſkine.* The ſecond cylinder which has now been ſet a working.

Mr. *Bearcroft.* That is perpetual carding.

Mr. *Erſkine.* Q. That produced the perpetual carding you have now ſeen?

A. It did.

Q. Before that time the cotton had been taken off in ſhort pieces?

A. Yes, what we called carding.

Q. This is perpetual carding?

A. Yes.

Croſs-Examined, by Mr. Serjeant *Adair.*

Q. When was it? You ſaid you was concerned with a Mr. *Wood*, I think?

A. Yes.

Q. When was it, *Wood* and you hit upon this invention of the cylinder, that produces the perpetual carding?

A. I believe it was the latter end of the year 1775.

Q. It was the latter end of the year 1775, it occurred to you, I believe you applied for a patent for it?

A. Mr. *Wood* did, and obtained one.

Q. Subſequent in date to Mr. *Arkwright*'s?

A. Yes, certainly, it was after Mr. *Arkwright*'s patent was granted.

Q. I preſume then, Mr. *Wood* knowing of, and having a patent in contemplation for this diſcovery, did not make public uſe of it before you obtained that patent?

A. We had worked it ſome time.

Q. Publickly, or by way of experiment?

A. Privately.

Q. You made the diſcovery, worked it privately, and applied for a patent, which you obtained, ſubſequent to his?

A. Yes.

Q. That

Q. That was the fact?
A. Yes.
Mr. *Erſkine*. Q. Do you remember having any converſation with *Arkwright* upon the ſubject?
A. Yes.
Q. And when the converſation paſſed about the patent?
A. Mr. *Cockſhot* and I went over to Mr. *Arkwright*.
Q. When?
A. I cannot ſpeak to the time.
Q. Was it about the time, or before or after his patent?
A. It was after Mr. *Arkwright*'s patent came out.
Q. You and who?
A. Mr. *Cockſhot*, we ſhewed Mr. *Arkwright* our plan, and he aſked us in what method we meant to keep it a ſecret, how we deſigned to proceed upon it, to keep it a ſecret; we told him that we propoſed ſwearing the hands we employed, that they ſhould keep it a ſecret, and he told us we might ſwear them as we pleaſed, but if any body would give them a penny more they would divulge it, and he adviſed us, it was the beſt means to get a patent.
Q. As the beſt means to ſecure that, was to get a patent?
A. Was to get a patent, becauſe if the country got hold of it, neither we nor he would have any advantage from it.
Q. *Cockſhot* was preſent?
A. *Cockſhot* was preſent.

Croſs-Examined, by Mr. Serjeant *Adair*.

Q. A word more as to this converſation with Mr. *Arkwright*; Was this the whole converſation?
A. I don't know that it was every word that paſſed, it was the ſubſtance.
Q. Was it the whole ſubſtance, every thing that paſſed, that was material?
A. I don't recollect any other circumſtances.
Q. Do you recollect, that you have ſworn to tell the whole truth, and nothing but the truth?
A. Certainly.
Q. Do you recollect nothing elſe material that paſſed between you and *Arkwright* at the time?
A. I do not at preſent.
Q. Now I will put you in mind; Do you recollect Mr. *Arkwright* telling you, it was upon the ſame principle with his invention, and that he would bring an action againſt you if you uſed it?
A. He ſaid, if he found we were upon his principle, he ſhould enter an action againſt us.
Q. Do you conceive *that*, as an immaterial part of the converſation, or for what reaſon do you leave it out?
A. I did not recollect it then.
Q. That was a little unlucky, 'till I put you in mind of it; Now, Sir, did not he repeatedly ſend perſons, in order to ſee what invention you had, and were not his people refuſed admittance?
A. They were.
Q. Did he bring an action?
A. No.
Q. Did you fear his action?
A. No, we told him, we did not fear that.

Q. How

Q. How many people in the world knew, but your own workmen, what you did?

A. I can't tell.

Q. Did twenty, thirty or forty people know it?

A. At that time, not ſo many.

Q. How many?

A. I cannot tell how many.

Q. Mr. *Arkwright* was of opinion, one penny more would make any man divulge any thing he knew upon the ſubject. Did you apprehend there would be any great difficulty of his bringing an action, if he had been ſo diſpoſed?

A. We had counſel's opinion upon ours, and they informed us, we had a right to uſe it, to any extent we pleaſed.

Q. And you did not regard him, but uſed it public?

A. Conſtantly—we uſed it conſtantly.

Q. You uſed it boldly and openly, did not you?

A. We kept the public from it.

Q. What, when adviſed by counſel you had a right to uſe it to any extent you pleaſed?

A. Yes.

Q. For what purpoſe?

A. In order to avoid the expences and trouble of law ſuits.

Q. And for the ſame reaſon you took care to keep out every body you thought would be a witneſs for Mr. *Arkwright*, did you or not, or that you ſuſpected to come from Mr. *Arkwright*, to be a witneſs againſt you?

A. Yes, we did—we did not admit ſtrangers.

Q. And you ſwore your men to ſecrecy, did not you?

A. Yes.

Mr. *Lee*. Was every body ſworn, as well as your labourers that ſaw it?

A. We did not admit any body that was not.

Mr. Serjeant *Bolton*. I have been refuſed myſelf at Mr. *Arkwright*'s works.

Thomas Hayes ſworn. Examined by Mr. Serjeant *Bolton*.

Evidence of Thomas Hayes.

Q. What buſineſs are you?

A. By trade, I am a reed-maker.

Q. Have you been employed to make machines for manufacturers?

A. I have.

Q. Look at this carding machine, with the two cylinders, the great one and the little one. Look at that—how long ago have you ſeen one of thoſe?

A. It is about twelve years, between twelve and thirteen years.

Q. Was your little cylinder like that, covered over with needles?

A. Covered over with cards, it was.

Q. Do you happen to remember Mr. *Hayes* telling Mr. *Arkwright* about this?

A. About this, Sir?

Q. Aye!

A. No, not about that.

Q. But about the machine that was made?

A. No, I did not tell him about that, it was made after I had ſome diſcourſe with Mr. *Arkwright*.

Q. When was it you had that diſcourſe with *Arkwright*?

A. It might be about thirteen years ſince, as near as I can gueſs, but cannot juſt remember ever y thing.

Mr. Serjeant *Bolton.* I will take him to the rollers—Look at the rollers through which the thread comes, the roving or ſpinning, or whatever it is called. Did you ever ſee rollers like thoſe before 1775, before Mr. *Arkwright*'s patent?

A. I have ſeen rollers, I made rollers myſelf in 1767.

Q. You, yourſelf, made rollers in 1767?

A. Yes, Sir.

Q. Have you looked at them; you ſee one is fluted, the other covered with leather?

A. I ſee it is.

Q. Was yours the ſame way?

A. Yes, mine was, two years after, but not then.

Q. Not at firſt?

A. No.

Q. In 1769 yours were like it?

A. They were, mine had fluted work, fluted wood, upon an iron axis; but the other roller was the ſame, only it was covered with ſhoe leather, inſtead of that leather; I am informed it is ſuch as they make ſhoes of.

Q. Who did you employ when you firſt conceived this invention; who did you employ to make it for you?

A. I employed one *Kay*, who came from *Warrington.*

Q. What trade was he?

A. He followed clock-making, at that time.

Q. You employed him to make it?

A. Yes, I employed him to make a ſmall model, with four wheels, of wood, to ſhew him the method it was to work in, and deſired him, at the ſame time, to make me braſs wheels, that would multiply it to about five to one.

Q. Look at that, and ſee whether it is upon the ſame principle?

A. No, not exactly ſo, the wheels were not exactly ſo.

Q. Who made you the wheels?

A. I made them myſelf.

Q. Deſcribe what you mean by multiplying five to one?

A. By making the different rollers go, one faſter than the other.

Q. Was that for the purpoſe of drawing the thread finer?

A. Yes, Sir.

Mr. *Erſkine.* It is very neceſſary your Lordſhip ſhould take notice, the only deſcription given by Mr. *Arkwright*, for his rollers, falls in directly with this man's deſcription. All he ſays, is, "No. 6. conſiſts of rollers fixed "to a wooden frame, the contents of No. 5. being brought to it at (a) "and going through at (b,) produceth it a proper ſize, (f)—(c, c,) are "bruſhes for clearing the machine."

Mr *Lee.* It does not ſay ſhoe leather, or calf leather, or any thing elſe about it.

Mr. Serjeant *Bolton.* Do you remember being at *Manchester* races, 1767?

A No.

Q. Did you ſee Mr. *Arkwright* at any time?

A. Yes.

Q. When

Q. When might you ſee him?

A. I ſuppoſe about twenty years ſince, or about twenty-one years ſince or thereabouts, ſomewhere thereaway.

Q. Now recollect yourſelf, and tell us what paſſed between you and *Arkwright*, when you ſaw him?

A. I will tell, as near as I can.—There was a gentleman, a tradeſman in *Bolton*, one *Thomas Rothwell*; this *Thomas Rothwell* and I, were pretty intimate; I met him in *Mancheſter* at a certain time, and he aſked me, "Could "you like to ſee Mr. *Arkwright?* he is in town." With all my heart, ſays I; He ſaid, "If I had a mind, he could bring me into his company, or bring "him into Mrs. *Jackſon*'s, to have a glaſs together, and we might have a bit "of diſcourſe together."

Q. Did you get together?

A. Yes, he brought him in, I remember, into a little apartment, I believe the parlour of the houſe; we fell into ſome converſation about engines; at that time I was making another engine for a gentleman in *Mancheſter*, that they gave me a premium for. It happened I was there at that time, and Mr. *Arkwright*; and accordingly we fell into converſation, and I began to tell him he had got my invention. I told him, I had ſhewn the model of it to *John Kay*, the method I intended to uſe the rollers, becauſe *John Kay*'s wife had told me that before, how it happened, and Mr. *Arkwright* and them could never deny it. I told him, I had been informed that he had hired *Kay*, for twenty or twenty-one years, for about half a guinea a week, or ſomething more, I don't know what; but however, I ſhould go on, if I would. I told him which way ſhe told me he came by it. He ſaid very little about it: when I told him, he never would have had the rollers but through me, he put his hand down in this way, and never ſaid a word.

Q. You will pleaſe to repeat that, I don't hear you.

A. I ſhall, as near as I can; would you have me repeat all again?

Mr. Juſtice *Buller*. No, only what you ſaid laſt.

A. I happened to meet with *Thomas Rothwell*.

Q. What diſcourſe had you with *Arkwright* about the rollers?

A. We were in ſome diſcourſe about the rollers: I told him, he would never have known them but for me; and he put his hand in this manner. I remember very well in this manner, to his knee, and that was the anſwer he gave; alſo he told me, when I told him it was my invention, Suppoſe it was, he ſays, if it was, he ſays, if any man has found out a thing, and begun a thing, and does not go forwards, he lays it aſide, and any other man has a right in ſo many weeks or months (I forget now) another man has a right to take it up, and get a patent for it.

Mr. Serjeant *Bolton*. Q. Mr. *Arkwright* ſaid, it was no matter if a man does not proceed upon a thing, but let it lie by ſo many weeks or months, he, or any other man, might get a patent for it?

A. Yes: I cannot tell how that is, ſays I, for I never was much concerned in law.

Q. Have you actually ever made, or not, any of theſe carding machines?

A. I have made carding machines, but not with theſe individual things, as this is; there are various forms.

Q. Did you ever make a machine that gives a perpetual roving?

A. Yes, I did, the very ſame as that is.

Q. That made it a continual roving?

A. Yes.

Q. Had

Q. Had you a little cylinder, like that, to take off the cotton from the large one?

A. I had a cylinder, like that, to take off the cotton from the large one; but you will excuſe me, both my cylinders were of a ſize.

Q. But however, that cylinder behind took off from the other cylinder, for the perpetual carding?

A. Yes, Sir.

Q. How long is it ſince you made thoſe?

A. It is about twelve, or between twelve or thirteen years; nay, I am ſure it is twelve years ſince.

Q. What did you do with them; did you ſell any of them?

A. Yes, Sir, I ſold them.

Q. For uſe to the manufacturers?

A. Yes, I did.

Q. How many did you?

A. I ſuppoſe four or five, but then I never made but one in this method; I tell nothing but the truth.

Croſs-examined by Mr. Serjeant *Adair*.

Q. You never made but one in that method?

A. No.

Q. When did you make that?

A. About twelve years ago.

Q. Who did you make it for?

A. For one Mr. *Walmſley*.

Q. You never made but one of that kind?

A. No, I did not.

Q. It did not anſwer, it was a new experiment?

A. It did not anſwer the end the gentleman wanted it for: you know it is nothing to me, I had nothing to do but work as I was ordered.

Q. What was the nature of that?

A. To take the carding off perpetually.

Q. What ſort of carding?

A. Juſt ſuch as is round this, only garters were put on the ſame way; firſt and foremoſt, I made a cylinder of a board, and got it turned, I had workmen of my own; then when that was turned, I had got a mahogany board, and made them the breadth of the card, to fit; after that, when I had ſcrewed them on with ſcrews upon that cylinder, I drew them over that cylinder; then I got them throwed again, or turned; and after that I took and dreſſed the edges of the card a little narrower, to give liberty for the other to come in; I took the card this way, and laid it down ſideways, to take up but little room, and by that means it brought the teeth ſo cloſe together, as made a perpetual carding.

Q. You placed them acroſs the cylinder, as thoſe are, or round it like filleting?

A No, they were put round, like this.

Q. You never made but one of them?

A. No.

Q. Do you know where it was uſed?

A. Yes, there was a man in the town that worked upon them.

Q. What

Q. What uſe did you put thoſe rollers to, that were in proportion to five to one?

A. What uſe?

Q. Aye.

A. I made them on purpoſe to ſpin cotton.

Q. To ſpin?

A. Yes, and to rove too.

Q. Upon your oath, did you ever apply them to roving of cotton?

A. I will tell you how I did it: I got a board of flat wood, as this is; I took the carding firſt, and rolled it with another board, till it was a little harder, I laid looſe the card at firſt; then I run it through the roller, to make it ſtronger; then, after that, I run three, four, or five through, till it was thick enough; then I put them all together through and through again, till we made it coarſe thread as this is; afterwards I put in the coarſe thread, I put it in the roller again, and made it fine.

Mr. Serjeant *Bolton.* The roving and ſpinning are done with the ſame rollers.

Mr. Serjeant *Adair.* *Q.* When and where did you apply them to that purpoſe?

A. In the town of *Leigh.* I did not follow this new manufacture; I was only improving myſelf, as I had a large family at that time, and was not able to follow it. I thought, when I came a little abler, when I could get a friend to aſſiſt me, being poor, and having a large family, I was not willing any-body ſhould ſteal it from me.

Q. Now, Mr. *Hayes*, this was an experiment you made for your information?

A. It was an experiment undoubtedly; I uſed but two ſpindles at that time.

Q. You meant to preſerve the benefit of it, if afterwards you ſhould be able to avail yourſelf of it?

A. I did, Sir.

Q. Now what knowledge had you, how came you to ſuppoſe, Mr. *Arkwright* ever got that from you?

A. I have no further knowledge than what I told you; *Kay*'s wife told me.

Q. You, yourſelf don't know?

A. I cannot tell which way he got it.

Mr. Serjeant *Bolton.* We have that *Kay*, a clockmaker, that will tell your Lordſhip how this *Arkwright* got it from him.

Mr. *Erſkine.* Your Lordſhip will obſerve, No. 6. conveys the deſcription of the rollers uſed by Mr. *Arkwright*, not in the roving but the ſpinning machine; and if you add 6, and 9, together, it is the ſpinning machine when together.

Mr. *Lee.* Now, let them ſpin and rove together at the ſame time.

[*The wheels accordingly were ſet in motion.*]

Mr. Serjeant *Bolton.* The one forms the coarſe thread, the other the fine one; the ſame machine will do both things.

Mr. *Bearcroft.* What we mean to convey an idea of to your Lordſhip, is, that machine which is now worked, if the tin cann was abſent, is in truth the ſpinning machine, which is ſpecified under the firſt patent; the one is fine, and the other coarſe.

Mr. Juſtice *Buller.* That is the ſpinning, I ſuppoſe, which is upon the ſpindle?

Mr. *Bearcroft.* Yes.

A Juror. I want to know, whether what he has got upon that wheel, he took out of the cann?

Mr. *Bearcroft.* The very ſame; it is done in the ſame manner, and by the ſame rollers, and this will do it.

Mr. *Erſkine.* Break the thread, and put it behind, and the gentlemen will take notice of that part next; my Lord, that is the thing for which he had a patent that is expired; one wheel goes five turns to one of the other.

Mr. Serjeant *Bolton.* Q. Now in fact, with your rollers, you did exactly the ſame thing?

A. I did, Sir.

Q. You roved it, and made the finer thread with your rollers, as this does now?

A. I did.

Q. And your principle was, that your motion went five to one, to the other?

A. It did, Sir; that is my own invention.

Mr. Serjeant *Bolton.* You will find, as to that principle of the wheel acting five to one, we are totally left in the dark by the ſpecification.

Mr. Juſtice *Buller.* From the ſize of the wheels being different, he ſays this man's invention, was of a different proportion of wheels, as to their principle of operation, and there is nothing of that ſort in the patent.

Mr. *Erſkine.* No, my Lord; we ſay, this difference of wheels, invented by this moſt ingenious man, was taken by Mr. *Arkwright* from him, and he claims the whole benefit of it by this patent, and we ſay, *that* deſtroys the whole of his patent.

Mr. *Cowper.* Let us not have more ſpinning than is neceſſary.

Mr. Serjeant *Bolton.* Nor ſpeaking than is neceſſary.

John Kay, ſworn. Examined by Mr. *Lee.*

Evidence of John Kay.

Q. Do you remember, Mr. *Kay*, being at *Manchеſter* races in any particular year, and meeting Mr. *Arkwright* there?

A. No, Sir, I did not; I was not there.

Q. What place was you at?

A. At *Warrington*; at the time of the *Manchеſter* races, he came to *Warrington.*

Q. In what year was it?

A. In the year 1767.

Q. What was it *Arkwright* applied to you about, or ſaid to you; how did he introduce himſelf to you?

A. He comes to a public houſe, and I comes up there; he ſaid he was going to a wheel-maker, one *Edward Aſhmore*, to get a few wires bended, and he wanted a few bits of braſs turned, and aſked, where he could get them turned? I ſaid, if he would go down the ſtreet, he would meet with a clock-maker, where he might get them done. He came to our houſe, I was at work, and aſked, If I could do thoſe things for him? I ſaid, I would ſee about it; and I did it; he paid me the next day, and came again, and wanted ſomething elſe; and when I had done it, he went about his buſineſs. The third day, or the fourth, he came again, and wanted ſomething elſe; I did him thoſe things; and he aſked me, when I had done, If I would drink a glaſs of wine with him in *Dale ſtreet*? I went with him; in our diſcourſe, he aſked me, If mine was a profitable buſineſs? I ſaid, It was not; he aſked me, what I could get a week? I told him about fourteen ſhillings;

ſhillings; Oh, ſays he, I can get more than you: I ſaid, what buſineſs may you be of, he ſaid, "I was a barber, but I have left it off, and I and "another are going up and down the country buying hair, and can make "more of it." We were talking of different things, and this thing came up, of ſpinning by rollers—he ſaid, that will never be brought to bear, ſeveral gentlemen have almoſt broke themſelves by it. I ſaid, I think I could bring that to bear; that was all that paſſed that night. The next morning he comes to my bedſide, and ſays, Do you remember what I told you laſt night, and aſked, whether I could make him a ſmall model, at a ſmall expence? Yes, ſays I, I believe I can; ſays he, if you will, I will pay you. I went and bought a few articles, and made a ſmall wooden model, and he took it with him to *Mancheſter*, and in a week or fortnight's time, I cannot ſay which, he comes back again, and I made him another.

Q. Before you go farther, who did you get the method of making theſe models from?

A. From Mr. *Hayes*, the laſt witneſs.

Q. Did you tell Mr. *Arkwright* ſo?

A. I told him, I and another man had tried that method at *Warrington*.

Q. You made him a model?

A. I made him two models, and he took one to *Preſton*; *Burgoyne*'s election was about that time.

Mr. *Lee*. I underſtand that was in 1768; you ſay General Burgoyne's election at *Preſton*, was at that time?

A. Yes—I cannot ſay I can ſay any more upon that affair—He took it away with him.

Q. Look at that, was that the ſort of model, or was it at all like that?

A. It was with rollers.

Q. It was with double rollers in that way?

A. Yes, with four pair of rollers; this has only two.

Q. Were they fluted?

A. No.

Q. Neither of them?

A. No.

Q. Neither top nor bottom?

A. No.

Q. Did they turn equally when at work, or one faſter than the other?

A. No, one faſter than the other.

Q. What was the purpoſe of that?

A. Why, on purpoſe to draw cotton out finer.

Q. Where do you live, *Kay*?

A. I live at *Warrington*.

Q. You have ſeen thoſe kind of things worked?

A. Yes.

Q. Was the purpoſe of your diſcovery, you had from *Hayes*, to do the like things now in that engine?

A. Yes.

Q. Firſt to rove it, then to make it finer, but to give it a proper conſiſtency?

A. Yes, we had it roved by a ſecond, a hand wheel, at that time.

Q. It was for the purpoſe of roving, with one roller, and afterwards ſpinning it with the other rollers?

A. Yes.

Q. After

Q. After he took your model away, and carried it to *Mancheſter*, you had ſome other converſation with him, do you recollect?

A. Yes, and I went with him.

Q. Did you live with him there?

A. I was with him at the time of the election in 1768, about thirteen weeks with him.

Q. Was you working with him as a mechanic?

A. Yes, I went there to make a clock for him.

Q. Now pray did you ever make any other models for him, or for any body elſe?

A. No, not at that time, not till ſuch time as I went to work for him at *Nottingham*.

Q. You did go afterwards to *Nottingham?*

A. Yes.

Q. When?

A. As ſoon as the election was over.

Q. That was in *March* 1768?

A. It was ended in *April*, I believe.

Q. Now, how long did you work with him?

A. I cannot tell, four or five years perhaps, I cannot ſay how long.

Q. Well, afterwards Mr. *Arkwright* obtained his patent at a conſiderable diſtance of time?

A. Yes.

Q. When did you hear he had obtained it?

A. James Hargrave came and told me he had got his patent.

Q. Where is he?

A. He is dead—I could not help myſelf, you ſee I did not know any thing at all about it.

Q. You muſt know, whether at that time it was his own invention, or he had it of you?

A. James Hargrave told me I ſhould have lodged a *caveat*.

Q. Don't tell what *James Hargrave* ſaid, you muſt know, whether it was his own invention?

A. I know very well he did not invent the rollers.

Q. You know very well he did not invent the rollers?

A. No.

Q. On the contrary, you know he had them from you?

A. Yes.

Q. And you had them from this poor *Hayes*?

A. Yes.

Q. And you told him ſo?

A. Yes, I told him ſo many a time.

Croſs-examined by Mr. *Cowper*.

Q. You lived with him before he gained his patent?

A. Yes.

Q. Parted with him upon very good terms?

A. I don't know upon what terms I parted with him.

Q. I don't know whether I have a right to aſk you, Did you leave his houſe without his knowledge?

A. Yes.

Q. I

Q. I muſt not aſk you, whether any thing elſe left his houſe at that time; You fled from his ſervice?

A. Yes.

Q. By what apprehenſion did you leave him, whether well, or ill-founded, I will aſk you this, Was there not at leaſt a charge of felony againſt you?

A. They pretended ſo, but they could not find any thing againſt me.

Q. I aſk, whether you did not fly from him upon the charge of felony?

Mr. *Bearcroft.* I have no objection to your aſking him, whether he had ſtole any body's invention.

Mr. *Lee.* Aſk him that, who ſtole the invention?

Mr. *Cowper.* There is a deal of difference between ſtealing a tankard, when invented, or the invention of making a tankard.

Q. There was a charge againſt you, well or ill founded?

A. I was at *Nottingham*, and he took my property away.

Mr. Juſtice *Buller.* Who had took them?

A. Mr. *Arkwright* had.

Q. He had taken your goods, had he?

A. Yes.

Mr. *Cowper.* Q. What I want to know, which I deſire you to give me an anſwer to, Had not you run away from his ſervice, upon a charge of felony being exhibited againſt you?

A. I cannot tell what was charged againſt me.

Q. You cannot tell whether you run away upon the fear of a charge?

A. He told me ſomething when I came back;—I did run away.

Q. You heard ſoon after, of this patent, which you knew to be yours, or *Hayes*'s invention, and not *Arkwright*'s?

A. Yes.

Q. And you talked of a partnerſhip, I ſuppoſe?

A. Yes.

Q. You made no ſecret of it?

A. No.

Q. You being a poor man, it put you to no expence to complain to any body about the theft of the invention?

A. No.

Q Did you apply to any body when the nine cauſes were here?

A. Yes.

Q. Did you hear them talked of, before they were tried, that they were to be ſo?

A. Yes.

Q. And did you, before that, publicly complain, *Arkwright* ſtole thoſe rollers?

A. Yes.

Q. Were you brought up then?

A. Yes, Sir.

Q. You was not examined upon the firſt trial?

A. No.

Q. Was you examined upon the ſecond trial?

[*No anſwer.*]

Mr. *Lee.* I have ſent for the brief, to ſhew he was put down as a witneſs?

Mr. Juſtice *Buller.* *Kay*, What were the things, Mr. *Arkwright* had taken out of your houſe?

A. Several tools.

Q. Were they tools reſpecting this buſineſs?

A. Yes.

Q. Was

Q. Was that the ſubject of the charge againſt you?

A. Why, I was making another machine in my houſe, to ſpin jerſey, which I thought of while I was at *Nottingham*, I might compleat it, I believe he thought I was making this machine, and that was his intent.

Q. You was making a ſpinning machine?

A. I was making a thing, to ſpin jerſey; before I went to *Nottingham* I pulled that thing to pieces.

Q. You don't underſtand my queſtion, Were the tools, which Mr. *Arkwright* had taken out of your houſe, the ſubject of the charge of felony againſt you, was it upon that account, he ſaid you was to be charged with felony?

A. I believe he did, he told my wife, I had ſtole things from him.

Q. Did he take thoſe things, as the things ſtolen?

A. No; I brought them out of *Lancaſhire*.

Q. Tell what it was Mr. *Arkwright* took away?

A. Several tools, compaſſes, pliers, and vice, and other things.

Q. Did he take any thing beſides tools?

A. Yes, a pair of ſleeves, a ſpying glaſs I had, and locks and braſs wheels, I had brought with me, to make a movement with, from *Lancaſhire*, I had not time to make it, and I brought them with me.

Q. What was the ſpying glaſs?

A. That was a ſmall ſpying-glaſs, which drew into four joints, that was mine, I brought it from *Nottingham*.

Mr. *Erſkine*. It is my duty in this place to anſwer, I have now in my hand my brief, which I had in 1781.

Mr. Serjeant *Adair*. It is not properly evidence.

Mr. *Erſkine*. I can tell my Lord and the jury, why he was not called.

Mr. Juſtice *Buller*. You had better not ſtate it.

Mr. *Erſkine*. You will obſerve the objection to my ſtating it, comes from Mr. Serjeant *Adair*.

Mr. *Lee*. That it is not now evidence, is objected—the obſervation is enough to obviate that.

Mr. Juſtice *Buller*. Surely.

Mr. *Lee*. Q. Did *Arkwright* ever pretend to proſecute you for this pretended felony?

A. Yes, he offered to do it.

Q. Did he do it?

A. No, I never ſaw it.

Mr. Juſtice *Buller*. Q. When did you get back to *Nottingham* again?

A. I never went to *Nottingham* again.

Mr. *Lee*. Q. It is ſuggeſted to me; Did Mr. *Arkwright* require you to enter into any obligation or bond, not to do any thing in this way of buſineſs?

A. Yes, at the time I was at *Preſton* with him.

Q. In the year 1768?

A. Yes.

Q. After you had given him that model?

A. Yes.

Q. Was he then well to live, or in a ſituation not much better than you were?

A. He was a poor working man.

Q. He was?

A. He was, and I too, he got aſſiſtance to join him in this affair, and I agreed to work for him as a ſervant.

Q. He

Q. He got a bond, did he?
A. Yes.
Q. What was it for?
A. To ſerve him ſo many years.

Sarah Kay ſworn. Examined by Mr. *Erſkine.*

Evidence of Sarah Kay.

Q. You are the wife of the laſt witneſs?
A. Yes, laſt *Michaelmas* it is twenty-ſix or twenty-ſeven years ſince.
Q. You remember then, I ſuppoſe, when he worked for *Hayes?*
A. Yes, I remember his making a ſmall model.
Q. When did you ſee or know any thing about rollers, by which cotton is ſpun?
A. That was about the beginning of the year 1763.
Q. Where did you firſt ſee it?
A. At a place called *Leigh.*
Q. Who had them?
A. Mr. *Hayes* had them.
Q. Do you remember your huſband getting any models made of thoſe?
A. That one I remember, and one that he made for *Arkwright.*—He made one for *Hayes*, and then he made one for Mr. *Arkwright.*
Q. Do you remember when he made the model for *Hayes?*
A. In the year 1763.
Q. Do you remember when he made the model for *Arkwright?*
A. At the time of *Burgoyne*'s election.
Q. How do you know it was for *Arkwright* that he made the model?
A. My huſband told me ſo.
Q. You have ſeen *Arkwright* and him together?
A. Yes, all the day over.
Q. About the time he was getting this model made?
A. Yes.
Q. And had he this model at the time, to take with him?
A. Yes, he aſked, whether he would make him a ſmall model, at a ſmall expence.
Q. You ſaw them together all day?
A. Yes, after he had made the firſt model, he took it off with him ſomewhere or other, and came back to my huſband, and aſked if he could make another.
Q. He took it off ſomewhere or other, and came back to your huſband, and aſked him if he could make him another?
A. Yes.
Q. Was there another made?
A. Yes.
Q. Did you ſee this model of the rollers for drawing the cotton thread?
A. Yes, for ſpinning.

Croſs examined by Mr. *Chambre.*

Q. You are ſure it was in 1763?
A. In 1763, my huſband and Mr. *Hayes* began it.
Mr. *Erſkine.* Q. When was the firſt model you ever ſaw?
A. That my huſband made for Mr. *Hayes.*
Q. When was that?
A. In the year 1763.
Q. Now, when was it he made the model for *Arkwright?*
A. In the year 1767.

Mr.

Mr. *Lee.* I think *Hayes* ſaid twenty-two years ago; *Hayes* ſaid it was about the time of General *Burgoyne*'s election.

Mr. *Erſkine.* We have ſhewn your Lordſhip and the Jury, they can ſpin with the roving machine; now we will ſhew they rove with the ſpinning machine, the old machine for which the patent is expired.

Neddy Holt ſworn.

Evidence of Neddy Holt.

Mr. Juſtice *Buller.* What is your Name, *Edward?*

A. No.

Q. Was you chriſten'd *Neddy?*

A. I was, Sir.

Mr. *Wood.* *Q.* Do you know one *William Atkins?*

A. Yes.

Q. Had he been in *Arkwright*'s ſervice?

A. Yes.

Q. Do you remember employing *Atkins* about any thing, and *Arkwright*'s coming to you upon the occaſion?

A. Yes, Sir.

Q. Be ſo good to recollect what it was, and when it was, and what it was Mr. *Arkwright* ſaid to you; what time was it, and when was it?

A. In the year 1774.

Q. What had you employed *Atkins* to do?

A. He made roving, as it is called.

Q. Now then, did *Arkwright* come to you upon that occaſion?

A. Yes, Sir.

Q. Now then, tell us what converſation you had with *Arkwright?*

A. He ſaid, I was intruding upon his patent.

Q. What did *Arkwright* ſay?

A. He ſaid, I was intruding upon his patent.

Q. That was before the laſt patent was got?

A. Yes, Sir.

Q. Did he tell you why you was infringing upon his patent?

A. Yes, becauſe he ſaid it was the ſame as ſpinning.

Q. Becauſe he ſaid that roving was the ſame as ſpinning, and therefore you were infringing upon his patent?

A. Yes.

Q. Did he ſay any thing further to you?

A. Why, he ſaid he would proſecute me if I did not give over.

Mr. *Wood.* That roving and ſpinning was the ſame thing in Mr. *Arkwright*'s opinion, is proved by this witneſs.

Mr. Juſtice *Buller.* Was the old machine made that uſe of before?

Mr. Serjeant *Adair.* No, certainly not.

Mr. *Erſkine.* It is ſpinning with coarſer thread, that is all the difference. He would not ſuffer any-body to rove, becauſe roving and ſpinning is the ſame thing; this is the difference, the one is a fine thread, the other is coarſe, and this is the machine for which the patent is expired; your Lordſhip ſees, the one is a ſmall thread, the other is as thick as my finger.

Mr. Juſtice *Buller.* The ſame as came out of that cann?

Mr. *Erſkine.* Yes.

Mr. *Erſkine.* [*Q. to Mr. Johnſtone, who was ſhewing the machine*] Does it ſtand in the ſame ſituation as it was when uſed as a ſpinning machine?

A. In this part of it there is no difference, but only this application.

Q. That

Q. That was not in uſe as a ſpinning machine, that groove?
A. Yes, every part was, but this.
Q. Was that other part?
A. That was in uſe as a roving cann, but not put to the ſpinning machine.
Mr. *Erſkine.* Your Lordſhip will obſerve, Mr. *Arkwright* has not taken out his patent, for inventing the cann.
Mr. *Johnſon.* This was in uſe, except the roving cann.
Mr. *Erſkine.* The patent is not for the cann, but for the other machine.
Mr. *Lee.* Suppoſing it true, there never was a cann uſed before, your Lordſhip ſees the effect of this, is, putting the cann to it, to perpetuate the old and expired patent.
Mr. Juſtice *Buller.* That cann is of no other uſe but to keep the thread in it?
Mr. Serjeant *Adair.* A great deal more.
Mr. *Erſkine.* The cann performs the operation of giving it a gentle turn.
Mr. Juſtice *Buller.* And to make it lay ſmoother in it.
Mr. *Erſkine.* I will explain it.—The rollers, by moving with different velocities, as deſcribed by *Hayes*, draws the cotton through; then the cotton, ſo drawn through, would not be twiſted at all, unleſs it was by that circular motion of the cann turning it round, which gives that gentle twiſt not ſo ſtrong as to make it a thread, then it is afterwards ſpun.
Mr. Juſtice *Buller.* [*Q. to Johnſon*] The difference between that machine, and the one uſed under the patent for ſpinning, is, here is a cann, there was none?
Mr. Serjeant *Adair.* He is not a witneſs.
Mr. Juſtice *Buller.* Tell me the fact.
Mr. *Wood.* It is ſo.
Mr. Juſtice *Buller* [*to Neddy Holt*]. Look at that cann there, *Neddy*; Did you uſe any of thoſe canns before *Arkwright*'s patent?
A. Yes.
Q. How long before?
A. In the year 1774.
Mr. Juſtice *Buller.* Had your cann, rollers, or not?
A. Yes, there was a cann.
Q. Were there any rollers to the cann?
A. Oh! yes.
Q. Were there ſuch rollers as that to the cann?
A. There was.
Mr. Serjeant *Adair.* You ſwear that?
A. Yes.
Q. Is your machine here?
A. It is not here.
Q. Is it in the Hall?
A. No, I ſuppoſe not, I think not.
Q. Is it in *London*?
A. No, I believe not, I did not bring them to *London*.
Mr. Juſtice *Buller.* You don't know that there is any in *London*?
Mr. *Wood.* Here is one in the Hall.
Mr. *Cowper.* *Q.* Were they uſed before?
A. Yes.
Q. By whom?
A. By me.
Q. Publicly?
A. No, privately.

Q. Only by way of experiment—Was not he one of Mr. *Arkwright*'s ſervants that made it for you?

A. Yes.

Q. You got one of *Arkwright*'s ſervants to make one of theſe for you by way of experiment, ſome time in the year 1774?

A. Yes, Sir.

Q. Can you tell in what time in 1774?

A. It was in *March*.

Q. When *Arkwright* was making experiments, you got one of his ſervants to make an experiment of this ſort?

A. A man that was his ſervant, or had been.

Q. How long beforehand?

A. I don't know; a year or two, I ſuppoſe.

Q. His name was *Atkins*, however?

A. Yes.

Mr. *Wilſon.* Was there nobody but *Atkins* there?

A. Yes, Sir, there was.

Q. Who was the other ſervant?

A. Clitherow.

Q. You had them both to aſſiſt you in this?

A. Yes.

Q. When was he in *Arkwright*'s ſervice?

A. The ſame time *Atkins* was.

Q. Was he after that in *Arkwright*'s ſervice?

A. I am not ſure.

Q. Don't you know he was in his ſervice within a day or two of getting him to make this thing?

A. No ſuch a thing, Sir.

Benjamin Butler ſworn. Examined by Mr. *Erſkine.*

Evidence of Benjamin Butler.

Q. Have you ever uſed a cann, an open cann?

A. Yes, Sir.

Q. For roving?

A. For roving.

Q. When for the firſt time?

A. Twenty-ſix years ago.

Q. Now, did that open cann turn round?

A. Yes, Sir.

Q. As the cotton fell into it?

A. Yes.

Q. And as the cotton fell into it, the cann, turning round, gave the cotton a twiſt?

A. Yes, Sir.

Q. I believe thoſe open canns are as much uſed now as the others?

A. I don't know, Sir, that they are, or not.

Mr. Juſtice *Buller.* Q. When did you firſt uſe the cann?

A. Twenty-ſix years ago.

Mr. *Erſkine.* Q. It turned round upon its axis, and by that means gave the cotton a twiſt?

A. Upon a ſmall ſhaft of iron, the point of which went through it.

Mr. *Cooper.* You ſtole all the inventions, I believe.

Mr.

Mr. *Erſkine*. Q. You ſay it turned round upon an iron?

A. The iron was put through this plate, it run upon one centre, and went through, here it was ſcrewed on and turned round.

Q. Where did the cotton fall?

A. The cotton fell into it.

Q. Did it turn round when the cotton fell into it?

A. Yes, and it turned round like a ring.

Mr. Juſtice *Buller*. Q. Did the cotton fall into that, in the ſame way it falls into that cann, in the new machines?

A. Juſt in the ſame way, exactly.

Q. And by its turning round it twiſts juſt as that does?

A. Yes.

Mr. *Wilſon*. Q. It was coiled and not twiſted together at all?

A. It twiſted the ſame as this does.

Mr. *Erſkine*. Q. I believe, roving differs only in that reſpect from ſpinning, the twiſt muſt be more gentle?

A. Gentler for roving than ſpinning.

Q. The cotton falling into it, and the cann turning round gently, gives it that twiſt?

A. It gives it that twiſt.

Q. Where did the rollers turn?

A. Quite cloſe up here, the cann was cloſe up to the rollers.

Q. So you have no rollers to the cann at all, nor funnel, it was open at top?

A. Quite open.

Mr. *Lee*. So is that.

Mr. Juſtice *Buller*. In that machine there are rollers upon the one, and not upon the other, but they have ſhewed you by working, each of them has preciſely the ſame effect.

Mr. *Lee*. I will ſhew you, by and by, it is a common thing, it is in common uſe.

Croſs-examined.

Mr. *Cowper*. Q. Let me aſk you, you ſay twenty-ſix years ago you uſed that tin cann?

A. Yes.

Q. And twenty-ſix years ago you could ſpin in that manner, and you uſed what I call the lanthorn?

A. Yes.—It was roved in it, and the ſame operation was performed without any diſcontinuance, to any length whatſoever, till it was roved full.

Q. You have known it roved twenty-ſix years ago, 'till it was full?

A. Yes, many a time.

Betty Kennion, ſworn.

Evidence of Betty Kennion.

Mr. *Erſkine*. In the ſpecification of *Arkwright*, No. 7. is a cylindrical box, for twiſting the contents, and he deſcribes the operation of the twiſting it by the box, afterwards he deſcribes the operation of the rollers, but the twiſting is done by the box, No. 7. which he calls a cylindrical box for twiſting it.

Mr. Serjeant *Bolton*. Q. To *Betty Kennion*, Your name was formerly *Bickerſtaff*, your firſt huſband had that name?

A. Yes, Sir.

Q. Do you remember him working for a Mr. *Binyon*?

A. Yes.

Q. He

Q. He had a manufacture for cotton?
A. Yes.
Q. Now do you recollect, and look at thoſe tin boxes, and ſee where the roving falls into it; look at that tin box like a lanthorn, Do you remember your huſband, uſing in his work, for *Binyon*, any thing like that?
A. Yes, Sir, he did.
Q. The roving fell into it that way?
A. Yes.
Q. Did it go by rollers too?
A. Yes.
Q. When was this Ma'am? When did he die?
A. It is near eleven years ſince he died, it was finiſhed before he did die.
Q. Now did the box that received the rovings, like that which you ſee there, did it turn round, ſo as to give the roving a twiſt?
A. It did, Sir.
Q. Look at that, did it turn that way?
A. It did, Sir.
Q. Your huſband died the fifth of *December* 1774?
A. Yes.
Q. Before that, did you ſee him uſe it?
A. Yes, Sir.
Q. Frequently?
A. Yes, I did.
Q. For *Binyon*, in his work?
A. Yes.

Joſeph Wolley ſworn. Examined by Mr. Serjeant *Bolton*.

Evidence of Joſeph Wolley.

Q. Was you employed in any way for Mr. *Binyon*, the laſt witneſs mentioned?
A. I was, Sir.
Q. What was your employment?
A. I travelled for him, and ſold goods for him.
Q. You was a rider?
A. Yes, for eighteen or twenty years.
Q. Look at the roving box, How long ago have you ſeen any thing like that at *Binyon's*?
A. In the latter end of the year 1773, or the beginning of 1774.
Q. You are ſure of that?
A. Yes.
Q. Did you ſee the cann or box to receive the roving, like that?
A. I ſaw the cann in the manufactory, I ſaw it uſed, I turned it myſelf.
Q. Have you ſeen more than one of them?
A. I have, but it was further on, ſome time further.

John Leach ſworn. Examined by Mr. *Erſkine*.

Evidence of John Leach.

Q. Have you uſed that open cann there?
A. Yes.
Q. Which of them?
A This.
Q. With the rollers at top?
A. Yes.

Q. You

Q. You have uſed it?
A. Yes.
Q. You can aſcertain the time?
A. I had all the books and every thing deſtroyed by a riot, I cannot tell exactly the time, but to the beſt of my knowledge, it is ten years or better, ago.
Mr. Serjeant *Adair.* That is not fixing it.
Mr. *Erſkine.* Then I will fix the time by another witneſs.
Mr. Serjeant *Adair.* *Q.* About 1775, you think it was?
A. It is between ten and eleven years ago.
Mr. Serjeant *Adair.* You have mended it a little now.
Mr. Juſtice *Buller.* No, he has not, he ſaid at firſt ten years or more, and between ten and eleven, is ten or more.

Samuel Ainſworth ſworn.

Evidence of Samuel Ainſworth.

Q. Do you know the witneſs behind you, *Leech?*
A. Yes, I know him very well.
Q. You was employed in making a machine like that for him?
A. Yes, Sir, I was employed in making the iron work for him.
Q. When was that?
A. It was about eleven years ago ſince I began the iron work, this laſt *May.*
Q. Do you remember how long it was, before it was compleated?
A. About two months after that.
Mr. *Erſkine.* I call upon the one to the fact, the other to the time, No. 8. your Lordſhip ſees, is out of the queſtion, and No. 9. is out of the queſtion.
Mr. Serjeant *Adair.* No. 9. is not material in the ſpecification.
Mr. *Erſkine.* You agree that is not material in the ſpecification?
Mr. Serjeant *Adair.* It is not.
Mr. *Erſkine.* No. 10. you admit to be in the former patent?
Mr. Serjeant *Adair.* No, indeed, I don't admit any ſuch thing.
Mr. *Erſkine.* What is it in the patent?
Mr. Serjeant *Adair.* I will ſhew it you when it comes to our turn.
Mr. *Lee.* They tell me that No. 10. is by no means eſſential to the machine, not the leaſt in the world, though it is in the former patent.

William Trayner ſworn. Examined by Mr. *Wood.*

Evidence of William Trayner.

Q. Where do you live?
A. With *Liveſey, Hargrave,* and Co.
Q. They are very great manufacturers of cotton?
A. Yes, Sir.
Q. Can you tell us what ſort of boxes they uſed for roving?
A. They uſe the open box, and find it far preferable to the others.
Q. In what is it preferable?
A. They told me the workmen did, that they found it far preferable, I am only a clerk.
Q. In fact they uſe it?
A. They uſe it.
Q. They uſe the open cann?
A. Yes, the open cann, and not the other.
Q. You don't know any other manufactory?
A. No, I cannot ſay I do.

Mr. *Wrigley* again; examined by Mr. *Lee.*

Q. I underſtand you are well acquainted with a great number of cotton manufactories.
A. Yes, Sir.

Q. Look

Q. Look at thoſe canns, which do you know to be the prevailing ones in uſe at preſent?

A. Theſe open ones.

Q. Are they as much in uſe, or more than the others?

A. More a great deal, very few of thoſe others are uſed at this time, but the others abundantly.

Q. Name ſome of them who uſed them?

A. Mr. *Ackers* of *Manchester*, Mr. *Beever* of *Broughton*, and the moſt of the capital houſes uſe the old ſort.

Mr. Juſtice *Buller*. Q. Is there any difference in point of uſe as to the one or the other?

A. There is a difference, the one doing more than the other.

Q. Which?

A. This [*pointing to the open cann.*]

Q. Is there any other difference?

A. No, it does it equally as well, and more of it.

Mr. Serjeant *Bolton*. Your Lordſhip ſees the patent is for the whole.

Mr. Juſtice *Buller*. The whole of the inſtrument is uſed now, and therefore, if the cann is an occaſional part of it, and neceſſary, it muſt be ſufficient.

W. D. Crofts ſworn. Examined by Mr. *Lee*.

Evidence of W. D. Crofts.

Q. You know Mr. *Arkwright*?

A. Yes.

Q. Did he apply to you at any time for the purpoſe of drawing out, or preparing any ſpecification of this patent?

A. Yes, I made it ſome ſhort time before the extent of the time it was ordered to be ſpecified; I took the ſpecification and recital of the patent, which he brought me to prepare.—The drawings and margins upon the paper were ready done, I was only concerned in the recital, the formal part, the recital of the ſpecification.

Q. The ſpecification in words is what you mean?

A. Yes.

Q. Not the references and drawings?

A. The references and drawings were brought prepared by Mr. *Arkwright* to me, upon that occaſion.

Q. When you had ſeen them and compared them, did you make any obſervation upon them to him?

A. Why, I obſerved to Mr. *Arkwright*, I thought them very imperfectly done, and, in my opinion, would not anſwer the intended purpoſe, that was my opinion, it ſtruck me in that light.

Q. What did he ſay to you when you told him ſo?

A. I aſked him, where the former ſpecification was done, which he brought with him.

Q. That is, for the old patent?

A. Yes, the old patent, for that ſeemed to me to be done in a better manner than the other; he told me that was drawn from a model of the machine, by a draughtſman in *London*. The ſpecification of the former patent, but I underſtood this was not done from the model.

Q. He told you ſo, did he?

A. Yes, Sir.

Q. Upon

Q. Upon this, what did you ſay to him?

A. He told me, that he meant it to appear to operate as a ſpecification, but as obſcure as the nature of the caſe could poſſibly admit.

Q. He meant to offer it as a ſpecification, but to be as obſcure as the nature of the caſe would poſſibly admit?

A. Yes; the reaſon he gave, my Lord, was, that at the expiration of the fourteen years, the public would then have the benefit of the machine: that he wiſhed the invention not to be taken abroad during the fourteen years, as any perſon might have a copy of the ſpecification from the office; in his opinion, he thought, they ought to be locked up—As that was not the caſe, that was the reaſon he meant it to appear ſo obſcure, they ſhould not be able to take the invention abroad.

Q. In his opinion, they ought to be locked up; but as that was not the caſe, he wiſhed the invention not to be taken abroad; that was the reaſon he gave for making them as obſcure as the nature of the caſe would admit?

A. Yes.

Q. Now when was this?

A. I think it was about a week, the date of the ſpecification will ſhew it; it was about a week before the time was out, I know there were not many days to come.

Q. You have ſeen the ſpecification many times ſince?

A. I have ſeen it ſeveral times ſince.

Q. Is it not in the ſame original obſcurity as Mr. *Arkwright* meant it?

A. The very ſame.

Q. Locked up in total darkneſs?

A. I told him, I thought he might have occaſion to repent it, and I wiſhed him to make it clearer.

Q. You thought he might repent of this, and you wiſhed him to make it clearer?

A. I thought I was rather in duty bound to mention it to him, it ſtruck me in that light; I thought it ſhould be more perfect, and I mentioned it, and he gave me that anſwer.—I relied upon him for that part, and he relied upon me for the formal part.

Francis Ambrey ſworn.

Evidence of Francis Ambrey.

Q. What buſineſs are you?

A. A machine maker.

Q. How long have you been in that way of buſineſs?

A. I think, five years and an half I have been in the buſineſs myſelf.

Q. Have you been all your life in it?

A. Not all my life; I was brought up to it.

Q. How long have you worked at it?

A. About ſix years.

Q. Have you ſeen *Arkwright*'s ſpecification, the drawings of it?

A. I have, Sir.

Q. Did you attempt to make one from that ſpecification, to the beſt of your ſkill?

A. Yes, I did.

Q. Did you fairly and honeſtly ſet at it, to do it if you could?

A. I ſet at it at firſt, to do it with the beſt of my knowledge, and, finding it impracticable, I gave it up; I did believe it out of my power to make it from that ſpecification.

Q. And

Q. And from that conviction of your mind you gave it up?
A. Yes.

Mr. *Wrigley* examined again by Mr. Serjeant *Bolton*.

Q. Have you been employed in making machines?
A. Yes, Sir, I have.
Q. How long?
A. About four years.
Q. Have you been acquainted with all theſe machineries of the cotton manufactories—Have you attempted to make one from this ſpecification?
A. Yes, Sir, I did.
Q. Was it before any objection was made to the ſpecification?
A. Yes, it was.
Q. Before the firſt trial of *Arkwright*'s?
A. Yes, it was.
Q. I aſk you, whether you did it fairly and honeſtly, to the beſt of your ability?
A. I did.
Q. Did you ſucceed?
A. I did not, I could not.
Q. Before any objection was made, you fairly ſet about *Arkwright*'s to make it?
A. I did.

Thomas Leeming ſworn. Examined by Mr. *Wood*.

Evidence of Thomas Leeming.

Q. What buſineſs do you follow?
A. A carding machine maker.
Q. How long have you followed that buſineſs?
A. Ten years and a half.
Q. Have you ever worked from drawings?
A. No, Sir, I never did.
Q. Have you ſeen *Arkwright*'s ſpecification?
A. I have.
Q. Have you examined that ſpecification?
A. Yes, Sir.
Q. Now, Sir, could you make a machine from that ſpecification?
A. I don't believe I could.
Q. Can you tell us, then, in what it is defective?
A. Yes.
Q. Point out ſome of the defects?
A. The roller in the cloth is deficient—The cylinder fillet is deficient.
Q. How is that deficient?
A. It will only diſcharge half of the cotton off the large cylinder, as the fillets are not ſpiral, but perpendicular to the axis.
Q. Now is there any thing elſe?
A. That is all that reſpects the carding, only the crank.
Q. Is there any thing that is not in it, able to produce the effect?
A. Yes.
Q. Go to the roving machine; tell us whether there is any defect in the ſpecification of that?
A. The rollers have no pinions to ſhew the moving of the rollers, nor no weight, nor nothing at all to ſhew it.

Q. Are

Q. Are you ſpeaking of the roving machine?
A. I don't pretend to ſpeak to the roving machine, only the carding machine.
Q. However, do you know the roving machine?
A. Yes.
Q. Does that ſpecification ſhew a ſufficient deſcription of it; is the carding or roving machine ſufficiently deſcribed for any-body's making it?
A. No, it is not.

Croſs-examined by Mr. *Wilſon*.

Q. You have pointed out, I think, in the carding machine, thoſe two defects?
A. Yes, Sir.
Q. Firſt, there is not a roller within the cloth?
A. Yes.
Q. And the next is, the fillets are not ſpiral, but perpendicular to the axis?
A. Yes, Sir.
Q. Then you could have made the machine by this ſpecification, with thoſe defects in it?
A. Yes, I could have made it with the drawings, but it would not anſwer.
Q. If there was a roller in the middle of the cloth, and the fillets ſpiral, you could have made it?
A. Yes.

Thomas Barber ſworn.

Evidence of Thomas Barber.

Mr. *Cowper*. Q. Have you any intereſt in this cauſe?
A. No, Sir.
Q. You are no proprietor of cotton mills?
A. No, Sir.
Q. Nor have been lately?
A. No, Sir, nor never was.
Q. Are you a ſubſcriber in any reſpect to this ſuit?
A. No, Sir.
Q. In no reſpect whatever?
A. In no reſpect whatever.

[*After the above Queſtions and Anſwers, Mr. Barber's Examination did not proceed, till Mr. Immiſon and Mr. Pearſon were examined*].

Mr. *Immiſon* examined by Mr. *Erſkine*.

Evidence of Mr. Immiſon.

Q. Have you been accuſtomed to make machines from drawings?
A. Yes, Sir, I have.
Q. Be ſo good to look at that ſpecification you have in your hand, and tell my Lord and the Jury, whether you conceive there is a perfect deſcription, and whether you could make it?
A. I know the deſcription perfectly well; here are very few parts of the carding machine here, that are in the carding engine, and they are very imperfectly deſcribed that are here.
Q. Tell us which are the parts that do belong to the carding machine, that are upon the face of the ſpecification?
A. Here is the crank and one cylinder here.
Q. Does No. 3?
A. Yes—No. 4. belongs to the carding machine.
Q. And No. 5?
A. Yes.

Q. Nothing elſe?

A. No.

Q. Now go to No. 3. Firſt, could you make that feeder from that deſcription, No. 3?

A. It is an impoſſibility.

Q. State to the Jury, why it is an impoſſibility.

A. Becauſe here is no axis deſcribed, whereby it can move regularly.

Q. Could you make No. 5. with a ſpiral fillet from that?

A. If it had not been invented, it could not be aſcertained from that.

Q. How could you make it from No. 5. in the ſpecification; would you have made the fillets parallel to one another?

A. Certainly, becauſe that in the ſpecification is parallel.

Q. Then you never could have found out how to make it ſpiral from that deſcription, with the parallels?

A. There is no idea of a ſpiral.

Q. You never would have thought to make, as an artiſt, that machine with a worm?

A. It is impoſſible, without having the idea conveyed, which it does not.

Q. Now the roving machine, No. 6. how could you make that?

A. It is very imperfect; there is no motion whereby it can be worked, and none is deſcribed.

Q. Does it appear by that, whether one ſet of rollers are to move faſter than the other, or what relative velocities they are to move with?

A. No ſuch thing appears here, and I do not recollect any ſuch thing in the deſcription of the ſpecification, that ſpeaks of rollers.

Q. No. 6. conſiſts of rollers fixed to a wooden frame, the contents of No. 5. being brought to it at (a), and going through at (b), produces it a proper ſize at (F); can you tell what that deſcription means?

A. It ſeems to me to be rather an intention to conceal, than to diſcover.—Thoſe are the back rollers the communication is fixed in; which is wrong in fact, too.

Q. It appears to you an intention rather to conceal, than diſcover?

A. Yes, becauſe it is quite upon the wrong ſide.

Q. Then you could not make this roving machine from that drawing?

A. It is an impoſſibility.

Q. You, I believe, have a general knowledge of cotton works?

A. I have, Sir.

Q. But, notwithſtanding that, you could not do it?

A. It is impoſſible to do it, without a perſon very well knew of himſelf how to do it.

Q. Now, Sir, paſs on to the other; could you make the cann from that deſcription?

A. What deſcription?

Q. From No. 7.—No. 7. a cylindrical box for twiſting the contents of No. 6. at (b); (a, a) are two rollers, one moving the other; between which the contents of No 6. paſs into the cylinder (b)—(c) is a dead pully fixed to the frame (d), which paſſing from the pulley (c), moves the rollers (a, a)—(F) a wheel, the movement of which is brought from (F) to No. 10. and is fixed to No. 6.?

A. A very imperfect deſcription: I think, a perſon not poſſeſſed of the knowledge of making this, could not make ſuch a cann as this, without ſome other reſources.

Q. No. 6.

Q. No. 6. is ſtill more defective?

A. No. 6. is quite defective.

Q. Now is there any directions here, how all theſe things are to be put together, to ſhew how the box, and the carding machine, and the roving machine are to be ſet to work together?

A. There is none, no directions about it.

Q. How ſhould you ſet about putting (3) (4) and (5) to the carding machine, and taking the reſt to the carding machine?

A. Impoſſible for any perſon to make a machine by this ſpecification, they might make the parts here put down, but they would be quite uſeleſs when made.

Q. Is there any ſcale to it?

A. There is not.

Q. Though you are a perſon well acquainted with the nature of cotton machines in general, you could not poſſibly make up a cotton machine for ſpinning, by that ſpecification?

A. I really could not.

Croſs-Examination.

Mr. Serjeant *Adair*. *Q.* Were you acquainted with the carding machine in uſe, before Mr. *Arkwright*'s patent?

A. No, I was not.

Q. You have been preſent to-day, when that carding machine has been explained?

A. Yes, but I got the knowledge of that before, it is conſiſting of two cylinders, one againſt the cards at the top, two rollers that delivered the cotton upon the firſt cylinder, which delivered it upon the ſecond cylinder, that was the former carding machine, and without the crank to take it off.

Q. Now, Sir, if you had been perfectly acquainted with the former carding machine, could not you by attention to this ſpecification have made a new machine?

A. I could not do it: Why was not the difference ſpecified?

Q. I am aſking *you* a queſtion, anſwer *yes* or *no*, according to your judgment, If you had been acquainted with the old machine, with this ſpecification, together with a knowledge of the old machine, could you make the new one?

A. No, it is an impoſſibility, I hold that to be ſo.

Q. Then any witneſs that ſays he has done ſo, you ſay muſt be perjured?

A. Why, I deem him as ſuch.

Q. That is a very candid opinion of yours, your objection to No. 3. I think, is, there is no roller or axis ſpecified by it?

A. There is not.

Q. That is the only objection that occurs to you?

A. Why, it is the principle one.

Q. Is there any other?

A. An objection againſt the uſe of it—againſt the deſcription of it, Sir.

Q. Read the deſcription?

A. A piece of cloth with wool, flax, hemp, or any other ſuch materials ſpread thereon, as at (a). That is the deſcription, together with the drawing. There is no roller or axis.

Q. Have you any other objection but that?

A. I ſtated no other objection.

Q. From

Q. From that drawing you could eaſily perceive this cloth rolled up?

A The cotton muſt be rolled

Q. It is ſaid in words, the cotton is to be ſpread on the cloth from No. 3, could you doubt that was to be rolled up?

A. I could not move it, how would you move it?

Q Could you have any doubt whether it was to be rolled up as that is deſcribed?

A. Yes.

Q. I hope the jury will judge of your ſkill, look upon that drawing?

A. I look upon this drawing to expreſs a piece of cloth, and cotton lapped within ſide of it.

Q. Your objection is, there is no roller in the centre?

A No, there is nothing to keep it in a regular motion.

Q. I think you ſaid it is impoſſible to anſwer the purpoſe without that roller, Do you mean to abide by that?

A. Do you mean to anſwer the purpoſe without it?

Q. Yes?

A. It will not anſwer the purpoſe intended by it.

Q. Are you clear of that?

A. I am clear of that, unleſs the roller in the centre be in it.

Q You are clear it will not anſwer the effect without the roller?

A. It will not anſwer to do the buſineſs.

Q. You are clear in that?

A. Yes, I am poſitive of it.

Q. If that is your opinion Mr. *Immiſon*, that that piece of cloth could not act or unroll without a roller, would you heſitate a moment to put a roller into it, if you were deſired to make the machine: anſwer that queſtion, if you were directed to make the machine, and it is your opinion, that piece of cloth would not anſwer without a roller in the middle, would you heſitate a moment to put a roller there?

A. From the knowledge I have now, I don't know but I ſhould. If I had no idea of it, I don't think I ſhould.

Mr. Juſtice *Buller*. You may as well aſk him if any thing occurred to him for the improvement of the buſineſs, whether he would do it, and I dare ſay he would do it; the queſtion is, whether your ſpecification leads him to it or not.

Mr. Serjeant *Adair*, No. 5. is the laſt mentioned cylinder (the crank works upon) which has fillet cards behind this cylinder. No. 3. (which we have been talking of) delivereth its contents upon another cylinder. You attend to thoſe words?

A. I do.

Q. If you knew the old cylinder in uſe, would you have a doubt the old cylinder was meant?

A. Very well, Sir, then how is the effect to be carried on?

Q. Your eyes will tell you how the effect is to be carried on.

A. It would not act above five minutes together, before it would be entirely full of cotton, becauſe the intervals between the fillet would be choaked up.

Q. Being ſo applied, you ſay it would not anſwer the effect, becauſe the intervals between the fillets would be choaked up with cotton?

A. They would.

Q. From

Q. From what would its being choaked up, ariſe?
A. From accumulating always in one place.
Q. Becauſe it don't take off the whole breadth?
A. Yes.
Q. What part of the ſpecification tells you, you are to ſpread the cotton on the whole breadth?
A. No part of it.
Q. Then it would be, by your miſtake of ſpreading it the whole breadth, that inconvenience would ariſe?
A. Why was it not ſpecified? it ſhews it very dark.
Q. Do you require any ſpecification to tell you, if ſpreading the whole breadth of it would choak it up, and if you ſpread it only the breadth of the fillets, it would not have that effect?
A. It would not do then, Sir.
Q. Why not?
A. Becauſe the cotton would accumulate upon the whole cylinder.
Mr. Serjeant *Adair.* If you will ſtay an hour longer in Court, I will ſhew you how it will.

Mr. *Pearſon* called again; Examined by Mr. *Erſkine.*

Q. You ſay you lived with Mr. *Arkwright* ſeven years after the patent was granted?
A. I think I did, thereabouts.
Q. The cylinder he uſed to take off the cotton from, the large one in the carding machine, was with a worm, was it not?
A. Yes.
Q. Being a worm, it ſtripped the whole off the large cylinder?
A. Yes.
Q. Then, did not he ſpread his cotton the whole breadth?
A. I believe he did.
Q. Did you, all the ſeven years you lived with *Arkwright*, after his patent, ever ſee him ſpread his feeder, only in ſtripes, leaving the interſtices between, and uſe the parallel one inſtead of a worm?
A. I cannot ſay I ever did.

Mr. *Thomas Barber*, Examined by Mr. Serjeant *Bolton.*

Evidence of Mr. Thomas Barber.

Q. Have you been accuſtomed to make machines?
A. Yes, Sir, to give directions.
Q. You have got the ſpecification before you?
A. Yes, Sir.
Q. Have you been uſed to make machines from drawings?
A. Some few, Sir.
Q. You have?
A. I uſed to direct.
Q. Look at that ſpecification, and tell my Lord and the jury, whether from that, you ſhould be any ways able to direct, or make a machine, ſuch as you ſee before you of *Arkwright*'s?
A I could make the limbs of it, or direct them to make it as this is, but I don't think I could put them together.
Q. You could make them, but you don't think you could put them together, is not that your phraſe, you have ſaid ſo?
A. I have, Sir.

Q. Now,

Q. Now will you be kind enough to deſcribe the particular defects, that you conceive would leave you in ignorance, as to the motion of it?

A. I don't ſee any connection, I don't ſee any thing coupled properly, there is no moving part or principle mentioned.

Q. Now, for inſtance, the rollers, particularly No. 6. have you any idea from thoſe drawings, of the operations of them, how they are to be ſet agoing?

A. No, Sir, there is nothing to ſet them agoing.

Q. Now, Sir, the thing that is twiſted up like a ſerpent, is there any way of putting that in motion, or any thing like that being put in motion?

A. I conceive that might be moved from this deſcription.

Q. Is there any thing there deſcribed to make it move, is there any centre or axis?

A. No, Sir, here is no axis deſcribed here.

Q. Can it move without an axis?

A. Yes, I think it might, but not with any regularity.

Q. Then it muſt move regularly with it?

A. Yes.

Q. Now, Sir, the fillet cylinder there, No. 5. is there any information to you there, or ſhould you know what that was, to act with, or how; is there any connection with the machine?

A. No, Sir, there is not, there is nothing that is any ways connected with it, deſcribed here.

Mr. Juſtice *Buller.* What is that?

Mr. *Erſkine.* The filletted cylinder.

Q. Will you be kind enough to look at that cylinder I mentioned juſt now, which is a filletted cylinder, have you ſeen that, and read the ſpecification of it?

A. Yes.

Q. Thoſe are parallel lines upon the cylinder?

A. Yes, Sir.

Q. Now, what would be the effect of the operation of that, when it is ſed in this way?

A. It would not make the edges of the rovings good, part of it would not be carded.

Q. It muſt leave the interſtices?

A. Part would not be clearly carded.

Q. Would it or not clear the great machine?

A. No, Sir, it would not clear it.

Q. It muſt leave the cotton upon the large cylinder?

A. According to the ſpaces that are left here.

Q. It muſt clog the machine?

A. Certainly, Sir.

Q. I will aſk you again, whether you could put it together, ſo as to make it work, or have any effect whatever, from ſeeing that paper?

A. Not from this.

Mr. Juſtice *Buller.* You have read the paper which refers to that, the ſpecification?

A. Yes, Sir, I have.

Q. With the aſſiſtance of that, could you do it?

A. No, Sir, I could not, becauſe this is to be connected with the deſcription of a cylinder before it; but this is no-ways connected with any thing here [*pointing to a particular part of it*].

Mr.

Mr. *John Johnſon* ſworn. Examined by Mr. *Wood*.

Evidence of Mr. John Johnſon.

Q. Have you ſeen that ſpecification of Mr. *Arkwright*'s ?

A. Yes, Sir.

Q. Now, Sir, is that a ſufficient deſcription of the machine Mr. *Arkwright* uſes ?

A. It is not a ſufficient deſcription of that machine ; I don't know that I ever ſaw any of Mr. *Arkwright*'s machines : it is not a ſufficient deſcription of that, or any of thoſe * machines.

Q. Have you ſeen any of thoſe uſed by Mr. *Arkwright?*

A. No, I never ſaw any of Mr. *Arkwright*'s works ; I don't know that I ever ſaw any, immediately of his make.

Q. Now, from that ſpecification, could you make a machine that would anſwer thoſe purpoſes for preparing cotton ?

A. No, Sir, I have compared it with the ſpecification in writing, and I was then ſatisfied in my own mind, it could not be made from this ; not as I could make it, however.

Q. Be ſo good to tell us what the defect is ?

A. Why, Sir, the defect, No. 3. is, in want of a roller to hold it in the ſituation ; there is nothing to keep the cotton in its proper ſituation, but it will either come in too large a quantity, or it muſt fall back.

Q. That is No. 3. Now, what is No. 4 ?

A. No. 4. is pretty well deſcribed, that is, this crank and its appurtenances—As for any thing elſe about thoſe cards, I ſee no deſcription.

Q. Is there no deſcription of the reſt of the machinery ?

A. No deſcription of wheels, canns, back rollers or weights, and all that is neceſſary.

Q. Is it ſufficient to make one by ?

A. No, it is not.

Q. In your opinion, it is not ?

A. No.

Q. What are you ?

A. I am both a cotton engine-maker and a worker.

Q. Do you find any direction in the ſpecification, how thoſe things are to be put together ?

A. There is a direction of one number for one thing, and another number for another ; but in that order I could not arrange them, there are chaſms that ſhould be filled up.

Q. There is not a ſufficient direction to put them together, to make them compleat ?

A. I ſhould think there is not.

Mr. *Cumming* ſworn. Examined by Mr. *Erſkine*.

Evidence of Mr. Cumming.

Q. I believe you are a watchmaker, and converſant with mechanics ?

A. I am, Sir.

Q. You have, I ſuppoſe, more than once looked at thoſe machines ?

A. I have, Sir.

Q. And you have looked at the deſcription Mr. *Arkwright* has thought fit to give by his ſpecification ?

A. I have.

Q. Now, I firſt of all aſk you, if Mr. *Arkwright* had intended to communicate to the public the means of making thoſe machines, whether it would

* The machines in Court.

would not have been perfectly eaſy to have given ſuch a deſcription of them, as they might immediately have been made?

A. I ſhould certainly think ſo.

Q. It would be very eaſy for the man that invented thoſe machines, by a drawing, and ſpecification of that drawing, to bring it in the ſcope of any common mechanic?

A. He might.

Q. My next queſtion is, Has he done ſo?

A. I think not; it is not to me clear; putting myſelf in the ſituation when I firſt ſaw this ſpecification, I could not at all comprehend it; at preſent I ſhould find no difficulty at all, informed as I am, of making it without the ſpecification.

Q. With all the ingenuity we all know you to poſſeſs, and all the knowledge of mechanics, and the fineſt part of the mechanics, could you, with that ſpecification and deſcription of it, have ſet down and inſtructed any millwright, or a man of that ſort, to make thoſe machines?

A. If I had employed an artiſt to make thoſe machines, he muſt naturally aſk me a great many queſtions, which I could not reſolve from this ſpecification; if I did, it muſt be my own imagination.

Q. You might, by thought?

A I cannot ſay I might, or might not.

Q. But it could not be from that ſpecification?

A. I could not; if I had hit upon it, I could not ſay it was *Arkwright*'s: If I was to hit upon the very ſame thing he meant, I could not be certain *that* was what he meant.

Q. If by accident you did hit upon the ſame thing, you ſhould not know that you had hit upon it?

A. I could not be certain.

Q. To look at No. 3. could you find out there was to be a roller put in the centre of that, and that was to be uſed in the manner you ſee this?

A. I have nothing here to inſtruct me in any ſuch a thing; I ſee nothing in the drawing of reference to it.

Q. Your imagination might lead you to a ſimilar invention?

A. I can't ſay whether it would, or not.

Q. It would not be of any inſtruction to the artiſt?

A. I am not at all inſtructed here with any ſuch a thing.

Q. To go on to No. 6. It ſays, No. 6. conſiſts of rollers fixed to a wooden frame, the contents of No. 5. being brought to it at (a), and going through at (b), produceth it a proper ſize (F); would that lead you to make that fluted cylinder, to cover them with leather, to make them move with thoſe relative velocities?

A. It certainly would not give any ſuch inſtruction; it gives no information.

Q. You could not find out, Mr. *Arkwright* meant the rollers ſhould be fluted, and that they would move with that relative velocity they ſhould move?

A. I have no authority from the ſpecification for any ſuch motion of it; if he had deſcribed the rollers with the thickneſs and length, perhaps I could, I certainly ſhould have expected to find ſome reference or ſome deſcription of the part analogous to it.

Q. This ſpinning machine being the ſame as his roving machine, if he had meant to tell the public, that roving was in every thing, but the cann, the ſame as the ſpinning machine, it was eaſy to have done ſo?

A. I ſhould think a ſingle line of reference would have done it.

Q. That

Q. That line not being there, could you think Mr. *Arkwright* meant nothing more but his own ſpinning machine?

A. When I read Mr. *Arkwright*'s ſpecification, I underſtood it was a diſtinct ſpecification of ſomething new.

Mr. Juſtice *Buller.* What did you underſtand to be diſtinct?

A. No. 6.

Mr. *Erſkine.* He never conceived it was nothing more than Mr. *Arkwright*'s old ſpinning machine, but really thought it was ſomething new.

A. I beg leave to explain myſelf to my Lord and the Court, with regard to what I ſaid; I may be miſconceived in it. When I had this deſcription and ſpecification given to me, I conceived from Mr. *Arkwright*'s declaration, which I was poſſeſſed of at the ſame time, I conceived the whole of this machine was an entire machine, an entire new invention, and not depending upon the old deſcription, and therefore did not conſider myſelf authorized to apply to any old invention.

Q. Be ſo good as to caſt your eye upon No. 7. which is the cann; now I will aſk you this queſtion, Whether it would ever have occurred to you, from the ſpecification, and deſcription of that ſpecification, to have made that machine by joining No. 7. to 6. with all thoſe wheels?

A. In fact, I felt a difficulty in different reſpects, which muſt ariſe to any perſon conſtructing it, at leaſt, it muſt have aroſe to myſelf from the roving here that paſſes from No. 6. through a hollow axis, into the roving box.—If the contents of No. 6. were repreſented coming through an hollow axis to the centre, it would have led me to the meaning and intention; inſtead of which, the deſcription here repreſents a ſolid axis; the thread is not repreſented as paſſing through a hollow axis—In reading No. 6. and 7. and obſerving the two figures by way of compariſon, I don't find the threads are repreſented as paſſing through a central axis; if it had been ſo repreſented in the drawing, it would be the more readily pointed out what the intention was.

Q. Would it have occurred to you, there being no reference to No. 6. the ſpinning machine for which the patent is now expired, could you, by looking at No. 6. and 7. have firſt made this roving machine, and have added the cann?

A. I ſhould have thought, for want of a reference, it was an explanation of a different thing, from its being an original invention; I underſtood it in that light.

Q. He does ſpecify that, as if it was new?

A. He ſays, it conſiſts of rollers fixed to a wooden frame, the contents of No. 5. being brought to it at (a), and going through at (b), produceth it a proper ſize, and he deſcribes that as ſomething he invented.

Q. Without ſtating ſomething formerly invented, which he certainly has not done; his ſtating it as part of his own original invention, you would conſider it as ſomething new?

A. I certainly did conceive it in that light.

Q. I ſuppoſe I need not aſk you, whether it is difficult, from a drawing upon paper, much leſs with a written deſcription with it, to diſcover parallel fillets from thoſe which are ſpiral?

A. Very eaſy, I conceive it.

Q. It is very eaſy to deſcribe them?

A. Yes.

Q. Are

Q. Are thoſe to be ſpiral or parallel, deſcribed as No. 5. ?

A. They appear to me to have every characteriſtic of parallel lines.

Q. The ſpecification ſays, No. 5. is the laſt-mentioned cylinder, which has fillet cards behind this cylinder: it gives no deſcription, whether they are parallel or ſpiral, it refers merely to the drawing ?

A. Merely to the drawing.

Q. Being referred to the drawing itſelf, have you any difficulty in ſaying theſe are parallel upon the drawing ?

A. None in the world; I ſhould conceive they were parallel.

Q. Then, unleſs you knew before, you ſhould not be obliged to Mr. *Arkwright* at all, unleſs you knew before that ſpiral fillets were to be preferred to parallel, you never could make them without inventing them yourſelf ?

A. I think I ſhould not be authorized by the ſpecification to make them.

Q. No. 9. is deſcribed as a new invention.

Mr. Serjeant *Adair*. You have nothing to do with No. 9.

Mr. *Erſkine*. We have to do with every thing in your ſpecification, that is to bamboozle the public. No. 9. is a ſpindle and flier, being fixed to No. 6. for twiſting the contents from (b) in No. 6. (d) is a pulley under the bobbin, which hath a communication by a band to No. 10. at (d, d), it being a conical or regulating wheel, which moves the bobbin quicker or ſlower, as required; ſhould you underſtand that as a new invention?

A. There are ſmall defects in this drawing, but ſuch as I ſhould have looked upon as accidental.

Q. When Mr. *Arkwright* is giving this ſpecification to the public, as a deſcription of his new invention, for which he got his ſecond patent, could you ever have been led to conceive No. 6. and 9. when added together, were neither more or leſs than that invention for which his old patent was expired ?

A. I certainly ſhould have thought it no part of the old patent, but I ſhould have thought it new.

Mr. Juſtice *Buller*. Did you ever try whether all thoſe pieces of work could be put together, including 8. and 9 ?

A. Does your Lordſhip mean, whether I tried it practically ?

Q. Yes.

A. I never did; I have been accuſtomed to put pieces of machinery together, very difficult pieces.

Mr. Juſtice *Buller*. It is admitted, upon the part of the defendant, that 8. and 9. are not made uſe of; one way it may be material, the other way perhaps not at all; I want to know whether 8. and 9. were ever uſed to make one machine ?

Mr. *Erſkine*. Never ſince the beginning of the world, nor ever could.

Mr. Serjeant *Adair*. To ſet your Lordſhip right in that particular, upon which the puzzle is now thrown out, and which I will clear up in a proper time; if your Lordſhip attends to the ſpecification of No. 10. you will find no man that reads the ſpecification, can for a moment conceive that (7,) (8) and (9) were ever intended to be uſed as the ſame machine, and No. 10. is that part of the machine that gives motion to No. 7, 8, or 9. ſo that is one of thoſe three, but not all, neither two nor three.

Mr. *Erſkine*. Your Lordſhip will obſerve, Mr. *Arkwright* had a patent for a ſpinning machine, which patent is expired, what occaſion was there for

that

that which is the ſpinning machine put together, to be in the ſpecification; it is neither more nor leſs than the ſpinning machine.

Q. Upon the whole, you ſee thoſe ſpinning machines ſtanding before you?

A. I do.

Q. If you were to put all thoſe things together, upon the face of this ſpecification, would it make any one of thoſe machines, or all of them?

A. Certainly it would not make any one of them.

Q. There is not a monſter in *Ovid*'s *Metamorphoſis*, but what it would have made?

A. I have no conception what kind of machine it would make to put it all together.

Q. You would give a little money to ſee ſuch a machine put together?

A. No; *I would give very little to ſee ſuch a machine.*

Croſs-Examined, by Mr. Serjeant *Adair.*

Q. I know ſufficient of your abilities, Mr. *Cumming*, to expect to receive ſome light upon this ſubject. Do you conceive in the invention of a machine, to conſtitute a new invention, all the parts muſt be new?

A. No, Sir, I do not by any means.

Q. Do you think, Sir, there are any machines which have been invented, among all that have been the ſubject of patents, which have come to your knowledge for fifty years back, compoſed of parts, which ſeparately taken, were perfectly known long before?

A. I don't quite collect the tenor of your queſtion.

Q. For inſtance, if you have a machine, conſiſting of a particular combination of pulleys, tooth and pinion, or any particular wheels, or axles of wheels, or weights of different combinations of mechanic powers, would you call that a new invention?

A. You don't mean tooth, and pinion, and wheels are a new invention, but their combination might be a new invention, by producing a new effect, that is my underſtanding of a new invention.

Q. We have now a better authority than my own for the truth of that propoſition. In looking at this ſpecification, we are told this was a deſcription of machines or inſtruments, in the plural number, for preparing cotton for ſpinning, would it ever once enter into your head to make that monſter, my learned friend was talking of, or would you apply to any one machine?

A. I would not attempt any thing of the matter.

Q. After being told in expreſs words, his ſpecification does more than can be done by one machine, would you ever attempt to put them all together?

A. There are certain parts, figures (8) and (9) I underſtand to be two pieces, for the ſame purpoſe, that you might apply either the one or the other. I underſtand the roving box is for a different purpoſe, but after having underſtood all thoſe matters, and being told that No. 6. is for extending the roving, I am perfectly left at a loſs and at ſea, how to apply them, and I could not take upon me, after having thought of it in the beſt manner my ideas could ſuggeſt, I could not then tell what Mr. *Arkwright* meant.

Q. The firſt difficulty you particularly ſtate is, with reſpect to No. 5?

A. What I ſpoke of is No. 2.

Q. I don't aſk about No. 2. it is entirely out of this queſtion, we have nothing to do with it, but No. 5. you don't ſee the application of it to the former machine; from this ſpecification you ſay the fillets are exactly parallel?

A. It appears ſo.

Q. If you had been as well acquainted, before you ſaw this ſpecification, with the conſtruction of the cotton mills then in uſe, as in the conſtruction of a watch, do you think you ſhould have had any difficulty in applying this?

A. If the principle was clear, I ſhould not be at a loſs—The principle of this cylinder appears to me, full as well as if I had ſeen a thouſand rollers.

Q. But if you had known the cylinder before in uſe, and the manner in which it operated, ſhould you have had any difficulty in applying this new cylinder?

A. In applying it to what?

Q. No. 5. is the laſt mentioned cylinder, which hath fillet cards behind this cylinder; No. 3. delivereth its contents upon another cylinder: No. 3. you obſerve is a cloth upon which cotton is ſpread, you are told by the words of this, it delivereth its contents upon another cylinder, which is behind the fillet cylinder, that you are told in the words of the ſpecification?

A. Yes, Sir.

Q. Now if you are told by this ſpecification, the cotton ſpread upon this cloth was delivered upon a large cylinder, ſhould you have any difficulty in conceiving that meant the large cylinder?

A. I conceive now the expreſſion of the patent don't refer to the large cylinder, but I rather think it refers to the ſmall cylinder; being told it is the ſmall cylinder, I ſhould have no difficulty about that, but not being told of it, I ſhould find myſelf perfectly at a loſs.

Q. They may be exactly the ſame ſize, or the ſame thing, that is not material; as to No. 6. the deſcription of it is this, that it conſiſts of rollers, fixed to a wooden frame, the contents of No. 5. being brought to it at (a). That (a) marks the entrance of the two leſſer rollers; and going through it at (b) produces it a proper ſize at (f), now when you find that brought to it at (a) and goes through it at (b), does it not neceſſarily follow from thence, that in order to produce any effect whatſoever, thoſe cylinders muſt be put in motion?

A. Upon your principle, that muſt follow, to produce any effect.

Q. I have told you of the effect it will produce; but if there are cylinders which are to produce their effect by motion, is there the ſmalleſt doubt, without any deſcription whatſoever, of putting thoſe cylinders in motion by almoſt twenty different ways?

A. None in the world.

Q. By the operation of a carding-wheel, or a variety of ways, there would be no difficulty in that?

A. None in the world.

Q. You obſerve from the drawing, the two cylinders at (b) are of a larger diameter than the two cylinders at (a)?

A. I obſerve one is a larger diameter, one of the leading cylinders is larger than the other.

Q. You obſerve the two cylinders at (b) are of another diameter from thoſe at (a), any man of a much ſlighter knowledge than yours, would immediately ſuggeſt thoſe cylinders, when ſet in motion, will move with different velocities?

A. Not

A. Not in the leaſt. If they are ſet in motion, my Lord, as the queſtion put to me, if I look at them in the ſpecification it is immaterial, the queſtion put to me, whether they are different ſizes or not.

Mr. Juſtice *Buller.* He ſays it is immaterial as to your queſtion, whether they are of different ſizes.

Mr. *Erſkine.* And my learned friend tells you, when I addreſs myſelf to you about No. 2. that is quite out of the queſtion, is there any thing upon that ſpecification or deſcription, that would lead a man to think that is out of the queſtion?

A. I conceive it would not.

Q. Would not you be puzzled what to do with it, or where to put it, finding it as part deſcribed, and telling you how to make it, ſhould you caſt it aſide altogether?

A. I ſhould not go to the deſcription of No. 3. till I had conſidered the drawing No. 2. and finding myſelf at a loſs, I ſhould wiſh to find a connection.

Q. Whether it was ever clear to you, looking at the ſpecification, and reading what Mr. *Arkwright* had ſaid, to put that all together?

A. I have no authority at all to leave any thing out.

Q. As it turns out now, that this new roving machine has the addition of that cann to the old machine for ſpinning, would it not be the eaſieſt thing in the world for Mr. *Arkwright* to deſcribe it, to ſay my invention conſiſts in adding the cann No. 7. to the old ſpinning machine?

A. That is obvious of itſelf.

Mr. Juſtice *Buller.* I wiſh an anſwer to one queſtion, from Mr. *Cumming*, Brother *Adair*—I wiſhed to know what opinion you would have formed of it, if you were perfectly converſant with the old machine; ſuppoſe you had been converſant with what that was, and you had known the uſe of the ſpiral cylinder, from that plan ſhould you be induced to adopt the ſpiral one, or that like the plan in your hand?

A. I ſhould have thought it meant to have deviated from the ſpiral one, and to uſe that in my hand.

John Viney, ſworn.

Evidence of John Viney.

Mr. Serjeant *Bolton* was proceeding to his examination, when Mr. *Viney* addreſſed the court as follows:

My Lord. In order to ſave this Court a good deal of time, I will beg the ſuſpenſion of this gentleman's addreſs to me, in order to ſhew to this Court, how this drawing, when it firſt appeared to me, affected me, being informed ſince in Court, it was in 1781, this drawing was exhibited to my view.—A gentleman came to my premiſes, and exhibited the drawing to me, and deſired to have my thoughts upon the matter. As ſoon as the gentleman opened the drawing to me, I looked it over, and I ſaid, A drawing! why here is no ſcale for this drawing, here is no key to the drawing, whereby any body can in the leaſt form any idea of the dimenſions of any one part; that was a perfect ſufficient reaſon for my objection to paying any attention to it. Upon which, the gentleman cloſed it up, and took himſelf away; and for any thing I know, that ſame gentleman may be now in Court to confirm or refute the real ſtate of our interview.

Within theſe three weeks paſt, two other gentlemen preſented this drawing to me, whoſe perſons and names I was perfectly unacquainted with; my reply to them, was exactly and inſtantaneouſly the ſame words: I have ſeen

this drawing ſome time paſt, but I cannot pay any attention to a thing ſo totally void of any ſort of means for underſtanding it. The gentlemen preſſed me very much to review the drawing with further attention, and added, that they had the deſcription of that drawing, which they apprehended might give me a knowledge, a better knowledge of this drawing. I ſaid, Gentlemen, I am extremely willing to give you any attention that the nature of this thing may require, ſo as to acquaint myſelf with it; accordingly, I took it, and aſſured them I would give it a cloſe inſpection and peruſal. I went into it with an anxious deſire, if poſſible, to inform myſelf what it was, and what it meant; I reviewed it at three different periods, becauſe I very well knew that things ſtrike the mind very differently at different times, but now I have to declare, that notwithſtanding the ſeveral peruſals with all the anxiety I was capable of, and ability that I had in my poſſeſſion, to acquaint myſelf with the machine, and notwithſtanding all that I have heard in this Court, ſince I have been here, I ſtill am left as totally ignorant of the means of conſtructing the machine, which this is meant to deſcribe, as if I never ſaw it; therefore, I have nothing further to add but that it is my firm opinion, as far as the knowledge of any mechanical powers that I retain, that it is impracticable for any man, with this drawing, and the deſcription which is given with it, alone, to conſtruct the ſame.

I wiſh your Lordſhip to know, I am perfectly unacquainted with all the parties, I never was before informed of, nor have any knowledge of ſpinning machines of this kind, and it is a very ſuperficial view I have had in the courſe of my obſervations, but I have no idea of any man being capable of working from drawings that have no ſcale.

Croſs-examination.

Mr. *Baldwin.* Q. Did you ever ſee a cotton mill?

A. I don't know that ever I did.

Q. What was you originally, a mill-wright, or a wheel-wright?

A. That would take up time indeed to acquaint the Court with.

Mr. *Thomas Walford* ſworn. Examined by Mr. *Wood.*

Evidence of Mr. Thomas Walford.

Q. I am given to underſtand, that you underſtand mechanics.

Mr. Serjeant *Adair.* Q. Have you any ſhare in any cotton mills, Mr. *Walford?*

A. None.

Mr. *Wood.* Q. Will you pleaſe to look at that ſpecification of *Arkwright*'s?

A. Yes, Sir, I have ſeen it.

Q. Tell me whether that is *Arkwright*'s ſpecification?

A. That is the firſt I examined, this I underſtand was Mr. *Arkwright*'s firſt machine, for which the patent is expired.

Q. Are you converſant with machines yourſelf?

A. Yes, Sir, I am, but not with this cotton machine till now.

Q. What ſort of machines?

A. Machines for filleting and making the laces for women; filleting laces, that are quite diſtinct from this.

Q. Are you able, from that ſpecification, to make the machine like what you ſee here?

A. No, Sir.

Q. Does

Q. Does this ſpecification afford you ſufficient information, with the deſcription, to make thoſe machines before you?

A. I have read the deſcription, and I cannot ſay, that, by both the deſcription and drawing, either of them affords a ſufficient information.

Q. Will you be ſo good now, to point out in what it is defective?

A. It wants the means of communication from one machine to another; for my own part, I underſtood this, which is No. 3. to be more like a worm than any thing elſe, till I ſaw the reading, I could not tell how to apply it.

Q. Can you tell how to apply it, by looking at the reference?

A. No, I cannot.

Q. Could you tell, from that deſcription, how to put them all together, how to make any perfect machine of any ſort?

A. No, I could not; indeed I endeavoured to find it out.

Q. You could not make any perfect machine or machines from that deſcription you have ſeen, and thoſe drawings?

A. No, Sir, I could not.

Q. Then I will aſk you, whether, in your judgment, that ſufficiently aſcertains and deſcribes the invention, ſo that it may be performed by that deſcription and that ſpecification?

A. I think it does not.

Q. Now, Sir, have you ſeen thoſe things here; was it an eaſy matter to deſcribe them ſo as to be underſtood?

A. A very eaſy matter. This patent engine, from the firſt drawing, is very explicit.

Q. Are the directions of the other explicit?

A. No, Sir, they are not.

Q. But you ſay, it was eaſy to have drawn it for every mechanic to underſtand?

A. Yes.

Q. Suppoſe a model had been made of the whole machine, and the drawing had been taken from that model, would it not be more explicit than the preſent?

A. Yes, certainly; it is very likely I could have made it from that.

Q. Could not you deſcribe the particular parts, ſo that it might be done with greater eaſe?

A. If there had been a ſcale to go by; but there is none to ſhew.

Q. There is no information of that ſort in the ſpecification or deſcription?

A. No.

Mr. *Harriſon* ſworn.

Evidence of Mr. Harriſon.

Mr. Serjeant *Adair*. Have not you a ſhare in ſome of thoſe works?

A. I am erecting a mill, but it has not yet begun ſpinning.

Q. Upon the ſame principle?

A. I don't mention the principle.

Q. But I aſk you the queſtion?

A. I am erecting a mill for ſpinning cotton.

Q. Does it extend to the preparing it for ſpinning cotton?

A. It does every thing.

Q. Then you are an intereſted witneſs?

A. I hope I am not a rogue, Sir.

Mr. *Bearcroft*. So far he is intereſted, he is juſt like other men.

Mr.

Mr. Juſtice *Buller.* You ſhould bring the queſtion a little cloſer to the object; aſk him, whether he does make uſe of a machine like this?

Q. Do you mean, if this patent is ſet aſide to-day, to make uſe of this machine?

A. No.

Q. Do you carry on any trade in this way?

A. No, I am erecting a building, where I intend to put machinery to ſpin cotton.

Q. Will the machinery be affected by the queſtion, whether this patent ſtands, or not?

A. I think it will not.

Mr. *Erſkine.* *Q.* You were concerned with your father in the diſcovery of a time-piece?

A. Yes, Sir, I had the honour of being with you in the ſame voyage.

Q. You have been acquainted with all thoſe experiments that were made, by order of the Commiſſioners of the Admiralty, for diſcovering the longitude?

A. I have, Sir.

Q. Be ſo good to look at that ſpecification; Have you examined that ſpecification?

A. I have.

Q. Have you examined alſo the drawings?

Mr. Serjeant *Adair.* *Q.* Are not you a ſubſcriber to this very ſuit?

A. Indeed I am not, neither directly or indirectly; I have examined this drawing with all the attention I am maſter of.

Q. Have you examined with equal attention, this, which purports to be an explanation?

A. To be ſure I have.

Q. And you have, no doubt, examined the different machines which the drawing affects to deſcribe?

A. I have.

Q. Now, with all the knowledge you neceſſarily have of mechanics, could you make theſe machines, or either of them, from this drawing, and from the deſcription of them?

A. Make theſe machines from this drawing!

Q. Yes.

A. No, they are not deſcribed here.

Q. Do you think, Mr. *Harriſon*, it would have been difficult for Mr. *Arkwright*, if he had been diſpoſed to deſcribe them, to have deſcribed them properly?

A. No difficulty at all.

Q. If any man wiſhed to do it, might not he have made a drawing of the whole from a model, and have given the ſame in different parts?

A. There is no doubt of it.

Q. That is not done?

A. It is not done here.

Q. How ſhould you be able, for inſtance, to go to make that feeder, annexed now to the carding machine, from No. 3.—How ſhould you be able to make the feeder annexed to the carding machine, by the deſcription of No. 3?

A. I think I remember the reading it; it is a piece of cloth rolled; I could certainly make a piece of cloth, and put flax upon it.

Q. Should you have been led to put the roller in the center, and applied it as that is applied?

A. If I had, it would be my own invention, for it is not here.

Q. Now

Q. Now with reſpect to No. 2. Should not you have thought that intitled to a place in the machine?

A. I don't know how to reject No. 2. any more than No. 3. I am told it is to be put there.

Q. Can you find a place for it?

A. I have not ſeen it yet in the cotton works, nor thoſe models.

Q. Do you think, if a man was determined to perplex theſe works, it would not be very artfully done by putting it there?

A. I don't know what a man's art might do; but ſo many things thrown in this buſineſs together, not only perplex, but deſtroy the whole intent of the explanation.

Q. Whatever might be the intention, they have the effect of confuſion and perplexity.

A. When I look at a drawing, to make any thing of a machine, I look upon one part of the drawing to be equally uſeful as the others; I don't know that I am to reject No. 1. and 2. any more than the others, I might as well reject No. 3. as No. 2.

Q. When you look at No. 5. even ſuppoſing you had known that ſpiral fillers had been uſed before, ſhould not you be led to think that Mr. *Arkwright* meant they ſhould be uſed no longer, but they ſhould be parallel ones?

A. Theſe are like hoops round a barrel.

Q. Should you from that, be ever led to think that Mr. *Arkwright* meant you to make a worm, or ſpiral ones?

A. By no means—I ſhould have done as directed by that, and made cylindrical hoops.

Q. You was in Court when Mr. *Arkwright*'s former ſpecification of his expired patent was read, in which he deſcribes his ſpinning machine?

A. I was, and have ſeen that.

Q. Now ſhould you have been led, by looking at that ſpecification, and this deſcription of it, namely, that No. 6. conſiſts of rollers fixed in a wooden frame; and the contents of No. 5. being brought to it at (a), and going through at (b), produceth it a proper ſize at (F); ſhould you, from that drawing and the deſcription, have been led to make the ſpinning machine over-againſt you, from this drawing?

A. No, this drawing deſcribes nothing here, it is all circles, it is no deſcription at all; the words are ſomething.

Q. Should you be led to think Mr. *Arkwright* meant you ſhould fix No. 7. to his old ſpinning machine, by the deſcription of No. 6. and 7?

A. No; To his old ſpinning machine! no; it has no reference; it is a cann to receive the roving.

Q. Should you be led to put that to the ſpinning machine, by No. 6. and 7. coupled together; ſhould you ever be led to make that machine behind you?

A. If I am permitted to look at Mr. *Arkwright*'s firſt patent, then I could anſwer your queſtion.

[*Upon inſpection of the former ſpecification, Mr. Harriſon ſaid*] I could then make this machine, if I am permitted to look there; but Mr. *Arkwright* deſcribes thoſe rollers, which are the ſame rollers as the firſt, and, if ſo, they ſhould not have been here as the new invention, becauſe they muſt have been the ſame invention.

Q. Finding this ſpecified at No. 6. you never could ſuppoſe he meant to ſpecify *that* which he ſpecified formerly, and for which his patent was expired?

A. He evades ſpecifying that here; what he had ſpecified in his firſt patent, he does not ſpecify here; I could have made them from the firſt ſpecification, but I could not from the ſecond.

Q. Then in what does the ſecond conſiſt?

A. Mr. *Arkwright*, in the firſt, tells you, there was a number of wheels of different velocities, and there is nothing in this, of that ſort.

Q. In what does the invention of this behind you, conſiſt?

A. This is the firſt patent machine; the ſame thing that now roves, which then, ſpun.

Q. But finding thoſe rollers ſpecified at No. 6. knowing he could not ſpecify them over again, you would intirely conclude there were ſomething different and new?

A. No doubt of it.

Q. And by that, you would never be led to the idea of the ſame thing. Upon the whole, we will not trouble the Court further upon this queſtion—Could you, with all the knowledge you have of mechanics, have made ſuch a machine from this ſpecification, as the draft is pretended to deſcribe?

A. There may be machines made from this ſpecification; but as no ſcale is given, it would be difficult to know what ſize, and how to go about them; but when all the machines are made that are diſperſed upon this paper, I am perfectly clear, neither one nor two of them could ever be applied to any purpoſe whatever.

Q. Suppoſe your diſcovery conſiſted in adding a crank or a cylinder, or thoſe canns; could not you have deſcribed them ſo, as the commoneſt mechanic could inſtantly know what he was about?

A. I could have deſcribed them ſo, that almoſt any common mechanic, or any man converſant with mechanics, could have done it.

Q. With that ſpecification, do you think, any of the moſt ingenious artiſts could have done it?

A. I think it impoſſible.

Mr. Juſtice *Buller*. Q. Upon reading over that deſcription, and the written deſcription added to it, what would you ſuppoſe would have been done with No. 7. 8. or 9. how would you diſpoſe of them?

A. No. 7. is, according to the words there, a cann having a vertical motion; my hat having a vertical motion, it would anſwer the ſame purpoſe, if there was any thing upon the ſpindle, with a cavity at top, with two rollers upon it; there is no hole in the centre for the thread to go through.

Q. I aſk you, upon reading the deſcription, how are you to diſpoſe of 7. 8. or 9? did you underſtand from thence, whether all three of them were to conſtitute a part of the machine, or would you take either of them?

A. No. 9. is directly in the firſt patent.

Q. So it may; but, upon reading over the ſpecification, did you underſtand you was only to make uſe of one of thoſe three that are marked 7. 8. or 9. or was it indifferent which, or was you to put all in this machine?

A. It is ſuch a confuſed thing; as to No. 8. I never ſaw it made uſe of; it is a queſtion that I cannot anſwer; I don't know that it was intended ever to be uſed.

Mr.

Mr. *Samuel Ewer* ſworn. Examined by Mr. Serjeant *Bolton.*

Evidence of Mr. Samuel Ewer.

Q. You are the chairman of the committee of mechanics, at the *Adelphi*, I believe, Sir?

A. Yes, Sir.

Q. Of courſe you are acquainted with mechanics in general?

A. A good deal.

Mr. Serjeant *Adair.* *Q.* Are you concerned in any cotton mills?

A. No.

Mr. Serjeant *Bolton.* *Q.* Have you ever ſeen any cotton mills?

A. Several.

Q. Have you ſeen any of this ſort of Mr. *Arkwright*'s?

A. Yes, near five years ago, and ſeveral times ſince.

Q. I will aſk you as a mechanic, taking the deſcription in your hand, if you pleaſe, Have you compared it with the written deſcription?

A. Yes, Sir, I have.

Q. I want to aſk your opinion of the ſufficiency of that ſpecification, for the purpoſe of making the machine, What is your opinion of it?

A. If a perſon confines himſelf ſolely to the ſpecification, it would be impoſſible for him to do it; if he was previouſly acquainted with all the cotton mills, ſtill he could not make a machine perfect, without exerciſing his inventive faculties.

Q. Do you think a perſon now could make the machine entirely from that ſpecification—that is the general queſtion I would aſk?

A. No, Sir, I do not.

Q. You think not?

A. No, Sir, if he did, it would not act.

Q. Look at No. 3, 4 and 5, What do you think of them particularly?

A. They are exceedingly imperfect.

Q. Explain what you mean?

A. No. 3. has no roller in the centre of the feeder.

Q. What think you of No. 4?

A. No. 4. That is very plain—with regard to No. 5. it is exceedingly imperfect.

Q. How do you find yourſelf at a loſs, about 5, the fillet cylinder?

A. Having intervals or ſpaces between the cards, the machine would ſoon be choaked up with the cotton.

Q. You obſerve they are parallel lines to the cylinder?

A. They are, certainly.

Q. Of courſe, the machine muſt be clogged very much?

A. Yes, without ſome contrivance for clearing of it, which is not mentioned in the ſpecification.

Q. Is there any inſtruction to you in the ſpecification, how that is to act?

A. There is none at all.

Q. What relation or connection is there to the other parts?

A. There is none at all.

Q. Look at No. 6. at what are called the rollers; Have you any idea how theſe rollers are to act, or how they are to be made?

A. None at all.

Q. You have not?

A. None at all.

Q. Have you any idea of the rollers being to move with different degrees of velocity?

A. There

A. There is nothing that will point it out here, this I obſerve, one of the rollers is larger than the other—I do collect, I think I may collect in the drawing that was given in with the ſpecification, that two of the rollers were of different ſizes, but it does not imply they are to move with different velocities; but if a perſon was only to ſuppoſe one was a greater weight than the other, it might acquire a different degree of preſſure.

Q. I ſhould be glad to know from you, whether it would not be eaſy for Mr. *Arkwright* to deſcribe particularly the nature of the machine?

A. Certainly, very eaſy.

Q. Then I will aſk you, whether, conſidering as you have, it is directed by that ſpecification to make it, or whether your idea is, upon the whole, it was perfectly obſcure?

Mr. Serjeant *Adair* objected to the queſtion.

Mr. Serjeant *Bolton.* *Q.* Whether you don't think it obſcure deſignedly?

A. I really believe, that at the time Mr. *Arkwright* took out this patent, he had ſome private motives in view, and had ſome intention to conceal it.

Mr. Serjeant *Adair* objected to that being evidence.

Mr. Juſtice *Buller.* So far you have got the opinion of a man of ſcience, it is good evidence.

Mr. Serjeant *Adair.* That it is obſcure is good evidence, but the opinion of a man of ſcience, why he did it, can be no more evidence of Mr. *Arkwright*'s motives, than it is of any other man's.

Mr. Juſtice *Buller.* They are only aſſigning their reaſon for things, you muſt follow it up by reaſons; for inſtance, you aſk, Is ſuch a thing contrary to what is abſolutely done in the courſe of buſineſs, upon ſuch occaſions.

Mr. Serjeant *Adair.* There may be two opinions by different men, one may think it obſcure, the other not?

Mr. Juſtice *Buller.* I have not got his anſwer.

Q. You do think it very obſcure?

A. Yes, Sir, I have ſeen a great number, perfectly clear; my curioſity has led me many times to go to the patent office to read them, and with regard to ſpecifications, I think I never ſaw one ſo obſcure as this.

Mr. Serjeant *Adair.* *Q.* You think it perfectly obſcure?

A. Yes.

Mr. Juſtice *Buller.* In ſhort, he has given you a fact, you are to draw the inference.

Mr. *Ewer.* I have ſome remarks to make upon the drawings, ſome of theſe drawings, I obſerve, are in perſpective, and others only ſections; and what is remarkable, thoſe that are moſt eſſential, are moſt obſcure, while others of very little ſervice, or none, are very minutely deſcribed: And with regard to No. 1. here is even the axis, upon which the leaver turns, deſcribed; and with regard to No. 2, the ſcrew which fixes it down to the table, is deſcribed, which is not part of the machine, and there are ſeveral other things I recollect are very badly deſcribed.

Mr. Juſtice *Buller.* That is the reaſon for a general queſtion, and coupled with it, it is good evidence.

Mr. *Pilkington*, called again: Examined by Mr. *Erſkine.*

Q. Have you ſeen Mr. *Arkwright*, upon the ſubject of a caſe which he laid before the Houſe of Commons, in order to obtain relief againſt a verdict againſt him here?

A. Mr. *Arkwright* gave me one.

Q. Have you got that caſe?

A. Yes.

The

The witneſs produced one in Court, and he gave one to Mr. Erſkine.

Q. Now, Sir, tell your ſtory, and what paſſed between you at the time he delivered thoſe two papers to you; I wiſh you to tell my Lord and the Jury, in what manner they were delivered?

A. He gave me one, and I deſired he would be kind enough to let me put it in my pocket, and read it at my leiſure: he ſaid, I might by all means; and likewiſe ſaid, he would ſend me ſome more by his ſervant; which he did.

Mr. Juſtice *Buller.* What did he ſay the caſes were?

A. We had been talking; it was ſoon after the verdict was given againſt him, and we had been talking about it, and he put this into my hand; but I cannot recollect any particular expreſſions were given out at the ſame time.

Q. Did he ſay, for what purpoſe he printed them; what he was doing at the time, or for what purpoſe they were drawn up?

A. I don't recollect that he mentioned any thing, for what purpoſe, or for what effect they were drawn up.

The CASE *of Mr. Arkwright and Co. was then read; dated* 1782, *and is as follows:*

" The CASE of Mr. RICHARD ARKWRIGHT and Co. in relation to Mr. Ark-
" Mr. *Arkwright*'s invention of an Engine for ſpinning cotton, *&c.* wright's Caſe.
" into yarn; ſtating his reaſons for applying to Parliament for an Act
" to ſecure his right in ſuch invention, or for ſuch other relief as to
" the Legiſlature ſhall ſeem meet.

" THE kingdom of *Great Britain*, from it's natural ſituation, from " the natural productions, and from the natural vigour and activity both " of body and mind of it's inhabitants, is particularly adapted to the cul- " tivation, ſtudy, and improvement of manufactures, whereon the extenſion " of commerce very materially depends; and theſe national advantages have " been ſeen and attended to by the wiſdom of the Legiſlature for many ages " paſt, to the preſent time, as almoſt every ſeſſion of Parliament will teſ- " tify. But all trade and manufactures are not confined to *Great Britain*; " we have many powerful rivals: hence ariſe a competition and an emula- " tion to excel in the quality, or to render the different manufactures of a " lower price at foreign markets; and hence alſo have ariſen the many good " and uſeful laws, the many and various encouragements given by Parlia- " ment, for eſtabliſhing, improving, and perfecting the various manufac- " tures of this kingdom, and for ſecuring to men of ſkill and ingenuity in " mechanics, and to their families, the benefit of their inventions, beyond " the limits of letters patent.—The reference to acts of this nature at the " foot of this caſe, will, it is preſumed, fully evince the truth of this aſſertion.

" Many fortunes have been ſunk, many families have been ruined, many " valuable lives ſpent, in the proſecution of ſchemes from which the inven- " tors never reaped any adequate advantage; it was not, therefore, enough, " that government held out to the ingenious and enterpriſing, the alluring " bait of an excluſive enjoyment, by patent, of the uſe of their own in- " ventions, for a limited time; the ingenious mechanic, notwithſtanding " the hazards of the purſuit, has ever been prompted and encouraged by " the wiſdom, the liberality, and the munificence of a *Britiſh* Parliament, " The Society for the Encouragement of Arts and Sciences has alſo at " various times held out premiums, as rewards to the induſtrious and

" ſkilful mechanic. It is from theſe general cauſes and conſiderations, that " individuals have been tempted to riſque their fortunes, and exert their " abilities, in the mechanic arts; and from hence have ariſen, in a great " degree, the wealth, the grandeur, and the power of this kingdom.

" To be more particular: The vaſt variety and the conſequence of thoſe " branches of manufacture which are produced from cotton, wool, and " flax ſpun into yarn, the abſolute neceſſity of the materials being ſpun be- " fore they can be wove into any kind of ſtuff, the cheapneſs of proviſions, " and the low price of labour, in many foreign countries which are our " rivals in trade, have occaſioned many attempts at home to render the " article of ſpinning more eaſy, cheap, and expeditious, as the grand means " of enabling us to participate with *France*, and other nations, the benefit " of ſales at foreign markets.

" About forty or fifty years ago, one *Paul*, and others, of *London*, in- " vented an engine for ſpinning of cotton, and obtained a patent for ſuch " invention; afterwards they removed to *Northampton*, and other places. " They ſpent many years, and much money in the undertaking, but with- " out ſucceſs; and many families who had engaged with them were reduced " to poverty and diſtreſs.

" About twenty or thirty years ago, various engines were conſtructed, by " different perſons, for ſpinning cotton, flax, wool, *&c.* into many threads " at once, but they produced no real advantage.

" About the year 1767, one *Hargrave*, of *Blackburn* in *Lancaſhire*, con- " ſtructed an engine that would at once ſpin twenty or thirty threads of " cotton into yarn for the fuſtian manufacture; but becauſe it was likely to " anſwer in ſome meaſure the end propoſed, his engines were burnt and " deſtroyed, and himſelf driven out of *Lancaſhire*: he afterwards removed " to *Nottingham*, and obtained a patent for his engine; but he did not " even there long continue in the peaceable poſſeſſion of it. His patent " right was invaded, and he found it neceſſary to commence a proſecution: " an *Aſſociation* was ſoon formed againſt him; and, being unable to con- " tend againſt the *united* power of a body of men, he was obliged to give " up the unjuſt and unequal conteſt. His invention was cruelly wreſted " from him; and he died in obſcurity, and great diſtreſs.

" Mr. *Arkwright*, after many years intenſe and painful application, in- " vented, about the year 1768, his preſent method of ſpinning cotton, " but upon very different principles from any invention that had gone be- " fore it. He was himſelf a native of *Lancaſhire*; but having ſo recently " witneſſed the ungenerous treatment of poor *Hargrave*, by the people of " that county, he retired to *Nottingham*, and obtained a patent in the year " 1769, for making cotton, flax, and wool into yarn. But, after ſome " experience, finding that the common method of preparing the materials " for ſpinning (which is eſſentially neceſſary to the perfection of good yarn) " was very imperfect, tedious, and expenſive, he turned his thoughts to- " wards the conſtruction of engines for that purpoſe; and, in the purſuit, " ſpent ſeveral years of intenſe ſtudy and labour, and at laſt produced an " invention for carding and preparing the materials, founded in ſome mea- " ſure on the principles of his firſt machine.

" Theſe inventions, *united*, completed his great original plan. But his " laſt machines being very complicated, and containing ſome things mate- " rially different in their conſtruction, and ſome others materially different " in their uſe, from the inventions for which his firſt patent was obtained;

" he

" he procured a patent for theſe alſo, in *December* 1775; and being then " fully convinced of the great uſe and value of his ſcheme, he purſued, " with unabating diligence and attention, his original deſign of a large and " extenſive buſineſs, on the grounds of his two patents united.

" It was not, however, till upwards of five years had elapſed after ob- " taining his firſt patent, and more than 12,000 *l.* had been expended in " machinery and buildings, that any profit accrued to himſelf and partners: " indeed, Mr. *Arkwright*'s laſt inventions have greatly added to the value " of his firſt; and, connected, they form the moſt perfect and uſeful, " and perhaps moſt curious machines, ever produced by man. By the " united effects of theſe important inventions, and the perſeverance and " ſpirit with which the undertaking was purſued, the moſt excellent yarn " or twiſt was produced; notwithſtanding which, the proprietors found " great difficulty to introduce it into public uſe. A very heavy and valu- " able ſtock, in conſequence of theſe difficulties, lay upon their hands: " inconveniencies and diſadvantages of no ſmall conſideration followed. " Whatever were the motives which induced the rejection of it, they were " thereby neceſſarily driven to attempt, by their own ſtrength and ability, " the manufacture of the yarn. Their firſt trial was, in weaving it into " ſtockings, which ſucceeded; they then endeavoured to prevail on the " manufacturers in *Lancaſhire* to weave it into callicoes, but they abſolutely " refuſed. The proprietors, therefore, themſelves made the attempt, and " ſucceeded; and ſoon eſtabliſhed the manufacture of callicoes, which pro- " miſes to be one of the firſt manufactures in this kingdom. Another ſtill " more formidable difficulty aroſe; the orders for goods which they had " received, being conſiderable, were unexpectedly countermanded, the offi- " cers of exciſe refuſing to let them paſs at the uſual duty of 3*d. per* yard, " inſiſting on the additional duty of 3*d. per* yard, as being callicoes, though " manufactured in *England*: beſides, theſe callicoes, when printed, were " prohibited. By this unforeſeen obſtruction, a very conſiderable and very " valuable ſtock of callicoes accumulated. An application to the Com- " miſſioners of exciſe was attended with no ſucceſs: the proprietors, there- " fore, had no reſource but to aſk relief of the Legiſlature; which, after much " money expended, and againſt a ſtrong oppoſition of the manufacturers in " *Lancaſhire*, they obtained. Thus, in ſpite of the very great difficulties they " met with, they at length eſtabliſhed their manufacture of yarn, and the " demand for it ſoon became too conſiderable for Mr. *Arkwright* and his " partners to anſwer; with a view, therefore, to accommodate the public, " and on the faith of his two patents, and particularly the laſt, Mr. *Ark-* " *wright* ſold to numbers of adventurers, reſiding in the different counties " of *Derby*, *Leiceſter*, *Nottingham*, *Worceſter*, *Stafford*, *York*, *Hertford*, and " *Lancaſter*, many of his patent machines. Upon a moderate compu- " tation, the money expended in conſequence of ſuch grants amounts to " at leaſt 60,000 *l.*

" Mr. *Arkwright*, and his partners, have alſo expended, in large build- " ings in *Derbyſhire* and elſewhere, upwards of 30,000 *l.* and Mr. *Ark-* " *wright* alſo erected a very large and extenſive building in *Mancheſter*, " at the expence of upwards of 4000 *l.* Beſides theſe vaſt expences, he " and his partners have ſuſtained great injury by mobs and fire, not leſs " than 5 or 6000 *l.*

" It is certain, that by the introduction of theſe different machines, the " price of labour is ſo much decreaſed, as to make ſo conſiderable a ſaving

" to

" to the public as ſeveral hundred thouſand pounds *per annum*. Hence " goods are manufactured on ſuch moderate terms, as to enable the mer- " chant to ſell in foreign markets; many thouſand perſons are now (who " were not before) employed, and can earn a comfortable maintenance; " the revenue is greatly increaſed by the duty on printed callicoes; and it " is no leſs remarkable than true, that though the price of labour, by the " introduction of theſe inventions, has greatly decreaſed, yet the buſineſs has " increaſed in a moſt extraordinary degree.

" IT IS TO BE OBSERVED, that ſhould the ſame means be purſued " in reſpect to WOOL (which is very practicable) as have been in reſpect " to cotton, there is every reaſon to believe, that the effect, an increaſe of " buſineſs, would be ſimilar, and the preſent complaints as to the low price " of wool would no longer exiſt.

" At the time Mr. *Arkwright* obtained his laſt patent, he juſtly con- " cluded that his inventions were of great national importance, and con- " ceived they would be ſought after by foreigners to introduce into other " countries; *he* therefore, *purpoſely*, *in prevention of that evil*, (he had almoſt " ſaid, *national injury*) *omitted to give ſo full and particular a deſcription of his* " *inventions*, *in his ſpecification* attendant on his laſt patent, *as he otherwiſe* " *would have done*; and, in order the more effectually to guard againſt " foreigners, it has been Mr. *Arkwright*'s uniform rule, to forbid the admiſ- " ſion of them into any of his works; other gentlemen, natives of this " kingdom, were moſt generally admitted, on proper application. Mr. " *Arkwright* was the more inclined to omit ſo full a deſcription of his in- " ventions, as by a clauſe in the ſaid letters patent he was led to believe that " it was not eſſentially neceſſary; becauſe it is therein ſaid, that " *the ſaid* " *letters patent ſhould be good and effectual in the law*, *according to the true in-* " *tent and meaning thereof*, *notwithſtanding the not full and certain deſcribing the* " *nature and quality of the ſaid invention*, *or of the materials thereunto con-* " *ducing and belonging*."

" Mr. *Arkwright* begs leave to add, that it is much to be wiſhed, that " ſome mode could be pointed out for preſerving to the natives of this king- " dom, in excluſion of foreigners, the benefit of inventions. The preſent " method of exhibiting a full and accurate ſpecification, to which foreigners " have free acceſs, renders ſuch a proviſion extremely neceſſary; particu- " larly ſo, as he has good reaſon to ſay, that there are inventions *yet to be* " *made known*, that will be of the laſt importance to this kingdom.

" True it is, that a man may ſafely truſt the efforts of his genius, his for- " tune, or his life, to the juſtice of Parliament, or a generous public; but " what individual can ſtand againſt the power of numbers of men, actuated " by malice and treachery?

" No ſooner were the merits of Mr. *Arkwright*'s inventions fully under- " ſtood, from the great increaſe of materials produced in agiven time, and " the ſuperior quality of the goods manufactured; no ſooner was it known, " that his aſſiduity and great mechanical abilities were rewarded with ſuc- " ceſs, than the very men, who had before treated him with contempt and " deriſion, began to deviſe means to rob him of *his* inventions, and profit " by *his* ingenuity. Every attempt that cunning could ſuggeſt for this " purpoſe was made: By the ſeduction of his ſervants and workmen, " (whom he had with great labour taught the buſineſs) a knowledge of his " machinery and inventions was fully gained. From that time, many per- " ſons began to pilfer ſomething from him; and then, by adding ſomething

" elſe

" elſe of their own, and by calling ſimilar productions and machines by " other names, they hoped to ſcreen themſelves from puniſhment.

" So many of theſe artful and deſigning individuals had at length in- " fringed on his patent right, that he found it neceſſary to proſecute ſe- " veral: But it was not without great difficulty, and conſiderable expence, " that he was able to make any proof againſt them; conſcious that their " conduct was unjuſtifiable, their proceedings were conducted with the ut- " moſt caution and ſecreſy. Many of the perſons employed by them were " ſworn to ſecreſy, and their buildings and workſhops were kept locked up, " or otherwiſe ſecured. This neceſſary proceeding of Mr. *Arkwright*, occa- " ſioned, as in the caſe of poor *Hargrave*, an *aſſociation* againſt him, of the " very perſons whom he had ſerved and obliged. Formidable, however, " as it was, Mr. *Arkwright* perſevered; truſting that he ſhould obtain, in " the event, that ſatisfaction which he appeared to be juſtly intitled to. *A* " *Trial in Weſtminſter-Hall*, in *July* laſt, at a large expence, was the conſe- " quence; when, *ſolely by not deſcribing ſo fully and accurately the nature of* " *his laſt complex machines* as was ſtrictly by law required, *a verdict was found* " *againſt him*. Had he been at all aware of the conſequences of ſuch omiſ- " ſion, he certainly would have been more careful and circumſpect in his de- " ſcription. It cannot be ſuppoſed that he meant a fraud on his country; " it is, on the contrary, moſt evident, that he was anxiouſly deſirous of pre- " ſerving to his native country the full benefit of his inventions: Indeed, it " is impoſſible that he could either *expect* or *intend* to ſecret his inventions " from the public after the expiration of his patents; the whole machinery " being neceſſarily known to many workmen and artificers, as well as to " thoſe perſons (being many hundreds) who were employed in the manu- " factory. This obſervation alone, *independent of the circumſtances of the* " GRANTS *which have been made*, is fully ſufficient to evince that Mr. " *Arkwright* had no ſuch view. A machine like the preſent, which has been " ſeen by many perſons, is materially different from the preparation of a " noſtrum, or medicine, the knowledge of which may reſt in and die with " a ſingle perſon.

" It may be farther obſerved, that if Mr. *Arkwright* had been aware of " any improper defect in his ſpecification, he never would have exhibited " (as he did) his machines in their full perfection before his enemies in open " court, where he muſt know the defect would be diſcovered. Mr. *Ark-* " *wright*, in this painful part of his caſe, begs leave to add, that he *bows* " *with the greateſt ſubmiſſion to the Court and Verdict againſt him:* Yet he " cannot but lament, that the advantages reſulting from his *own* exertion " and abilities alone, ſhould be wreſted from him by thoſe who have no " pretenſion to merit; that they ſhould be permitted to rob him of his in- " ventions before the expiration of the reaſonable period of fourteen years, " merely becauſe he has unfortunately omitted to point out all the minutiæ " of his complicated machines. And ſurely, ungenerous muſt that man or " ſet of men be, who would venture to aſſert, that *becauſe* Mr. *Arkwright*'s " inventions are of great national importance, (which fully proves the value " and merit of them) *therefore* he ſhould the *ſooner* be deprived of them.

" It ſeems reaſonable to ſay, that the advantage to the inventor ſhould be " proportioned to the merit of the invention. Conſiderable and weighty " are the hardſhips that Mr. *Arkwright* labours under; but he and his " partners are not the *only* ſufferers: The different perſons to whom they " have ſold Grants of theſe machines are *likewiſe* manifeſtly injured in this

"part of their property; truſting that the patent Mr. *Arkwright* laſt obtained was good and effectual in law, they have many of them ventured to riſque great part of their fortunes on the foundation and ſuppoſed validity of his Grants.

"In ſhort, Mr. *Arkwright* has choſen a ſubject in manufacture (that of ſpinning) of all others the moſt general, the moſt intereſting, and the moſt difficult. He has, after near twenty years unparalleled diligence and application, by the force of natural genius, and an unbounded invention, (excellencies ſeldom united) brought to perfection machines on principles as new in theory, as they are regular and perfect in practice: He has induced men of property to engage with him to a large amount; from his important inventions, united, he has produced better goods, of their different kinds, than were ever before produced in this country; and, finally, he has eſtabliſhed a buſineſs that already employs upwards of five thouſand perſons, and a capital, on the whole, of not leſs than 200,000l. a buſineſs of the utmoſt importance and benefit to this kingdom.

"Theſe inventions, it muſt be acknowledged, do him much honour at preſent, and will hereafter be an honour to his name and country; Hard, then, will be his caſe, if, by an unintentional error, or by the malevolence of his enemies, his property ſhould be materially reduced! Without the aſſiſtance of Parliament, the late verdict threatens him with the moſt ſerious conſequences; and truly alarming is the *aſſociation* againſt him, being formed of men of property, anxiouſly deſirous of overbearing him at all events.

"From this general view, and from the conſideration of the particular hardſhips of his caſe, it is hoped that every generous mind will ſenſibly feel for him; convinced that he deſerves the full reward of his labour and ingenuity. Mr. *Arkwright* aſks no *pecuniary* ſatisfaction or unreaſonable *extenſion* of the period yet to come in his patents; nor does he aſk that his excluſive right, under the ſaid letters patent, ſhould extend to the preparing or ſpinning of *ſheep's wool*, however great the field that now lies open reſpecting that article: But only humbly hopes, that the Legiſlature will be pleaſed to confirm, connect and conſolidate, the two letters patent, ſo as to preſerve to him the full benefit of his inventions for the remainder of the term yet to come in the laſt patent, which favour would be received by him with the deepeſt ſenſe of gratitude."

The ACTS referred to in the foregoing Caſe.

"In *June* 1743—An act was paſſed for veſting in *John Elwick*, Eſquire, "the ſole property of an engine for making ſtone "pipes, and to enlarge the terms granted by letters "patent for that purpoſe.

"This act was obtained for making valid the letters pa"tent for the reſidue of the firſt fourteen years more, "on the ground or conſiderations that the work or "undertaking ſtood ſtill ſeveral years; and by rea"ſon that Mr. *Elwick* had, by great pains, labour and "induſtry, and at a conſiderable expence, amounting "to ſeveral thouſand pounds, very much improved "the engine, by bringing the ſame to perform more "work with leſs labour and expence than it was "capable of doing when it was firſt invented."

"In

" In the year 1749—An act was passed for securing the whole property, " benefit and advantage, of an engine invented by " *Israel Pownall*, deceased, for raising ballast, sullage " and sand, and for removing banks, shelves and " shoals, in rivers and harbours, to the children of the " said *Israel Pownall*, for a certain term of years.

" The equity of this act arose from the death of the " patentee, the inability of his family to work the " engine, and the improbability of their being reim- " bursed the money laid out, unless the property by " the aid of Parliament was farther secured to them; " which was accordingly done."

" In the year 1751—An act was passed, " For vesting, for a certain term " of years, in *Michael Menzies*, Esquire, his execu- " tors, administrators and assigns, the sole property " of a machine by him invented, for conveying of " coals from the places where they are dug, to the " heaps at the mouths of the pits, and in some cases " from the heaps to the staithes or places where they " are put on board ships or keels."

" By this act, the benefit was secured to the inventor for " an additional term of fourteen years, the first term " granted by the patent being inadequate to the in- " tense application, and the large sums of money " expended in the pursuit."

Mr. Serjeant *Adair*. There was a verdict in the Common Pleas for us.

Mr. *Erskine*. And in the King's Bench for *us*.

Mr. Justice *Buller*. Then it is verdict against verdict, there can be nothing in that.

Mr. Serjeant *Adair*. It is understood as given in evidence.

Mr. Justice *Buller*. I shall not understand either of them as given in evidence.

Mr. *Lee*. Then, my Lord, we must prove them, we must produce an examined copy of that verdict.

Mr. Serjeant *Adair*. We don't dispute it.

Mr. Justice *Buller*. I shall take it so by consent, that there have been verdicts each way, you will consider for a moment, whether it is evidence or not.

Mr. *Bearcroft*. Here we rest the case for the Crown.

Mr. Serjeant *Adair* for the Defendant.

Mr. Serjeant Adair for *the Defendant*.

MAY it please your Lordship, and you Gentlemen of the Jury; I feel myself in a very disagreeable situation, from being obliged to trespass upon your patience, which I perceive must be already nearly exhausted, and at a time when I feel myself but ill able to keep up that attention, which a cause of this nature requires in itself: but however, Gentlemen, that solemnity with which my learned friend opened this cause, and the importance which he justly ascribed to it, must be my apology for trespassing upon you at this time, and I am sure I shall meet with the same indulgence from your patience, which my learned friend has done: I flatter myself, I shall not trespass longer upon it, or so long as he has, though, perhaps, I may not be able

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to addreſs myſelf to you equally to the purpoſe. However, Gentlemen, that may be, I am ſatisfied, that, having as yet learned but one ſide of this queſtion, you have not ſuffered yourſelves to form any thing like a decided judgment or opinion in this caſe. If there ever was a caſe which called for a cool and deliberate hearing, and a minute attention to both ſides of the queſtion, it certainly is that very important cauſe which you are to decide to-day. My learned friend ſaid a great deal in his opening, with reſpect to that, from which I think it right, firſt to clear this caſe, before I proceed to follow it any further.

Gentlemen, he talked to you a great deal of that, which I truſt his Lordſhip will hereafter concur in telling you, is nothing to the purpoſe, and ought to have no influence upon your verdict; I mean that which has paſſed upon former occaſions, either in this Court or any other. I conceive that to be wholly immaterial, becauſe you have had this caſe fully opened to you, and the evidence fully gone into upon the one ſide, it will be my duty to attempt the ſame, and to produce evidence upon the other ſide, and yours, to decide the cauſe by what you have heard and ſeen to-day, and not by the opinions of other perſons and other Courts, from any thing that has paſſed upon a more incompleat examination of the queſtion. I ſhall therefore ſpend but very few words, though my learned friend thought fit to uſe a great many, in obſervation upon this cauſe; and the few obſervations I ſhall make, will not, as I conceive, be at all material to your deciſion of the cauſe, but merely to avoid the poſſibility of any impreſſion which ought not to be made in your minds, remaining, from the ingenuity or eloquence of my learned friend upon the other ſide.

Gentlemen, my learned friend ſet out with one circumſtance, from which I muſt, in the outſet, clear myſelf; for he imputed to me, I think, a little unfairly, a conduct full of abſurdity and indecency, if I had been guilty of it; he imputed it to me, of having thrown a reflection upon this Court, in which I have the honour of now appearing, as if they had decided the cauſe through the ignorance or incapacity of (namely) that very able and reſpectable judge, or thoſe moſt ingenious and able advocates who conducted the cauſe. Thoſe who recollect what fell from me upon the former occaſion, if they feel it worth while to recollect it, well know, *that* imputation is wholly groundleſs, and might as well have been ſpared: It is true, that I ſtated upon the former occaſion, that, upon the firſt trial of this cauſe, the caſe was not fully underſtood by the Court, Council, or Witneſſes. I repeat the words, nearly, I made uſe of upon a former occaſion: I believe I accompanied that in ſtating, why it was not ſo underſtood, in a manner which would not convey the moſt diſtant imputation upon any one of thoſe perſons it was ſo imputed to. It could not, under any one of thoſe circumſtances be underſtood, becauſe it had not been fully explained, though it was not for want of talents of thoſe moſt able ornaments of their profeſſion, that then conducted the cauſe for Mr. *Arkwright*, and of the benefit of whoſe aſſiſtance, ſince, he has been unfortunately deprived; and unfortunate indeed their loſs has likewiſe been for the public, and the profeſſion of the law, and doubly ſo to Mr. *Arkwright*, who has been ſo ill able to ſupply that deficiency; but no ability or ingenuity in a caſe of this nature, can make that ſufficiently underſtood, which is not ſufficiently explained to themſelves. The obſervations made upon that trial, upon the ſpecification, containing the deſcription of Mr. *Arkwright*'s invention, were new, they came upon the parties by ſurprize. Mr. *Arkwright*, underſtanding his own machine, never fancied it unintelligible

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to any one elſe; therefore his counſel were wholly uninſtructed by him, and conſequently, muſt be wholly unprepared to give an anſwer to thoſe things—without explanation it is impoſſible to underſtand—however, ſo very able as thoſe learned advocates were in their own profeſſion, they were not mechanics any more than you, or thoſe that now hear me, or thoſe that are now concerned in the cauſe againſt us. It required time and attention to underſtand the nature of a complicated machine, that is not previouſly explained to them; no ability upon their part would ſupply that deficiency, upon a queſtion, which was the only queſtion upon that firſt trial, which my friend ſtated truly; upon that queſtion, thoſe deficiencies, to prove it fatal upon the firſt trial, were amply ſupplied by the ſecond trial—The caſe, as to that point, was fully opened, fully examined into, patiently and attentively heard, and fully tried, and completely decided, as far as the judgment of the Court and Jury, before whom it was tried, could go; there was no ſurprize, then; both ſides were prepared for that queſtion: whether the ſpecification was, or not ſufficient, it underwent as attentive and accurate an examination as any queſtion, in any court of juſtice, ever did; but that upon both the former trials, for whatever reaſons I own it is difficult for me to conjecture any one, (ſome I ſhall hint at a little hereafter) but for whatever reaſon it was, that, was the ſingle queſtion upon both the former trials, Whether Mr. *Arkwright* had ſufficiently deſcribed his invention, or not?—the utility of that invention, and the originality of that invention, as being the property of Mr. *Arkwright*, has never been diſputed till the day in which we are now ſpeaking: it was reſerved, for the firſt time, till to-day, to call witneſſes to ſhew Mr. *Arkwright* was not the inventor, or that this was not an original invention—As to ſo much, therefore, of the cauſe, that reſpects thoſe iſſues, the evidence given to-day is certainly as much a ſurprize upon thoſe concerned for Mr. *Arkwright*, as upon the firſt trial: that with reſpect to the ſpecification, becauſe this caſe having been twice tried before, with all that formidable combination againſt Mr. *Arkwright*, which ſupported theſe proceedings from the beginning to the ending, he could ſcarcely expect new evidence to be adduced, not a tittle upon that head having ever been brought into a Court of Juſtice; but you are certainly to decide the cauſe upon the evidence before you.

Gentlemen, my learned friend has availed himſelf of one of the queſtions which was intended to be tried upon this record, in order to impreſs your minds with the moſt dreadful apprehenſions of the conſequence of this verdict; if it went to the eſtabliſhment of Mr. *Arkwright*'s patent upon the head of public inconvenience, he was intitled to a verdict upon that queſtion. As it appeared upon the record, I could not object; it was not foreign to the purpoſe; as it then appeared he thought he had a right to ſtate it to you; and if he had gone on upon that iſſue, he would have had a right to prove this patent was miſchievous and inconvenient to the public; but has he adduced one ſingle reaſon, to ſhew you any one of thoſe terrible conſequences he announced would be the effect of the continuance of Mr. *Arkwright*'s patent? I may appeal to your own knowledge upon this ſubject; if you never heard of it before, which moſt unqueſtionably you muſt, have done, whether the manufacture of this country, in this particular branch (the knowledge of which is reſerved to this country) is not that moſt valuable manufactory, of which my learned friend has not ſaid too much, which is eſtabliſhed chiefly at *Manchester*, and in the neighbourhood of that country; the cotton manufactory was, in fact, increaſed to a great

degree ſince Mr. *Arkwright* diſcovered theſe new inventions in this manufacture. Another thing, which I ſhould have mentioned firſt, is, to appeal to your knowledge, whether the number of hands employed have not increaſed; whether the quality of the manufacture is not become manifeſtly better in every particular; and whether the price of it, notwithſtanding the exiſtence of Mr. *Arkwright*'s patent, is not leſſened: if all thoſe effects had been produced to you, it would be in vain, if my learned friend was permitted to go on upon ſuch general allegation as that, it would be in vain to prove to you, the continuance of that patent is ruinous to the public, the commencement of which was of ſuch advantage to the manufactories; but that the continuance of a patent, which is a partial monopoly to a particular purpoſe, may produce ſome inconveniencies to thoſe engaged in the ſame branch of manufacture, is a propoſition impoſſible to be denied; but that is an inconvenience which the law has recognized, and which they muſt ſubmit to, if the party is intitled to the protection of the law, becauſe the law has, for wiſe purpoſes, thought it neceſſary and proper to give this encouragement to ingenious inventors. If no benefit was to be derived to the inventor from the exerciſe of his ability and ingenuity, for the loſs of his time, and the expenditure of his fortune, who, do you believe, would be found ſufficiently public-ſpirited, eſpecially of that claſs from whence patents uſually originate; or what men, in the uſe of practical parts of the mechanics, would devote their time and labour for the benefit of the public, in a thing that the public were immediately to derive a benefit from; and, for the ſake of the public, to ruin themſelves and families? for ſuch would be the conſequence to every man that gave his time in the purſuit of a new invention and diſcovery, if, the moment they were brought to profitable uſe, all mankind were intitled to uſe the ſame: but in order to prevent that diſcouragement, and to prevent all improvement in the manufactures of the country being ſtopped, the wiſdom of the country, though it reſiſts the general ſpirit of monopoly, has thought fit to hold forth that encouragement to men, to give their time to the improvement of the manufactures of the country; and they could not have framed one, better adapted to the purpoſe, becauſe, by giving them the excluſive benefit of their invention for a limited time, upon the expreſs condition of ſecuring the benefit to themſelves for the diſcovery of that invention, the reward is proportioned exactly to the ingenuity: if his invention is worth nothing, he will derive no profit to his family; if ingenious, and valuable to the public, he will derive an adequate profit during the time, and the public would receive the benefit in reverſion: that, I conceive to be the true meaning of the law, founded upon the higheſt wiſdom and ſound policy of the law in granting patents.

Gentlemen, all the conſequences, therefore, upon the one ſide and the other, I am perſuaded you will lay out of the queſtion, as you will have no predilection upon the one ſide or the other in this cauſe; but the true queſtion upon the evidence, will be, whether, on thoſe iſſues joined between the parties, Mr. *Arkwright* ought at one ſingle blow, by your verdict, to be deprived of the benefit of all his labour and ingenuity, and ſtripped at once of his patent, without further diſcuſſion; and that will be the conſequence of your verdict againſt him to-day.

Gentlemen, we come, therefore, to the queſtions you are to try, which are three:

Firſt, Whether this is, or no, a new invention?—In the next place, if it is, Whether Mr. *Arkwright* is, or not, the inventor? And if both thoſe

queſtions

queſtions are decided in the favour of Mr. *Arkwright*, the next is, Whether he has ſufficiently diſcloſed the nature of that invention, to ſecure the benefit of it to the public, after the expiration of his patent?

Gentlemen, With reſpect to the two firſt queſtions, it will be neceſſary for a moment, you ſhould conſider the principles upon which you ought to try thoſe queſtions; and you ſhould form a preciſe idea, what is a new invention, within the meaning of that word, as applicable to the ſubject-matter of improvements in the manufactures of the country, or upon machines intended for that purpoſe. I hinted a little at thoſe principles, in a few queſtions that I put to a very ingenious mechanic of well-known abilities, that unfortunately appeared againſt us to-day, I mean Mr. *Cumming*; his authority laid a ground for a better authority than my *dictum*, for thoſe principles that appeared to be the true ground upon which it is to be decided —It is not this day left to be decided, whether a new invention or improvement produced to the public, and made the ſubject-matter of a patent, muſt be all, or perhaps any of the conſtituent parts of the machine new; for we all know, the more important part of the mechanical powers have been diſcovered, rather than invented, many centuries ago, many thouſand years ago; ſo if you trace things up to their ſource, to their firſt conſtituent parts, I don't think any man living could produce that, which would deſerve the name of a new invention; if they were to take off thoſe which are the beſt of their own kind, which produce the ſubject of a patent, or thoſe that are brought forward as improvements; but if you examine and ſee what it conſiſts of, it is wheels, pulleys, axles, rollers, cylinders, and a variety of other mechanic powers, ſuch as ſcrews and wedges, and every thing in mechanics, not one of thoſe parts are new; is there any one witneſs produced, who hath been the inventor of them, namely, the wheel, the ſcrew, or the pulley uſed in this machine, not a man of them pretend to it. Gentlemen, it is the combination of thoſe powers in the machine, and producing the effect of them; that, and that alone, conſtitutes the inquiry of that kind to be a new invention; or, otherwiſe, that is a new invention in a machine, which conſiſts of a new combination of old parts; that is a new invention, I conceive, and I truſt you will be of opinion that is a new invention which conſiſts of a combination of old principles; upon thoſe principles alone you can form any thing like a juſt and accurate judgment, whether this is, or not, a new invention—In order to ſhew it is not, the evidence they have produced has been in calling different ſets of witneſſes to prove, that, in reſpect to each particular part of the machine, it has been in uſe before the time of Mr. *Arkwright*'s patent; they have called witneſſes to you, that have proved, or attempted it, that the feeding machine (that part of the machine called the feeder) was in uſe before—The crank was in uſe before—That the cylinder, that carded, that took off the cotton from the other cylinder, the carding cylinder, and delivered it in continued lengths, was in uſe before—That the rollers, employed afterwards in drawing out the fibres to a greater length, were in uſe before—That the cylindrical box, called the roving box, was in uſe before—In ſhort, all the parts of Mr. *Arkwright*'s patent machine were known or uſed by ſome perſon or other; but have they ventured to produce any one witneſs, to ſay, before the date of Mr. *Arkwright*'s patent, he ever ſaw ſuch a machine as we ſhall now produce to you? have they brought any witneſs to ſwear, the combination of thoſe parts have been applied to the purpoſe, or that the work to which they have been exerciſed, has ever been done before by any individual

vidual upon earth; I will venture to say, they could not; have they brought a witness to shew, the carding machine, and the roving machine, as produced to-day, and applied to the carding and roving, has ever been used before as applied to the purpose of Mr. *Arkwright*'s patent, and the use of the particular parts of it? and the evidence that has been brought is, in many points of it, of a very suspicious nature.

With respect to the crank, No. 4. I will not be hardy enough to expect you should discredit all the witnesses that have spoke upon the subject; undoubtedly, several witnesses have said, that part of the machinery, which certainly is very ingenious, had been in use before the date of Mr. *Arkwright*'s patent; in some instances, they have said it was used in their factories, and shops likewise, but only for the sake of experiment; but certainly such a number of witnesses have spoke to the use of that in some shape or other, as applied for the purpose of taking off the cotton from the cylinder; it would be going too far, to expect you should discredit the testimony altogether of all those witnesses; but some doubt has been left upon their testimony, and that will, in some degree, be cleared up when you come to hear our witnesses—Certain it is, the application of that crank, ingenious as it is, was originally made by Mr. *Arkwright*; but it appears, if the evidence of those witnesses be true, that he had been so unguarded, as in other instances my learned friend would have you suppose him to be; for if, before he had applied, and obtained the patent for use of his machine for carding and roving, This crank—the discovery and application of this crank had so far gone abroad, that it was used by others, and applied to the purpose; whether the evidence, when taken together, will amount to such a public use and exercise, even of that part of the machine, as would be sufficient to deprive Mr. *Arkwright*, who certainly was the inventor, of the benefit of his patent, is a question that must be left to his Lordship to decide; for that will be, in some measure, a question of law. The mere circumstance of this use or application of the machine, having been found out or known to others before the date of Mr. *Arkwright*'s patent, is not sufficient to avoid that patent; I assert with confidence, and trust I shall be supported by his Lordship in it; the very terms of the issue speak it.

Gentlemen, the question for you to try, is not, whether this was a new invention strictly, as it is called, or not; and so far from having been invented by Mr. *Arkwright* for the first time, or never known by any-body before: but the terms of the issue, expressed in the language of the law, justice, and common sense, are, whether it is a new invention as to the public use and exercise thereof? The man who first brings his invention to that degree of maturity and perfection, as to make it capable of general use, for the sake of improvement of the manufactures of his country, he alone is the man intitled to the patent; and however others may have tried experiments, some of which may have turned out with the same effect, however they may have, for a time, even worked experimentally this machine in their shops, yet if not applied to the general purposes of manufacture; if the public are not intitled to a free exercise and use of it before the date of Mr. *Arkwright*'s patent, still, upon the terms of this issue, Mr. *Arkwright* will be intitled to your verdict.

Gentlemen, I have spoken upon that part of the case, where their evidence appears the strongest, applied to that part of the machine, the crank; and the crank being only a particular member of that, with respect to the other part of it, the evidence is by no means so strong, and, as I stated

before,

before, is of a moſt ſuſpicious nature indeed: With reſpect to the uſe of thoſe rollers to draw out the cotton after it is carded to a greater length, for ſtretching and elongating the fibres, I don't remember any one ſpoke to that, except Mr. *Hayes*, Mr. *Kay* and his wife, the purport of which was, that Mr. *Hayes* was the original inventor of this ingenious piece of mechaniſm, and in truth, Mr. *Arkwright*, in the language which has been ſo liberally uſed to-day, ſtole that invention from Mr. *Hayes*, by the medium of Mr. *Kay*, that is the purport of the evidence. If Mr. *Hayes* had ſtood alone, all I could have done muſt have been to have left his evidence, and conſidered the probability of that fact, becauſe I was not furniſhed with any means of impeaching the credit of *Hayes*; and *Hayes* having ſtated it himſelf to be a private diſcovery, he, himſelf, wiſhed to conceal; it was impoſſible, from the nature of the thing, I could call a witneſs to contradict him; if they had reſted that part of the caſe upon *Hayes*'s ſingle teſtimony, I ſhould have left it to thoſe ſeveral obſervations that might ariſe from the probability of that caſe, whether it was a more likely circumſtance this ſhould be the invention of Mr. *Arkwright* (whoſe name you all know is known all over *Europe* to be as ingenious a mechanic as any) rather than ſuch as *Hayes*.

Gentlemen, it does not reſt there, they have called two others to ſupport *Hayes*, *Kay*, and his wife; in my apprehenſion, their evidence has had a contrary effect; I know nothing of *Hayes*, you know nothing of him but from his evidence, and the light that he appears in to-day: all I aſk of you in reſpect of Mr. *Hayes*, is to judge of him from his company, his friends, his acquaintance, and his aſſociate, *Kay*; in what ſituation does *Kay* ſtand, the ſervant of Mr. *Arkwright*, worked for him, was poſſeſſed of all his ſecrets, and running away from his maſter's ſervice upon a charge of felony, which charge, appeared to himſelf to be ſo well founded, that he has never dared to return to *Nottingham* to this hour; *that* ſervant, ſo truſted with Mr. *Arkwright*'s ſecrets, running from him upon a charge of felony, and now coming into a Court of Juſtice, to ſwear, he and his aſſociates were the authors of Mr. *Arkwright*'s invention.

Gentlemen, If you can give credit to Mr. *Kay* under thoſe circumſtances, if you do not think ſuch evidence, and the ſociety of ſuch a man, contaminates Mr. *Hayes*'s evidence, I am very much deceived in the opinion I entertained of the impreſſions Mr. *Hayes*'s evidence muſt have made upon your minds: have I not truly deſcribed it in the manner I have repreſented him to you, and whether is it more likely, this fellow *Kay*, exaſperated with the juſt purſuit of Mr. *Arkwright*, to avoid whoſe proſecution he fled from that part of the country, and left it, never to return again; ſhould trump up this ſtory, together with *Hayes*, and endeavour to arrogate to themſelves this invention of Mr. *Arkwright*'s, which he muſt know, as being his workman, or whether it was likely Mr. *Arkwright* ſhould borrow it from ſuch a man as that is? That you muſt judge, weighing it with the credit of the witneſs, this you muſt take into your conſideration, from the nature of it, it was impoſſible utterly to contradict him in it. *Hayes* told you, he wiſhed to keep it a ſecret, in order to have the future benefit of it.—Who is there but himſelf, *Kay*, and Mr. *Arkwright*, who is not permitted to be examined before you: I wiſh he could, for you might hear a little truth upon the occaſion, but he cannot contradict what theſe fellows have ſaid, they have the whole field ſecured by the groſſeſt perjury: the queſtion is, Whether, ſtanding under ſuch circumſtances, you will at once ſtrip Mr. *Arkwright*,

(ſo highly a deſerving man of the public,) of the benefit of his uſing this invention. Upon the other hand, we cannot doubt a moment what Mr. *Arkwright* would ſay, if he could ſpeak upon this point; becauſe it is the requeſt of the law, that any man that applies for a patent to the Crown for an invention, muſt ſwear he is the inventor, that it is a new invention, and that he is the original inventor; therefore we cannot doubt a moment of what anſwer Mr. *Arkwright* would give to your queſtions: you muſt therefore weigh the circumſtances of this caſe, againſt the evidence of men, ſheltering themſelves under the impoſſibility of being contradicted in this cauſe, or effectually hereafter; for the ſingle evidence of Mr. *Arkwright*, will not be ſufficient to ground a proſecution for perjury againſt them, or ſupport it; if you are to weigh their evidence againſt the character and reſpect due to Mr. *Arkwright*, which is well known, you muſt weigh his character againſt the teſtimony of ſuch witneſſes, ſo ſheltered, and ſtanding under ſuch circumſtances.

Thus much for the principle parts of thoſe machines, which are ſaid not to be the invention of Mr. *Arkwright*. Another kind of objection I ſhall take notice of hereafter; with reſpect to that, I ſhall hereafter ſhew you, as a far more important part of this machine, and there has been very little evidence indeed to call at all in queſtion the originality of this invention, I mean, in reſpect to the ſecond cylinder, applied to the old one for the purpoſe of taking off the cotton in continued lengths. I don't find any witneſſes have ſpoke preciſely to that taking it off that cylinder in continued lengths, except *Pilkington*, whoſe evidence I conceive, you will think yourſelf authorized to lay out of the caſe, for reaſons I ſhall ſtate preſently.

Mr. *Pilkington* does ſay, that, prior to Mr. *Arkwright*'s patent in *December* 1775, ſome time in *September*, he, and *Wood* his partner, did apply a cylinder, covered over with cards, ſo as to take off the cotton from the other cylinder in a continued carding.—That, Mr. *Pilkington* ſwears. He is then called upon to ſtate to you the converſation between himſelf and Mr. *Arkwright*; and I believe it did not eſcape your obſervation, how very convenient his memory was, and ready to ſay any thing; he had forgotten the moſt material part of that converſation, for he ſays, he told him that Mr. *Arkwright* adviſed him to apply for a patent, for the expedient he ſuggeſted of ſwearing his workmen to ſecrecy, would be of no conſequence; but he ſuppreſſed another part of the converſation; which let you into the whole, and puts an end to this part of the evidence. Mr. *Arkwright* told him, that he conceived from what appeared, it was his invention, and it infringed upon his patent; and he ſaid, if it did, he ſhould certainly bring an action; in conſequence of that, he and his partner *Wood*, carefully concealed themſelves and their work, and kept the doors ſhut from all perſons ſuppoſed to come from Mr. *Arkwright*; and from that, they certainly ſuppoſed Mr. *Arkwright* had a right, or they would not be afraid of him, though they would have you believe, *Wood* was the original inventor. Now, it is perfectly clear, they thought Mr. *Arkwright* had the right, for they afterwards applied for, and obtained a patent, which is ſubſequent to the date of Mr. *Arkwright*'s, and therefore, of no conſequence; nothing can be plainer than that. Whether they borrowed or ſtole this part of the invention of Mr. *Arkwright*'s I cannot tell, but whether they did, or whether it occurred to themſelves, and that both they and Mr. *Arkwright* actually were inventors of that, which may very well be, yet Mr. *Arkwright*, as to that part of the machine, was clearly intitled to that part of the machine, having moſt certainly not got it from *Wood*

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and *Pilkington*. *Wood* and *Pilkington* having kept it a ſecret, with a view to obtaining a patent, and therefore, it not being before an invention in public uſe, in the exerciſe thereof, it is clear from Mr. *Pilkington*'s own evidence, nothing paſſed with reſpect to himſelf or *Wood*, that can, in the ſmalleſt degree, invalidate Mr. *Arkwright*'s patent for that part of the machine; fortunately it will not reſt only there. I recollect perfectly who Mr. *Wood*, Mr. *Pilkington*'s partner is, and he has as different feelings upon this ſubject; whether they are the moſt honourable, you will judge hereafter; he has different feelings from Mr. *Pilkington* upon this ſubject; he was one of the moſt material witneſſes for Mr. *Arkwright*, upon the laſt trial, for he was called to prove that, which puts one part of this queſtion, which I ſhall trouble you with, upon principle beyond a poſſibility of doubt; I mean, the intelligibility of the ſpecification: he did prove, and I ſhall call him again to prove the ſame thing, upon Mr. *Arkwright*'s patent coming out, he, being with the evidence *Pilkington*, engaged in purſuits of diſcoveries of a ſimilar kind, had recourſe to the ſpecification, as ſoon as he got at it, he tried it, and made a machine of a ſimilar nature; that was the evidence of Mr. *Wood* upon the former occaſion, and I have no doubt, for I believe Mr. *Wood* to be an honeſt man, that he will give the ſame evidence to-day.

Gentlemen, ſo much with reſpect to thoſe parts of the machine, which it is alledged Mr. *Arkwright* is not himſelf the inventor of; but there are other parts of this machine they object to upon different grounds, and they ſay, Mr. *Arkwright* ſhould not have the benefit of this preſent patent, becauſe he himſelf invented them before. That is the effect of his invention ſay they, they are parts of the ſpinning machine, which ſhould not have the benefit of the roving machine, they are nothing more than parts of this ſpinning machine, which Mr. *Arkwright* and his partners have hit upon this device to perpetuate the benefit of.

Gentlemen, it is very natural Mr. *Arkwright* ſhould be deſirous of having the benefit of the patent obtained; in the ſtate in which it then ſtood; he was undoubtedly a loſer; it is a moſt undoubted fact, the ſpinning patent never paid for itſelf, nor indemnified Mr. *Arkwright* for the conſtruction of thoſe ingenious machines. But why did it not? Becauſe of the modes in uſe at that time, during greater part of the continuance of Mr. *Arkwright*'s ſpinning patent, for preparing the cotton from the coarſe ſtate; firſt, the operation of the ſpinning was ſo tedious and imperfect, and ſubject to thoſe difficulties, it is impoſſible to derive any benefit from the exerciſe of the ſpinning machine, for ſo much time, and ſo many hands were employed in carding, ſizing, and roving the cotton to prepare it for ſpinning. It is impoſſible to apply the ſpinning machine to that extent and celerity as it might have been, if this diſcovery had been made, which is now pretended to be cotemporary with that, that is, what all our manufacturers the witneſſes will tell you. Is it poſſible to believe, as you have now been informed by my learned friend, Mr. *Arkwright*'s new patent for roving, was nothing more than an intent to continue the ſpinning patent; if, as you have heard my learned friend's opening, his ſpinning machine was equally applicable to this purpoſe, is it to be conceived he would have been ſo long without reaping the benefit of this uſeful invention? had Mr. *Arkwright* known, that at the commencement of his ſpinning patent, he could have applied that machine to the purpoſe of roving, and could have had a compleat machine for carding and roving, it would, in all probability, have produced by this time to Mr. *Arkwright*, all thoſe profits which he has never received, but in idea, and that

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from the liberal manner in which to-day my learned friend has deſcribed—but the fact is, it never occurred to Mr. *Arkwright*, or any body elſe, that thoſe machines were applicable to the purpoſes which have been ſince diſcovered. It is neceſſary to keep in your view the principles of the new invention, which is, if the invention is new, as to the application and exerciſe of the machine, and the introduction of a new part, or the application in a different manner, to introduce a different effect, that is to all intents and purpoſes a new invention, though ſome parts were uſed in the old machine. What is alledged? It is alledged, the roving machine in its parts conſiſts of No. 6. and 9. which are the ſame, as they ſay, with thoſe in the ſpinning machine: ſuppoſing for a moment they were, is it contended, the roving machine which conſiſts of 6. and 9. are the ſame parts of the machine with No. 7. They are parts of the machine, though not pretended to produce the effect, with which the ſpinning machine has nothing at all to do; then it is an anſwer to ſay, a combination of thoſe parts has produced a new machine, applicable to a new purpoſe, and it never occurred to Mr. *Arkwright*, or any manufacturers that carried on that expenſive buſineſs to a very great extent indeed, during the continuance of Mr. *Arkwright*'s ſpinning patent, I ſay, it never occurred to any of them, ſuch a machine could be conſtructed, and applied to the purpoſes of roving; that, I conceive is a full anſwer to that head of evidence.

Gentlemen, ſo much for that head of evidence, by which it has been attempted for the firſt time to-day, to rob Mr. *Arkwright* of the merit, as well as benefit of his invention, which for the firſt time to-day has been produced. I have before obſerved, there muſt have been ſome reaſon or ſome conſciouſneſs in ſome of the perſons conducting this proſecution againſt Mr. *Arkwright*, that this evidence, in the defence of theſe encroachments, which is now brought, by ſome conſciouſneſs or other, has been hitherto prevented till ſo late a period, till down ſo late as four years from the expiration of the patent; yet that is the kind of evidence which my learned friend would perſuade you to-day, amounts to a demonſtration and annihilates his patent. If, therefore, they talk of Mr. *Arkwright*'s acquieſcence under one verdict, upon a former occaſion, what muſt you think of the acquieſcence of thoſe Gentlemen, what muſt be their acquieſcence, if true, if they were poſſeſſed ſo many years of the moſt deciſive evidence to annihilate and make void Mr. *Arkwright*'s patent; they have put themſelves to the expence of thouſands of pounds in litigating the other ſtages of the cauſe, and it is only to-day they have found out that evidence, which he ſtated to be ſo material as to make an end of the cauſe; that is a conduct I don't impute to my learned friend, if he had known of this evidence five years ago, if he had believed it true, it would have been heard at the firſt trial, and, if ſo deciſive as he ſays it is, it would have made an end of it. I don't impute it to him, I know his judgment too well to ſuppoſe he knew a ſyllable of that evidence, till this day, when he was inſtructed in it. I impute it to thoſe behind the ſcenes, the movers and conductors of this buſineſs; they muſt have had ſome conſciouſneſs and apprehenſion, by ſome means or other, this might be contradicted, and the effect of it turning againſt themſelves, ſome reaſon or other muſt exiſt againſt the production of that evidence, which long ago, as they pretended, muſt have made an end of this buſineſs.

Gentlemen, I will therefore truſt it to your own ſagacity, and upon the judgment you ſhall form upon that evidence, when you compare it with that of the manufacturers we ſhall call; they will all tell you, however it might

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be their intereſt to think otherwiſe, they have always conſidered this, as they muſt, as a new and important diſcovery in the manufacture. I will truſt to you for that; and proceed to the other part of the cauſe, in which alſo it is neceſſary for Mr. *Arkwright* to intitle himſelf to your verdict; for he ſtands in this critical ſituation—if any one of thoſe iſſues are found againſt him, it is the ſame as if the whole were; they all equally go to the invalidation of his patent; he therefore, has the labouring oar in the higheſt degree; it is incumbent upon him to intitle himſelf to your verdict upon all theſe iſſues; it is equal to my learned friend, if he could intitle himſelf to your verdict upon any one: I muſt now go to the other iſſue, truſting there is not a ſhadow of a doubt upon that, as, upon the former; Mr. *Arkwright* will be intitled to your verdict, and I believe you will reject the inſidious attempts that have been made to deprive him of the merit of thoſe diſcoveries, which, I truſt, you will have no doubt, when the whole is gone through, have been properly aſcribed to him; you will alſo be perſuaded, Mr. *Arkwright* has complied with the requeſts of the law in that ſpecification that muſt be neceſſarily annexed to his patent.—That, I muſt make ſome ſhort obſervations upon, upon the principles upon which that muſt, I conceive, alſo be decided.

That where a man would, by the authority of the crown, intitle himſelf to an excluſive benefit for a limited time, care ſhould be taken the ſecret ſhould not fall with him, but it ſhould be preſerved and recorded, and remain for the benefit of the public, and free exerciſe of all mankind, after the expiration of that time: that is the meaning and good ſenſe of the law, that requires a ſpecification and deſcription; it is not a matter of curioſity for thoſe that grant the patent, to know what it is about, at all; it is for a much more important purpoſe, which I will ſtate to you, *that* alone being the true fair purpoſe for which it is intended; and I conceive, therefore, the language of the law and common ſenſe is, that, that ſpecification is ſufficient which does preſerve the benefit of the diſcovery to the public.

Now another circumſtance which you ſhould attend to, is, the different ſubject-matter for which patents for new inventions may be granted: now, of all the ſubjects of new invention that can come under conſideration, there is none in which the minute exactneſs of a ſpecification is ſo little required, as in that of an improvement in machinery; for this plain reaſon, that the moment the machine is brought into uſe (and till it is, the inventor can derive no benefit from it) but the moment it is brought into uſe, the inventor, not being himſelf the maker—Mr. *Arkwright* not being the maker, a ſmith or a carpenter, or a workman of any other deſcription, does the manual part, and makes the machine; but *he* is the inventor, and director of the numerous workmen employed in making thoſe machines. In a manufacture of great extent, they are all of them poſſeſſed of that ſecret, by which, my learned friend tells you, Mr. *Arkwright* may be knocked up: in this ſpecification, the nature of the thing ſecures the benefit to the public, in the ſubject of that patent; for it is an abſolute impoſſibility that the machine can be brought to perfection, and in uſe, for fourteen years, and the conſtruction of it ſhould remain a ſecret at the expiration of the term—I don't mean, by that, to contend, the law having made the exception, which I think it might have done, or the law not having made the exception, but it being, as I confeſs, general; in all caſes of patents, a ſpecification and deſcription is required; I don't mean to contend from that principle, thoſe ſpecifications that are neceſſary, ſhould not be made in the

caſe of a machine, or that the ſpecification ſhould be wholly unintelligible; or that the party has then complied with that requiſite; I am ready to admit, a ſpecification that can't be underſtood, is the ſame as no ſpecification at all.

Gentlemen, The reaſons which I point out to your attention, are two: Firſt, to ſhew, in the conſtruction of a ſpecification of a machine, common juſtice dictates to you to be leſs critical and exact than you would in the caſe of a ſpecification of a medicine or inſtrument, which muſt die with the author of it; common ſenſe and juſtice dictates the reaſon, and that is a moſt powerful reaſon, which is this—It appears to me to furniſh, from the nature of the thing itſelf, the moſt deciſive anſwer to all thoſe imputations which were endeavoured to be thrown upon Mr. *Arkwright*, with a ſtudied hand, if I may uſe the word, though ſo hard a word has not been uſed upon the other ſide, but amounting pretty near to that of a ſtudied and fraudulent concealment of the invention; for that idea has been conveyed, though my learned friend's politeneſs has not uſed ſo hard an expreſſion; but that principle I have communicated to you, with reſpect to machines, and which my learned friend will not deny the abſolute impoſſibility of their being kept a ſecret, furniſhes the moſt deciſive anſwer to the imputation of fraudulent and ſtudied concealment of Mr. *Arkwright*, who is known by all of us to be a moſt ingenious man; he muſt be below the common rank of men, to be guilty of ſo groſs an abſurdity, as to deſtroy his own patent, by endeavouring to conceal that, which all the world knows is impoſſible to conceal, from the nature of his buſineſs—Then as to that ſuppoſed deficiency, as to the degree of the perſpicuity which you, in examining this ſpecification of the machine, may imagine to be the caſe, I conceive it not only not neceſſary, but I go the length of ſaying it is not proper, for reaſons I ſhall ſtate to you by-and-by; if it ſhould be ſo particularly deſcribed, that not only any man, but any man without a previous qualification but that of being a man able to read, that any man ſhould be able to underſtand to make the machine; I ſay, if that was the meaning of the law, all thoſe miſchiefs, which, there has been ſome evidence to ſhew you, did ſuggeſt themſelves to Mr. *Arkwright*'s mind, and ſuggeſted themſelves wiſely, that all thoſe public inconveniences would ariſe from the invention getting abroad into the hands of foreigners, and perhaps, our enemies, during the time it was locked up in the Patent Office, they might make uſe of it; all which would be injurious in the ſtrongeſt degree, if a man was obliged to deſcribe it with ſuch language, delineated with ſuch drawings and models, which no man, however informed in other reſpects in the principles of mechaniſm, yet not in this particular branch; that every man, that ſees the drawings, ſhall be able to make it, if a workman, that is not required by law, and, I am perfectly convinced, it ought not to be required by law. What is it the law does require? between thoſe two extremes, I have conceded thus far, that a proper ſpecification is neceſſary: and, if it is neceſſary any ſpecification ſhould be made at all, I contend it ought not to be ſo plain, that he that runs may read. Where then lays the medium? I conceive, it reſts here; the deſcription or ſpecification of this, ought to be ſuch, as to enable a mechanic, of reaſonable general knowledge in his profeſſion, and thoroughly acquainted with the machines before in uſe, to produce the ſame purpoſes, and all the prior improvements of them; he ſhould, with that previous knowledge, and aſſiſtance from the ſpecification together, be able to form that from the ſpecification, and make that machine. That, I conceive to

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be the juſt medium, and the true meaſure and ſtandard upon which the ſpecification ſhould be tried; and if the ſpecification is intelligible to thoſe that ought to underſtand it, whoſe buſineſs it is, and who have been bred up in it, and know the effects, and the aukward methods applied before; if intelligible to them, it is intelligible according to the law, and ſound policy, and it is all which the law requires.—The contrary doctrine would be nonſenſe; and patentees would hold by a ſtrange tenure indeed, if the deſcription of the whole of the parts ſhould be perfectly clear, ſo that any man, not converſant with mechanics, could make it; I doubt much, whether it could be obtained by the ingenuity of man; I don't know whether Mr. *Cumming* or Mr. *Harriſon* could ſo ſpecify the ingenious invention of his father, or any other perſon; is it neceſſary to make a ſpecification of ſuch an ingenious machine, for inſtance, as was made by Mr. *Harriſon*'s father; that a cobler ſhould be able to underſtand it, or direct the making of that machine.—The very propoſition would make one ſmile, as it muſt appear perfect nonſenſe; but it would be ſufficient, if Mr. *Harriſon* could, in deſcribing that ingenious machine of his time-keeper, deſcribe the parts of which it conſiſted; it would be ſufficient to deſcribe it ſo, that Mr. *Cumming*, or any ingenious watchmaker acquainted with all the principles in uſe before, ſhould be able to underſtand it perfectly, ſo as to make it from that—It would not be neceſſary ſo to deſcribe it, that any of theſe makers of cotton mills ſhould make it; I defy them to do ſo; as well, upon the contrary, do I hold it neceſſary Mr. *Harriſon* ſhould be able to make a cotton mill upon that ſpecification, becauſe, for the ſame reaſon, though both may be good mechanics, both might be ignorant of the prior machines before in uſe, and the principles upon which it is conſtructed; I therefore undertake to prove (and I undertake all that is neceſſary for Mr. *Arkwright* to prove) beyond a poſſibility of doubt, upon that principle I have ſtated, Mr. *Arkwright*'s ſpecification, is clear and ſufficient; and thus I ſtate it to you, to ſatisfy your minds, it is in that ſenſe perfectly clear and intelligible, as I undertake to ſhew.—It is perfectly neceſſary I ſhould remove thoſe doubts and obſcurities my learned friend endeavoured to throw over it; I ſhould groſsly treſpaſs upon your time, if I was to go through the whole of the witneſſes that were examined; I will conſider the general objection, as ſtated by my learned friend's opening; I don't remember any new one, except an extraordinary one that came into the head of Mr. *Viney*; I don't remember any new objection appeared from the witneſſes, but thoſe that my learned friend ſtated, and he ſtated them in a very accurate manner, with great clearneſs and preciſion, following the order and number in the ſpecification.

Gentlemen, I muſt intreat your patience, while I follow my learned friend in that, and endeavour to obviate my friend's objections: I ſhall begin with endeavouring to remove from you the great one, as my learned friends have relied much upon. As to that part of the caſe, there are in this ſpecification, ſeveral diſtinct parts of machinery, which certainly do not now compoſe any part of the machine; for the conſtruction of the machine, which is intended to produce the effect, that is an objection which, I truſt, I can take off, and ſhew, why they were ſo introduced; though it was ſaid to be only to puzzle and perplex, and render the ſpecification more obſcure. The ſubject-matter of the patent is, for a method ſaid to be a new invention, and of a public utility in preparing cotton, but not cotton alone, but ſilk, cotton, flax, and wool for ſpinning; that is deſcribed to be the ſubject-matter of the patent; now therefore, attend to that.

Gentlemen,

Gentlemen, No. 1. you are told, can be introduced for nothing but to puzzle; you are told it is not uſed, that if it was, it would ſerve for nothing but miſchief, for the witneſſes tell you it ſeems to be totally out of the caſe; I cannot call evidence to contradict that, I have not enquired into it, they ſay it is not only uſeleſs, but miſchievous, if you were to beat the cotton with it. No. 1. is a beating hammer, I am perfectly juſtified in giving it that name, it is perfectly clear in that drawing.

Gentlemen, I have ſtated to you before, that the patent is not confined to cotton I believe, (though you all know) the beating of cotton is improper. I believe there is not any one of you, that have not heard of the beating of hemp. The expreſſion carries conviction along with it, it is a thing that is in conſtant proceſs, ſo much ſo, that it is, you know, the ſole employment of a certain ſet of culprits in this country, who are employed in the hard labour of beating of hemp. Then it is, the conſtant proceſs in that manufacture that is for beating of hemp and not cotton. I believe it is neceſſary hemp ſhould be beaten, before it could be carded, or any thing elſe done with it.

Gentlemen, with reſpect to No. 2. it was a machine ſeparate and diſtinct in its nature from the other. It occurred to Mr. *Arkwright*, it might be made uſeful in drawing out and ſtretching the fibres of the flax, hemp, and ſo on, previous to being carded; but the card is afterwards found to anſwer every purpoſe intended for that. That has in fact been laid aſide, and is not now in uſe. I can no longer conceive it to be the law, I truſt his Lordſhip will not, that a man is under the neceſſity of continuing the uſe of every circumſtance he ſhall ſpecify in his patent, or he ſhall be in danger of loſing his patent. A man applies for a patent frequently in the infancy of an invention; the neceſſity of it will be ſtill more obvious from the intention of robbing Mr. *Arkwright* of this patent, if attended with ſucceſs, it is ſtill more neceſſary a patent ſhould be applied for in the infancy of an invention. What muſt they do? Muſt he put every thing in it that appears uſeful to be applied in that invention; does the law require, if upon repeated expe-riments, and better knowledge, they find any parts may be more conveniently laid aſide, that by laying thoſe aſide they forfeit that patent, which was more compleat without them? are they to be accuſed with putting them in with intent to miſlead, when they put them in with the expectation of making uſe of them, which they were afterwards convinced they were miſtaken in? So much with reſpect to No. 1. and 2. which the Gentlemen upon the other ſide contend, was for the purpoſe of puzzling and perplexing. As to No. 8. and 9. thoſe objections, made by the council and witneſſes to ſupport it, it appeared to me to ariſe from a total neglect or forgetfulneſs of the very terms of the ſpecification itſelf; and it appeared to me, through the whole of the buſineſs, not only my learned friend, that ſo ably conducted the cauſe upon the part of the proſecution; but thoſe of my very learned friends that aſſiſted him, ſeem to ſtop at No. 9, they totally forgot No. 10. exiſted, much leſs the manner in which it is deſcribed: in order to ſhew you that No. 8. and 9. not only are not introduced for the ſake of creating obſcurity, but that they cannot create obſcurity; I will ſtate the language of No. 10.—No. 10. which is a ſpindle, which being fixed to No. 6. at (a), worketh No. 7, 8, or 9. by the pulley (f, f, f). Now, Gentlemen, don't thoſe words make an end of the queſtion? can any man that reads thoſe words conceive that 7, 8 and 9. are to become parts of the ſame machine at once, or that Mr. *Arkwright* endeavoured to puzzle people, by repreſenting they were ſo to be uſed? Can

language

language be clearer, if Mr. *Arkwright*'s powers of explanation had been as great as his powers of invention, which, by the bye, I know they fall extremely ſhort of, if they were, could he have found language more clear than to ſay No. 8. and 9. are not made uſe of? It is in the disjunctive, unleſs No. 10. is ſtated. No. 10. is a ſpindle, which being fixed to No. 6. at (a,) worked No. 7, No. 8 or 9, at (f, f, f,) by the pulley (F,) (c, d) a regulator for No. 9; (b) a ſocket having a bolt going through (d, d,) and (F) and to (G,) ſtops and ſets the whole a-going by means of a catch (a,) for the pulley (G, G) being looſe upon the pulley (o,) a leaver moveable about (k,) raiſeth or falleth the bolt (h). From this not being ſtated firſt, before No. 8, and 9, the want of affording that diſtinction has created that attempt to raiſe an obſcurity, where light itſelf cannot be clearer. Gentlemen, ſo far I truſt I have removed out of the cauſe thoſe four numbers, having nothing to do with it, and which were ſaid not to be introduced by Mr. *Arkwright* for any other purpoſe but to create obſcurity, that they could be introduced for no other reaſon than to create perplexity.

Gentlemen, having got rid of thoſe objections, I ſhall ſhew the reſt contains a compleat and full deſcription, as I have before ſtated to you, with reſpect to the perſons to whom it is addreſſed, an intelligible account of the remaining numbers which I have before ſtated to you, and I muſt intreat that attention which I can hardly flatter myſelf of deſerving ſo long; but with reſpect to the importance of the cauſe, and all the parties concerned in it, I muſt ſolicit that attention to obſervations that appear minute, becauſe, in a caſe of this ſort, even minute obſervations might have weight, and in a caſe of this ſort, keeping them in ſight, not only while I am addreſſing you, but while the witneſſes are examining, and what is ſtill more important, while my learned friend is obſerving upon the evidence, then will be the time to guard yourſelves, for he will have the laſt word. I ſhall not have an opportunity of ſetting right any miſinterpretation, I muſt depend upon my Lord's and your attention for it, to keep in your mind the whole of the caſe, if I am right in the caſe; if I am wrong, his Lordſhip will diſcharge your attention from it. I contend, the ſpecification is to be intelligible to thoſe that are mechanics and acquainted with the machines formerly in uſe. I will therefore ſuppoſe this ſpecification addreſſed to a man, who was perfectly well acquainted with the carding machine in uſe, in the year 1774 or 1775, prior to the patent with the laſt improvements to *December* 1775; to ſuch a man, I conceive in point of law, this ſpecification is addreſſed, and when addreſſed to ſuch a man, I will prove it beyond a poſſibility of doubt: I will requeſt you to ſtop a moment to ſee the conſtruction of that in 1774, before the laſt improvement.

Gentlemen, *that* is the old machine as it ſtands now.

[*The old machine produced in Court.*]

Now, Gentlemen, you will obſerve that is the old machine, and I ſhall prove to you, by uncontrovertible evidence, that is preciſely the machine in uſe in the year 1775, in the cotton manufactory; I will prove it beyond a poſſibility of doubt; you will obſerve it conſiſts of theſe parts:

Firſt, the cloth, diſtinguiſhed by the name of the feeder you have heard ſo much of in the evidence, which you ſee there.

[*To a man at the frame—Put your hand upon it.*]

Next to that, are two rollers, the uſe of which is to draw the cotton off that cloth which ſhould be ſpread upon it, and convey them to a cylinder

which ſtands next, and is covered with cards, placed parallel to oneanother; next to that is a roller which contains parallel cards to the axis of the cylinder. Juſt beyond that are the cards which I ſhewed you in the other machine, the ſame as explained by my learned friend; the next, which is another cylinder, covered with cards of the ſame kind with thar, and that, that cylinder was in uſe I ſhall prove; the ſecond cylinder was covered with cards, placed parallel to the axis as that is, that I will undertake to prove clearly to your ſatisfaction; there the old machine ended; that is, the whole of the old machine. Now I will explain to you the operation of that machine, and the defects found in it: In the firſt place, upon the feeder, that cloth which is called the feeder, upon which the cotton is obliged to be ſpread by hands, as you ſee it muſt, there is no machinery for that purpoſe, and you ſee, whenever the roller has drawn off as much as was ſpread upon it, a freſh quantity muſt be laid on by hand, and that is tedious to be done by hand, and as the machine is worked it would be ſpread with leſs evenneſs and exactneſs, that was the firſt defect of the thing in 1775.

The next was the poſition of the cards upon the two cylinders, for the cards upon the ſecond, being like thoſe upon the firſt, placed parallel to the axis, and acted at intervals, inſtead of drawing out the fibres of the carding to one continued length without limits, it neceſſarily takes them off ſeparately from each card, and only to a length equal to the breadth of the roller, ſo that the utmoſt length was the length of card upon the cylinder; thoſe were two of the defects in the old machine; thoſe were defects it is moſt clear. The laſt defect was the manner of clearing the laſt cylinder, and that when the operation of the carding was compleat, and the only remaining thing was, it ſhould be diſcharged from the machine; that alſo was performed very incompleat, and according to the manner, it was done by a bruſh with the hand, notwithſtanding all that was ſaid in the evidence about the uſe of a crank for that purpoſe, which I ſhall explain the uſe of by and by, for that will appear certainly in evidence from thoſe that have worked with the great manufacturers, *that* was uſed, not only generally, but down to the date of Mr. *Arkwright*'s patent, and according to the manner of clearing that cylinder by the hand, by a bruſh, which need not be further explained by me, but you will receive it better from the evidence than me. Thoſe being the defects of the old machine, it remains for me to ſtate Mr. *Arkwright*'s new diſcovery, in combination and effect, which I will call it, notwithſtanding the evidence that is given.

The firſt is No. 3. that has been ſo much caviled at, it is deſcribed to be a piece of cloth, with wool, flax, hemp, or any other ſuch material ſpread thereon as at (a).

Gentlemen, if you have the drawings upon both ſides, you will ſee they don't eſſentially differ; it is a piece of cloth with wool, flax, hemp, or any other ſuch materials ſpread thereon, as at (a). Now, ſays my friend, this is an exact deſcription of the old feeder, for that has been proved by the Gentlemen that invented it, with whom I don't diſpute the merit of the invention, they are welcome to the invention and the free exerciſe of it. Mr. *Arkwright*'s patent don't prevent them; that is the exact deſcription of the old feeder, a piece of cloth with wool, flax, hemp, or any ſuch materials ſpread thereon, no doubt it might be the deſcription from thoſe words for twenty other things.

Gentlemen, that which is not explained in words, may be explained to eye-

eye ſight; if you don't underſtand the ſpecification, look at the drawing, you there will, or ought to find information; if you don't underſtand the drawing, look at the words, and there will, or ought to find too, what I admit you could fix no very preciſe idea from, that deſcription of a piece of cloth, with wool, flax, hemp or cotton, or any other ſuch materials ſpread thereon, if you ſtop there; but I ſuppoſe you are acquainted with the former machine, for without that you could not underſtand any part of it, if you are, it would convey the idea of that formerly in uſe.

Look at No. 3. Notwithſtanding all that has been ſaid by my learned friend, and all the witneſſes, about working like a ſerpent or a worm, for they wanted to make very merry with this ſort of drawing; if you ever ſaw a large piece of cloth rolled up in a woollen-draper's ſhop, you would be at no loſs to underſtand it, you undoubtedly have ſeen many a piece of cloth rolled up; I have a thouſand times ſeen this in the woollen-drapers ſhops, and this cloth deſcribes all that it ſhews, it muſt not be a flat piece of cloth, but a piece of cloth rolled up; conſult your own ſenſes, and your eye-ſight will fix it in your minds; then ſee whether the ingenuity hereafter of my learned friend, or any man living, can convince you it does not convey the idea of the end of a piece of cloth rolled up, and of which it is a ſection coupling that with what I ſtate to you, it is for this purpoſe the cotton is not to lay flat as before, but to be rolled up, that is all I want of the diſcovery, as that part of the machine conſiſts in that only. It is not a trifle, but the eſſence and conſequence of that, is a piece of cloth, ſo uſed to ſpread the cotton on it, no longer to lay flat; you will remember it was flat as their machine produced it, and it is no longer to lay flat, but rolled up in the manner of the ſpecification, then you find it muſt be rolled up; that is all the information of courſe which is neceſſary.

Gentlemen, there is another objection to it which is offered; That is unfounded in fact, ſay they, that is bad and inſufficient, becauſe you don't ſee from the drawing there is no axis in it, or a roller which is rolled round, and which ſome of the witneſſes, but not all, did conceive to be indiſpenſably neceſſary, if it is to produce its effects; and, ſay they, the ſpecification is imperfect, becauſe it ſays nothing of that roller upon which the cloth is to be rolled; now that admits, in my apprehenſion, of two anſwers, either of them ſatisfactory to my underſtanding, I hope they will be ſo to yours, both of them; ſo that if that was true, that ſome of their witneſſes ſay it was impoſſible this cloth could be uſed or unrolled, unleſs it was rolled up upon a roller, that very man which was of that opinion, and knew it was intended to be uſed, and unrolled by means of a roller, would have rolled it upon a roller. And I ſhould have thought you need not to have one riſen from the dead to tell a man that, notwithſtanding it was not ſpecified to be rolled upon a roller, it might be rolled upon a roller if neceſſary. I ſhould think it would require no great ſkill in mechanics to roll it upon a common roller. I ſhould think it not right to avoid a ſpecification upon that account, there is no man upon earth ſo ſtupid, if he ſhould be of opinion a thing cannot be uſed which is to be rolled up without being put upon a roller, who would not roll it upon a roller, therefore, that is an objection more proper to be addreſſed to children than able mechanics. There is the anſwer: There is another, which if poſſible, is ſtill more deciſive than that, which is, the roller, is not neceſſary; but take it which way you will, two of their witneſſes ſay, that it is neceſſary. The greateſt fool would add, if it is neceſſary,

there

there is no complication of powers or knowledge required to roll up a piece of cloth; but in truth it is not neceſſary.—I will give the fulleſt proof, it is not neceſſary; it may be done without any roller at all; and Mr. *Barber* had candour enough to admit the roller was not neceſſary; he did think it would work without it, but not quite ſo well.—I think I have anſwered the objections to No. 3. very fully and clearly.—The next part of the machine is the crank, No. 4.—No one of their witneſſes pretended ignorance upon that ſubject, that, that was not ſufficient, becauſe no mechanic, that ſees that drawing, could doubt about it; no ſmith is ſo ignorant, that he cannot make a crank: I need not trouble you upon that, but to anſwer one obſervation; they ſay, that don't ſtand next in order, in its application to the machine, though it ſtands next in number; if you will attend a little, you will ſee that is as frivolous as any can be made. No. 4. is a crank and a frame of iron with teeth at (a), being moveable at the joints (b, b, b, b) by means of a crank, and by a cord turning the pulley or wheel (c), this motion of the teeth (a) works them backwards and forwards upon the cylinder No. 5, and diſchargeth the cotton, wool, *&c.* from it at (d); therefore it deſcribes the manner alone in which the cord is to be uſed, by turning the pulley, or the wheel (c); this motion of the teeth (a) works them backwards upon—Upon what?—For here is the anſwer to their plea of obſcurity which they ſay you would have ſuppoſed from No. 4. not being that part which ſhould be placed in the machine next to No. 3. I ſay, no man that reads this deſcription could ſo conceive it; the deſcription tells you the direct contrary; it works backwards and forwards, not upon 3. the laſt number, but the teeth work backwards and forwards upon the cylinder, No. 5, Is it not perfectly clear the crank is to be applied to No. 5. and not No. 3? That is not all, it not only deſcribes the cylinder No. 5. to which it is to be applied, and the purpoſe for which it is applied, but it ſays this No. 4. is a crank, and a frame of iron with teeth at (a,) being moveable at the joints (b, b, b, b,) by means of a crank, and by a cord turning the pulley or wheel (c), this motion of the teeth (a) works them backwards and forwards upon the cylinder No. 5. and diſchargeth the cotton, wool, &c. from it at (d). Now, can the language and drawing be plainer than that is, the ſpecification expreſſes the teeth of it to work backwards and forwards upon the cylinder No. 5. and the uſe of it is to diſcharge the cotton from that cylinder, ſo far we are clear from any ſort of obſcurity whatſoever.

The next is No. 5. and that is the laſt-mentioned cylinder which is mentioned in No. 4. No. 5. is the laſt mentioned cylinder which has fillet cards. That is the firſt member of the deſcription, as it deſcribes the cylinder from which the cotton is to be diſcharged; but you obſerve, No. 4. was to diſcharge the cotton; and you obſerve, the cylinder from which the cotton is diſcharged, muſt be from the ſecond cylinder in the machine, becauſe that is the cylinder from which the cotton was to be diſcharged; that cylinder is to be made with fillet cards, inſtead of the horizontal cards before uſed.—Is not that ſufficient for any man to know it was the cylinder before in uſe? you are ſuppoſed to know that all along two cylinders were before in uſe; when you know that, and are told that No 5. is a cylinder from which the cotton is to be diſcharged, can you entertain a doubt in your mind, or could any man of common ſenſe, that, that is to be the ſecond cylinder and not the firſt, with the aſſiſtance of the firſt; that, I conceive to be as perfectly clear as the moſt intelligible language, or the cleareſt deſcription could make it;

it; it alſo deſcribes fillet cards; then comes another deſcription: and my learned friend ſays, the machine now uſed has not ſuch cards as ours, or the parallel fillets deſcribed in the ſpecification, but it has ſpiral fillets; the ſpiral fillets are pretty generally uſed by Mr. *Arkwright*, and thoſe that ſtole his invention; they have been uſed for ſome time back, and are certainly ſtill further improved upon No. 5.—It is true, No. 5. deſcribes the parallel fillets; I don't pretend it deſcribes from that cylinder, the one now in uſe; it deſcribes one that acts upon the ſame principle, and will produce the ſame effect, but in a leſs improved ſtate to that which ſubſequent ingenuity has made it.

Gentlemen, I will now recur again to principles. If this is a ſufficient deſcription of the invention, and will produce the effect deſired, that is ſufficient: *whether it is a ſubſequent improvement made by the inventor* himſelf or any-body elſe (I mean Mr. *Arkwright* or any-body elſe) it will not affect or have a retroſpect to that ſpecification—the ſpecification need only deſcribe the principles upon which it is to act; it would be hard indeed, and counteracting the intention of patents, if that was to cramp and reſtrain him from making further improvement, leſt, by making that further improvement, the ſpecification ſhould be found defective; I conceive, the ſubſequent improvement by Mr. *Arkwright*, or others, would not vitiate the ſpecification, if the ſpecification contains the deſcription of a machine that will anſwer the purpoſe, I ſhall prove, by the ſtrongeſt of all evidence, clearly to a demonſtration—The Gentlemen ſay, No, it will not do; for if the firſt machine, that uſed the cotton, was ſpread all over, it is perfectly clear the fillet cards took no more than their own breadth, and the intervals were choaked up, that is perfectly true; it is very true, if they were to be ſpread all over this cylinder, No. 5. but who told them, it was to be ſpread all over?—If they make a machine with ſuch fillet cards, would any man ſpread it over for any other purpoſe but to choak the machines? Could any man be ſo ignorant to ſuppoſe the fillets could act beyond their own breadth? Could any man be ſo abſurd to ſpread it over the whole breadth of the feeder? Is there any thing in the ſpecification, which directs them ſo to do? If it did, it would be obſcure indeed, and no man that ſaw thoſe cards, and knew what they were intended to produce, would ever dream of ſpreading the cotton to any greater breadth than that of the fillet cards: that is no anſwer, no objection of the fillet cards; it will anſwer ſufficiently, if it is ſpread its own breadth, which is ſufficient for all the purpoſes of the manufacture; but you will obſerve, in the drawing of the axis of that cylinder, No. 5. round which it turns, as if of a very extraordinary, and, apparently, unneceſſary length, it is not cut off juſt where it ſhould be inſerted, in the frame; if the cylinder is to be applied as it is there; if it is of a length that leaves room for the cylinder to be moved backwards and forwards in a direction parallel to its axis. Now the ſeveral ingenious mechanics, which I ſhall call before you in evidence, will tell you, that *that* length of axis would neceſſarily ſuggeſt that idea to their minds, if they intended the cloth to be covered its whole breadth, and that it ſhould be taken off the cloth, it ſhould have the length of axis, which would allow for its being taken off; that, they will tell you, is conveyed by the drawing; it will perform that effect; and even, as I believe, it is ſtill a better method than that which is but juſt hit upon and carried into uſe, of the ſpiral fillets which cards off the whole, and enables you to ſpread it the whole breadth; I will tell you truly, if it is a better way, and more commodious by the ſpiral cylinder;

notwithſtanding, finding out theſe principles afterwards, no patent can reſtrain an inventor from uſing it. Before I quit No. 5. it will be neceſſary to point it out in another point of view, more particularly to your attention; and that is, that I conceive, except what I have ſtated to you in the inſtance of Mr. *Wood* and Mr. *Pilkington*, which I have obſerved upon already, and I will not trouble you with repeating it; you will have an opportunity of examining that further, in the courſe of the evidence of *Wood*, when he is called; except that I don't find any other claim to the uſe and exerciſe of this ſort of cylinder, which ſhould take off the cotton in continued lengths, for the purpoſe of making the yarn; and that I do conceive to be the eſſential and important art of this, upon the whole, very uſeful and ingenious diſcovery; I conceive, the moſt important difference of all the others, between this machine, now improved and perfected by Mr. *Arkwright*, for which new improvement he has got his patent, and the one in uſe before that, in 1775. The very eſſential difference is; by the old one, you take off the cotton by ſhort lengths, which rendered the manufacture much inferior, for many reaſons, which will be much better explained by the manufacturers, than by me; and *this* takes them off by one continued operation, the carding going on as long as it ſhould be fed with cotton; *that* I conceive to be the moſt uſeful part of the invention; *that* ſtands undiſputed with Mr. *Arkwright*. Then we come to No. 6. Gentlemen, I have now gone through No. 3, 4, and 5. which, together with the parts of the old machine, will form a complete carding machine: 3, 4, and 5. and none of the other numbers have any thing to do with it, ſo that I ſay, the old machine, together with this, form a complete carding machine; therefore the ſpecification is ſufficient to explain it, and the application of it to the old machine. The want of direction of that application, I believe, has been what was complained of: now, I conceive, there is an expreſſion here, which all the Gentlemen, moſt converſant in machines, whom I will call to tell you, ſay, certainly does moſt clearly and indiſputably point that out; it is this, that No. 5. (I will only ſtate the firſt part of it)—No. 5. is the laſt-mentioned cylinder which has fillet cards behind this cylinder; attend to theſe words, "behind this "cylinder," to wit, No. 5.—No. 3. delivereth its contents upon another cylinder. Now, can any man who knew the former machine conſiſted of two cylinders to a feeding machine, and delivereth its contents upon one of thoſe cylinders, and is told, in the new machine, No. 5. the new cylinder, and feeding machine delivers its contents behind it, upon another cylinder; Can any man in his common ſenſes, doubt, that that other cylinder is a new cylinder? the objection is fit for children: Can any man doubt, who is acquainted with the moſt common machine in the world? every man muſt attend, before he could underſtand; if you will attend to thoſe which will ſee the feeding machine diſcharges the cotton, it is the ſame as that which was uſed in the old machine, the account of which is contained in No. 4. which is, that the crank works upon No. 5, and diſchargeth the cotton from that. —Then the place of the new cylinder and the old cylinder is correctly aſcertained; for No. 4. deſcribes the crank, as diſcharging the cotton from the new cylinder; it fixes the place of that cylinder to be the laſt of the two; by the deſcription of No. 5. it is that, behind that, from which the cotton is diſcharged from the feeder, and that fixes the old cylinder to be the cylinder to be uſed; not only the uſe, but the locality of both thoſe cylinders, is ſufficiently deſcribed

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to every man of common underſtanding.—Now apply No. 4. inſtead of the old feeder.

[*To the man at the frame.*]—Work that, as it was before; feed it with cotton, and let my Lord ſee it.

[*This was accordingly done, and the man worked it by his hand*]

Gentlemen, you ſee thoſe cardings, when taken off in that manner, are all ſhort lengths; and another thing is, that the fibres of it don't give the length, even of thoſe cardings, but are tranſverſed; whereas you ſee the fibres of the cotton, carded upon the new machine, are all longitudinally, which is a great advantage to the cotton trade.—That is the old one which you will obſerve is rolled up, and there is no roller in it.

[*To the man at the frame*] Shew that it unrolls without a roller in it.

[*Which was accordingly done*]

Mr. Serjeant *Adair*. It ſhews it unrolls without a roller; So much for the neceſſity for the roller.

Mr. Juſtice *Buller*. How do you mean, ſo much? What do you mean by that?—I thought you ſaid there was no neceſſity for it.

Mr. Serjeant *Adair*. So I ſay there is no neceſſity for it; it has been worked all this while without it, ſo there is no neceſſity at all for it.

[*To the man at the frame*] Now put on the cylinder with the fillet cards, and at the ſame time put on the crank.

Mr. Serjeant *Adair*. And now, Gentlemen, you will ſee the operations of theſe two improvements.

[*To the man at the frame*] Now work it faſt.

[*The man ſet it to work, with the crank over the fillet card*]

Mr. Serjeant *Adair*. You ſee thoſe lengths come off in a continued length from the fillets; and you will find the fibres run parallel to the length, which, in the other, they do not.

[*To the man at the frame*] Turn it the other way, and let his Lordſhip ſee the feeder unrolled without the roller.

Your Lordſhip ſees the operation, and that is enough. Why then, this contains a complete deſcription of No. 3. and the old machine to which it is ſo applied; it is a complete deſcription of the carding machine; and I will ſhew you, that any man of common ſenſe would prove it is a complete deſcription, becauſe it is plain No. 3. is the feeder which feeds it with cotton; and it is plain, No. 5. receives the contents of the carding machine; and the contents are diſcharged from No. 5. by the crank, after it is carded, which is the laſt part; ſo that you have the firſt and laſt; and it is clear from the deſcription of any of thoſe numbers, no man will look for any part of the carding machine without.

Mr. Juſtice *Buller*. That is No. 3. as you call it, without the roller, that is ſtriped in three parts?

Mr. Serjeant *Adair*. Yes.

Mr. Juſtice *Buller*. Q. Does that agree with your ſpecification?

Mr. Serjeant *Adair*. I'll ſtate this; I underſtand your Lordſhip's queſtion. I ſay, my Lord, that it requires no more than common ſenſe to be underſtood, and nothing but a willing miſunderſtanding could have puzzled it. It muſt be ſeen, if there are three ſtripes upon the roller which receives the cotton, it ſhould be laid upon thoſe three ſtripes—if the roller went the whole breadth, the cotton would be ſpread the whole breadth; that is the anſwer.

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The next thing for attention is the roving machine, as they call it, that which produceth the two operations of ſizing and roving.

[*To the man at the frame*] Hand one of thoſe cardings to the Jury, that they may ſee the fineneſs of it.

And now you will ſee the fibres of it are longitudinal, in the other they are not. The ſizing it and roving it is the ſecond operation. Now, Gentlemen, be ſo good for a moment to turn your attention to the machine before you, which is the machine for roving and ſizing, the making of which, I will ſhortly deſcribe—that machine conſiſts of No. 6, 7, and 10. The reaſons why, no man upon earth would conceive, Nos. 8 and 9 made a part of it; I have already ſtated, that it conſiſts of all the remaining numbers applicable, which are, No. 6, 7 and 10.—No. 6. conſiſts of rollers fixed to a wooden frame, and then it ſizes the contents of No. 5. which you ſee are brought to theſe rollers. Now you have already ſeen what the contents of No. 5. are; they are theſe— long continued cardings, that come from thoſe rollers, they are deſcribed to come to the rollers at (a,) look at that drawing, and you will ſee it introduces them to the mark (a), and introduces them to the two ſmaller rollers at (a), you have therefore got the carding introduced to the two ſmaller rollers at (a), brought to it at (a) going through at (b), you cannot miſunderſtand; the cotton that is brought to the ſmaller rollers at (a), goes into the larger at (b), ſo far we have gone; that which comes out of (a), going through at (b), produceth it a proper ſize, as at (f), (c, c) are bruſhes for cleaning the machine, which are not eſſential or material; the deſcription is, it is introduced at (a), and going through at (b), produceth it a proper ſize, as at (f), that is called ſizing the cotton.

Gentlemen, I ſhall be ſupported in this, by the evidence of ſome of the firſt mechanics in the kingdom, Mr. *Watt*, Mr. *Moore* and Dr. *Darwin*, men, famous for mechanical knowledge, and others of the ſame deſcription. —I ſhall be ſupported in telling you, this drawing, with that deſcription, does convey a diſtinct and intelligible idea of thoſe rollers, and they could direct any man to make that machine by that deſcription; they will ſwear they could ſo direct by that deſcription; they will tell you, from its being ſaid, the effect of the rollers is to produce the cotton a proper ſize, by the different diameters of the rollers, deſcribed in the drawing; from thoſe two circumſtances, they ſeem as clear as if they had been ſaid in different words, the rollers ſhould have different velocities, or they cannot produce it in that form, but by that means it will become of the proper ſize and length: they will tell you, that it is perfectly intelligible, and the effect of it is, to ſtretch the thread by the larger roller drawing quicker than the ſmaller ones, and it preſſes the fibres by preſſing upon the lower roller, which is increaſed by additional weight or ſpring, or any other method, by which rollers are compreſſed together. The next is the roving box, as it is called, No. 7. which is deſcribed to be a cylindrical box for twiſting the contents of thoſe rollers, at (b)—(a, a) are two rollers; one moving the other, that is rightly deſcribed; between which the contents of No. 6. paſs into the cylinder, at (b), through thoſe rollers when moved, and there is a dead pulley at (c), fixed to the frame.—(d) is a cord, which, paſſing from the pulley (c), it ſtanding ſtill till the cord goes round, gives the motion to thoſe rollers, that the mechanical Gentlemen will tell is to them perfectly intelligible.

No. 10. is a ſpindle which is fixed to No. 6. at (a), which is particularly deſcribed where it is fixed, that ſpindle is fixed to No. 6. at (a), the very place

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is deſcribed, it worketh No. 6. by the pulley (F, c,) which pulley is deſcribed in the drawing; why then, that alſo is a regulator, and the ſocket with the bolt going through it which ſtops, &c. ſets the whole a-going by means of a catch, by the ſpindle which is fixed to the rollers; the regulator which ſtops it and ſets it a-going is an improvement but not an eſſential part of the machine; it may be added or left out, the effect is the ſame; the only purpoſe is to ſtop it or ſet it a-going by the ſpindle at (a) as eſſential, which my learned friends have not attended to through the whole of their opening, it is an eſſential part of the machine, for it ſets the whole a-going, without which it would ſtop to eternity; that ſpindle at (a), by the help of the pulley at (f) and to (g), ſtops and ſets the whole of the cylinders and roving box in motion, ſo without that, the cylinders of the machine would be incompleat: and the machine conſiſts of three parts, 6, 7, and 10, all of which are neceſſary to produce a compleat effect, and therefore, to compleat the different machine from the ſpinning machine, you would not find the ſame combination of parts, and I defy you to find the ſame parts; upon the whole there is a compleat machine, in ſome parts eſſentially different, and in their combination totally different from that in the former patent, than what was before in uſe, as applied to the ſpinning, and this is different from the former patent, as applied to the ſpinning. Until the ingenious invention of this combination of machines of Mr. *Arkwright*'s, it never entered into the head of any man, that the ſpinning machine or any part of it was applicable to the purpoſe of roving, that I conceive to be eſſentially a new machine, and the mechanical Gentlemen will prove, it is eſſentially different from the old.

Gentlemen, I am afraid I have troubled you with a tedious explanation of *that* which I could not venture to ſhorten; in a caſe of this conſequence, I dare not truſt my own judgment. I hope I have made things clear, and I hope you do underſtand the improvement that is made upon the old machine, by Mr. *Arkwright*, and the manner of applying the improvements to the old machine, and the manner I have applied the direction of the ſpecification for that application, and you want nothing now but to have thoſe propoſitions I have ſtated to you confirmed by the evidence of thoſe mechanical witneſſes, what that evidence will be, I will ſtate in a very few words: We ſhall call to you three diſtinct claſſes of witneſſes, one claſs, thoſe acquainted with the cotton manufacture, that will tell you with one voice that theſe machines, in their improved ſtate, were not in uſe before the invention of Mr. *Arkwright*'s. They will tell you with one voice, if they had been in their improved ſtate, the benefit would have been ſo great to the manufactures it would have ſpread like wild-fire through every cotton-mill in the kingdom; they will tell you with one voice, thoſe machines in that rude ſtate, (whatever might be ſaid by ſome witneſſes, in a few particular inſtances to the contrary) were not in uſe before the time of Mr. *Arkwright*'s patent

The next claſs of witneſſes, which conſiſt of ſome of the moſt eminent mechanics in this country or the world, will explain to you much better than I could, this ſpecification, and give you the moſt ſolid reaſons that occur to them; from being thoroughly perſuaded, they will declare to you, upon their oaths, from that ſpecification alone, provided they were informed of that machine before in uſe, they could have produced a machine in its improved ſtate; that will be proved by the moſt able mechanics, and when I have done that upon the point of the ſpecification, I think, as to evidence, I

ſhall be at leaſt upon a footing with my learned friend, if I was to ſtop there. All that he has done upon that point, is, to produce to you ſeveral Gentlemen that have told you, they could not make the machine from that ſpecification, that is the utmoſt extent of their evidence: they have ſtated their reaſons why they think it obſcure, which I have myſelf endeavoured perfectly to anſwer; all their evidence, in fact, goes to this, they don't underſtand the ſpecification well enough to make a machine from it; many of them are totally unacquainted with the machines in uſe before, they are ingenious watch-makers, and perſons of different branches of buſineſs, that are unacquainted with the cotton machines before in uſe, and therefore I am not at all ſurprized it is unintelligible to them; to meet them we ſhall produce thoſe which are of that trade; they ſay it is intelligible to them; ſo far we are even with the evidence upon this part of the caſe: as for the untrod manner of the former proceedings in this Court, I will cite the authority of my learned friends, I cannot expreſs it in better words, God knows; when one good advocate is gone, they ſeldom chooſe ſo good a one: upon the whole you have evidence, the opinion of that is evidence, which, if you believe it, will go the whole length of demonſtration upon that point; I mean the evidence of four or five different workmen, who will not content themſelves with ſwearing, as the other Gentlemen will do, that they could make the machine from the ſpecification, but who will ſwear they have made machines from the ſpecification without any other inſtruction, but appriſed of the machines formerly in uſe, and they have brought them to a ſtate of perfection to act upon the ſame principles, and produce the ſame effects; as to that iſſue, therefore there is a compleat end of it, notwithſtanding all that ingenuity can ſuggeſt, and all that arguments and imaginations could invent to convince you, that *that* ſpecification could not be underſtood, by which common workmen have made the machine without any other inſtruction; it exceeds the ingenuity of my learned friend to puzzle your obſervations; ſo far, therefore, as the attempt made to prove there is obſcurity in the ſpecification, it is perfectly nugatory: if they ſwear that, (which I have no occaſion to doubt they will, as they have ſworn it in my hearing already) without any other inſtruction but the drawing and the ſpecification, they have made them to produce the effects this does, knowing the former inſtruments in uſe: It will be in vain for my learned friend to endeavour to puzzle your judgment, in making you believe there is obſcurity in that which preſerves the invention ſo effectually to the public, that if, by an earthquake, all the machines in uſe at preſent ſhould be compleatly loſt for ever, any man that has known the machine before, could go to the inrollment office and make that machine, it has been done by four or five people who will prove it—If you diſbelieve them, you will reject them, their characters are unimpeached, and it is an imputation you will not lightly throw upon them, to ſay they are perjured.

Gentlemen, It is time to leave the cauſe with you; but the laſt piece of evidence, and immediately connected with this, for the reaſons I have ſtated before, requires much obſervation to that caſe, as it is called, that paper, that was given by Mr. *Arkwright* to Mr. *Pilkington*; it purports to be a caſe intended for the Houſe of Parliament. In what way Mr. *Arkwright* was adviſed to ſtate his caſe there, I conceive, is wholly immaterial, in a caſe that affords ſo much actual evidence of the fact; and that Mr. *Arkwright* could ſtudy to conceal from his country this invention, which, I contend,

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is effectually deſcribed, and which we will prove to be effectually deſcribed, in a manner I have deſcribed to you, is altogether an impoſſibility; and therefore Mr. *Arkwright*, for want of a ſufficient clearneſs to day, if it is intentionally rendered not clear (as ſomebody at leaſt ſays) in that caſe produced by Mr. *Pilkington*, if it was intentionally rendered not ſo clear as to be underſtood by Frenchmen, who are totally ſtrangers to the cotton manufactory, and all the cotton machines in *England*, he has done right, and has done laudably, if he has not done it ſo as to conceal it from the millwrights and machine-makers, who underſtand the former machines in uſe; and I hope you will to day confirm him by your verdict, that his patent is moſt effectually ſecured to him by his ſpecification, as well as by the explanation of it in his return ſent to the patent office.

EVIDENCE for the Defendant.

Richard Pridden ſworn; Examined by Mr. *Cowper*.

Evidence of Mr. Pridden.

Q. I believe you have been bred up to the buſineſs of preparing cotton and wool for ſpinning?

A. I have.

Q. How many years?

A. Fourteen years.

Q. Are you acquainted, or was you acquainted with it at the time Mr. *Arkwright*'s patent machine took place?

A. I was.

Q. Was you acquainted with the old machine in uſe before Mr. *Arkwright* invented his patent machine?

A. I was.

Q. Perfectly?

A. Perfectly.

Q. Will you deſcribe to us before you go any further, the old machine in uſe before Mr. *Arkwright*'s inventions?

A. By taking this roll of cotton out, and placing that other cylinder which was in before, this is the compleat old machine.

Q. The crank was out of the queſtion entirely?

A. Yes.

Q. This cylinder, with the other cylinder in before, and this roller taken off was the old machine?

A. Yes.

Q. In the firſt place, How was this cylinder fed?

A. By the hand upon this cloth.

Q. What was the nature of the other cylinder?

A. For taking off.

Q. Aye?

A. By the hand cards.

Q. What ſort of lengths did the other cylinder, when it was taken off, produce?

A. In ſhort lengths.

Q. Thoſe ſhort lengths being ſo taken off, how were they prepared for ſpinning?

A. They were pieced together by the hand while they form the whole.

Q. At the time when Mr. *Arkwright* firſt began, was you acquainted with the buſineſs in general?

A. I was.

Q. From

Q. From that time down to the time Mr. *Arkwright* invented this patent machine, was there any other method of preparing the buſineſs than that you now deſcribed?

A. I did not know of any other.

Q. Was you acquainted with the buſineſs in general, was you very much in the manufactory?

Mr. *Bearcroft.* Q. Have you no intereſt in this patent?

A. No.

Q. Are not you a partner with Mr. *Arkwright*?

A. No, I am not a partner with Mr. *Arkwright.*

Q. Are not you a partner in a mill, called *Roſſiter*'s mill?

A. Yes, with his ſon.

Q. Have you any intereſt under the patent?

A. I don't know that it is any intereſt to me at all.

Q. You are a partner with his ſon?

A. Yes.

Q. His ſon has an intereſt under the patent, and works that patent?

A. Yes.

Mr. *Cowper.* What then?

Mr. *Bearcroft.* What then!—If this witneſs is partner with the ſon, which ſon works the patent machine, this witneſs is intereſted in ſupport of himſelf.

Mr. *Cowper.* I ſubmit that is not clear upon this evidence—My Lord, I was going to ſay, I conceived there is not upon this evidence, any thing like the colour of an objection, I don't know whether I can give a better anſwer than this, I don't comprehend there is a colour of objection to the witneſs, becauſe he ſays he works with Mr. *Arkwright*'s ſon.

Mr. Juſtice *Buller.* That is an ojection to his credit, and not to his competency, he has no legal right in it; Mr. *Arkwright* may ſuffer his ſon to work at it, it depends upon his pleaſure whether he will or not, if he does, his ſon has an advantage which the reſt of the trade has not, therefore it goes to his credit.

Mr. *Bearcroft.* Q. Don't you know that the ſon is allowed a ſhare by his father, a certain time to work this machine—upon your oath?

A. I never heard him ſay any thing about it, to my knowledge.

Q. Do you apprehend his father may take it away from him to-morrow?

A. I don't know it one way or the other.

Mr. *Cowper.* I dare ſay his ſon will have the benefit and advantage of the patent ſome time or other, if the patent is eſtabliſhed.

Q. I underſtand from you, when the cotton is taken off in a ſhort length, the only way of roving it preparatory to the ſpinning, was by the hand wheel?

A. Yes.

Q. Now we come to the crank No. 4.—Go to the feeder firſt, the feeder No. 3. That is the feeder deſcribed in the patent?

A. Yes, Sir.

Q. Was that at all in uſe to your knowledge, previous to the obtaining the patent, or was it fed by the hand?

A. It was fed by the hand.

Q. To your knowledge?—I don't repeat to your knowledge every queſtion I put to you, I underſtand you, ſpeaking of that you know, if you don't know it you will ſay ſo.

A. Certainly.

Q. Did

Q. Did you find any inconvenience in that mode of feeding?
A. Not at all.
Q. Do you find it is more inconvenient than the manner of feeding which you have ſeen—you have been in Court all the day?
A. Yes.
Q. You ſee what they called the old feeder?
A. Yes.
Q. Is *that* more inconvenient than the old feeder?
A. I ſhould think not.
Q. Now, Sir, the crank you ſay you never heard of before Mr. *Arkwright*'s patent?
A. Yes.
Q. At any other place or time?
A. No.
Q. Or previous to that?
A. No.
Q The crank operates as a taker off?
A. It does; it takes it off.
Q. Proceed to No. 6. and deſcribe it to the jury, the manner in which the roving is conducted on to the ſpinning there, the carding, I mean, conducted on to the roving?
A. The carding ends at the ſhort lengths there.
Q. Explain how the operation of roving and ſpinning is carried on by that additional machine, which before was prepared for ſpinning by the hand-wheel?
A. It comes off the carding machine, and is conveyed into a box through theſe rollers, and drawn through here, and drops into this box which gives it a twiſt.
Q. That is, No. 7. is not it?
A. Yes.
Q. It paſſes between the rollers, No. 6?
A. Yes.
Q. That you call ſizing it?
A. Yes, ſizing it.
Q. It goes into the roving box, No. 7. where it is twiſted?
A. Yes.
Mr. Juſtice *Buller.* Where is your roving box?
[*A man at the frame*]. *A.* Here it is.
Q. How does it get into that?
A. In this manner [*the man working it about*]
Q. What was his anſwer? [*to Mr. Cowper*]
Mr. *Cowper.* He deſcribed the operation of carding; the taking off the carding in a continued length, inſtead of ſhort lengths; and the operation of ſizing, roving, and ſpinning, he has ſhewn.
Q. [*to Mr. Cowper*] Tell me what was his anſwer to that; was it an anſwer to any number of the ſpecification?
Mr. *Cowper.* No. 6. conſiſts of rollers.
Mr. Juſtice *Buller.* Is that what you call rollers? there is no appearance in the world of it.
Mr. *Cowper.* Your Lordſhip will hear from the mechanics, that is perfectly intelligible; they are ſections of rollers; they are put longitudinally.

Mr. Serjeant *Bolton*. They may as well give you two lozenges, for it ſhews neither the wheels nor the handles.

Mr. *Cowper*. When it has paſſed through thoſe rollers at No. 6. it falls down into that cylindrical box at No. 7. it is then ſized and roved, as you were obliged to do it before by a hand-wheel?

A. Yes.

Q. Now, was there any other preparation for ſpinning, namely, the ſizing and roving, which you knew of before Mr. *Arkwright*'s patent, except the hand-wheel?

A. I knew no other.

Q. To your knowledge, there was no other?

A. I never heard of any other.

Q. Now what defect was that invention to remedy, or what is the advantage; in other words, why is that method of ſizing and roving better than performing the ſame operation with the hand-wheel?

A. Becauſe it took more hands to perform the operation; and it was ſtill worſe, by being pieced together in ſhort lengths.

Q. Then, in the beſt manner, I underſtand, it could not be ſo well done?

A. Not by a great deal.

Q. Do you know, or did you live with Mr. *Arkwright*, at the time of thoſe articles being invented?

A I did.

Q. How long was he about it; was it done all in a moment, or from time to time, that he made a progreſs in the invention?

A. He was a conſiderable while about it, a year, for any thing I know.

Q. From what you know, do you believe he was a year about it?

A. Yes.

Q. Was you with him during thoſe years, till he took out his patent?

A. Yes.

Q. Then the machine was not completed all at once, and in a ſhort ſpace of time; but you ſay, from time to time he produced gradual improvements, till he produced this which is the ſubject of the patent?

A. It is ſo.

Q. Was you concerned in making the articles in the machine?

A. I was concerned in making that, No. 7. the roving box.

Q. Was you concerned in the other?

A. No, not much in the other; it was out of my branch.

Q. How long had you lived with him, before he applied for the patent?

A. I came to him in 1771; I rather think it was 1771.

Q. And the patent is in 1775; that is four years?

A. Yes.

Q. During the greateſt part of this time, he was making a gradual progreſs in the attainment of this machine?

A. He did.

Mr. *Bearcroft*. I ſhall follow a good example, and ſhall not croſs-examine, without there is occaſion for it.

Charles Wilkinſon. Examined by Mr. *Wilſon*.

Evidence of Charles Wilkinſon.

Q. I believe you lived formerly at *Nottingham*?

A. I did.

Q. You were keeper of an academy there?

A. I were.

Q. Were

Q. Were you at all converſant in mechanics?
A. I were.
Q. Do you remember Mr. *Arkwright* applying to you at any time?
A. Yes.
Q. What did he apply to you for?
A. To draw him a ſpecification.
Q. You were the perſon applied to, to draw the ſpecification of this machine?
A. I was, Sir.
Q. The firſt, or the laſt?
A. The laſt machine.
Q. Do you know at what time that was?
A. I cannot pretend to ſay the time or year exactly; it was about nine or ten years ſince, to the beſt of my recollection.
Q. Now when he made that application to you, did you draw it?
A. I did.
Q. You drew the ſpecification?
A. Yes, Sir.
Q. Had you any inſtructions from Mr. *Arkwright*, to make it obſcure?
A. No, Sir, very far from it; he deſired me to illuſtrate it as much as poſſible.
Q. What did he deſire you to do?
Mr. *Bearcroft.* I object to it; for they are going a great deal too far.
Mr. Juſtice *Buller.* It is not evidence: it is one of the great rules of evidence, that what a man has ſaid at one time againſt himſelf, is evidence againſt him; but what he has ſaid at another time for himſelf, is not evidence for him.
Mr. *Cowper.* Suppoſe this the caſe that is imputed to him; he expreſſed a deſign of rendering it ſo obſcure, nobody could underſtand it: the evidence we give, is this, he carries this evidence to the machine, and ſays, Make a drawing.
Mr. Juſtice *Buller.* That is another queſtion. Aſk him the queſtion directly, How he drew it? that is good evidence.
Mr. *Cowper.* And whether he had a direction to draw it, in writing?
Mr. *Bearcroft.* He has ſaid, he had no directions to make it obſcure.
Mr. *Wilſon.* Did you do it according to the beſt of your ſkill?
A. Yes, I did.
Q. That drawing which makes a part of it, and the ſpecification, were then before you?
A. Yes, they were.
Q. They were both drawn according to the beſt of your ability, and in the beſt manner you could?
A. Yes, Sir.
Q. You have ſeen that old machine?
A. Yes.
Q. Now, from your knowledge of the old machine, and your ſkill in mechanics, do you think, in your judgment, that thing could be made?
A. Yes, I think, from that ſpecification alone, it could be made.
Q. Are you acquainted with cotton mills?
A. No.
Q. Are the eſſential parts and principle of that machine deſcribed?
A. They certainly are.

Q. Could

Q. Could you, from that ſpecification, and that knowledge of the old machine, give directions for making ſuch a machine as this?

A. Moſt certainly.

Q. Would there, in your judgment, be any difficulty in knowing how the rollers were put in motion?

A. Which number do you mean?

Q. The roller at No. 6. you know the manner in which they could be put in motion?

A. Yes.

Q. And you could give directions to a mechanic, how to make it?

A. Yes, Sir.

Croſs-examined by Mr. *Bearcroft*.

Q. You were maſter of an academy in the country?

A. No, Sir, I am not now.

Q I did not ſay ſo; but you *were*?

A. I was.

Q. The ſecond maſter of a country academy; you profeſſed the knowledge of all arts and ſciences?

A. No.

Q. Have you ever been in your life, an operatical mechanic?

A. No, I never was a working mechanic.

Q. Then you are a theoretic one?

A. Yes, Sir.

Q. Did you ever teach it?

A. Yes, Sir, many times.

Q. Now, have you been uſed to make drawings from machines?

A. Yes.

Q. Very many?

A. Very often.

Q. Not very many?

A. Very often.

Q. Was you ever employed to draw any for a patent before?

A. Yes, a great many.

Q. Name me one or two; what ſort of things?

A. Improvements in ſtocking frames and ſpinning machines.

Q. Any other?

A. Yes, Sir.

Q. Now mind; Did not you draw them from models?

A. Some from machines themſelves.

Q. Others from models, perhaps?

A. I cannot recollect.

Q. Did you draw this from the machine?

A. No.

Q. Did you draw it from the model?

A. Part from the model; the roving box from the machine, at leaſt.

Q. From what part beſides?

A. The crank, I believe.

Q. All the reſt you took from *Arkwright*'s deſcriptions?

A. No, I don't know that; ſome parts I did from ſome ſketches which he made upon paper.

Q. Now,

Q. Now, be ſo good to tell me—Don't you apprehend that the beſt way of deſcribing the machine that is a new invention, is, by making the drawing of the machine itſelf, or the model of it?

A. Undoubtedly it is.

Q. And if it ſo happens, that in making that drawing of it, perſpective, one part hides another, which will happen, I believe the courſe is, to take and draw thoſe parts ſeparate?

A. I believe it is.

Q. No ſuch courſe was taken here?

A. Yes, Sir, it was.

Q. Did you draw it from the model?

A. No, Sir, from the machines themſelves.

Q. Part from the machines, and part from the deſcription?

A. Yes.

Q. Tell me, Sir, as you uſed to draw thoſe, have you been likewiſe uſed to put a ſcale upon your drawing, that the proportion may be ſeen between one part and the other, and the real ſize of it?

A. A machine drawn in perſpective does not admit of a ſcale.

Q. Has it not been uſual to you ſometimes to make a ſcale by which you ſee the proportions of the parts?

A. When you draw ſections, it is cuſtomary, but when you draw perſpective, it is impoſſible.

Q. When you draw ends of two rollers to be of different ſizes, taking their motion from the ſame principle to move in different velocities, upon your oath, as a man, whether a ſcale is not neceſſary there, to have the proportions?

A. I don't think it neceſſary upon that occaſion.

Mr. Juſtice *Buller.* That is not an anſwer to the queſtion; give an anſwer direct.

A. In caſes of ſections, it is neceſſary to have the ſcale, but not in perſpective.

Mr. *Bearcroft.* *Q.* You ſay, in caſes of ſections, it is?

A. Yes.

Q. I aſk, when you take the end of a roller, or any thing like it?

A. Yes.

Q. I aſk you, then, when the different velocities are occaſioned by the different ſizes of thoſe rollers or their diameters, I aſk you, as a man of ſkill and drawing, whether it is cuſtomary, by a ſcale, to mark the different proportions?

A. I don't recollect it is neceſſary here.

Mr. Juſtice *Buller.* You avoid it every time; it has been aſked three or four times, tell us this, whether it is, or not eſſential?

A. I don't know, my Lord.

Mr. Juſtice *Buller.* Then why not ſay ſo?

Mr. *Wilſon.* For different purpoſes, would not different proportions of rollers be neceſſary?

A. I believe they would.

Q. For flax, wool, or cotton, would not there be different proportions of rollers neceſſary—would there not?

A. I am not acquainted with the manufacture of cotton.

Mr. *Samuel Moore* ſworn. Examined by Mr. *Chambre.*

Evidence of Mr. Samuel Moore.

Q. Mr. *Moore,* I believe I need not aſk you, whether you have had a good deal of experience in mechanics.

A. Sir, the ſituation I hold in life, requires I ſhould make myſelf pretty well acquainted with mechanics; and I think I have ſo.

Q. You have been examined as a witneſs upon the two former trials reſpecting this patent?

A. I have.

Q. When you was examined firſt as a witneſs in the King's Bench, here, were you then acquainted with the old carding machine, the machine in uſe before the letters patent?

A. My Lord, no longer before that trial, than the preceding day, had I ever ſeen any machine at all in the buſineſs of cotton, carding, or ſpinning.

Q. You are ſpeaking of the firſt trial?

A. Yes, I think it was that evening before, or two days before, I will not charge my memory exactly with the day, but within a very little time of the firſt trial, I ever became acquainted at all with the machine for carding of cotton.

Q. In the interval of time, between the time of the firſt and ſecond examination, was you acquainted with both machines?

A. Do you allude to the trial in the Common Pleas?

Q. Yes.

A. My Lord, between thoſe two times I ſaw ſeveral machines; I was at *Cromford*, I ſaw Mr. *Arkwright*'s new machine, and had ſeen ſome others in *London*.

Q. Have you got the drawings of the ſpecification and explanation?

A. I have both of them; I have the explanation and the drawing.

Q. You have been in Court, I believe, during the whole of this trial?

A. From the beginning of it, from early this morning.

Q. Having the drawing in your hand, I believe you will be better able to explain it, than from any queſtions I can put; will you begin with No. 3.?

A. My Lord, when I firſt gave evidence in this cauſe, I have already ſaid I was unacquainted with theſe ſorts of machines; I had one brought for me to look at, and I gave the beſt account I could; I then concluded myſelf bound ſimply to the form of the machine that ſtood by me in Court; I was to conſider myſelf totally unacquainted with any machines before uſed; I looked upon it in that light; ſince that, I have found it is allowable for a witneſs to conſider himſelf as having been acquainted with the old machine, the machine in uſe previous to the additions ſuppoſed to be in the ſpecification, for, my Lord, thoſe are rather additions to the machine, than the old and complete machine itſelf.

Q. Having poſſeſſed yourſelf of that ſort of knowledge, I aſk firſt a general queſtion, Whether you are of opinion you could, or not, have directed the making a machine that would have anſwered the purpoſe of the improved machine?

A. My Lord, I do believe I could, with due attention to the old machine, and the due conſideration of all the parts that are here, I do believe I could give ſuch directions to an accurate and ingenious workman, as would enable him to make a machine for the purpoſe.

Q. You have heard the objections made to each particular part; we will now begin with No. 3.

A. Whatever objections there are, I would wiſh to have them recapitulated.

Q. One objection to No. 3 is, the cylinder roller, or axis upon which it turns, is not deſcribed in the drawing?

A. Certainly it is not deſcribed in the drawing.

Q. How

Q. How far does it appear eſſential, or not, to be deſcribed, ſuppoſe ſuch a roller neceſſary for the complete uſe of that part of the machine?

A. It ſeems to me, a piece of cloth with cotton, or any other materials that was to be carded, rolled up in it, it would certainly move much ſtronger for having a roller in it;—I ſay, it ſeems to me, indeed it is palpable to every body, that it would move more regularly, and leſs liable to be out of order, if it had the roller in the centre of it; but I think, my Lord and the Jury have ſeen that it does do without a roller in the centre.

Q. Suppoſing it had been found not to anſwer ſo well without its being put in the centre, would it occur to any mechanic of tolerable knowledge to ſupply that defect, would he think it a proper direction?

Mr Juſtice *Buller.* That is not ſufficient, to aſk what an ingenious man would think of to ſupply the defect; it is very different, whether he found it by the ſpecification; your very queſtion implies, it is not ſo; you are aſking what an ingenious man would do to ſupply the defect which he has diſcovered.

Mr. *Moore.* Am I to anſwer that queſtion?

Mr. Juſtice *Buller.* Yes, you may.

A. Then I think it would very eaſily have occurred to any man deſerving the name of a mechanic, putting a cylinder or a roller in any thing that wants to be rolled up; there don't ſeem to me to be any great want of ingenuity to deſcribe that.

Q. Does the form deſcribed in the drawing, ſufficiently explain to you the manner in which the cotton was to be rolled up in the cloth?

A. I think, if you conſider it the ſection of a roller, it would eaſily occur to any perſon qualified for making ſuch a machine as this, if it was to be rolled in this manner, it would ſhew the mode of rolling it up—I do think it would.

Mr. Juſtice *Buller.* Q. Is there any thing in that plan that imports that there is a roller in the cloth?

A. Not in the cloth, my Lord.

Mr. *Chambre.* Look at No. 4.—That is what has been called the crank.

Q. Is there any difficulty in the explanation of that part of the machine?

A. There does not appear any difficulty at all; reſpecting the evidence I have heard as to No. 4. every body appears to be clear; I don't recollect any body ſaid it was not clear, and therefore I certainly think it is very clear to any body what is meant by No. 4.

Q. Look at No. 5.

A. No. 5. is the carded cylinder and fillet cylinder.

Q. Is that intelligible to you, from that plan and deſcription?

A. Yes, Sir, certainly intelligible, as it is here, and ſo it always appeared; but I muſt beg leave to revert, with your Lordſhip's permiſſion, to what I ſaid in the firſt trial. When this was put into my hand, I plainly perceived it was intended theſe fillet cards ſhould run parallel to one another, and parallel to the ends of the cylinder; that machine which ſtood before me, and which was then in Court, had, upon the cylinder, a fillet, but it was in the ſpiral manner, ending in a ſpiral form round the cylinder; I therefore have given it in evidence, and I hope I ſhall never change my evidence—I had given it in evidence, that from this ſpecification, if it were to be bound in the form preſcribed, I certainly could not give directions for making a ſpiral one from ſeeing this; but it has been changed in principle; in another Court,

Court, the queſtion ran upon the principle of the machine, and not the form only.

Mr. *Erſkine.* We ran upon the fact.

A. Well, Sir, you ſhall have the fact from me, as well as I can ſtate it.

Mr. *Chambre.* *Q.* Will you caſt your eye upon the verbal part of that deſcription—" No. 5. is the laſt mentioned cylinder, which hath fillet cards " behind this cylinder; No. 4. delivereth its contents upon another cylinder." Having knowledge of the old machine, would that part of the deſcription be ſufficiently intelligible to you, to inform you in what manner the contents of that cylinder would be delivered?

A. If I had to give directions about ſuch a machine, I ſhould conſider, knowing the former machine, that the contents, as it is called, of this cylinder, was to be delivered upon another cylinder, and I could find it no where but in the former machine; I know of no where elſe to find it, I ſhould conclude it was the cylinder, there.

Q. You have heard the difficulties ſuggeſted, the filling up the machine by interſtices where there are no cards, does any method occur to you of obviating that difficulty?

A. My Lord, I gave it in evidence, when I was in this Court before, if I am not much miſtaken, that certainly the interſtices between the parallel fillets would, by the rotatory motion, be filled up, and the motion of the card impeded; I give it in evidence, and it is certainly ſo, if they are to move exactly as they appeared to be here: but I was aſked then, Whether the length of this ſpindle did not ſuggeſt to me ſome ideas of an horizontal motion of this upon the machinery, and the ſame time as this vertical motion goes on, that was ſuggeſted to me, and from the length of this ſpindle, which I cannot find any other uſe for, it does look as if it was intended to give it that motion.

Q. Could that, in your judgment, have the effect of preventing the cylinder from being choaked up?

A. I think, my Lord and Gentlemen, it would prevent it.

Q. Is there any other method by which you think the ſame purpoſe would be anſwered, by making uſe of the ſame length of ſpindle which you ſee there?

A. It is ſuggeſted, the idea of an horizontal motion of this part of the machine, at the ſame time as it is making this rotatory motion.

A Juror—There is not a word of that in the ſpecification.

Mr. Juſtice *Buller.* No, not a word in it, all this is the concluſion of a very ingenious, ſenſible man.

Mr. *Chambre.* *Q.* Was there any other method, Mr. *Moore*, by which the ſame purpoſe might be anſwered?

A. When I gave evidence before, the cotton was ſpread upon the whole breadth of the cloth, and conſequently the whole breadth of the cylinder; that was the reaſon of its obſtructing the motion of the machine; but ſince I have ſeen it is the cuſtom, when they uſe ſuch fillets as theſe are, to ſpread the cotton only in breadths, ſimilar to the breadth of the fillet, and conſequently there being no cotton in the interſtices they will not be filled up, and they would perhaps occur, and very eaſily; if any body had erected ſuch a machine as this, nobody could for five months have worked it, but their own mind would have ſuggeſted *that* was the moſt eaſy and ready way of preventing the accident.

Q. Would

Q. Would it be neceſſary to feed the machine with cotton, where there was no cards to clear it?

A. There would be no neceſſity, it would be abſurd to think of it, it would deſtroy the effect of it.

Q. You have read the verbal explanation of that part?

A. I have.

Q. Does it not appear to you, from the drawing and explanation, thoſe are ſections of rollers?

A. The appearance here is the appearance of ſections of rollers, but every man that knows at all the ſignification of the word, knows that the roller is not a ſuperfice only, but it is a cylinder conſiſting of ſome length, and theſe being called rollers, though they appear here merely as the ſuperfice, every man of underſtanding muſt know they muſt have a due length, to conſtitute them rollers, they are not rollers without.

Q. Would any mechanic conceive thoſe rollers were to be in a ſtate of inaction?

A For my own part, I don't know what a mechanic would think of the rollers being in a ſtate of inaction, for they are not rollers if they do not act.

Q. Seeing they ſhould be put in motion, was it neceſſary to give any particular account or deſcription of the manner by which the rollers were to be put in motion?

A. I don't think it was, if you conſider the former machine.

Q. You don't think it was?

A. I don't think it was.

Mr. Juſtice *Buller.* *Q.* Is there any thing in the deſcription of thoſe rollers, that indicates to you, or any man that ſees this plan, what degree of comparative velocity is to be between the one and the other?

A. The rollers here, are of different diameters, that being the caſe, this being of a ſmaller ſize than the other, it implies ſtrongly, and I think explains pretty fully, that there is a different velocity.

Q. But could you aſcertain from what you ſee, that there ought to be different velocities?

A. I believe, my Lord, as this patent is not granted for one material only, as for inſtance, for cotton, but for different materials, ſuch as wool, flax and hemp; I believe all thoſe different materials will require different velocities, I ſpeak theoretically, not practically.

Q. But ſuppoſe the rollers of different ſizes, which cotton only might have required, can you from thence ſay what ſhould be the degree of velocity of one roller, and what for the other?

A. I think there is nothing that will preciſely lead to ſay what that would be, I could eaſily ſay what the different pairs of rollers would be, but were it applied to the ſpinning of cotton, I don't think it could.

Q. The object is to elongate the cotton?

A. Certainly it is.

Mr. *Chambre.* *Q.* No. 6. conſiſts of rollers fixed in a wooden frame, the contents of No. 5. being brought to it at (a), and going through at (b), produceth it a proper ſize at (f); that being the object of the rollers, muſt not there be a different degree of velocity, or ſomething different in the diameter, might not they vary according to the materials to be elongated if they went through twenty pair of rollers, if they moved with equal velo-

 cities,

cities, the ſize will not be changed; now, if here is a different velocity, what different degrees of fineneſs would accrue from theſe different ſizes.

A. I don't take upon me to be a judge, there will be a difference, and mechanics themſelves could hardly aſcertain, when they come ſo fine as their threads are, without experience or trial, what ſhould be the different velocities, the calculation would be too much, it would be too abſtruce for indifferent mechanics to make.

Q. It would produce one degree of fineneſs?

A. Yes, it would.

Q. But if a different degree of fineneſs was to be produced, the diameter muſt vary?

A. I believe it muſt.

Q. One ſcale would not do for all purpoſes?

A. I think not.

Q. Will you look at No. 7. Do you underſtand that in the ſpecification?

A. Pretty well, but I think it is more particularly and better explained from the machine itſelf.

Q. It is better explained by the machine itſelf?

A. Certainly.

Q. Do you underſtand it in a ſufficient degree to be able to make a workman make it?

A. I think I could, knowing the former machine, and acquainted, as at preſent I am, with a little of that manufacture of ſpinning the cotton, and roving it; I think I ſhould be able, without any great difficulty, to make a ſufficient workman underſtand to make it fit for the purpoſe.

Q. Look at No. 10.

A. As to No. 10. I don't think that is a difficult matter to account for.

Q. I conclude with the queſtion I began with to-day. You think you could have directed the conſtruction of thoſe different parts to produce the different effects?

A. Knowing the original machine, I take it for granted, all the way through knowing the original machine, I take for granted, I ſhould.

Croſs-examined by Mr. *Erſkine.*

Mr. *Moore.* I am at preſent examining you as a witneſs for the ſide, I have before had the honour of examining you; you have given a very candid, and at the ſame time a very neceſſary explanation of the difference of your evidence upon the two occaſions, and I find, when the evidence runs upon fact and upon principle, it makes that difference in the evidence?

A. It certainly does undoubtedly, and I hope I have given a conſiſtent evidence.

Q. I wiſh you would let your evidence run upon facts, you ſay, Mr. *Moore*, there is no perſon deſerving the name of a mechanic, but would inſtantly put the roller in this feeder. I take it for granted you was deſerving the name of a mechanic, when I was examining you before in this cauſe?

A. You do me credit.

Q. None but what you deſerve, full as much as it ſtrikes me to-day, but you did not obſerve it ſo far as to ſuggeſt the roller at that time?

A. I don't conceive it my buſineſs to ſuggeſt it.

Q. You know you were aſked, and pretty diſtinctly, Whether No. 3. could ſuggeſt to any man, there ſhould be a roller in the centre, and your ingenuity did not furniſh you with the idea at that time.

A. I think I have ſaid the ſame now.

Q. That

Q. That confirms me in the truth of the No. 5. You have truly ſaid, even if the artiſt himſelf had uſed the ſpiral fillet before, if you had known it, and if he had uſed the ſpiral fillets before, you would feel yourſelf bound to have uſed the parallel one—from looking at No. 5. pleaſe to attend, Sir, you admitted to-day, Suppoſe you had known and ſeen the machine uſed by any body elſe for ſpinning of cotton, in which there was a cylinder with a ſpiral fillet, yet, following this ſpecification, and meaning to make the machine which Mr. *Arkwright* directed, you would have thought yourſelf bound by No. 5. to put the parallel fillets?

A. If I was identically to follow it, I certainly muſt have done ſo.

Q. If any other artiſt uſed a ſpiral one, and you meant to make this, you would feel yourſelf bound to make a parallel one?

A. If I conſidered myſelf bound to make it according to the ſpecification, I certainly ſhould. But give me leave.

Q. Run with me upon facts as much as you pleaſe, afterwards upon principle; but I now aſk you upon this, not upon your own ideas of what is better, or what is worſe, about making this machine from the direction of the artiſt who ſays he invented it, whatever fillets were uſed, whether ſpiral or not, however like to the ſpecification, you would cover the cylinder with parallel fillets?

A. There cannot be a doubt of it, I have ſaid it over and over again.

Q. You ſaid, while in the other Court, running upon principle, the length of the ſpindle, ſuggeſted to your mind, the ſpindle itſelf might move itſelf horizontally, and by that means, though parallel and not ſpiral fillets, it would come and ſtrip the cylinder?

A. I mean ſo.

Q. Now has it ſuch a horizontal motion?

A. No, it has not.

Q. In going through the whole courſe of the evidence, when we run upon principle, thoſe things don't exiſt when we run upon facts—you ſay there is no reaſon for it to do ſo in either of thoſe machines?

A. There is no reaſon in the world why I ſhould do ſo in thoſe machines; thoſe that have ſpiral fillets don't want it, and thoſe that have theſe parallel fillets, the cotton being ſpread only to that breadth of the parallel fillets, have therefore no occaſion.

Q. But looking at No. 5. following the ſpecification, as we are bound to do, there would be a palpable error by choaking the machine?

A. No, I beg pardon, I have not ſaid that: I ſaid, if I were to follow ſpecifically the drawing here, I ſhould make it with parallel fillets, and if I was ſo abſurd as to fill the cloth with cotton all over, and then to ſet to work, the machine would be choaked.

Mr. Juſtice *Buller*. Q. Are there any directions as to the feeder No. 3. to cover the feeder partially, ſo as to make the parallel fillets operate without choaking up?

A. My Lord, there is no direction that I meet with that is given for either covering it wholly or partly, I ſee no directions for either.

Mr. Juſtice *Buller*. Stop for me to aſk one queſtion, Mr. *Erſkine*. As to this No. 3. Mr. *Moore*, ſuppoſe it a material part of the invention, this ſhould be in fillets, do you call this a proper explanation of it, is there any thing upon it that imports it ought to be in fillets?

A. It imports only, there is to be a piece of cloth with cotton upon it, rolled up.

Q. Whether

Q. Whether with fillets or not?

A. Neither is implied, my Lord.

Q. Here attend a moment; if that is a material part of the invention, that it ſhould be in fillets, can any body, by looking at that, diſcover it?

A. It is ſo far material it cannot act without it.

Q. Do you find that here?

A It is not ſaid ſo.

Mr. *Erſkine*. Q. You do not?

A. No.

Q. Here Mr. *Moore*, No. 3. by this ſpecification is a piece of cloth with wool, flax, hemp, or any other ſuch materials ſpread thereon as at (a). You are not told to ſpread it with interſtices, and leaving part there, that is not the way you ſpread your bread and butter?

A. I ſeldom eat bread and butter.

Q. Now here is No. 6. Theſe are the ſections of rollers, now I aſk you, Sir, Whether if you had never ſeen, (indeed I need not aſk you, for you have ſaid ſo) the ſpinning machine for which Mr. *Arkwright* had formerly a patent, but which is now expired, you could have no doubt of making that roving machine now, from that deſcription?

A. I have obſerved theſe marks as to the ſections of rollers, and being in that writing called rollers, every body knows a roller muſt have length, and every body will conclude it is ſome length, and length enough to paſs between them.

Q. Do you conclude that from your own ingenuity, or the direction of the artiſt?

A. I think it is from the direction of the artiſt, becauſe he calls them rollers, and calling them rollers, I ſhould think they muſt have length.

Q. I wiſh to know, whether the different velocities of the rollers are not operated as much by the wheels as by the ſizes of the rollers?

A. It muſt depend upon the wheels they are turned by.

Q. Do not the ſeparate velocities, with which theſe rollers operate upon one another, upon which the elongation of the thread depends, do not their relative velocities depend upon the wheels that ſet thoſe rollers in motion, and the pinions of them?

A. I think not.

Q. Do you think the relative velocities of the rollers don't depend upon the wheels and pinions?

A. The relative velocities of the rollers depend upon their ſize.

Q. Do you mean to pledge yourſelf upon that, from the machine?

A. I don't ſay ſo, from the machine.

Q. I believe you are not a practical mechanic, you never made a machine of any ſort?

A. I have made a model; my ſituation in life is very well known, it is known I am not a practical mechanic.

Q. I know you to be a theoretical one, very ingenious, and a man of ſcience: I aſk you, whether there is a difference of principle between No. 6. the rollers as deſcribed there, in this new roving machine, for which the patent was given to Mr. *Arkwright*, and the ſpinning machine for which he got the patent before?

A. You will eaſily get an anſwer from me, I don't believe there is any difference in the principle, nor do I conceive there is any difference in the principle, if you come to principle.

Q. As

Q. As you have gone into principle, I will follow you as well as I can; you and I differ about the idea of fact, for nothing can be more a fact than the ſame things, having the ſame principle or not. I aſk, whether in the machine for ſpinning, the patent for which is expired, are not all the wheels and rollers, by which the thread is elongated for ſpinning and roving, exactly upon the ſame principle?

A. I think rollers moving over one another, and elongating any thing, whether thread or cotton, are in principle the ſame.

A. Juror. Is not the diameter of the axis of the roller you are now ſpeaking of, intended to determine the ſize of the thread?

A. I ſhould ſuppoſe that is intended to determine the ſize of ſome thread, of a thread.

Q. Could you give directions from the drawing, to make rollers of ſuch a diameter, as would produce ſuch a ſize?

A. From the drawing! No.

Q. The velocity of the rollers muſt differ by ſome mode or other?

A. It does not ſhew how to differ the velocity of the rollers.

Mr. *Erſkine.* Did you obſerve No. 9?

A. Yes.

Q. That is nothing more than one of the flyers fixed to one of theſe machines?

A. No, nothing more.

Q. I aſk, whether 6 and 9, which are conſidered here as original inventions, whether they, coupled together, are not in fact the old machine?

A. It is ſo difficult to ſay what is an original invention, one can hardly tell how to define it, thoſe are machines uſed time immemorial, in drawing out threads, it is a kind of thread, though a very odd thread.

Q. I am aſking, whether upon the ſpecification No. 6. which deſcribes the rollers, and every thing of that ſort contained in the old machine, without reference to which you could not make this, as that acted with the common flyer to receive the thread; whether in fact No. 6. and 9. is not exactly the old ſpinning machine?

A. They are very much like it to be ſure.

Q. When a Gentleman obtains a patent, and to entitle himſelf to the benefit of that patent, he has ſpecified in what the original members of it conſiſts, you would expect to find more material matters, and not that which is nothing more nor leſs than what was ſpecified before, in that patent which is expired?

A. I cannot ſay what other Gentlemen would do in ſpecifying it; it would be much more compleat than now, if thoſe things were not inſerted, by the bye.

Q. How would you get over No. 2; where have you got a place for that?

A. I have always conſidered this machine as adopted for ſpinning of cotton; I don't believe No. 2. was meant to allude to cotton.

Q. As to No. 1. it puts one in mind of ſomething elſe, one would wonder how the devil it got there?

A. I believe they were firſt uſed in your own country, by Mr. *M'Pharſon*, for beating of hemp.

Q. I love my country as much as you do; but as to No. 2. I allude to that, Where is that to be placed?

A. No. 2. I know nothing about, I have never conſidered it, I don't know

know what it alludes to, I have been taught from the beginning of this buſineſs to confine myſelf to No. 3.

Q. You give your evidence very fairly?

A. I hope ſo.

Q. I am not imputing the contrary—Now No. 7. Will you look at the cann, No. 7. is the cann; now, without thoſe rollers at top, at the mouth of the cann, I aſk you, as a man of ſcience and a mechanic, whether this verticle motion of the cann, turning round upon its axis, will not twiſt the thread into a weft without thoſe rollers?

A. It might do it, but much more ineffectually without the rollers.

Q. It was unfortunate for your obſervation; the way the artiſt himſelf deſcribes it, is a box to twiſt it, and not rollers—"No. 7. is a cylindrical box, "twiſting the contents of No. 6. at (b), (a, a) are two rollers, one moving the "other, between which, the contents of No. 6. paſſeth into the cylinder (b)." —The artiſt firſt ſays, a cylindrical box for twiſting; the artiſt ſays, *that* has the effect of twiſting. Now, if Mr. *Arkwright* had ſaid, my invention conſiſts in this, in putting this cann at the bottom of my own ſpinning machine, and only putting the rollers at the mouth of the cann, that I think would be intelligible?

A. It might have been intelligible.

Q. He has here given you a more full deſcription than if he had given you an account of a new cann to be added to it; here this patent is taken out, not only for this which he profeſſes to be new, but by that he has tyed up all that is old?

A. I ſuppoſe he did not mean to take out a patent for any thing old, but added thoſe as neceſſary appendages for the whole of the buſineſs.

Q. I will aſk you but this one queſtion more; if you had happened to be the inventor of theſe machines, and wiſhed to make it plain and public, would you have found any difficulty by making a model and taking the drawing of it, and deſcribing accurately what it was the invention conſiſted in?

A. That is ſaying too much of one's ſelf, to ſay how I ſhould deſcribe things, as I am in the habit of making machines continually?

Mr. Juſtice *Buller.* Then lay yourſelf out of the queſtion, might it not be explained more intelligibly than that?

A. It might have been explained more intelligibly than it is, I will not go farther now, but I think it is even now ſufficient for a man of ſcience to make a machine by it.

Re-examination by Defendant's Counſel.

Q. Firſt, with reſpect to fillet cylinders, No. 5. you have been aſked, whether there is any thing in the ſpecification, which directs you to ſpread the cotton upon the feeder in narrow bits, like the fillets; you have anſwered there is not, and there certainly is not: I will aſk you, Whether ſeeing the machine, which was to card the cotton, was to be covered in bands, common ſenſe would not direct you to do it proper?

A. Mr. Recorder was not in Court or he would have heard me give the anſwer; I have ſaid, a man ſo far from deſerving the name of a mechanic, would be an ideot not to do it.

Q. You have been aſked, Whether there is any thing with reſpect to the rollers No. 6. or any thing in this ſpecification that would lead you to form the

the rollers, ſo as to make the thread of any particular ſize, you have ſaid truly there was not; now, Sir, is it any part required of this machine to produce the thread of any particular ſize, or is not the ſame ſpecified to be varied according to the ſize of the thread you produce?

A. Certainly, I believe it is intended to be varied in many inſtances, and I have already ſaid as much as I thought amounted to that, that it muſt be varied for different purpoſes, I have no doubt it is varied for different ſizes.

Q. Would not the ſpecification have been imperfect if it had ſo deſcribed theſe rollers, that they would only produce a thread of any given ſize?

A. I think it would not only have been imperfect in that matter, but imperfect in a matter I alluded to before, and that is, the machine is intended and patent granted, not for ſpinning cotton only, but for flax and hemp and ſeveral other things, that muſt have occurred to your Lordſhip; for that very reaſon, I ſuppoſe it, as Mr. *Arkwright* has taken care not to be too particular for every thing, for if he had ſpecified it for cotton, he could not have ſpecified it for flax; and if he had ſpecified it for flax, he could not have ſpecified it for cotton.

Q. Therefore you think it would not be proper without them?

A. I ſhould think ſo.

Q. What is the reaſon this large cylinder has a frame upon the top of it, covered all over at top?

A. That only cards as it goes.

[*To the man at the frame—Take the top off and ſee whether it is meant to be ſo.*]

Mr *Moore.* If the feeder is only partially covered with cotton, the other ſhould be partially covered; it is much eaſier to make it in whole lengths, than in pieces, it is not worth while to make that feeder in fillets, it is more expenſive.

Mr. *Erſkine.* Will any man pretend to ſay, Mr. *Arkwright*'s machine is filleted parallel?

Mr. *Moore.* That is another thing.

Q. Do you know in point of fact that he ever made uſe of a filletted feeder that was covered only partly?

A. I have ſeen it here, but as far as I have ſeen, they have been worked with theſe ſpiral fillets, and the feeder covered all over.

Q. Of courſe then, in the ſpecification, Mr. *Arkwright* has deſcribed it ſo, that every man would think it ought to be covered all over, was not you at Mr. *Arkwright*'s mill?

A. I was.

Q. How does he place his feeder there?

A. As far as I obſerved, it is covered all over, and the fillets of the cylinder are ſpiral; this was the firſt thing Mr. *Arkwright* ſpecified upon. Mr. *Arkwright* might at this time, for what I know to the contrary, do it in this way then, though he has found a way of doing it better now.

Q. This filletted feeder is an idea of your own?

A. Not my idea, I have ſeen it brought into Court.

Q. You never ſaw it till you ſaw it here?

A. Never, till I ſaw it in Court.

Q. Never, till the firſt trial?

A. No, at the ſecond; it is more convenient.

Mr.

Mr. Juſtice *Buller*. If it is more convenient, and, as you ſay, it is not worth while to put the feeder into fillets, why is it not worth while to cover it intirely?

A. It will not come off ſo as to make a continued carding.

Q. Why ſo, if you obſerved juſt now they did it ſo to-day?

A. They did.

Q. I want to know why it is not worth while [*to the counſel*]. He ſays, it is not worth while to make the feeder filleted, it is not worth the expence and trouble.

Mr. *Cowper*. That is not the feeder that he is talking of.

Mr. Juſtice *Buller*. Mr. *Erſkine* aſked him four or five queſtions about that part which is now covered.

Mr. *Cowper*. That is not the feeder, they call them both cylinders.

Mr. Juſtice *Buller* *Q. To Mr. Moore.* Why is it not worth while to make the little one in fillets?

A. I fancy they find it act better without the parallels; I have not conſidered that matter, ſo as to give your Lordſhip a direct anſwer to it; I may now judge, probably ſome of the practical men will give your Lordſhip a better anſwer to that, than I can.

Mr. *Chambre*. *Q.* When you ſee the fillets, there are four diſtinct pieces of carding?

A. Yes.

Q. Would that be the caſe, if they were all one continued fillet?

A. No, it certainly would not; his Lordſhip thinks that broad thing might be twiſted, as well as thoſe four.

Mr. *Cowper*. *Q.* Suppoſe that properly filleted, the ſpiral one, it matters not a farthing whether the covered ones we ſee buckled down with the belt, are covered?

A. Not at all.

Q. Thoſe covered, would it be more trouble to make them with fillets, than to make them intire?

A. Certainly not.

Q. But upon the ſmall cylinder, is it neceſſary?

A. I believe it is, but I cannot tell.

Mr. Serjeant *Bolton*. As you admit the velocity of the rollers depends upon the wheels, would it not be as well if they were deſcribed in the patent?

A. It might, or not.

Q. You don't mean to ſay, they do not?

A. I have not examined them.

Q. If they did, would it not be as well to deſcribe that in the ſpecification, and not leave the rollers alone without that deſcription?

A. Do you mean what I think really?

Q. I meant hypothetically; ſuppoſe they do, why I know they depend upon the wheels and the different motions; would it not be as well to put it in the ſpecification?

[*No anſwer*]

Mr. Serjeant *Bolton*. Every body muſt know it muſt come from the wheels ſomehow or other; that, I believe, is entered down.

Mr. Juſtice *Buller*. That is not entered; but I think there is no occaſion for it.

Mr. *James Watts* ſworn. Examined by Mr. *Baldwin*.

Evidence of Mr. James Watts.

Q. You are a mechanic?

A. Yes, Sir.

Q. Could

Q. Could you, from the ſpecification, give directions to the workmen for making ſuch a machine as we have here?

A. When I was firſt ſhewn this ſpecification, I was almoſt perfectly ignorant of every thing concerning the cotton machine; I had never ſeen one; I had heard many imperfect deſcriptions, which might miſlead me in my ideas.

Q. You have heard many previous queſtions ſuppoſing you had a previous knowledge of the other old machine?

A. I cannot anſwer that but by explaining myſelf, becauſe otherwiſe I ſhould miſ-ſpend the time of the Court to leſs purpoſe. I was told, that the two firſt parts, the articles No. 1. and No. 2. were not uſed in the manufacturing of cotton, but were applied to ſome other purpoſe; No. 3. I ſee by the deſcription, is a piece of cloth with wool, flax, hemp, or any other ſuch materials ſpread thereon, which I eaſily underſtood to be a piece of cloth with materials ſo ſpread upon it, and rolled up. The next point my attention was directed to, and that which I directed my attention to, was No. 4; after a little conſideration, I perceived it was a machine upon joints, by means of a crank; No. 5, I did not immediately perceive the uſe of; I was not acquainted with the terms of fillet cards: I perceived, upon inſpection, they were cards going round the cylinder upon its axis, or parallel to itſelf, and, by the ends of the fillets, coming down to the cylinder, more in that drawing than this I have now in my hand, I perceive theſe were intended to repreſent fillets of cotton coming off the cards; at leaſt, I apprehend ſo.

Mr. Juſtice *Buller*. You have now ſufficient knowledge of what the old machine was?

A. Yes.

Q. Well, knowing what the machine was, and having the ſpecification in your hand, could you make a new machine that would act?

A. I think I could, my Lord; but I was going to give your Lordſhip the reaſon why I could not ſo much depend upon my preſent opinion, which was, that on reading the ſpecification, I did not immediately perceive that there was an old machine; I did not know it; I had been informed formerly of the cylinder cards only that were of Mr. *Arkwright*'s invention, which miſled me; I found afterwards they were not; but that it was a machine uſed, as now appears in Court to be the old machine; after ſeeing that, I readily could believe I could have made thoſe new additions to the old machine.

Mr. *Baldwin*. Reſpecting No. 3. that is the feeder, could you underſtand that?

A. I did underſtand that it was a piece of cloth with cotton ſpread upon it.

Q. By the ſpecification, it does not appear to have a roller; could it act without a roller?

A. I have ſeen it act without a roller.

Q. Suppoſing the roller would have made it act better, is that ſuch a thing that could have occurred to a common mechanic?

A. Nothing more common than, when a perſon wants it, to take a roller to roll a piece of cloth upon; what might have happened upon trying experiments, I cannot tell.

Q. Is it not a thing very unlikely to occur to any man of common ſenſe?

A. It ſtands to reaſon, in rolling up a piece of cloth or paper, to take a roller to roll it upon.

Q. You ſee there are filleted cards upon the cylinder; do you ſee that?

A. I do.

Q. Now if the cotton was to be put upon a cloth, in order to make it cover that cylinder, with the fillet cards in it, why, as it is now put on by the ſpecification, would it not occur to you to cover the cloth with cotton in fillets?

A. As I have ſeen it put on in Court, I muſt ſay it might be put on in three ſeparate fillets; my firſt idea was, the filleted card might be made to travel upon its axis horizontally.

Mr. Juſtice *Buller.* From that plan, you had no idea it was to be put on in fillets?

A. I had no idea, from this, the cotton was to be put upon the cloth in fillets; I think there are ſeveral ways in which the objection might be obviated.

Q. You have mentioned two, do you know of any other?

A. The fillets might have been put on in a waving manner, which would have anſwered the effect; they were waving in ſome degree; that, I found afterwards, was an inaccuracy.

Croſs-Examination by Mr. Serjeant *Bolton.*

Q. Nobody doubts your merit, as a mechanic; but I will aſk you this queſtion about the firſt part, Mr. *Watts*, without any information from any perſon, whether you would have thought of No 1?

A. I will tell you what I did think of it; as I did think upon this ſubject before I heard any thing ſaid upon it, I thought it was a thing for clearing cotton from the huſks.

Q. Suppoſe you had been to make the machine, would you have put that upon the machine, ſuch as you have ſeen to-day; where would you put No. 1?

A. I ſhould have conſidered it as a ſeparate machine to any thing relating to carding, but ſomething relating to preparing. There is one thing I muſt ſay, that the firſt part here, the hammer, is not new; I have ſeen it in common practice in my own country, beating flax; I know it ſomewhat better from that, perhaps, and for that reaſon I conceive it to be a machine for clearing cotton or flax.

Q. Then you know, the firſt thing in the ſpecification was not a new invention?

A. I had ſeen it in *Scotland*, but I never ſaw it uſed in *England.*

Q. It is in *Emerſon's Mechanics.* Now I want to aſk you about the rollers; you have told us, ſince you was firſt applied to, you have been made acquainted with machines?

A. I have.

Q. Tell me then, whether the rollers themſelves, as you have ſeen them in this laſt patent as it is called, the roving rollers, are or are not any-wiſe different from the ſpinning rollers in the ſpinning machine?

A. My Lord, I was in the place where the machines were, about an hour or an hour and a half; there I ſaw roving rollers of very different ſizes and kinds, according to the different proceſs required; ſome half an inch diameter, and ſome an inch and an half, and ſome of one inch.

Q. I want to know whether, for roving and ſpinning, the principles of the rollers are the ſame?

A. Do you mean the rollers that elongate the thread?

Q. I do, Sir; I mean the ſame rollers uſed in the roving and ſpinning machine of the firſt patent.

A. They ſeem to me both to perform the ſame things; they muſt operate upon the ſame principle, to elongate the thread; but there are ſome that do not.

Q. I would aſk, whether the different degrees of velocities in the upper and lower rollers, do or not depend upon the wheels that turn, or upon the ſurfaces of the rollers?

A. I think it might depend upon very different circumſtances; it may be effected by the wheels.

Q. I want to know whether it does, or not; pleaſe to turn it round, and tell me whether that does, or not, depend upon the wheels; that is my queſtion?

A. Theſe wheels ſeemed to me to be all of equal numbers; in that caſe, the different velocities will have nothing to do with it; they ſeem to me to be equal.

Q. I want to know whether they had the patent for thoſe wheels as they mention?

Mr. Serjeant *Adair.* No, we ſay no ſuch thing.

Q. Now, is there a word about thoſe wheels that turned the rollers?

A. That is ſo plain, it is a queſtion that need not be aſked.

Q. There is not a word of a wheel in it?

A. There is not.

Mr. *Baldwin.* Q. I gather from your croſs-examination, this is not the firſt time you have had any thing to do with carding machines?

A. No.

Q. In thoſe which you ſaw, the rollers acted upon different principles, according to the different grounds they were to operate upon?

A. In different proportions; they ſeem to me to be ſome of the rollers I ſaw which appeared to be employed in compreſſing it, to make it firmer; others that ſeemed to elongate it a little; others that were uſed previous to its being elongated; but I don't underſtand the buſineſs.

Q. Then it is impoſſible for an indifferent mechanic to know that it is neceſſary to deſcribe them?

A. I ſhould apprehend ſo; I was told it was neceſſary; and it required, according to the degree of elongation wanted, to give a different degree of velocity to the rollers, that the rollers would, and did actually move with different velocities.

Q. What is your opinion as a mechanic, whether it is neceſſary to be deſcribed?

A. I muſt be told, I cannot conceive things by intuition; in a buſineſs I do not underſtand, I can only ſpeak from information.

Q. Theſe rollers muſt be of different diameters?

A. They may be the ſame, if they have different velocities of wheels to move them.

Mr. Juſtice *Buller.* Q. Then they may be the ſame, or they may be different?

A. They may be the ſame, if differently moved by wheels, or bands, or pulleys.

John Stead, being one of the people called Quakers, upon his affirmation made the following declaration: "I will ſpeak the whole truth, and "nothing but the truth, to the beſt of my underſtanding."

Examined

Examined by Mr. *Anſtrather.*

Evidence of John Stead.

Q. What buſineſs are you?
A. A millwright.
Q. Where do you live?
A. At *Birmingham* in *Warwickſhire.*
Q. You have ſeen Mr. *Arkwright*'s ſpecification, and the explanation of it?
A. Yes, I have.
Q. You have ſtudied a little, and looked at it?
A. I have.
Q. And do you think that you are able, with the knowledge of the old machine—do you know the old machine?
A. Yes, I do know the old machine.
Q. You know the old carding machine?
A. Yes, I have ſeen it work.
Q. With the knowledge of the old carding machine, and Mr. *Arkwright*'s ſpecification, could you make a machine ſimilar to that you have ſeen to-day?
A. I believe I could: I don't doubt it; I never did it; I have done part from the drawing alone, without the ſpecification.
Q. Now, what part did you make?
A. The rollers for ſizing; I alſo put the roving box, but not wholly according to his drawing; my intention was at that time to ſteer clear of the patent. At the former trial in the Common Pleas, I did make uſe of the word "avoid," or "ſteer clear of the patent," I don't know which; if I might be heard, I hope to be allowed to explain my meaning—That was, to make a machine that ſhould be wholly clear of his deſcription, and yet ſo that it ſhould anſwer the intended purpoſe—That was my intention at the time; and there were ſome obſervations made upon what I ſaid, that were ſharp, that gave me ſome concern.
Q. You are ſure you did make the machine from that ſpecification?
A. Yes; and the intention of that was, to try the experiment of ſizing or ſtretching the cotton, that it might be lengthened out; and I made ſome models of rollers, or cauſed them to be made; I hope I am underſtood to mean the ſame thing.
Q. Could you have gone on to make the ſame machine?
A. I do believe I could.
Q. You really could?
A. I think I really could.
Q. Look at the ſpecification; look at the roller, No. 6. did you or not, from looking at No. 6. know thoſe rollers were to move by the ſame or different velocities?
A. I did think they were to move with different velocities; the one pair of rollers, the front rollers, were drawn of a larger diameter than the other, and the revolutions in a given time might be the ſame; and the velocity of the ſurface muſt receive what is called the foundation roll, and, as ſuch, it muſt ſtretch and draw the cotton of a leſs ſize than before; I could not conceive it ſhould go the back way to make it larger, that is abſurd in itſelf—I may obſerve, having been accuſtomed to make rollers, and ordering them to be made for flattening of iron, braſs, ſilver, and gold, in a manufacture where a great deal of work is done, and I have directed ſuch works; but this I fully underſtand.

Q. Is

Q. Was it poſſible to have laid down any ſpecific ſcale for the diameter of thoſe rollers that would have anſwered for all ſorts of threads?

A. I believe not, I am fully perſuaded that could not have been done for all ſorts; I have tried a pretty many experiments, and I found that rollers of different diameters, and relative diameters one to another, of different lengths and different velocities, will do that, they will ſize the cotton, and ſize it properly.

Q. Did you underſtand that from the ſpecification?

A. Yes, and the experiments that I made—there ſeem from my underſtanding, to be a very great latitude, and a variety of diameters of rollers, and in ſhort, almoſt the whole of what is ſpecified with reſpect to the carding and the other part of the machine, the diameters relative and abſolute, may be varied without injuring it.

Q. Would it injure the machine to vary them?

A. According to my judgment it would not—I will juſt obſerve as a matter of opinion, I do believe that any knowing perſon (*Richard Arkwright* himſelf we will ſay) if he was called upon to fix upon any given diameters and velocities throughout the whole of the work, I do believe and ſuppoſe he could not do it; to give the diameters now at this time, ſo as all the manufacturers might be as well acquainted as himſelf in it, they would not all agree what was the beſt diameter, the beſt velocities, either abſolute or relative; I have made a great variety of experiments, I have made the models, and alſo the machine at large.

Croſs-examined by Mr. *Wood.*

Q. Have you any concern in buſineſs with Mr. *Arkwright*?

A. None at all—I have no concern in trade, I never had from coming into the buſineſs, and I have no property at all in it.

Q. You ſay, from the ſpecification and experiments together, you think you can make it out?

A. The model that I made was in order to try experiments; I wiſhed to evade it, if that word may be allowed, ſo that I might not come under the deſcription of the patent.

Q. It was neceſſary to make experiments to find out ſomething?

A. To find out ſomething that might be clear of the patent.

Q. Do you mean to ſay, *that* ſpecification particularly deſcribes the machine?

A. It ſo deſcribes it, I have no doubt whatever of making it.

Q. In the patent it is required to be particularly deſcribed: I wiſh you would be ſo good as to tell me whether you find the particulars; where do you find the roller upon which the feeder is, the particular deſcription of that?

A. That roller does not appear, but I know very well the purpoſe may be anſwered without the roller, but I will not ſay ſo perfectly, according to my conception.

Q. Have you ſeen the way Mr. *Arkwright* does it?

A. I have ſeen the mill that I underſtand was his, which I was informed was built under his patent.

Q. Is that with a roller?

A. There is a roller.

Q. Is not all Mr. *Arkwright*'s with a roller?

A. I don't know, I have only ſeen one.

Q. How

Q. How would you find out, Mr. *Stead*, from that ſpecification, this ſpiral card?

A. The ſpiral card is not ſpecified, it does not appear.

Q. Is not that the card Mr. *Arkwright* always uſed?

A. I don't know that.

Q. Have you ſeen what he has uſed?

A No, I have ſeen one, my Lord.

Q. What was that, was that with a parallel card?

A. No, that was with the ſpiral.

Q. That was Mr. *Arkwright*'s?

A No, not his mill.

Q. You never ſaw that at all?

A. No

Q. Now this mill you ſaw, was it purchaſed of *Arkwright*?

A. It was erected under his patent, there was ſome conſideration paid, and leave given.

Q. It was made under Mr. *Arkwright*'s patent?

A. Yes.

Q. That was with a ſpiral?

A. Yes.

Q Do you find nothing of that in the ſpecification?

A. No.

Q. Is there any thing in the ſpecification that appears to lead you to it?

A. No, it does not appear to me to be in it.

Mr. *Wood* ſworn. Examined by Mr. Serjeant *Adair*.

Evidence of Mr. Wood.

Q. I believe you was once partner with Mr. *Pilkington*?

A. Yes, I was.

Q. Have you looked over Mr. *Arkwright*'s ſpecification?

A. Yes, Sir, I have.

Q. Could you make the whole or any part of the carding and roving machine for cotton, from that ſpecification?

A. I believe the laſt time I was called and examined upon this buſineſs, I told you I had tried to ſee if I could make one from *Arkwright*'s ſpecification; the cards I had at that time, covered the whole of the cylinder, and this appears to me to be parallel ſtripes, but I did not know whether the ſurface of this card might be eight, ſix or four inches, but from thoſe drawings. If I recollect right, I told you from the ſpecification, this box, which is No. 7. I added; I took it off from the firſt place, from the method I had before I ſaw the ſpecification, both by the bobbins, fly and ſpindles fixed in the frame, ſomething like a ſpinning jenny: when I ſaw this ſpecification, I thought this box would take it more ſimply and anſwer the end better, which I adopted, not putting in the two rollers, but I know it perfectly well from this drawing.

Q. Did you make the machine anſwerable to it?

A. I put cards ſimilar to it, with which I have worked ever ſince.

Q. Had you ſeen any of *Arkwright*'s machines before you made it?

A. I never ſaw *Arkwright*'s machines before *September* laſt, nor no other whatever; I cannot ſay but what I had ſeen a model for ſpinning with four threads.

Q. You thought the ſpecification intelligible?

A. It was intirely to me, I put it in uſe, I put theſe cards as I ſaid before,

fore, I put No. 6. No. 7. and No. 4. I made uſe of no other upon this paper, nor did I find any other number needful; I conveyed it to the rollers No. 6 and there ſized it, and from that I received it into a box with rollers at top, that I have done two years ago.

Q. You have ſeen this Mr. *Arkwright*'s machine?

A. Yes, laſt *September.*

Q. Is that you are ſpeaking of, which you made, like his?

A. I do not uſe thoſe now, but I have uſed the very ſame.

Q. Is that you are ſpeaking of like his, No. 4?

A. Which 4 do you mean?

Q. The one that was made, was that like No. 4. which you mentioned?

A. As I told you before, I made a box as ſoon as I ſaw this drawing, to anſwer my purpoſe, but without the ſmall rollers at the top of the box; I did evade it by another method, that anſwered. Upon the frame I call the muzzle of the box, which directed it right into the whole, and it was brought down by its own weight, and anſwered the ſame.

Q. Do you mean to ſay you made any machine with 5. or 7?

A. No. 4. 6. and 7. was all.

Q. Thoſe were added to the common carding engine?

A. To the common carding machine; I had at that time theſe cards—that is No. 5. and a common carding engine, before this was found out; and I had theſe cards on this as well. Theſe cards I had ſome knowledge of in the year 1773; but in the year 1774, I believe, I began to work this, in the latter end of 1774, or the beginning of 1775, and I continued with thoſe cards, I have not had them wholly employed from that time, or very little from that time to this.

Q. Then you found from that ſpecification all you thought neceſſary to add to your former machine?

A. I believe nobody that ever practiſed will find any thing neceſſary upon this paper, but this No. 4, 5, 6, and 7. I ſhould not, for my part, look after any one thing upon the paper beſide.

Q. You do not think it neceſſary?

A. I don't know that it is.

Q. Did Mr. *Arkwright* uſe any thing elſe?

A. I don't know, I don't recollect I ſaw any thing elſe but what I have mentioned in Mr. *Arkwright*'s.

Q. From the ſpecification you are enabled to add thoſe to the former machine?

A. To the common carding machine—I was wanting ſomething that I had not, and I looked, and it ſtruck me directly this would be of ſervice in having thoſe two rollers, which I am certain I put to it ſoon after the ſpecification came out, about half a year after, which I have had in uſe ever ſince.

Croſs-examined by Mr. *Erſkine.*

Q. You made uſe of the cann, No. 7. without the rollers at the mouth?

A. Yes, I did.

Q. You think it anſwers the purpoſe as well without?

A. Yes, you will underſtand me, there is two different kinds of rollers; an operation furniſhed by rollers muſt be a different operation to what is furniſhed by a jenny.

Q. You have made uſe of a cann?

A. No, No, I have made uſe of the boxes for ſeven years.

Q. The

Q. The roller No. 6. is the ſame as the old ſpinning machine?

A. I always apprehended ſo, I have tried it with the ſame rollers I ſpin with.

Q. You have made uſe of it with a cann?

A. Not the rollers at the mouth of the cann.

Q. But you have made uſe with the ſame kind, in roving with the ſpinning machine?

A. Yes, excepting the diameters, with very little alteration.

Q. You roved with the old ſpinning machine by adding the cann to it, with very little alteration?

A. With the alterations I have been mentioning, I did.

Q. What cylinder was it worked in 1773 and 1774, before the date of Mr. *Arkwright*'s patent?

A. The firſt roving card I had, I had cotton upon; here the common carding engine was the firſt, in order to feed it with cotton I formed a box which ſtood upon as much as two foot and an half, and I ſunk my cotton in it, and the cards drew it out as if it was from a rack, and it drawed the cotton out, I found it deficient, for every place where they were divided it came in joints in the card, the moment it ſtruck me an endleſs carding might be made, that was the firſt time it ever ſtruck me.

Q. This ſtruck you in 1774, that there might be a perpetual card?

A. Yes, and we fixed two pieces of leather together to make a card of it, Mr. *Pilkington* and I did, in order to ſee whether it could be done, he was of opinion it could not be done, but we were ſatisfied and convinced, before we came away from it, we might join two pieces of card together and uſe it; it ſtruck me, and I came home, I went again to get a pair of cards or alter it; but in the year 1774, I believe, I made full trial of it, and I took it off in an endleſs carding, and received it upon fillets, in a very aukward manner ſure enough, the latter end of 1775, I took it off in ſpirals.

Q. In 1774 you made uſe of the filletted cylinder?

A. Yes.

Q. And you made uſe of an endleſs carding with parallel fillets in 1774?

A. Yes, I did, in the latter end of 1774, or beginning of 1775, I will not ſay which.

Q. You made uſe of perpetual carding, with parallel fillets upon the ſmall cylinder?

A. Yes.

Q. With reſpect to the roving machine, you ſay you can rove with the old ſpinning machine, with the cann, without the two rollers at the mouth of it?

A. Why it did not make much difference.

Q. Not between the machine for ſpinning and when you roved with it?

A. No, it did not.

Q. You found the cann did not require the rollers at the mouth of it?

A. No, I uſed it without.

Mr. *Erſkine*. Then there is an end of the old machine from the beginning to the end.

Mr. Serjeant *Adair*. Q. The alterations you made to produce the roving machine, you made from Mr. *Arkwright*'s ſpecification?

A. The box which is now in the room of the flyer, which was then uſed, I believe I was not above two hours finding out the uſe of it.

Q. The alterations you made in the ſpinning machine to apply it to the roving, were taken from Mr. *Arkwright*'s?

A. Yes, undoubtedly.

Q. Are

Q. Are not roving and ſpinning diſtinct operations?

A. I always underſtood ſo.

Q. At the time the ſpinning machines were in general uſe; and the manufactures would have derived a great profit from it, if the uſe of theſe machines for preparing the carding and roving had been known?

A. It certainly has anſwered a very good end.

Q. Had it been known before, would it not have been brought to general uſe?

A. To be ſure it would; I don't think any-body doubts that.

Q. Now, you are ſo ingenious as to hit upon the invention of the connued carding, when you ſay you executed it in a clumſy and imperfect manner?

A. Certainly it is imperfect.

Q. You had not brought it, if I underſtand you right, to perfection, or public uſe, till Mr. *Arkwright* got beforehand with you, and obtained this patent?

A. No, certainly I had not.

Q. I ſpeak now of the cylinder for the continual card?

A. Yes.

Q. You had not brought that into public uſe till Mr. *Arkwright* got his patent?

A. I believe, before Mr *Arkwright* got his patent, I uſed what I have now; there is no perfection in it.

Q. Did you ever know of that crank in the manufacture, for taking it off, before?

A. No, I never did.

Q. Never before this patent?

A No, I never did.

Q. You had been all your life-time in the buſineſs?

A. No I never had before.

Q. Then you never knew of a crank applied as a taker off, before this?

A No.

Mr. *Erſkine*. Then there wanted nothing but the crank to make your carding machine complete?

A. I did not want the crank.

Q Then you have as good a method as the crank itſelf?

A. I don't know but it is as good; it is nothing but the fluted roller, with needles; I am ſure it doffs it as regular; I think it rather injures the cards worſe than the crank does—They don't ſtand ſo well.

Mr. *Erſkine*. Q. The old ſpinning machine anſwers for roving, by only adding a cann to it, without having the rollers at-top?

A. The rollers are principally the ſame—There are different things to it undoubtedly; I obſerved it; they cannot be called the ſame things—There is nothing but the rollers and the cards that have any thing to do with it.

William Allen ſworn. Examined by Mr. *Cowper*.

Evidence of William Allen.

Q. Do you remember being applied to by Mr. *Stead* at any time?

A. Yes.

Q. I believe Mr. *Stead* furniſhed you with the ſpecification of Mr. *Arkwright*'s patent?

A. He did.

Q. When did he firſt apply to you?
A. Before the laſt trial.
Q. Did he furniſh you with the ſpecification?
A. Yes, and the drawing.
Q. Did he deſire you to take a model of the drawing and ſpecification?
A. I examined to ſee whether I thought I could do it.
Q. Did he call upon you?
A. Yes.
Q. When you had had the opportunity of examining it, what was the reſult of the obſervations you made?
A. I told him, I believed I could.
Q. Did you make a model?
A. I did
Q. Did you complete it?
A. I did.
Q. Did it anſwer the purpoſe of the carding machine and the roving machine?
A. Yes, much the ſame, the carding and roving.
Q. Had you any other aſſiſtance to make that machine that you furniſhed for *Stead*, except the aſſiſtance of the drawing and ſpecification, and the old machine?
A. I had another friend that talked with me upon the matter.
Q. Had that other friend any other information; who was that other friend?
A. One Mr. *Whitmore*.
Q. He is here, is not he?
A. Yes; he informed me, he had not ſeen Mr. *Arkwright*'s mills and machines.
Q. Did he know any thing of Mr. *Arkwright*'s mills and machines, except what you communicated to him?
A. He told me he did not.
Q. Laying your heads together, you completed the machine?
A. I did.
Q. You ſay, it anſwered the purpoſe of carding and roving?
A. Since I have ſeen this, I find it does.
Q. It is idle to aſk, whether you conceive that ſpecification to be competent to enable the workman to complete the machine?
A. I find it ſo, there is no doubt about it.
Q. Caſt your eye upon the rollers at No. 6; thoſe rollers appeared to you, I preſume, in the drawing delivered to you by Mr. *Stead*, as they do in that drawing?
A. The very ſame.
Q. Did it occur to you, they were to be moveable rollers?
A. Moſt certainly.
Q. It muſt be a folly, and a contradiction in terms, to talk of a roller that will not roll?
A. Moſt certainly.
Q. In order to procure different degrees of fineneſs in the thread?
A. Not the thread
Q. I don't properly ſpeak of it; the roving that paſſed between thoſe rollers; it is neceſſary, is it not, there ſhould be different degrees of velocities in thoſe rollers?
A. Yes.

Q. Therefore

Q. Therefore any ſpecific admeaſurement (I don't know whether I ſpeak intelligibly to you) any ſpecific diameter of thoſe rollers, could only anſwer one particular purpoſe, and one particular ſize, could it?

A. Not any particular ſize; it was to draw it through.

Q. It muſt draw it through of ſome particular fineneſs?

A. Yes, moſt certainly.

Q. If a fineneſs of a different ſize is wanted, there muſt be rollers moved with different degrees of velocity?

A. Moſt certainly.

Q. Now, with regard to ſecuring thoſe rollers upon the roving machine, they talk to me of weights being neceſſary; are they neceſſary?

A. No matter whether weights or ſprings are neceſſary, ſometimes the rollers will do themſelves.

Q. Are there either weights or ſprings there?

A. It ſeems to me to be the weight, the gravity of themſelves.

Croſs-examined by Mr. Serjeant *Bolton*.

Q. Are there either weights or ſprings in the ſpecification; look and tell me?

A. No, I don't ſee any.

Q. Then they muſt have weights or ſprings to keep them down, and there are neither?

A. I apprehend the roller itſelf will be ſufficient.

Q. Yet I aſk you one thing, did you make this machine without conference with Mr. *Whitmore*?

A. We had liberty to talk with each other.

Q. Perhaps, Mr. *Allen*, he had tried to make ſomething like it before; did you ſee that he had made?

A. I don't think he had tried to make it before.

Q. Don't you know, upon your oath, he had?

A. No, I don't know that he had.

Q. Upon your oath, Have you not ſeen the things he made?

A. I never in my life ſaw any thing that he made, or any thing of the ſame kind, or ſimilar to it, or heard of any thing of the ſame kind.

Q. You did not, upon your oath?

A. No, nor ſaw it, or heard from any-body of his making one.

Q. Have you got that machine, *Allen*?

A. It is in Court.

Q. Have you not made any one, without conferring with any other perſon?

A. Only with a friend concerned in making it.

Q. Have you not ſaid and ſworn before, at a former examination, you made this from the ſpecification, without talking with any-body?

A. No.

Q. Do you mean to ſwear that you have not ſaid that before?

A. What I ſay now, I ſaid before, we had liberty to talk about it.

Q. Did you ſay, in your former examination, you had talked with *Whitmore* about it?

A. Yes, I did.

Mr. *Bearcroft*. Q. Did you do it yourſelf, or did any-body elſe aſſiſt you? was the queſtion put to you; and the anſwer is, A ſervant of mine aſſiſted in making another model.

Mr. *Allen*. Give me leave to explain, that I had no ſervant at the ſame time; I meant a friend, I ſaid a friend I had conſulted, that was Mr. *Whitmore*.

William

William Whitmore ſworn. Examined by Mr. *Wilſon.*

Evidence of William Whitmore.

Q. What buſineſs are you, Sir?

A. I call myſelf a clock and watch tool-maker.

Q. Have you been uſed to make models of machines?

A. Not very much to making models of machines; but making machines for different purpoſes, in the *Birmingham* manufactories principally.

Q. Have you ſeen that drawing and the ſpecification?

A. I have, Sir, or one ſimilar to it.

Q. Can you tell me when or about what time it was that you firſt ſaw it?

A. I believe about the beginning of laſt *January*.

Q. Who ſhewed it to you?

A. Mr. *Stead*.

Q. For what purpoſe?

A. To know if I could make it; that is, make a model from the drawing and ſpecification

Q. What did you do it by?

A. I examined it about half an hour, or it might be a little more, I cannot exactly tell as to the time; I told him, I thought I could; I looked at it, and I underſtood many of the parts, and, of courſe, I concluded I could make it out; and therefore I told him, I would undertake to make one; if I did not ſucceed, I would have nothing for my trouble, or nothing for my pains, I don't exactly recollect the words.

Q. That is the ſubſtance of what paſſed at that time?

A. Very likely there might be a model deſired to be made.

Q. Without any knowledge except what you derived from that ſpecification and drawing, and the knowledge of the old machine for carding, did you or not make that?

A. I had not even the knowledge of the old machine at firſt; about three weeks after that, Mr. *Arkwright* ſent for me, and he aſked me to make a drawing; in the courſe of the converſation, which was perhaps an hour, or perhaps two or three hours, it happened to be *Saturday* night, and, to deſcribe it in the beſt manner I could, by the *Sunday* morning, ten o'clock. I did ſo, and Mr. *Arkwright* thought I could make a model, and wiſhed me to make one; however, the time was very ſhort; I did not much like the job; he wanted it in five or ſix days; I told him, if it had been as many weeks, I might: however, he ſhewed ſome deſire I might make one; accordingly I ſet about it, and it is in Court, I believe.

Q. You know *Allen?*

A. *William Allen?*

Q. Aye.

A. I do.

Q. Had you any converſation with him upon the ſubject?

A. We were ordered to confer together; that is, Mr. *Arkwright*, as I had ſeemed rather unwilling to make the model, aſked me, if I would aſſiſt Mr. *Allen?* and we had ſome little conference together.

Q. That was not much?

A. No; he did ſee my model before it was finiſhed, I believe.

Q. You believe he ſaw it before it was finiſhed?

A. I believe he ſaw it before it was finiſhed: Whether he collected any material matter from it, I cannot tell; he was as forward as I was about it; I believe he finiſhed his as ſoon as I did; it went upon the *Monday* night by the coach, and mine was not finiſhed an hour before the coach ſet off.

Croſs-

Cross-Examined by Mr. *Bearcroft*.

Q. I obſerved you ſaid you had two or three hours converſation with Mr. *Arkwright* ?

A. Yes, I had.

Q. Did you talk of politics ?

A. We talked about different ſubjects.

Q. Did you at all touch upon the ſubject with Mr. *Arkwright*, about the ſame machine of his ?

A. We touched upon it at laſt.

Q. I verily believe, whilſt you were there, that was the principal point you touched upon ?

A. No, that was not the tenth part of our converſation, nor was it directed to me ; I did not much like the job.

Q. You did not much like the job, becauſe it was to be finiſhed in two or three days ?

A. No, Sir, we wiſhed to have time to finiſh.

Q. You ſaid you could eaſily make it, did he explain how you could eaſily make it in four or five days ?

A. No, he did not.

Q. How came you to alter your mind ?

A. I had three or four days grace.

Q. You ſpent that time in praying for ſome ſupernatural aſſiſtance, when you talked of grace, I ſuppoſe ?

A. I believe it was not from Mr. *Arkwright* ; I had not it from him immediately, but a Gentleman that I dare ſay had it from him, that if it was finiſhed in three or four days more it would do.

Q. That was what you called days of grace : Now mind, *Whitmore*, upon the oath you have taken, do you mean to ſwear you had no deſcription whatever except what you derived from that fact ?

A. I had the deſcription after I had made the beginning of the model, I had a deſcription of the old machine, as it was then termed, but it was all alike to me at that time, I did not know whether it was old or new.

Q. How would you know any thing about the machine, unleſs you were told of it ?

A. I was told that was the old one.

Q. You would be puzzled with buſineſs, and not able to make it, as nobody poſſibly could, unleſs they brought you acquainted with that part called the old machine—I tell you why, if you obſerve, all this new invention is adding ſomething to the different ſides and parts of the old machine ; if you had no notice of it, how could you have done it without the old machine being deſcribed to you, upon your oath ?

A. I made the beginning of the old machine before I was told of it.

Q. By what deſcription ?

A. By the deſcription of the back cylinder.

Q. That is Latin for the old machine ?

A. I don't know whether that is Engliſh or Latin.

Q. Why does that give you an idea from the words that are alluded to in the ſpecification, is that a back cylinder, the deſcription is, No. 3. delivereth its contents upon another cylinder, behind that cylinder that is deſcribed ; but why does that give you an idea of ſuch a machine as that ?

A. I did not know very well what a machine this was, for I did not ſee any thing of this part of the matter at all.

Q. All that you found there was the back cylinder?
A. Yes, which No. 3. ſhews.
Q. That made you underſtand this machine?
A. I don't ſay I had a thorough knowledge of it, I had ſome information given me reſpecting the old machine, or back cylinder.
Q. Who gave you that information?
A. Mr. *Stead.*
Q. The honeſt Quaker?
A. Yes, he is ſo thought.

Dr. *Darwin* ſworn. Examined by Mr. *Chambre.*

Evidence of Dr. Darwin.

Q. You have ſeen the ſpecification and ſeen the drawings, I believe you have been converſant in mechanics?
A. Yes, Sir.
Q. You have ſeen the writings and drawings?
A. I believe I had ſeen the machine, previous to the drawings, about three months ago.
Q. When you ſaw the drawings and the verbal explanations, did you take them into conſideration?
A. Yes, Sir.
Q. Did you endeavour to form any opinion, whether from thoſe drawings, and that verbal explanation, you could have directed the conſtruction of the machine?
A. Yes, Sir, I could.
Q. You are of opinion you could have compleated the conſtruction of the new machines?
A. Yes, Sir.
Q. Have you any doubt upon the ſubject?
A. None, I think it extremely eaſy.
Q. You have no doubt you could have done it, it being extremely eaſy?
A. I think there are all the eſſential parts there, and with a little time I could eaſily have done it.
Q. Do you think it is liable to any objection upon account of not having an exact ſcale of proportion?
A. It would have been worſe if it was intended for different purpoſes, but it being for one kind of manufactory it is not ſo material.
Q. You think it would have been worſe if it had been intended for different purpoſes, and different materials; ſo the ſcale which would have ſtood for manufacturing one ſort of material, would not have ſtood for manufacturing another?
A. No, of different fineneſſes.
Q. Do you perfectly comprehend the ſort of velocity given to the rollers?
A. I eaſily ſee they muſt differ; in order to draw out the thread, they muſt neceſſarily have different velocities.
Q. Is there any circumſtance upon the face of the drawing itſelf, that points it out?
A. Yes, the different diameters.
Q. Are you acquainted with the operations that are uſually performed of that ſort?
A. I have made machines of every ſpecies the particular ſubject of my attention.

John

John Haggett ſworn. Examined by Mr. Serjeant *Adair*.

Q. What are you, Mr. *Haggett?*

A. I have ſuperintended a cotton manufactory.

Q. Have you been long acquainted with that buſineſs, and the conſtruction of that machinery?

A. I ſuppoſe I have been acquainted with it fourteen years.

Q. How long have you known Mr. *Arkwright?*

A. Nearly the ſame time.

Q. Are you acquainted then with the machine uſed before Mr. *Arkwright*'s patent in the year 1775?

A. Yes.

Q. Now have you ſeen and conſidered Mr. *Arkwright*'s ſpecification?

A. I have.

Q. Does it appear to you to be a ſufficient deſcription of the improvements upon the old machines, for which he obtained that patent?

A. I think it is a ſufficient deſcription for the perſon acquainted with the old machinery to make one from the ſpecification.

Q. You think any perſon acquainted with the old machinery might make a new one from the ſpecification?

A. Yes.

Q. Do you believe you could ſo adapt it?

A. Yes.

Q. I believe you know ſomething of the progreſs of this, made by Mr. *Arkwright?*

A. I ſuppoſe I do.

Q. Was you employed by him at any time to make any experiments or parts of thoſe which are the ſubject of this patent?

A. I was.

Q. Will you ſtate how?

A. Mr. *Arkwright*, in making theſe diſcoveries, employed me; I was employed by Mr. *Arkwright* from the firſt beginning of thoſe machines, for which this patent was obtained, and in trying experiments from the directions I got from him.

Q. Did Mr. *Arkwright* give you your inſtructions at once what to do, as a thing he knew before, or had borrowed from any body elſe, or were there repeated experiments tried?

A. He gave me directions by chalking upon a board ſometimes, and crooking of lead and wire and things in that ſhape.

Q. Were his firſt directions thoſe afterwards abided by?

A. Principally, I remember making changes in ſome particular parts of them.

Q. According as he found it anſwer to different experiments?

A. Yes.

Q. Do you know the crank uſed in taking the cotton off the cylinder?

A. Yes, I do.

Q. When did you firſt become acquainted with that inſtrument?

A. I think, as far as I can recollect, it was in the beginning of 1772, I cannot be quite ſure.

Q. Were you employed to make that?

A. Yes, Sir, I was.

Q. Do

Q. Do you know whether it had been in uſe, or known in the manufactories before, to that purpoſe?

A. Never, to my knowledge.

Q. Who employed you to make that?

A. Mr. *Arkwright*.

Q. Do you know any thing reſpecting other perſons having made it before that time—immediately before or after?

A. I do not.

Q. You do not know of it having been in uſe before by the manufacturers at that time?

A. No, I do not.

Q. Do you know any thing about *John Kay*?

A I have ſeen *John Kay*, and have worked in the ſame ſhop he has.

Mr. *Bearcroft*. I object to your aſking him any thing about *Kay*—I will let you put it, if you will pledge your credit upon it.

Mr. Serjeant *Adair*. Now anſwer the queſtion.

A. I have ſeen *John Kay*, and have worked in the ſame ſhop along with him.

Q Now, what have you ſeen him at work upon?

A. I have ſeen him at work in making rollers, and things in different parts of the machinery in uſe at that time.

Q. By whoſe directions?

A. By Mr. *Arkwright*'s.

Q. Did you ever hear him ſay he had received thoſe inſtructions or information from any body elſe but Mr. *Arkwright*?

A. I cannot ſay that I ever did.

Q. Then you never remember at any time, his ſaying he had received inſtructions from any body before Mr. *Arkwright*?

A. No, I do not.

Thomas Bell ſworn. Examined by Mr. *Cowper*.

Evidence of Thomas Bell.

Q. What buſineſs are you?

A. A joiner.

Q. Did you ever work for Mr. *Arkwright*?

A. Yes, five years.

Q. How long ago is it ſince you firſt began to work for him?

A. About ſeventeen years.

Q. Was you at all concerned in preparing thoſe machines in the different progreſs of time?

A. I was at work upon them during all the time I was with him, preparing them.

Q. You know Mr. *Arkwright*'s patent machine, the ſubject of this diſpute at preſent?

A. Yes.

Q. Was you concerned in making it, or the parts of it?

A. I was concerned in making parts of it.

Q. Was the machine invented from time to time, or patterns given to make it all at once?

A. From time to time, and ſometimes it would be pulled all to pieces and new ones ſupply their places.

Q. Do you remember ſeeing the crank when Mr. *Arkwright* firſt uſed it?

A. Yes.

Q. The

Q. The crank, No. 4. had you never known of its being uſed before Mr. *Arkwright* uſed it ?

A. No, I never did.

[*Here the Evidence cloſed on the Part of the* Defendant]

And Mr. *Bearcroft* addreſſed the Court, in Reply, as follows :

Gentlemen of the Jury, I ſhall not affront you with any apology for the performance of my duty, becauſe it will conſume your time in doing it. You are too well acquainted with yours, to with-hold your patience from a full hearing of every part of this caſe, ſince it certainly muſt have appeared to you, for a conſiderable time paſt, and it is agreed on all hands to be, a cauſe of much public as well as private importance. I ſhall, therefore, ſubmit with ſatisfaction, to your judgment, certain obſervations which I hold it incumbent on me to make, not doubting to receive all reaſonable attention. I promiſe you, however, that I will not waſte your time in any wandering obſervations, but I will ſtate the queſtions that remain for your deciſion—I will take the liberty to make ſome ſtrictures upon the ſubſtance of the evidence which has been given on both ſides, without adverting to every particular witneſs by name, or rehearſing every part of his evidence, as has been done by my learned friend with reſpect to our witneſſes.

Gentlemen, I ſtand up to contend now, as I did at the outſet, that three propoſitions are made out, every one of which deſtroys the validity of this patent.—I quit the firſt iſſue in obedience to my Lord's directions ; but the other three, or any one of them, will equally anſwer the purpoſe.

The firſt of thoſe three allegations admits of contention in evidence upon both ſides, and it has not been wanting here ; the queſtion is, Whether the balance and the weight of evidence is not manifeſtly in our favour ?

Gentlemen, that firſt propoſition is, that this machine for preparing cotton and other materials for ſpinning, was not a new invention upon the 16th day of *December* 1775, when this patent was obtained.

That is the propoſition, and every word that I have ſtated in it, is an eſſential part of it.

Gentlemen, what is the invention ? Mr. *Arkwright* ſtates, " A machine " for preparing cotton and flax upon ſimple principles, but in a very dif- " ferent way than ever was done before by ſpinning"—That is the thing profeſſed to be done. Now is this done by any new invention ? If it is, is it not done by the application of ſeveral other things to the old carding machine ? and I ſhould be beating the air, inſtead of talking to men who underſtand me, if I did not give you full credit, at this time of the day, for underſtanding what the old carding machine is. Does the merit of the invention conſiſt in that ? why is it not ſo deſcribed ?—I aſked my learned friend the queſtion, early in this buſineſs, but to this inſtant I have not received an anſwer. I truſt, my Lord will think it no immaterial queſtion, for if the merit of this machine was ever ſo new and ever ſo meritorious, I ſay, they have not deſcribed it in their patent, not even in the outline of it ; for if the merit and the novelty of the invention conſiſts in the application of all the parts in the old machine, and any new matter added, any invention to produce any new effect in its application to the old carding machine, I inſiſt upon it, in point of law, in order to maintain their patent, *that* ought to be their deſcription ; and though I mean to avoid repeating what I have ſaid before, yet it is material to repeat this, becauſe I appeal to your recollection, whether any one of the counſel upon the part of the defendant has been bold enough to attempt a ſingle anſwer.

Gentlemen, it is a ſettled point, and I truſt my Lord will tell you ſo, for it has been ſo determined, that if a new invention, which is the ground of a patent, is the addition of a new application to an old machine, they ſhould ſo deſcribe it in their patent; for that, the patent ſhould be granted; it was expreſsly determined in a caſe in which ſeveral of the Gentlemen were concerned—Mr. *Erſkine* was, and I was myſelf—I remember it perfectly well; "*Williams* againſt *Brodie*:" *Williams* brought an action againſt *Brodie*, for invading his patent for a machine, which was deſcribed all of it together, taking it in the patent, and covering the old ſtove, which was an exiſting thing, which the world were in poſſeſſion of before.—What was the plaintiff *Williams*'s merit? Very great; it was allowed, on all hands, to be exceſſively ingenious, and perfectly equal to maintain a patent—It was the inſertion of a pipe for conveying the air into the ſame ſtove, to the great convenience of every body that uſed them; it was much admired, and the whole world bought it, but it was not deſcribed properly in the patent; you have taken it with the addition, deſcribing the thing in your patent, and the ſtove with it, but they have not deſcribed it as it is, that is, they had not deſcribed it as a new application of a new invention upon an old thing;—upon which, the noble Lord that tried that cauſe directed there ſhould be, and there was a verdict for the defendant.

Gentlemen, you ſee the importance of this diſtinction, for if an addition is made to an old machine, and you chuſe to deſcribe it all together in your patent, nothing but confuſion will follow; and although the patent, upon the face of it, ſeems to cover the whole, it does not. Many are the inventions (which are extremely ingenious, and of infinite value to this country) of new applications to that wonderful machine, the old ſtocking frame, that was the form of all the patents; we know them all, we have ſeen them; they are patents for that application, deſcribing it as a new application.—Is this ſo?—No; what ſay the friends and witneſſes of Mr. *Arkwright?* they ſaw ſuch as you ſee, the two machines together; and thus it is deſcribed to be, to all men who are not ideots, ſays Mr. *Moore*, but worthy the name of mechanics; and by the eye looking upon the drawing, or by the eye accompanied with the deſcription that accompanies the drawing, they will ſee every part of the old machine is referred to, and all the reſt of the witneſſes were called to tell you ſo; and they ſay every part of it is plain, particularly one of the witneſſes who is now called,—that they are able to make the old machine as part of it.—Now let us ſee, taking theſe as additions to the old machine, can you take this as a real novelty at the time of this patent in 1775?

Gentlemen, firſt of all, the alteration that ſtrikes my mind and meaning, is this feeder; What is it?—Cotton upon cloth. What was the old one?—Cotton upon cloth. What is the difference?—It is rolled up ſo, if you take a view of the end of it, it makes an extreme pretty figure in the ſpecification; but have any one of the witneſſes proved to you any important or great convenience of the ſort it deſcribes? to you the Jury, I will put the queſtion (and then that part of the caſe will be diſmiſſed) to ſay upon your oaths, that the invention of this cloth, rolled up and covered with cotton, is ſo ſuperior to the old one in uſe long before — That it alone is enough to ground the merit of a new invention? Why ſhould it be ſuperior—for that preſents the cotton to the card which draws in the cotton; and ſuppoſe the original was filled with the hand, that is ſufficient to feed the machine, and this feeder does no more; I venture to rely upon it, that the novelty

and

and merit does not lie in any difference between that cloth feeder rolled up, or the old cloth feeder, which is allowed and agreed upon all hands to be equally good.—I am now going to examine all the parts, and ſee whether any part of it has any merit, ſo as to make that machine an abſolute novelty, ſo that in point of new diſcovery it is intitled to the patent.—I will undertake to prove to you (applying all that he makes uſe of to the machine) there is no eſſential difference between them.—After the cloth feeder, we come to the old carding machine. I am hunting after novelties —Then we muſt diſmiſs that old machine.—Then what is the novelty? It is a cylinder; it is ſaid to be a cylinder that procures a perpetual carding—Is that a novelty? *Pilkington* ſwears the contrary. Then Mr. *Wood*, whom I trembled at when I ſaw him, produced as a man that was to contradict *Pilkington*; but how has he contradicted him? I refer you to his evidence, you will have it very correctly from my Lord. He tells you, in 1774, or the beginning of 1775, in the end of that year, at the time of the patent in queſtion, he himſelf uſed, What?—a cylinder that performed a continual carding, exactly in the way deſcribed by Mr. *Arkwright* in his ſpecification; for he ſwore it was by means of a cylinder with parallel fillets upon it.—Then there is no novelty in that invention; therefore in that part of the ſpecification moſt certainly there is not. Say the Gentlemen, that is an improvement; and if we have a patent, may we not improve it afterwards, and uſe it? Moſt undoubtedly you may; but what have you got this patent for? Subſtantially only for that which exiſted at the time of the patent: It is not granted for that which is to be invented afterwards; but finding, as they ſay, the ſpiral fillets more convenient in a way you were perfectly in poſſeſſion of hours ago, inaſmuch as that takes all off, I ſhould be glad to know upon what ground that is to be taken to be part of the patent; if it is not, the merit of the ſpiral fillet is totally out of the queſtion, for it is no part of the ground of the patent, as it is not ſpecified, and did not exiſt at the time; it is an after-thought, that is ſuggeſted; and an improvement, as Mr. *Arkwright*'s own counſel have ſtated to you. Then, *Pilkington*, inſtead of being contradicted by *Wood*, is confirmed by *Wood*, that in the latter end of 1774, or the beginning of that important year 1775, that very cylinder, which performs the continual carding, was performed with a filleted cylinder with parallel lines, exactly in the ſame way as ſtated in the ſpecification. It is not in public uſe, ſays my learned friend! I don't know what he means by not being in public uſe; it was uſed by this man in the preſence of *Arkwright*, he uſed it for the purpoſe of his trade, it was uſed in the preſence of all his ſervants that were employed about him, and I ſhould be glad to know whether that is not in public uſe, if my learned friend did not give ſome definition or clear line of what was public uſe, to ſhew you this was not ſo.—Oh! ſays my learned friend, it is clear, that was all ſtolen from Mr. *Arkwright*— Why?—Becauſe, after Mr. *Arkwright* threatened him, he never ſuffered Mr. *Arkwright* to come there again, nor would he ſuffer any ſtrangers or any-body elſe to know what was going forwards. Has it not been proved, that was Mr. *Arkwright*'s courſe, and the courſe of all the great manufacturers of the kingdom; and if you happen not to know it, I muſt inform you it is of great importance they ſhould ſhut up their doors, and not admit people, and I wiſh they would learn to keep all foreigners out of their manufactories; I have heard ſay that ſome foreigners of rank have done, what is hardly juſtifiable, availed themſelves of admiſſion conceded to their quality, and carried away the ſecret of ſome

valuable

valuable machines in this country. But the ſhutting it up, they ſay, is a proof he was afraid of Mr. *Arkwright*. Surely, my friend forgot the converſation between *Pilkington* and Mr. *Arkwright!* It is proved out of Mr. *Arkwright*'s own mouth—he ſaid, "You had better get a patent for it; as "to ſwearing the men, it does not ſignify a farthing, for if they can get a "penny more, they will tell any-body." Have you any doubt, upon the evidence, if Mr. *arkwright* thought this *Pilkington* was invading his patent, he could not have got ſome of the various ſervants that aſſiſted in that operation to have given evidence againſt him?—That Mr. *Arkwright* can get witneſſes to ſpeak out, the whole defence to-day has amply demonſtrated.

Gentlemen, what could be the reaſon that Mr. *Arkwright* did not commence an action againſt him? Mr. *Arkwright* is ready enough with his actions—God knows, he would have brought his action againſt Mr. *Pilkington*, if he had dared; and the true reaſon why he did not, was that which appeared in Court to-day, that is, they invented, and were in the exerciſe and enjoyment of it before him; that is the only and true reaſon that operated with Mr. *Arkwright*, to prevent his bringing an action.

Gentlemen, I am ſearching, if you pleaſe, now, upon the firſt head, upon the novelty of this matter, to ſee if I can find out any thing new. I have ſhewn, I truſt, the cotton feeder is not ſo; I have ſhewn, the continual carding by fillets is not ſo. You muſt put the ſpiral fillet out of the queſtion, as it was not exiſting at the time, nor in the ſpecification.

Now let us us look about, and ſee what elſe. There is the crank.—Is that new?—Do I dream, or did the learned ſerjeant, hours ago, in his ſpeech as counſel for the defendant, tell you, the evidence about the crank was too ſtrong to ſtruggle with? I appeal to your recollection, I will not waſte your time, I ſtand upon a clear ground; I have a right to that concluſion which is drawn from their own evidence, though I don't want it; I believe, my Lord has a note of what one of their witneſſes ſaid, that it was uſed in 1772, and now I will not ſay a ſyllable more about the crank.

Then we are to refort to another account, that is what you never ſuſpected when you read the ſpecification of the ſeveral machines—For what? To prepare cotton for ſpinning. I will go to the roving machine; where is the novelty there?

Gentlemen, I beg your attention; my friend aſks, Is there no novelty at all in the rollers, which is the moſt ingenious part of the invention? I admit it to be ſo, but I ſay there is no novelty in it at all, becauſe the witneſſes upon both ſides have expreſsly agreed, even Mr. *Moore*, who, alas! is no longer any friend of ours, but a zealous partizan of theirs; in truth, there is no doubt, as a witneſs, he is intitled to that character; no man can ſay otherwiſe of him, but that he is the zealous friend of Mr. *Arkwright*, for this reaſon, that never fails to increaſe zeal when they change ſides, becauſe you ſee he was our friend, and once our witneſs (but ſo long as they live, renegadoes, when they change their religion, are moſt violent againſt it); he ſeemed to be ſtruck with a particular piece of the evidence when I called to him; I fanſy he was ſo much ſtruck with it, he really forgot the character of an auditor and witneſs for the party; I caught him in a character that I have no doubt about—Let me ſee a man's actions, and whether he is ſtruck with evidence for the defendant or the plaintiff, I will then tell you which ſide he wiſhes for. One would hope to have witneſſes without wiſhes; I dare ſay, he has worked himſelf up to think differently from what he did, and directly oppoſite to that opinion which he was of, in the former cauſe;

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he is exceſſively fond of it, he had ſome ſtruggle to maintain every part of his evidence with my friend Mr. *Erſkine*, which you will be ſo good as to recollect. The rollers, I ſay, were not new in *December* 1775, becauſe they were invented before; and if you will pleaſe to give him the full merit of it, we will ſuppoſe it, by Mr. *Arkwright*, upon which his original patent for ſpinning was granted him, and for which original patent has he not had the benefit for fourteen years, and though my learned friend aſſerts he has got no benefit by it, he appears to be ſo much benefited by it as to lay out 30,cool. here, and 20,oool. there, which his own counſel have made out. What are the profits of patentees, when they can lay out twenties and thirties of thouſands of pounds? I ſhould not overſtate it with reſpect to Mr. *Arkwright*, if I ſtated his profits to be, as I did originally, ſuch as raiſed a great fortune of above 100,oool. upon his receipts, from the benefits of his original patents for ſpinning; but he is not content; Who is content with getting of money? It is a part of the character of every man that gets money, that he wants immediately to double it. I wiſh I could recollect the words of the printed caſe, "he wanted to *connect* and *confirm* and to *conſolidate* the "*former patent with the preſent.*" That appears from his caſe.

Gentlemen, Did not I tell you, *that* was the ſecret of the whole?—That was his great object; and yet I vow to God I did not know of that expreſſion in the caſe; but he lets the cat out of the bag in the caſe, before the Houſe of Commons, and he tells you his great object is to preſerve and elongate that patent which expired too ſoon, though it laſted fourteen years; he cannot by law get the ſame thing which he tried the Houſe of Commons for—and now as all thoſe rollers for roving are the identical rollers for which he had the benefit of his former patent, and applied to the ſpinning; for even his own friend Mr. *Moore*, has allowed, though they are not quite the ſame thing, yet all the difference between the roving and ſpinning, is, the one is a coarſe thread, the other a finer; and you are told, when they put a quantity of freſh carded thread, and the coarſe or roving together, then it ſpins it into a fine one—where is the novelty, if this produces the ſame effect, and the difference only coarſe or fine? is that the novelty of the invention?—Oh, yes, ſays the learned Serjeant, it is, it never occurred to any body before—there is no proof of it. To take the learned Serjeant's words, "no proof," if it did not appear in point of evidence, whether it was or not, where is the invention?—A ſimple difference between a coarſe and a fine thread? If it is equally ſpun by thoſe things which he has had the benefit of by a former patent, I will admit it that merit, it is exceſſively ingenious; I have a right to ſay to Mr. *Arkwright* of all men breathing, that in *December* 1775, *that* had been in public uſe, he had permitted it to be in public uſe, and had received a great deal of money for ſo permitting it. Then we are to try, whether there is not ſomething elſe that remains as a novelty; and I do think, in the courſe of hunting, which I have taken after this novelty of carding and roving, I have fairly hunted them into that ſame box, and they felt it themſelves—into the tin canniſter, and after trying every thing, after having gone over and through the whole, and if they could not make you believe all were novelties, and each of them deſerving a patent by itſelf, at laſt they take refuge in the tin box. The learned Serjeant himſelf ſays, this tin canniſter is itſelf an invention that deſerves a patent, Why?—becauſe they have clapped a couple of rollers upon the top of it. *That*, our witneſſes ſay, does more harm than good. That was more to be attended to than any of the teſtimony, for that is evidence that ſtands uncontradicted to

this moment; ſome people, the firſt manufacturers in point of profit and revenue, work it without rollers, Why? Becauſe they cannot buy it? No, becauſe they cannot get any thing by it.

Gentlemen, There is not a bit of novelty in this to be found, any more than in the crank: As to that, the uſe of it has been proved in a variety of ſhapes; as to the uſe of the cann, that is certainly a very ſimple proceeding, after the thing is roved and permitted to drop (to talk plainly) into a tin pot, which is an old invention, contrived to turn round, and in doing that, it muſt of neceſſity give it a gentle twiſt, and then we have fairly traced the fox to his hole, and I truſt, have dug him out of it. The laſt place Mr. *Arkwright* took refuge in by way of a new invention, is this new tin cannifter, after that, (I am pretty ſure I am right) there has not been an attempt made by the Counſel to ſtate any novelty of invention. Theſe obſervations, I flatter myſelf, will be ſufficient to maintain our firſt allegation, and *that* my Lord will tell you is ſufficient to intitle the King to your verdict.

Gentlemen, I will now proceed to another point; Suppoſe it is new, (taking it for granted for the ſake of argument) Mr. *Arkwright* is not the inventor; and now I come to a very ſerious queſtion indeed, I have called to you a witneſs, a man of unſullied character, (Mr. *Hayes)* who was bred up in this buſineſs, who, upon his oath poſitively tells you, he himſelf invented rollers exactly like thoſe, and that they were employed in the ſame buſineſs, that he communicated it as a ſecret to one *Kay*; *Kay* is brought, and he is confirmed by his wife, and he tells you this concerning Mr. *Arkwright*, and I will not be ſo polite now, as I am ſuppoſed to have been before, for I have no difficulty to ſay, that Mr. *Arkwright* ſtole this invention.

Gentlemen, If you believe the man, it is the cleareſt of all proofs—*Hayes* invented it, he communicated it to *Kay*—*Kay* tells Mr. *Arkwright* of that—*Arkwright* is not ſtruck with it at firſt, he goes to bed, and his good genius upon his pillow makes him think of it; by the bye, many manufacturers, it has been proved, have, in the day time gone to bed, and ſhut up their windows, to think the more intenſely upon theſe ſubjects, and by the morning, (for this is the only merit of Mr. *Arkwright (by the morning)* he certainly had the ingenuity to be ſatisfied in point of fact of the value of this invention. That is a merit. Being in poſſeſſion of that opinion, What does he do? He comes to the man that told him that *Hayes* had found out this; What does he do with this man? He takes him for a ſervant, keeps him two years, employs him to make ſeveral models of that which is now called a new invention, and made the foundation of this patent. How is all this evidence to be got rid of?—By a cool obſervation of the Counſel at the bar: Pardon me, Gentlemen, for uſing the expreſſion, when it comes to be examined, it is perfectly ridiculous; there is this *Hayes*, and *Kay* and his wife, three in all to confirm each other in this—What is the anſwer to it that is given by the Counſel?—Oh! Mr. *Hayes* is a good honeſt man, ſays the Serjeant; if he ſtood by himſelf, we could not attack his credit, but *noſcitur ex ſociis*, ſays my learned friend, but he keeps ſuch horrid company—That company Mr. *Arkwright* was glad to borrow from him and keep two years—My learned friend, ſays, Oh! he is a ſad man, a felon that committed larceny, and fled from proſecution for fear of Mr. *Arkwright*. They choſe to uſe that weapon, that two-edged ſword, Mr. *Arkwright* frightened this fellow out of the country, I doubt it not. There is not a more miſerable or dangerous ſituation for a poor man, than to be in poſſeſſion of a ſecret, of which a powerful and rich man dreads the diſcovery.

Gentlemen,

Gentlemen, Hiſtory furniſhes inſtances, where men have loſt their lives for being in poſſeſſion of royal ſecrets; many a perſon has been driven out of the country by the power of a private perſon, for the ſame reaſon. The learned Serjeant ſaid, he dared not to return, he dared not to face Mr. *Arkwright*—What has he done to-day? Has he not faced him and dared to provoke him, and given evidence? if Mr. *Arkwright* ſhall think it proper, has he not now an opportunity of proſecuting him? yet the man dares to preſent himſelf face to face; notwithſtanding which it is ſaid, this man is not to be believed. I would not have you, ſitting there, believe what every man ſwears, it is not fit you ſhould. It is not a ſimple, ſingle propoſition of fact, which this man ſwears, he tells you a fact, which, if untrue, might be contradicted, and might be proved to be untrue. He ſays, two years he was employed in making models in *Arkwright's* houſe. Why take *John Kay* to be his ſervant two years, except it be for this? thoſe facts are clear and cannot be done away by ſuch kind of evidence. Oh! but ſays the learned Serjeant, you muſt conſider, before Mr. *Arkwright* could get his patent, he muſt take his oath he is the inventor. What the man means when he takes an oath that he has found out an invention, I cannot tell, unleſs it was that he found it from Mr. *Kay*, therefore, he might think himſelf the inventor. But let Mr. *Arkwright*'s oath upon a proper occaſion be of what weight it may, permit me to remind you, Gentlemen, of the oath you have taken, namely, to try this cauſe upon the evidence; now, no man can by law give evidence for himſelf, and therefore the oath of Mr. *Arkwright* is totally to be laid out of the queſtion. But, ſays the learned Serjeant, it does not depend upon that; Mr. *Arkwright* being the firſt mechanic in *Europe*, his fame is immortal, and the man that contradicts him, and charges him with an immoral action, muſt not be believed.

For a moment, Gentlemen, let us go back a little in point of time. There was a time, and it now behoves us to remember it, when Mr. *Arkwright* and poor *Hayes* were equals. Equally rich and poor, and they lived together, and were of equal credit; and how do we find that Mr. *Arkwright* is this great mechanic, that the kingdom never ſaw the like; all I have learned about him, is, he is mechanic enough when he finds any perſon in poſſeſſion of a good invention, he is prudent enough to ſeize it, you never find him a practical mechanic, but ſince he has found this out from *Kay*, he has thought it worth his while to nurſe and attend to it.

Gentlemen, Three witneſſes have poſitively ſworn to a fact which I truſt they have a right to be believed in.

Gentlemen, I don't find the learned Serjeant was ſurpriſed by this evidence, no man of common ſenſe will believe Mr. *Arkwright* is the only man *in England*, that never heard the accounts ſpread abroad by every *man* that ſpeaks upon the ſubject, that he did get this from *Hayes*, by means of *Kay*, it is a notorious ſtory in the manufacturing counties, all men that have ſeen Mr. *Arkwright* in a ſtate of opulence, have ſhaken their heads, and thought of theſe poor men, *Hayes* and *Kay*, and have thought too, that they were entitled to ſome participation of the profits, What is the conſequence of this? Mr. *Arkwright* muſt have expected this evidence, Where are the witneſſes that tell you Mr. *Hayes* has a bad character? Where are the witneſſes that tell you *Kay* and his wife are of bad character? or that either of the three is not intitled to belief upon their oaths.

Gentlemen, I trouble you with theſe obſervations, becauſe this is the evidence that goes to a very important and deciſive point. I ſubmit to you,

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this evidence ſtands uncontradicted, is there any thing in this cauſe that can call upon you to treat the oaths of three witneſſes ſo lightly, as to ſay We don't believe a word of what they have ſworn? But if you believe it, our caſe is proved, if you believe that the merit of the invention was not *Arkwright*'s invention, but the invention of *Hayes*, or of any other man than *Arkwright*.

Gentlemen, I come now to the laſt queſtion, which is the ſame that has been twice tried. It was decided one way in this Court, another way in the Court of Common Pleas, it comes therefore fairly and without prejudice for your deciſion upon the preſent trial, and the preſent evidence. I appeal to my Lord, and you, if I don't put that matter fairly to you. Now I addreſs myſelf to you to make out the laſt point in queſtion, as to which, I never have been more confident in my own poor judgment, that we are clearly right. That point is, that Mr. *Arkwright*, by this ſpecification, not only did not make a fair diſcloſure, but purpoſely intend to puzzle and confound the ſecret, to prevent its being underſtood. Is there any doubt, Mr. *Arkwright*, this great mechanic as he is called for certain purpoſes, was perfectly equal to the deſcription? he could have done it fairly, if he had been fairly diſpoſed to do it.

Gentlemen, I will convince you, when he has to explain he has the ability to do ſo. You heard at the beginning of the day read, at my deſire, his ſpecification under the firſt patent for the rollers for ſpinning, Was not that a diſcovery of importance?—Has not he found it ſo?—Was there any reaſon why he ſhould be more willing to part with *that* to the French than the new patent? if there is, let Mr. *Arkwright* or his friends, or his Counſel (if they are not all gone—No, they are not all gone, one ſtill remains I ſee.) Let any man ſtill get up and interrupt me, I challenge him to ſay why he ſhould be more diſpoſed to let the French run away with *that* than the preſent. Only mark the diſcloſure in the firſt patent, with all his fears about him; I beg you to take it in your hands: That is the ſpecification of his firſt patent, there he does all which I wiſhed him to do here, all that a man does who fairly means to diſcloſe the thing he does, that is to ſay, there is that exact drawing of the machine itſelf, the perſpective, in ſuch a ſituation, you can beſt ſee the moſt of its parts. But becauſe the drawing in perſpective, would of neceſſity hide ſome parts of it, the principal parts you will ſee, the ſeveral rollers, are drawn by themſelves up in a corner at length, no ends, no ſections, nothing of that kind, the rollers themſelves are twice over placed, and deſcribed exactly, and leaſt there ſhould be a miſtake about it, there is a ſcale too at the bottom of that drawing. That is the ſpecification, and that is the deſcription by which any workman, who makes machines, can make that machine: it ſhews you, Mr. *Arkwright* can diſcloſe when he pleaſes, and can put it in every part ſo plain, that any child may underſtand it; and why not do it afterwards? Oh! it was through fear of the French. Alas! the French were as terrible as to ſtealing, before, as now. Why diſcloſe fully in the firſt inſtance? He knew the value of his patent, and was ready to pay the price of it—why not do the ſame now? becauſe if he did, he knew that any man living who put his eyes firſt upon that patent and ſpecification, and then upon this ſpecification, if fairly and fully made, would have ſeen that they were in truth the ſame; and I defy any man to give another reaſon for the difference of Mr. *Arkwright*'s conduct in the two caſes.

Gentlemen, I did not trouble you upon the ſeveral numbers, but I muſt ſay a word or two upon this ſpecification of his, it turns out now, the im-

portant

portant parts of the invention, as he ſtates it, are not deſcribed. Let me aſk a queſtion or two: He deſcribes with great pomp, and puts in the front of the battle, this No. 1. the hammer—What is that for? The learned Serjeant has not cleared that up; he paſſes that ſort of ſentence upon it which in another character he is ſometimes compelled to do on thoſe who appear before him; he condemns it to beat hemp. Why inſert in this ſpecification a hammer to beat hemp? Don't you think that the old machine would have been as uſeful? Don't you think the other parts of the machine, which are not here, would have been more uſeful to be inſerted? What can you think the drawing of the rollers only by the end of them, and preſented to your eyes, by way of putting out your eyes? Don't you think it would have been better to put two or three rollers fully drawn, inſtead of this hammer to beat hemp, which would not have taken half the room? There it is, it fills the paper almoſt, and all together you have a great number of materials to perform great operations. I don't mean to repeat my Lord's queſtion, but if I did not miſunderſtand him, he put that queſtion, which operated in the manner I was juſt going to ſtate; what would they do, and what would they perform? It is an aukward queſtion, it could not be anſwered. All theſe things together would not do half what was wanting; ſome were for hemp, and ſome for cotton, ſome for nothing at all; here they are, here you are to find them, pick them out as you can; here is No. 3. the feeder, 4 the crank, 5 the fillet cylinder, 6 the rollers, 7 is the cann, and 8, 9, and 10 are inſtruments uſed in ſpinning; theſe are the things that perform this operation. What is it to perform? The operation of carding and roving. Have not I a right to aſk this Gentleman for a deſcription? Be ſo good to tell us *how* they are uſed for carding. Now having done with the carding, here the roving begins; the roving is performed ſingly by No. 6. and 7.—For God's ſake, give yourſelf the trouble to ſay how it performs the roving—No, take your choice; you may take all together, or any of them, which you like; or take them all together, they are to be ſhook in a baſket, you may uſe them all if you poſſibly can.

Gentlemen, I will not fatigue you in making the ſame obſervations I did before, but I aſk you, whether, upon theſe obſervations, above all, comparing this ſpecification which he chuſes to make, with that he made before, whether you think he could not, if he would, have given a proper deſcription of it? It is true, he chuſes not to do it; if this had been the firſt time, he would have had an excuſe; he might have ſaid at firſt, I did not underſtand it, if the firſt had been incomplete; the ſecond I did underſtand better, becauſe I had experience. However, the ſecond deſcription is not the beſt, but it is juſt the reverſe. Here the firſt is completely done, and the ſecond is not done at all; and wherefore is it ſo ill done? Manifeſtly for the purpoſe of deception.

Gentlemen, I am almoſt aſhamed (but the natural, and therefore I hope pardonable zeal of an advocate, has led me into it) to have ſpent ſo much time in making theſe obſervations as to this part of the caſe; for in truth I had not forgot, and I truſt you will not forget when you give your verdict, there was a piece of evidence given, of the utmoſt importance to the queſtion now before you, to which the ingenuity of counſel on the other ſide has been unable to furniſh any thing like an anſwer. Do you think they have ſuch ſhort memories, that they have forgot the evidence of *Croſs*? yet not a word has been ſaid about it. I appeal to the ſhort-hand writer's

notes, whether the counſel for Mr. *Arkwright* ſaid one ſyllable about *Crofts*'s evidence; *Crofts* is a man to whom Mr. *Arkwright* goes to make a drawing of the ſpecification; and what does he do? does he give him the machine to do it by, or a model?—No, he deſcribes to him, how it is done; and the man very modeſtly ſays, I don't think this is a proper ſpecification, I am afraid it will not do. Says Mr. *Arkwright*, I mean it ſhould do very well for the patent; I don't mean to repeat his very words, my Lord has got them down. That ſeems to be the ſubſtance of his anſwer to *Crofts*. And why not do it?—My learned friend ſays, he chuſes to keep it from the *French*.

Gentlemen, I muſt remind you again of the printed caſe; it ſtates two or three times over, *that* to be done on purpoſe; I will not take up your time unneceſſarily; you cannot forget the expreſſions in the caſe, which have been repeated over and over again, eſpecially the words *intentionally* and *purpoſely*, which will bear no other conſtruction. Then coupling that with what we are about; are we ſitting in a Court of juſtice in *England*, where common ſenſe muſt prevail; is it poſſible you can ſay any thing but this of it, that, beyond all doubt, this Gentleman meant not to diſcloſe the invention.

The learned Serjeant aſked a queſtion, which certainly was a very proper one; ſays he, What is the ſort of diſcloſure required by law? I will tell you moſt exactly, becauſe I will read you the words of the ſtatute upon the ſubject: theſe are the words of the Act of Parliament, and the words of the conceſſion upon which all letters patent are granted; it ought to be a ſpecification particularly "deſcribing and aſcertaining the *nature of his invention*, "and in *what manner the ſame is to be performed.*" I beg of you to remember thoſe expreſſions, apply them fairly and juſtly to this cauſe, and I am content.

Gentlemen, I am to obſerve upon the evidence upon both ſides which have been called to that point, and, I proteſt, it ſeems to me, that if you fairly conſider the nature of that evidence, it comes to what we all allow, that doctors differ in opinion. We have brought practical mechanics, and men of great experience and judgment, and perſons of undoubted ſkill as theoretic mechanics; and I am perſuaded, Mr. *Moore*, when he ſaid, a man muſt be an ideot, and not a mechanic, unleſs he could ſee, ſuch a thing ſhould be applied to it, if not in the ſpecification, did not mean to ſpeak of Mr. *Harriſon* or Mr. *Cumming*; nor have they produced any body to impeach the character or abilities of any of thoſe mechanics that were produced by us. Then what is the evidence you have from perſons of great eminence? Some ſay it is impoſſible to do it by the ſpecification; others upon the other ſide giving an opinion it may be done; and I don't mean to forget, two perſons have been produced, who have choſen to ſwear to you, they did it without any aſſiſtance; it is wonderful and extraordinary, and ſo extraordinary, that if that ſort of thing could be fairly performed, it is of the utmoſt importance to Mr. *Arkwright* to take care to demonſtrate the fact to be ſo.

Gentlemen, though I ſaid I would not take notice of what paſſed at the former Cauſe, I will take the liberty, for one moment, to ſay this, Mr. *Arkwright* was warned by the two firſt trials, and he muſt know that ſuch evidence was of importance, and he ought to have taken care to have gained it the utmoſt credit of which it was capable. Two men ſwear it; one of them had a converſation with Mr. *Arkwright*, and, ſomehow or other it was, he took care to acquaint him with the old machine; two or three

words,

words, cleverly put in, might direct the man's idea to this. What ſhould have been Mr. *Arkwright*'s proceeding? That man, with the aſſiſtance of two or three words, can do it by the ſpecification—What ought he to have done? He ought to have deſired perſons (for he does not mind expence) to pick out two or three able workmen, and put them in rooms with witneſſes, and have paid them well, and have had no connection or communication with thoſe witneſſes, and brought witneſſes to ſay he had no communication with them, and never had at any time before, and have put this deſcription and the ſpecification into the hands of the perſons appointed to do it; and if they did it, it could have been fully proved. This I recommended to Mr. *Arkwright* to do, upon the former trial; nothing of the kind has been done; upon the contrary, he has brought two men to ſwear they have made them without receiving any particular directions themſelves. It is impoſſible for any man not to ſee they had ſome little aſſiſtance of that kind, for I will not bring myſelf to believe, two ſuch men as were produced here, could do that ſort of thing perſonally, which Mr. *Cumming* and Mr. *Harriſon* ſay they verily believe was impoſſible for any-body to do—I will put that evidence out of the queſtion, as, I truſt, you cannot rely upon the evidence of thoſe two men, who were brought here to ſwear they did it by the ſpecification alone.

Gentlemen, the obſervations upon the face of the ſpecification itſelf, the evidence of the man that drew it by Mr. *Arkwright*'s directions, and the printed caſe conſeſſing the fact, are deciſive he did not mean to diſcloſe, and that he has not diſcloſed it.

Gentlemen, it is not enough, with ſubmiſſion to his Lordſhip I ſpeak it, to give ſuch a deſcription, that, by a poſſibility, ſome who are of the buſineſs may be able to do it; I ſay, it ought to be plain and certain to common underſtandings, and common ſkill in ſubjects of this kind. I agree with the learned Serjeant, the diſcloſure need not be ſuch as that a cobler might thereby perform the work, but it ought to be ſo plain, that perſons converſant in mechanics may underſtand it. Even if you believe Dr. *Darwin*, and the reſt, they could do it? What then, does it follow, that becauſe two or three are found to ſay they could do it, that any-body elſe could do it? There is ſtill ſo much difficulty, as ſhews his intention was to conceal it.—To ſum up the whole, Mr. *Arkwright* has been too clever; he has been too careful to conceal it; he has ſailed too near the wind, and muſt abide the legal conſequence.

Gentlemen, I am ſorry to have taken up ſo much of your time; but if you put it upon all the three grounds, I truſt they are with the proſecutor; If you are of opinion they are, you ought to find a verdict for the proſecutor; and I ſit down with confidence that you will find that verdict, which will be of great benefit to the public: and in regard to Mr. *Arkwright*, he has received ſufficient profits from the old patent, and he has no reaſon to complain of infringement upon, or the loſs of, the preſent patent.

Mr. BEARCROFT *having finiſhed his Reply on the part of the Proſecution,*
Mr. Juſtice BULLER *ſummed up the Evidence as follows:*

Gentlemen of the Jury, this is a *Scire facias*, brought to repeal a patent granted to the defendant for the ſole uſe of inſtruments or machines, which he repreſented to his Majeſty, that he had invented, and which would be of great utility to the public, in preparing ſilk, cotton, flax, and wool for ſpinning; and that theſe machines are conſtructed on eaſy and ſimple principles,

ciples, very different from any that had ever yet been contrived; that he was the firſt and ſole inventor thereof, and that the ſame had never been practiſed by any other perſon whatſoever. It was upon this repreſentation made by the defendant, that he obtained the patent now in queſtion.

The proceeding by *Scire facias* to repeal a patent, is ſomewhat new in our days; none ſuch has occurred within my memory, though in former times they certainly were very frequent.

The deciſion of this cauſe, it is admitted, is of very great importance to the public upon the one hand, and to the individual who has the patent upon the other. The value is likewiſe ſtated to be very extenſive; and beſides, there have been two different deciſions upon the queſtion.

It was for theſe reaſons I choſe to give the Cauſe a much fuller and more patient hearing, than I ſhould have thought either neceſſary or proper, if it had been merely an action for damages between two individuals.

If I found myſelf under the neceſſity now of differing in opinion from either of the two very great and reſpectable authorities before whom this queſtion has been brought, I ſhould do it with great heſitation, and with great diffidence of my own opinion; but, happily for you and for me, we are relieved from that difficulty, becauſe it is admitted upon both ſides, that different evidence has been produced now, from that which was laid before either of the Courts upon the former trials, and therefore it will be for you to decide the ſeveral queſtions which I will ſtate to you preſently, upon the evidence which you have heard here, without regard to either of thoſe former deciſions.

The queſtions for your deciſion are three:

Firſt, Whether this invention is new?

Secondly, If it be new, Whether it was invented by the defendant? And,

Thirdly, Whether the invention is ſufficiently deſcribed by his ſpecification?

It ſeems to me, the laſt is the queſtion of the greateſt importance.—Becauſe, if you ſhould be of opinion, upon that queſtion, that the ſpecification is not certain enough, it may have the effect of inducing people who apply for patents in future times, to be more explicit in their ſpecifications, and conſequently, the public will derive a great benefit from it; and therefore I will ſtate to you the evidence upon that point firſt, and will endeavour to ſtate it ſeparately from all the evidence which is applicable to the other points of the cauſe.

Upon this point it is clearly ſettled as law, that a man, to intitle himſelf to the benefit of a patent for a monopoly, muſt diſcloſe his ſecret, and ſpecify his invention in ſuch a way, that others may be taught by it to do the thing for which the patent is granted; for the end and meaning of the ſpecification is, to teach the public, after the term for which the patent is granted, what the art is; and it muſt put the public in poſſeſſion of the ſecret in as ample and beneficial a way as the patentee himſelf uſes it. This I take to be clear law, as far as it reſpects the ſpecification; for the patent is the reward, which, under an Act of Parliament, is held out for a diſcovery, and therefore, unleſs the diſcovery be true and fair, the patent is void.—If the ſpecification, in any part of it, be materially falſe or defective, the patent is againſt law, and cannot be ſupported.

It has been truly ſaid by the counſel, that if the ſpecification be ſuch, that mechanical men of common underſtanding can comprehend it, to make a machine by it, it is ſufficient; but then it muſt be ſuch, that the

mechanics

mechanics may be able to make the machine by following the directions of the ſpecification, without any new inventions or additions of their own. The queſtion is, Whether, upon the evidence, this ſpecification comes within what I have ſtated to you to be neceſſary by law, in order to ſupport it?

The proſecutors have attacked it in almoſt every part.

The firſt witneſs who ſpeaks to the ſpecification, is *John Lees*, a Quaker—He takes it up, upon the feeder marked No. 3. He ſays, the old feeder was made by him, he has examined this ſpecification, and thinks he could not make that feeder which is now uſed, from the ſpecification, he could not make it, if he followed that ſpecification.

Hall, the next witneſs, ſays, it is not poſſible to make ſuch a feeder from the ſpecification; he could have made nothing of it.

The next witneſs that ſpeaks to any part of the ſpecification, is *Hayes*; He ſays, rollers were made by him in 1767; that in 1769, they were the ſame as this, and thoſe uſed by the defendant; the one was fluted, and the other covered with leather; firſt, they were fluted wood, upon an iron axis; the other was the ſame, only covered with calves leather; he ſays, he originally made them of a different proportion, and one to move faſter than the other.

If there was any alteration that the defendant made that was materiai, it ought to be ſpecified in the patent; but, in ſpeaking of that article, it is perfectly ſilent as to the material or form in which it ſhould be made.

Then *John Kay*, ſpeaking of the rollers, likewiſe ſays, one turned faſter than the other; and there was an uſe in this, becauſe it was to draw the cotton finer—In this alſo the ſpecification is perfectly ſilent.

In the plan, one appears to be ſomething ſmaller than the other; but how much, or what were to be the relative dimenſions, or upon what ſcale they were to be made, the ſpecification ſays nothing.

Then they call Mr. *William Doubleday Crofts*, who ſpoke to the whole of the ſpecification. He ſays, the defendant applied to him, after the patent was granted, to prepare his ſpecification—The plan was drawn, and he employed the witneſs to draw up the written account; ſays he, upon drawing up that, I told the defendant, I thought it was imperfectly done, and that it would not anſwer the purpoſe. I aſked for the former ſpecification, and he ſaid, *that* was drawn from a model of the machine, by a draughtſman in *London*—The defendant ſaid, he meant it ſhould operate as a ſpecification, but to be as obſcure as the nature of the caſe would admit; for at the expiration of fourteen years the public would have the benefit of the machine; and he thought the machine ought to be locked up; but if it were not, he wiſhed to prevent its being taken abroad. This witneſs ſays, he has ſeen the ſpecification many times ſince, and, notwithſtanding this converſation, it remained the ſame as it was when he firſt ſaw it.

I begin with this evidence, becauſe it is very material to be conſidered, whether the ſpecification, in any part of it, bears a doubt, becauſe the obſcurity of it was pointed out to the defendant before he made it, and he then profeſſed to make it as obſcure as he could; his object was, to get the benefit from the patent ſo far, as putting money in his own pocket, but as to the benefit the public were to receive, it was to be kept back as far as it could.

The next witneſs was *Francis Ambrey*, a machine-maker, who has worked at it ſix years; he attempted to make one according to the ſpecification, but found it impracticable, and gave it up.

The next is *Joſhua Wrigley*, he made machines four years, he tried to do the beſt he could, but he could not make the machine from the plan. That he tried it before there was any objection made to the ſpecification.

The next was *Thomas Leaming*, he ſays, he examined the ſpecification, he is a machine maker, has followed the buſineſs about ten years and an half, that he could not make it from the ſpecification, that there was no roller in the cloth, that the fillet cylinder is deficient and will only diſcharge half the cotton from the large cylinder, that the rollers have no pinions to ſhew their movements, neither any weights to keep them together, he could have made a machine according to the drawing, but if he had, that machine would be of no uſe at all.

The next witneſs is, *Immiſon*, he ſays, he is uſed to make machines from drawings, that there are very few parts of the carding machine deſcribed, the crank and one cylinder belonged to it. He ſays it is impoſſible to make ſuch a feeder as that deſcribed in the plan, becauſe there was no axis to it, and from the ſpecification he ſhould have made a parallel cylinder, and never thought of making a ſpiral one; yet you obſerve, that is the one uſed by the defendant—as to the rollers, it don't appear by the ſpecification, ſome were to go faſter than others, and from the ſpecification without other ſources, it is impoſſible to ſay how they ſhould be made, as there is no ſcale to work by, no plan to go from, it is impoſſible to know how to do it.

Upon his croſs-examination he ſays, as to the feeder, there is nothing but the want of a roller which makes that defective; that a roller is neceſſary to give a regular direction to the work, that it will not anſwer without it. He ſays, from the knowledge he has now, he ſhould add a roller if he was directed to make the machine. But, Gentlemen, that don't prove the ſpecification to be ſufficient, becauſe, if a man from the knowledge he has got from three trials, and ſeeing people immediately employed about it, is able to make uſe of it, it is his ideas to improve the plan, and not the merit of the ſpecification; if he makes it compleat it is his ingenuity, and not the ſpecification of the inventor. He ſays, as to No. 5, it will not work five minutes together before it will be intirely full of cotton: he is aſked, ſuppoſing the cotton was to be ſpread upon the feeder only the breadth of the fillets, would it have that effect, he ſays it would not do even then.

The next is *Benjamin Pearſon*, who ſays the cylinder the defendant uſes was a worm, which ſtripped the whole of the large cylinder, and they ſpread the cotton the whole breadth.

The next is *Thomas Barber*, he ſays, he has been uſed to make machines from drawings, that he could make the limbs of this, but he does not ſee how to put them together from the ſpecification, that there is no connection, no moving part or principle, no way of putting them together—nothing to ſet the rollers a-going That if there is no axis, the feeder might move without it, but not with any regularity; that the fillet cylinder is not connected with any thing, the parallel filletted cylinder will not make the edges of the rovings good, it would not be carding, part of it would not be carded, that it muſt leave the cotton upon the great one, and muſt clog the machine. That, with the aſſiſtance of the written ſpecification he could not put the machine together.

John Johnſon ſays, the ſpecification is not a ſufficient deſcription of the machines that were produced in Court, he has compared them with the ſpecification and writing, and he is ſatisfied in his mind they could not be made from them; that No. 3. is in want of a roller, and therefore defective:

that

that No. 4. is pretty well deſcribed, that there is no deſcription of the reſt of the machinery ſufficient to make one by. That he is a cotton engine-maker. He ſays there is not ſufficient directions to put the parts together; that one part is directed to be put to another, but there are chaſms between.

The next is Mr. *Cumming*, he is a watch-maker, that he has ſeen the machines more than once. He ſays it was mighty eaſy to have given a deſcription of the machines, to bring it within the ſcope of a common mechanic, that is not done—that putting himſelf in the ſituation, he firſt ſaw the ſpecification, he could not comprehend it at all, that now he has examined it ſo much, that he could not make it from the ſpecification, informed as he is; ſo you ſee his knowledge is from other means. At firſt he could not comprehend it, that if he had employed an artiſt to make the machines, he muſt have been aſked a great many queſtions which he muſt have reſolved, though he never ſhould have been led to it by the ſpecification; and if by accident I had hit upon the ſame machine the defendant has made, I ſhould not have known it was that meant by the ſpecification.

This evidence is as ſtrong as any evidence that could be given upon the point. He ſays No. 6. would not give any inſtruction, that he could not find out by it that Mr. *Arkwright* meant the roller ſhould be fluted, and that they would have relative velocities, that he has no authority for the motion by the ſpecification, and it never could have occurred to him to have looked at the old machine, for he thought it an intire new invention, and not depending upon the old deſcription. He ſays, if No. 6. was repreſentative of the roving paſſing from it into No. 7. which is the cann, he ſhould have underſtood it; but No. 7. is repreſented as a ſolid, and not a hollow axis to admit any thing elſe, and he thought *that* a want of evidence of its being an original invention. That it was very eaſy upon paper to diſtinguiſh the ſpiral from the parallel, but theſe are repreſented as parallels. He ſays, he never underſtood till that time No. 7, 8 and 9. would any of them ſerve the ſame purpoſe. He ſays the principal cylinder appears by the ſpecification to be the parallel cylinder, and, ſays he, if I had been converſant with the former machine, and even known the ſpiral cylinder had been uſed in that, yet I ſhould have thought this plan meant to diſtinguiſh it from the ſpiral cylinder. If he is right in that, which don't ſeem to be contradicted by any witneſs that I can find, if he is right in that, there is nothing elſe to be ſaid about this plan, but that it is calculated to deceive and miſlead: If calculated to repreſent the cylinder made uſe of in the old machine, it might have been done by reference, and then the argument would have been proper, which the Counſel for the defendant preſſed; but if the defendant meant to make uſe of the parts of the old machine, he, by his deſcription has miſled every body, who was to make this machine now in queſtion, becauſe he has in his plan, made the ſpecification directly contrary to that uſed in the old machine. And therefore it is for you to ſay (if Mr. *Cummings* reaſon be not concluſive in itſelf) whether, if there be one thing known, and a man gives a deſign of a different thing in contradiſtinction to that, and yet means that the thing known ſhould be uſed, is it not miſleading mankind This witneſs ſays, there is nothing in the ſpecification that puts No. 2. out of the queſtion, he ſhould have thought by finding it in the plan it was to be of ſome uſe, but he could imagine none for it.

The next witneſs is *John Vincy*, he ſays, a gentleman brought the drawing to him, he obſerved there was no ſcale, and it was not poſſible to form any idea of the dimenſions of any one part of it. That within three weeks

from

from this time, two other Gentlemen brought it to him; that his reply was exactly the ſame, that he could not pay attention to any thing ſo totally void of any ſort of means for underſtanding it; they produced the deſcription of the drawing, that he reviewed it at two or three different periods; at laſt, ſays he, I was left totally ignorant of the means of conſtructing the machine this was meant to deſcribe, as ignorant as if he had never ſeen it. He ſays, he never ſaw a cotton mill, but from his knowledge in general he could form no idea of any man being capable of working from drawings that had no ſcale.

Thomas Walford ſays, he is converſant in filletting machines, that from this ſpecification he could not have made the machine, it wants the means of communication; he takes No. 3. to be more like a worm than any thing elſe from the appearance of it, and he could not tell how to apply it, that he could not put all the parts together; that it was a very eaſy matter to deſcribe them ſo as to be underſtood, that the ſpinning machine was accurately deſcribed, and this is not at all ſo, that there is no ſcale to go by.

Mr. *Harriſon*, who was with his father at the experiments for the diſcovery of the longitude, told you, that he has examined attentively the drawing, and the explanation, and the machine, that this machine is not deſcribed by the drawings; he ſays, he could not make them from it, but they might have been very eaſily deſcribed. He ſays, if he had added the roller to No. 3. that would have been his own invention—that he never had ſeen a place for No. 2. and ſo many things are thrown in which have nothing to do with the buſineſs, he thinks it muſt have been for the purpoſe of perplexing: he ſays, he concluded No. 6. was new, and did not refer to the firſt ſpecification, and he gave the ſame reaſon that *Cumming* did about the rollers.

Mr. *Ewer*, who is chairman of the committee of mechanics, at the *Adelphi*, ſays, that he is acquainted with mechanics in general. He ſays, if a perſon confines himſelf to the ſpecification ſolely, it is impoſſible to make the machine perfect without exerciſing his own inventive faculties; he does not think a perſon could make a machine intirely by that ſpecification; he ſays No. 3. has no roller, that No. 5. is exceedingly imperfect. He makes the ſame objection the others do, about the filletted cylinder, that he has ſeen a great many ſpecifications, that he never ſaw one ſo obſcure as this; ſome of the drawings are in perſpective, the others only ſections, and that thoſe that are the moſt important, are the moſt confuſed in the deſcription.

Mr. *Pilkington* ſays, that Mr. *Arkwright* gave him ſome caſes, which he was to preſent to the Houſe of Commons, and deſired the witneſs would read them, and promiſed to ſend him more by his ſervant, which he did. Thoſe which were delivered by the defendant, ſeem to me to be material, becauſe they ſhew what the defendant's ſenſe of this buſineſs was immediately after the firſt trial. It has appeared from what has been ſaid upon both ſides, and it was ſo ſtated in this caſe, that he was beat upon the firſt trial upon the ſubject I am now ſtating to you, that is, the ſpecification. He admits in that he has not properly ſpecified how the machine was made, and he ſays, he purpoſely (in prevention of an evil, that foreigners might not get them) omitted to give ſo full a deſcription of his inventions in the ſpecification attending the laſt patent, as he otherwiſe would have done. This he admits, and he goes on and ſtates a trial in *Weſtminſter-Hall*, in *July* laſt, at a large expence, when ſolely by not deſcribing ſo fully and accurately the

nature

nature of his laſt complexed machines, as was ſtrictly required by law, a verdict was found againſt him—he bows with the greateſt ſubmiſſion to the Court and the verdict againſt him, and he deprecates the favour of Parliament.

Now, in a caſe, where an invention is lucrative to ſo enormous a degree as you have heard, and where the verdict was given againſt him upon a particular point, had he not been moſt thoroughly convinced that the verdict was right, or if he could by any explanation have ſupported his ſpecification, is it to be conceived for three years and a half he would lye by and totally looſe the benefit of his patent? But, excepting this application to Parliament, which does not go upon the grounds of his patent being good, but abandoning it on account of his own fault, and deſiring favour and bounty there, he relinquiſhes the patent for three years and a half.

This is the evidence upon the part of the proſecutor againſt the ſpecification, and it is material to ſee a little, how the defendant's counſel endeavour to ſupport it. Here is a ſpecification that ſtates ten different inſtruments; it is admitted by them, that as to No. 8. it is of no uſe, and never was made uſe of by the defendant in his machine. It is alſo admitted, No. 9. ſtands exactly in the ſame ſituation, as theſe could not be put into the machine. This is a little extraordinary, for if he meant to make a fair diſcovery, why load it thus with things that they make no uſe of, and which are totally unneceſſary? That could anſwer no purpoſe but to perplex. But ſay the Counſel, we will ſhew you that there were two machines, and they were two diſtinct things; for, ſay they, No. 3, 4, and 5. are the material parts of one machine, and thoſe alone afford all the information neceſſary. Then beſides that, there is the roving machine, which conſiſts of No. 6, 7, and 10. joined together. If that be the truth of the caſe, and there are to be two diſtinct machines to be made up by parts only of the inſtrument ſpecified in this plan, let us ſee whether it is ſo ſaid in the ſpecification; there is not a word of it.—It begins with the firſt, or No. 1. which is a breaker or beater of ſeeds and huſks, and a finer of the flax, hemp, and other articles, which are to be prepared for dreſſing. Then ſays the counſel, there was a difference as to thoſe things, becauſe the hammer was proper for the hemp, and not proper for wool: if there be that difference, it was neceſſary for the defendant to ſtate it in his ſpecification, but he has made no diſtinction, he has left to thoſe who are to learn his art and ſecret, to uſe the ſame machine for every part of it. He has not diſtinguiſhed between the cotton and the flax: the ſpecification ſtates that it is proper for every thing. Is it ſo? It is admitted it is not. Is there any thing which ſtates that theſe parts are for two machines, and how they are compoſed? That, the ſpecification is totally ſilent about—What is there in the ſpecification that can lead you to ſay you muſt make uſe of three things for one of the machines, and three for the other, and which three for one or the other? and even if it were ſo, what is to become of the other four? If thoſe are of no uſe but to be thrown in merely to puzzle, I have no difficulty to ſay upon that ground alone, the patent is void, for it is not that fair, full, true diſcovery which the public have a right to demand from an individual, who, under the ſanction of the Parliament, gets ſo great a reward as a monopoly for fourteen years together.

However, upon the part of the defendant, they have called ſeveral witneſſes to ſhew you it is perfectly intelligible, and that they can make the

machines from this ſpecification. The firſt is *Richard Pridden*, he, you obſerve, is partner with the defendant's ſon, and the defendant's ſon does actually work this machine: ſays he, No. 3. is the feeder deſcribed by the patent, and that was not in uſe before to his knowledge, he can only ſpeak to his knowledge. Says he, No. 6. are the rollers, with theſe the cotton is ſized and roved, this is done with leſs labour than before, and better, becauſe the lengths are longer.

The next is *Charles Wilkinſon*, he ſays he lived at *Nottingham*, kept an academy there, that he was applied to by Mr. *Arkwright* to draw the ſpecification, that he had no directions from the defendant to make it obſcure, and he did it to the beſt of his ſkill. He had ſeen the old machine before. He thinks from this ſpecification alone, it might be made; he is not acquainted with the cotton buſineſs, but the eſſential parts are deſcribed; but, he ſays, he looks upon the rollers to be the eſſential parts of the old machine; as to the roving box and the crank, he took them from a model of part of the machine, and all the reſt from the defendant's deſcription: as to a ſcale, he ſays, a thing drawn in perſpective does not admit of a ſcale; when you draw ſections it is neceſſary, he thinks it is neceſſary to have a ſcale to ſhew the different proportions of the rollers.

Now you ſee this man took his information, or a great deal of it, from the defendant himſelf, and ſuppoſing it true, that he or any other perſon inſtructed by the defendant, and having ſeen what he does, can make a machine from the ſpecification, yet that will never ſupport it, unleſs other people, from the ſpecification itſelf, who have any knowledge in the buſineſs, can alſo do it. That is not the caſe with this man: but the laſt thing he ſays, is alſo a material thing againſt the patent, for he ſays, for different purpoſes, different proportions of the rollers are neceſſary. How is any man to find that out?—It is not ſaid in the ſpecification it muſt be different in the one caſe from the other, and that you are to have different rollers for hemp, or for cotton: All this remains to be the ſubject of a future diſcovery.

Mr. *Samuel Moore* ſays he is well acquainted with mechanics, that he has been examined at both trials, that he never ſaw a cotton machine, till a day or two before the firſt trial; he ſays he has ſeen the old machine in uſe before, he ſays theſe are rather additions to the machine than a whole and compleat machine itſelf. Now you will obſerve what he ſays as to the making of it, "I believe, with due attention to the old machine, and an accurate "attention to the ſpecification, I could direct a ſkilful artificer to make the "machine." This is all that a very ingenious ſenſible man can ſay of this ſpecification. He has examined the inſtruments and machine, and ſeen a great deal of it between the trials, and at laſt, he believes, with all the extreme caution that I have mentioned to you, that he could direct a ſkilful artificer to make the machine. He ſays, that as to No. 3. a piece of cloth with cotton or any other material that was to be carded, rolled up in it, would certainly move much better, and more ſteady with a roller with inſide, but it would do without it. If wanted, he thinks it would eaſily occur to a mechanic to put it in, that is, that a ſenſible man would have underſtanding enough to ſupply any defect in this ſpecification; but in this caſe it proves the ſpecification is inſufficient. If it will not do of itſelf but wants ſomething to be added, it is deficient, and there is nothing in the ſpecification that imports there ſhould be a roller in it.

He

He ſays the crank is clear: as to No. 5. that is intelligible to him, but, ſays he, if I was bound to proceed according to the form of the plan, I certainly could not direct a ſpiral cylinder.

According to this account, how is the machine to be made; the queſtion is, Whether that machine can be made by perſons that follow their trade, hereafter, from this ſpecification? The defendant uſes a ſpiral cylinder, Is that to be found out by the ſpecification?—Why, No, Mr. *Moore* ſays it cannot be done. The ſpecification ſtates that there muſt be parallel fillets, and the defendant uſes a ſpiral one. He admits it is ſo material to the caſe, that if it moved in a parallel form it would choak the work; he ſays it does look as if it were intended to have an horizontal motion by the length of the ſpindle, but he admits there is no ſuch deſcription in the ſpecification; he ſays upon the former trial it was ſpread the whole breadth, the cotton was ſpread the whole breadth, and then it choaked, but now he ſees it is put in fillets, there is no neceſſity for putting it the whole breadth of the cloth; he ſays he has read the verbal explanation, and it appears from the drawing, and explanation, that No. 6. is the ſections of the rollers.

Now it is admitted by the former witneſſes, if there are ſections of rollers there ought to be a ſcale, and there is no ſcale, there is nothing in the plan to ſhew the different comparative velocity of the rollers, but there will be a difference, becauſe the one is larger than the other in diameter.

You ſee how that applies to this part of the evidence.—There is nothing, ſays he, that ſhews what the difference of velocity ſhould be, *that* remains for experiment hereafter.—Is that the caſe with the defendant?—No, he knew to a certainty what it was—The man that comes to give an account of the invention, ſays, I had calculated it, and the difference of the velocity was to be as five to one, this is the way I made my rollers, now the defendant has not ſaid a word of that in the ſpecification. In that he has kept back the knowledge he had as to the ſize of the rollers and velocity, and it is left to people to find it out as chance may direct.

He ſays he underſtood pretty well what No. 7. was, but that was better explained by the machine itſelf. No. 10. he don't think is a difficult matter to account for; he ſays, that knowing the original machine, he could have put the machine together.

He thinks now, he could do it; but that does not apply to the queſtion at all, if he means he could now do it from the four inſtruments, and the old machine, which the Counſel have told you was all neceſſary to be underſtood, for that is not the thing deſcribed by this ſpecification.

Upon his croſs-examination, he ſays there is nothing in the ſpecification which imports the cotton is to be laid on in fillets, *that* depends upon the rollers; as to the velocity of the rollers, that may or not depend upon their ſize; he ſays he is not a practical mechanic; he thinks there is no difference between the rollers of the firſt and laſt machines, he ſays, from the ſections of the rollers he could not determine what diameter the rollers ſhould be for making any particular thread. He ſays No. 6. and 9. are very much like the old machine; No. 2. is not uſed in this machine at all, he does not know what it alludes to. He thinks the cann might do without rollers, but much more ineffectually without the rollers; he thinks, upon the whole, it ſufficient for an intelligent mechanic now to make the machine by it.

The next witneſs is Mr. *James Watt*, he ſays, having known the machine, and having the ſpecification in his hand, he thinks he could make ſuch a

machine

machine as this; but when the ſpecification was firſt put into his hand, he was told No. 1. and No. 2. were not uſed in the cotton manufactory. Then this man did not act in the ſame way the others did that were called for the proſecutor, becauſe he had other knowledge conveyed to him more than he could collect from the ſpecification. He did not immediately conceive what was meant by No. 5; he was not acquainted with the term fillet cards, upon reading the ſpecification he did not conceive there was the old machine in it; he, by his own account, was miſlead, and formed a different idea of the ſpecification and plan from what the defendant uſed. He ſays No. 3. would do without a roller, but if it was neceſſary there would be nothing ſo common as putting in a roller; that it muſt occur to any man of common ſenſe; from the plan he had not an idea the cotton was to be put in fillets; as to No. 2. he ſhould have conceived *that* a ſeparate machine; he admits the hammer, No. 1. is not a new invention, and that the rollers uſed in the roving and ſpinning machine, perform the ſame thing, he ſays there is not a word about the wheels to turn the rollers, he ſays, to effectuate the different purpoſes, they may be of different diameters, or the ſame if they are differently moved by the wheels.

The next witneſs is *John Stead*, he ſays he has ſeen the ſpecification and the old carding machine, and knowing that, he believes he could make this machine from the ſpecification, that he has done part from the drawing, that what he did was to try experiments; ſays he, my object was to make the new machine, but to avoid his patent—he has no doubt but he could have made the whole, he ſaid it was neceſſary to find out ſomething that might be clear of the patent, and what he made, was, by ſubſtituting different things, meaning to make a machine that might not come under the deſcription of the patent; he ſays the ſpecification ſo deſcribes it, that he has no doubt whatever of making it. He ſays the roller in the feeder does not appear, but the purpoſe may be anſwered without; he has ſeen a mill, which he was informed was built under the patent, and that is with a roller. The ſpiral card does not appear. As to the rollers, he ſays there muſt be a different velocity, but what that might be he cannot tell, and he believes no one ſet of rollers, of different diameters, could be aſcertained for all ſorts of work, he ſays the ſize of the rollers is not ſpecified, and they could not ſpecify that, becauſe there muſt be different rollers for different ſorts of work.

Then, according to his account, the defendant has not ſtated that, which was neceſſary for any one thing. It is not ſo ſtated as to enable the perſon that reads that ſpecification, to know what ſize they are to be for any one thing to which this patent relates.

The next witneſs is *Thomas Wood*, who was partner with *Pilkington*, he ſays he has examined the ſpecification, he put No. 4, 5, 6, and 7. together, and that machine he has worked ever ſince, he don't recollect that the defendant uſed any thing elſe. If that be true, it will blow up the patent at once, he ſays he believes no-body that ever practiſed would find any thing neceſſary upon this paper, but the No. 4, 5, 6, and 7, he ſhould look after no others.

Now if four things only were neceſſary inſtead of ten, the ſpecification does not contain a good account of the invention. As to the cann, he made uſe of it without rollers at the mouth, he thinks it anſwers juſt the ſame without it.

William Allen ſays, *Stead* furniſhed him with the ſpecification and drawing, a fortnight before the laſt trial, and deſired him to make a model from the

drawing

drawing and ſpecification, which he did, which anſwered much the ſame for carding and roving; but, ſays he, I had another friend I talked to, that was one *Whitmore*, he ſays the ſpecification is competent to enable a workman to compleat the machine: He ſays it occurred to him they were moveable rollers which were deſcribed to him at No. 6; he ſays, in order to procure different degrees of fineneſs in the roving that paſſed between thoſe rollers, it is neceſſary there ſhould be different degrees of velocity.

William Whitmore has made models of machines for different purpoſes. He has ſeen the drawing and the ſpecification—*Stead* ſhewed it him, that he undertook to make the machine for carding, that he had not even the knowledge of the old machine at firſt; he ſays the defendant employed him to make a model, and that *Allen* ſaw his model before his own was finiſhed; ſays he, I had two or three hours converſation with the defendant after I had began the model. I had a deſcription of the old machine, but I think I could have done it without.

The next witneſs is Dr. *Darwin*, he ſays he had ſeen the machine previous to the drawings, he thinks he might have made it from them, he ſays the want of a ſcale was not very material, but it would have been worſe if they had been intended for different purpoſes, he ſays the rollers muſt have been of different diameters for different purpoſes.

John Haggett tells you he has known the defendant fourteen years, he ſays he has ſeen the ſpecification, he thinks it is a ſufficient deſcription for a perſon acquainted with the old one to form a new one; that he was employed by Mr. *Arkwright* from the firſt beginning of theſe new machines, and trying experiments: that he gave him directions ſometimes with chalk upon a board, and ſometimes by crooking of lead and wire as models, he ſays he don't remember hearing him ſay he received inſtructions from any body elſe.

Then *Thomas Bell*, a joiner, is called, he was concerned for the defendant about five years, in making parts of the machine that were invented from time to time; he ſays the crank, No. 4. he had never known to be uſed by any perſons before the defendant.

This is the evidence that relates to the ſpecification upon the one ſide and the other. You ſee, upon the part of the proſecution, they have called to you very ingenious men, that ſeem to be much beyond what are called common mechanics in life, they have all told you it is impoſſible for them to make the machine according to the ſpecification.

Upon the other hand, ſeveral reſpectable people are called upon the part of the defendant, who ſay they could do it, but there is this difference in their deſcription, moſt, if not every one of them, have looked at and ſeen how the machines were worked by the defendant, and have got their knowledge by other means, and not from the ſpecification and plan alone; beſides, they admit the manner the defendant works it, is not conſiſtent with the plan laid down, particularly as to the cylinder, a particular part of the buſineſs; for *Moore* ſays, this upon the face of it muſt be taken to be a parallel, whereas that which plainly appears to be uſed is a ſpiral; beſides, after all this, they have ſpoken moſt of them in a very doubtful way, particularly Mr. *Moore*, who qualified his expreſſion in the way which I have ſtated to you, and the others qualifying their expreſſions, ſaying, they think upon the whole they could do it. Suppoſe it perfectly clear they could, with the ſubſequent knowledge they had acquired, yet, if it be true, that ſenſible men that know ſomething of this particular buſineſs, and mechanics in

general cannot do it, it is not ſo deſcribed as is ſufficient to ſupport this patent: it will be for you to ſay, upon this part of the caſe, whether you are ſatisfied this ſpecification is ſuch, as, with the plan, it may be made from it or not, taking the whole machine in to its aſſiſtance, which by the bye the ſpecification has not taken notice of as known. If you think it is not ſufficiently deſcribed, that alone puts a compleat end to this cauſe, and then it will be unneceſſary to trouble you with any other. As to the other points, they are two: firſt, Whether it is a new invention; and, in the next place, Whether it was an invention made by the defendant.

Now if, in your opinions, it is material to go into theſe points, I think the law in general is very different on them from what I have ſtated in the ſpecification, becauſe, in the caſe of an invention, many parts of a machine may have been known before, yet if there be any thing material and new, which is an improvement of the trade, that will be ſufficient to ſupport a patent; but whether it muſt be for the new addition only, or for the whole machine, would be another queſtion. It ſeems to me, not to be neceſſary now to ſtate preciſely how that would be, becauſe this patent is attacked upon the ground that there is nothing new; therefore I will go over the articles one by one, and ſee what is ſtated upon the different articles which are here mentioned.

As to No. 1. ſee how the defendant has ſtated that in the ſpecification—That is ſtated to be a beater or breaker of ſeeds, huſks, *&c.* and a finer of the flax, hemp, and other articles, which are to be prepared for dreſſing, in which (a) is a wheel with teeth, which, by acting upon a lever, raiſes the hammer (c), the lever being moveable upon the centre (d).

Now this, it is ſaid, is not ſtated by the ſpecification to be joined to any thing elſe, and therefore it muſt be taken to be a diſtinct thing. It is admitted, that is not a new diſcovery, for *Emerſon's* book was produced, which was printed a third time in the year 1773, and that is preciſely the ſame as this—Several other witneſſes ſpeak to that—Upon the part of the defendant, there is no contradiction; and therefore I will paſs it over without going over the reſt of the evidence, as clear that it is not new.

Then, the ſecond thing is an iron frame with teeth at (a,) working againſt a lower frame with like at (b)—It ſays, this lower frame is firmly connected to a wooden frame, by means of the ſcrews (c, c,) and the upper teeth are made to act againſt the lower by means of the joints marked (d).

Let us ſee, how has this been uſed. Says *Benjamin Pearſon*, I never ſaw it uſed by the defendant at all, as I recollect; if I ever ſaw it uſed, it is no part of the invention; if I have, it is more than I know. I worked with him ſeven years after the patent was granted, I don't know that he ever uſed it at all.

The next is *Joſhua Wrigley*, he ſays, I never ſaw No. 2. uſed in the buſineſs; he has been in the buſineſs four or five years, and worked for ſeveral gentlemen, not with the defendant, but this was not uſed. Indeed this was likewiſe laid out of the queſtion by the counſel for the defendant, for that, he ſaid, had nothing to do with it.

If it had nothing to do with the machine, it is very difficult to ſay, how, with a good motive, it could ever come into the ſpecification or plan.

The next is No. 3. That is deſcribed to be a piece of cloth with wool, flax, hemp, or any other ſuch materials ſpread thereon.

No. 3.

No. 3. says *Wrigley*, I have seen work; that is the feeder—This he produced as the feeder uſed before the defendant's patent, and performs exactly the ſame operation as the defendant's; and it is better, becauſe the cotton needs no ſpreading upon a table, neither does it require taking the cloth off and on, and, according to the defendant's, you muſt take it off every time the cloth is filled. He ſays, he has been acquainted with moſt of the cotton works, and the old feeder is moſt uſed.

He ſays, the ſpecification don't ſhew how No. 3. is to be worked, nor how the cotton is to be taken off, and it ſhews no roller nor centre.

The next witneſs is *John Lees*. He ſays, he is the inventor of the old feeder; that he made it in 1772, and in *Auguſt* 1772 he worked with it, and that is now commonly uſed in his country. He has never ſeen the defendant's uſed, but the deſcription of the defendant's is the ſame as his.

This alſo ſhews, firſt of all, that it is no new invention.

Secondly, it is not invented by the defendant, for this invention is ſpoken of as uſed before the time of the patent. And,

In the next place, it is proved to you not to be the invention of the defendant, by the perſon who actually invented it.

Thomas Hall ſays, he worked with *Lees* at the time he made the feeder, in *July* 1772; that he never ſaw or heard of it before that; that it is better than the defendant's, and much uſed now.

Henry Marſland tells you, that he uſed the feeder in 1771; that in 1772 the defendant came to ſee his works; that he made no objection to his uſing the feeder. Theſe are all the witneſſes that ſpeak to that article, except *Immiſon*, who, I ſee, ſpeaks to it likewiſe; ſays he, as to that, there is an objection to it, for the want of a roller, but it is proved by the other witneſſes it might be made uſe of without a roller. The derence to that is, though there is no axis, yet it might be made uſe of, though it would not move with the ſame regularity, and the work could not be carried on ſo well as it ſhould.

The firſt witneſs upon the part of the defendant is *Richard Pridden*, who has been in the buſineſs for preparing wool and cotton for ſpinning fourteen years; he ſays, the feeder uſed in this machine was the feeder deſcribed by the patent, he don't know that it was in uſe before—Mr. *Moore* treats it as an addition only; but he admits the roller is proper, and yet it is not ſtated.

Mr. *Watts* ſays it would do without the roller; but, if neceſſary, a man muſt be a great ideot if he has not ſenſe enough to diſcover it.

The evidence for the proſecution on this article is not at all contradicted; and it is ſhewn, that it was invented by the man who proved it himſelf, by *John Lees*, that is not contradicted by any one witneſs whatever for the defendant; upon the contrary, he is confirmed by one of the witneſſes, *Hall*; and *Marſland* proved he uſed it long before the time of the patent—The next is No. 4. that is the crank; Mr. *Marſland* ſays, that after he had uſed the crank, the defendant objected to it, therefore ſays he, I gave it up.

But *Elizabeth Hargrave* tells you, this crank was firſt uſed by her huſband (and he died about eight years ago) in partnerſhip with *James* at *Nottingham*; that he worked by himſelf, and took great pains about the crank, and compleated it ſo long ago, that he began working it thirteen or fourteen years ſince. She ſays, he carded with it, and took the carding off the cylinder by ſuch a crank as is now produced; that it took it off exactly the ſame; that he uſed it in his factory. She ſays, the defendant was then in

buſineſs,

buſineſs, and lived at *Nottingham*; that ſhe never ſaw the crank any-where but in her huſband's room; ſhe afterwards told you, when that crank was finiſhed, it was carried down to the ſhop thirteen years ago, and above, and he there worked with it; and when her huſband invented it, he employed *Whitaker*, a ſmith, to put it in iron.

Then *George Hargrave* ſays, his father uſed the crank in the public ſhop where all the men worked; this was in 1773, when he came from *Lancaſhire* to *Nottingham*; after the time that he got there, his father had it in public uſe; that one *Bird* alſo uſed it at the ſame time in his factory.

It is proved by theſe witneſſes, firſt, that it was invented between thirteen and fourteen years ago; and it was not Mr. *Arkwright*, but *Hargrave*, who invented it; and it was uſed publicly in two factories, where men came to work.

If that be ſo, that will put an end to this article, namely, the crank.

George Whitaker ſays, he is a ſmith and frame-maker; that he made many cranks; that *Hargrave* came to him, and told him he wanted ſuch a machine, and the purpoſe he wanted it for; and by his directions, and his own judgment, he made a crank like this which is produced, only turning the joints the other way; that it took off the cotton the other way from the cylinder, but exactly the ſame; that ſome call it the taker off, ſome the comb; then it got its name. He ſays, he has made ſome for one *Hudſon*, three for *Grimſhaw*, ſome in 1773, and one for *Liſter*; and he ſays, he has made near twenty in the whole. He ſays, they got into very general uſe before 1775. It was uſed in the public ſhop of *James* in 1773; that it was worked ſo much, that in *January* 1774 the witneſs repaired it; there were ſeveral brought to repair in 1774, and they were chiefly in uſe after 1775; they were never left off, as he knew of.

The next witneſs is *Richard Hudſon*, who ſays, he has made many carding engines, in 1774; he thinks, ſome before, but is not ſure; theſe cranks were uſed then by him; there were cranks in all the engines, and the ſame as theſe; that he employed *Whitaker* to make the cranks; that he made one for *Brotherton* that was in *Scotland*, another for *Smoke* in *Nottingham*, and he made them for *Rawſon* and Co. at *Nottingham*; and one for *Liſter*, for carding wool.

Then *John Bird* ſays, in 1773 he had a crank of his own, uſed in his own ſhop, in his cotton manufactory at *Nottingham*.

Thomas Chatterton ſays, in *January* 1774 he ſaw one at Mr. *Bird*'s at *Nottingham*; that *Hudſon* made it, and he uſed it in his manufactory in *April* 1774, at *Aſhbourn*.

Then *Thomas Ragg* ſays, that the cranks were in public uſe before 1775. He was apprentice to *Whitaker* the maker; he ſpeaks to the time.

Then as to this article upon the part of the defendant, Mr. *Moore* contents himſelf with ſaying, the ſpecification is clear enough as to that; his evidence does not apply to this part of the caſe.

Wood ſays, he never ſaw the crank in uſe before *Arkwright*'s.

John Haggett ſays, he was employed to make one for Mr. *Arkwright*; that he never knew it uſed by any perſon before, to his knowledge.

And *Thomas Bell* likewiſe ſays, he never knew it uſed before Mr. *Arkwright* uſed it.

Some of the witneſſes have proved them made in great numbers, and uſed in different factories publicly, and they have proved it by the perſons who made them.

Upon

Upon the part of the defendant, the witneſſes never having heard of it, may be perfectly true, and yet no contradiction to the evidence for the proſecution.

As to No. 5. the filleted cylinder, Mrs. *Hargrave* ſpeaks of it, and ſays, the original cylinder was covered all over with cards; that her huſband uſed it for ribband filleting; that he uſed it about fourteen years ago, but he never brought that to any ſhop or factory; he thought the other better, and carried that to the ſhop with the crank.

Then *George Hargrave* ſays, it had no fillets, that he recollects, in 1773; but, you obſerve, he did not come till 1773 to *Nottingham*.

Then *Robert Pilkington* ſays, the firſt engine he was concerned in was made by *Richard Liveſey* and himſelf in 1770; that it had a filleted cylinder; that he got one that was ſtriped in the fillets, like this; that he had a cylinder that was quite covered that was meant for tumming, the firſt operation in carding; that it was one continued carding, inſtead of ſo many rovers or lengths; he does not know that the filleted cylinder will anſwer any purpoſe the other does not.

The next is *Thomas Hayes*, He ſays, he has made engines; that he has ſeen the defendant's about twelve or thirteen years ago; and he ſays, his cylinder was covered over with cards, the ſame as the one now produced. In 1767, he ſpeaks of making the rollers, and ſays, he made the machine that made continual roving, as this does; that he had a cylinder, like that which was produced, to take off the cotton from the other; this was twelve years ago; he ſold them to manufacturers for uſe; that he made his machine for ſpinning and roving; that he made it rove and ſpin with the ſame rollers, by doing it twice over in the manner he ſhewed to you.

Then upon the part of the defendant, as to this article, *Wood* mentions at firſt, and his evidence falls in alſo with what was ſaid upon the part of the proſecution, that in 1773 it ſtruck him the cylinder might be intirely carded, and he did it ſo; and in 1774 he made a full trial of it. He had parallel cardings in 1774. He did not make much difference between the roving and the ſpinning machines.

He alſo proves it uſed long before the defendant's patent; he confirms what was ſaid by the other witneſſes; and what the other witneſſes have ſaid againſt it, is nothing at all to this article, for here it is proved to be uſed in both ways, in the manner the defendant has uſed it now, and likewiſe being carded quite through.

Now if it was in uſe both ways, that alone is an anſwer to it; if not, there is another queſtion—Whether the ſtripe in it makes a material alteration? for if it appears, as ſome of the witneſſes ſay, to do as well without ſtripes, and to anſwer the ſame purpoſe, if you ſuppoſe the ſtripes never to have been uſed before, that is not ſuch an invention as will ſupport the patent; upon that ground, it is fully anſwered.

Then it comes to No. 6. *Hayes* ſays, he made uſe of rollers in 1767; and in the ſame manner two years after, as theſe were; one was fluted wood, upon an iron axis; the other the ſame, only covered with leather.

Hayes ſays, he tried the ſpinning of cotton by the rollers; he employed one *Kay*, a clock-maker from *Warrington*, to make a ſmall model.

John Kay ſays, he told the defendant, that he made theſe things in the year 1767.

Says the witneſs, the diſcourſe came up about ſpinning cotton by rollers, and he ſaid, he thought it would anſwer very well. Says the defendant, it

will never anſwer, many have ruined themſelves by it; notwithſtanding *Kay* perſiſted he thought he could do it, if he had money. The next morning, before he was out of bed, the defendant came to him, and aſked if he could make a ſmall model. He came again, and the witneſs got the model from *Hayes*, and told the defendant, that he and another perſon had tried it. Then afterwards he ſays, he went with the defendant to *Nottingham*, and worked with him upon the diſcovery found out by himſelf and *Hayes*.

Kay is confirmed in it by his wife *Sarah Kay*.

The next is *Neddy Holt*. He ſays, he was employed in 1774 to make theſe rollers; that the defendant came to him, and told him he was an intruder upon his patent, becauſe his roving was the ſame as his ſpinning.

This, I think, is the evidence as to the 6th article.

Then for the defendant, *Pridden* ſays, that, that which is deſcribed as No. 6 is the ſame that is uſed, that is, the rollers; but it is admitted, it is not ſtated in the ſpecification, of what ſize they ought to be; and I think the reſt of the evidence upon this article goes merely to the deſcription in the ſpecification, and not as to its being a new invention; ſo that, that evidence ſtands alſo uncontradicted.

As to *Hayes* and *Kay*, there is no contradiction at all to the evidence they have given, namely, that they were made before, and uſed in the different ways I have ſtated to you, and that the defendant got the ſecret from them.

Then the 7th article is what they call the cann. *Holt* ſays, the only difference between the two, the ſpinning machine and the preſent roving machine, is, that the latter has a cann; and indeed, that, at one time, was admitted by the counſel for the defendant.

If it be ſo, it brings the caſe to a ſhort point indeed; for if nothing elſe is new, the queſtion is, Whether it is material or uſeful? The witneſſes upon the part of the proſecution ſay, it is of no uſe at all. In the firſt place, they had that before which anſwered the ſame purpoſe, though not made exactly in the ſame form; it was open at-top, it twiſted round, and laid the thread preciſely in the ſame form, and had the ſame effect this had; ſo if it was new, it is of no uſe; but they ſay it is not new, for though it was not preciſely the ſame ſhape, in ſubſtance it was the ſame thing, that is not contradicted.

That part alſo ſtands without any contradiction upon the part of the defendant, for the defendant's witneſſes ſatisfy themſelves with telling you they think it intelligible, and it might do without the roller, though it might not be ſo effectual as with the roller. It is admitted by ſeveral, it could do without, that appeared from the experiment made; they ſhewed you by one of the engines, how it did with the roller, and how without; and that it was done without, juſt the ſame as with it.

As to 8. and 9, it is admitted thoſe are intirely out of the cauſe, and may be uſed, ſays the counſel for the defendant, inſtead of No. 7.

The queſtion they make is, the ſpecification does not import that 8. or 9. was neceſſary to be uſed, and becauſe No. 10. is to be fixed to No. 6. to work No. 7, 8, or 9. Now the words of the ſpecification are theſe, "No. 8. is a machine for twiſting the contents of No 6. in which (d, d) is "a frame of iron; (b) a roller upon which a bobbin is fixed, this is turned "the ſame as No. 7. that is, by a dead pulley, or wheel fixed to a wooden "frame at (G). Then, No. 9. is a ſpindle and flyer fixed to No. 6. for

"twiſting

" twiſting the contents from (b) in No. 6.—(a) is a pulley under the " bobbin, which hath a communication by a band to No. 10. at (d, d,) it " being a conical or regulating wheel, which moves the bobbin quicker or " ſlower as required."—This is the account given of thoſe two, namely, that nothing imports to be uſed with No. 7. but, on the contrary, that was to be uſed inſtead of them; therefore you may take any one of theſe things, and it will do.

The firſt queſtion is, Whether that is the fair conſtruction of this ſpecification? Suppoſe it was ſo, it is perfectly clear the defendant has never uſed either of them, and ſome of the witneſſes tell you they cannot uſe them at all. One tells you they cannot be uſed, and therefore it is a little unfortunate they got into this ſpecification, if nothing more was meant than to make a fair diſcovery of what was uſeful; but in this manner the deſcription is given.

As to No. 10. nothing is ſaid about it for the defendant. Firſt, Mr. *Moore* ſaid, it was not difficult to conceive it; but there is no witneſs that ſays at all what the uſe of it is—So this ſeems to ſtand without any evidence at all.

Gentlemen, thus the caſe ſtands as to the ſeveral component parts of this machine; and if, upon them, you are ſatisfied none of them were inventions unknown at the time this patent was granted, or, that they were not invented by the defendant; upon either of theſe points the proſecutor is intitled to your verdict.

If upon any point you are of opinion with the proſecutor, you will find a verdict for him.

If upon all the points you are of opinion for the defendant, you will find a verdict for him.

The Jury, without a minute's heſitation, brought in their verdict

FOR THE CROWN.

On the 10*th of* November 1785, *the Court of King's Bench was moved by Mr. Serjeant* Adair, *in behalf of the defendant, for a Rule, to ſhew cauſe why a new Trial ſhould not be granted; and he ſtated to the Court as follows:*

In the buſineſs of the KING and *Richard Arkwright*, I am inſtructed, my Lord, by Mr. *Arkwright*, to apply to your Lordſhip, for a Rule, to ſhew cauſe why there ſhould not be a new trial.

This cauſe was tried the Sitting after the laſt *Trinity* Term, before Mr. Juſtice *Buller*—The Court, I believe, are already ſufficiently appriſed of the general nature and hiſtory of this caſe, to render it almoſt unneceſſary for me to ſtate, that it was a Cauſe of as great conſequence as ever came on for trial, in this or any Court, for a number of years; a Cauſe of great conſequence, whether it was conſidered with regard to the property of the parties, and the value of the matter to the public, from the effects which

will

will enſue from a verdict upon the one ſide or the other—therefore, the Court will wiſh this queſtion ſhould undergo, before it is finally cloſed and decided, as full and compleat an inveſtigation as poſſible, in order, that the verdict and judgment, in a matter of ſuch moment, may give univerſal and public ſatisfaction.—Under theſe circumſtances, therefore, I truſt and hope, it will appear, from what I am inſtructed to ſtate to the Court, of ſuch conſequence as will induce them to think, this matter ought not finally to be determined by this trial, but that Mr. *Arkwright* ſhould have, what, under the circumſtances of the caſe, he inſtructs me he has not had, the opportunity of laying before the Court, compleatly, all the facts which are connected in this buſineſs, ſo as to enable the Court to ſee and judge with accuracy and preciſion, upon which ſide the right lays.

Your Lordſhip is appriſed, this queſtion has been the ſubject of diſcuſſion in two trials, prior to that which was the ſubject of the preſent application, and it is a fact that will be in the recollection of the learned Judge, who heard the full opening of the former proceedings, that in the two former trials, each turned (though the evidence was different) upon the ſame queſtion, that is, upon the ſufficiency or inſufficiency of the ſpecification which the law requires, in order to ſupport a patent—On the firſt trial, Mr. *Arkwright* was not ſo well prepared as he might have been, upon the queſtion, and the verdict went againſt him, and, for a conſiderable time, he acquieſced in that verdict, conceiving, as he ſtates in an affidavit I have before me, the law to be ſtricter in that reſpect, then he was afterwards adviſed it was; upon being led to underſtand that there was a different conſtruction of law upon the point, he thought it right to make another trial upon that principle, with reſpect to that queſtion which had been the only one agitated in the firſt cauſe; in conſequence of which, he brought a new action; the event your Lordſhip is appriſed of, and further, that the ſufficiency of the ſpecification upon the ſecond trial as well as the firſt, was the only point that was then gone into, either in evidence or in argument, before the Court.—This caſe, my Lord, having thus undergone two inveſtigations of the nature that I have ſtated to the Court, Mr. *Arkwright* ſtates, that upon the preſent *Scire Facias* being brought againſt him, he was led to ſuppoſe that his opponents had already brought forward all their artillery, and that the ſubject of the *Scire Facias* was only to procure, in another ſhape, and in another Court, a reviſion of the ſame queſtion which had been agitated before.

My Lord, he was led to ſuppoſe, that upon two trials, upon a queſtion of ſuch importance, no evidence that appeared material to the party, would have been ſuppreſſed and kept back, and that they had gone into all the caſes that could be made againſt his patent: under theſe apprehenſions, he ſwears, that he did not expect them to adduce, in the next ſtage of the buſineſs, and after ſo many trials, evidence to attack that, which he was conſcious could not be juſtly attacked, namely, the originality of the invention—he went therefore into the defence, and inſtructed his counſel with a view to that queſtion, merely, of the ſpecification; and he came to trial upon the *Scire Facias*, altogether unprepared with reſpect to the evidence that appeared as to the novelty of the invention, except ſo far as the witneſſes that were accidentally called to explain the ſpecification, could ſpeak upon the ſubject, he came prepared with evidence upon the queſtion of the ſpecification, and that was the cauſe, my Lord perfectly recollects—when we ſaw the two

iſſues

iſſues that were joined upon the *Scire Facias* upon the point, as to the originality and novelty of the invention, we found a very manifeſt deficiency as to the evidence upon thoſe heads, but your Lordſhip knows, when thoſe matters are laid before counſel, it is then too late to ſeek for new inſtructions, and he was under the neceſſity of going to trial, with that preparation and that evidence that was thought fully ſufficient by Mr. *Arkwright*, as he was fully perſuaded, they would not venture to attack the originality of his invention: however, it turned out upon the trial, contrary to the expectations of Mr. *Arkwright*; it was then agitated, and the chief force of the evidence was then againſt the originality of the invention, and the evidence under thoſe circumſtances was a very conſiderable degree of ſurpriſe to Mr. *Arkwright*, upon application to him, we found him not prepared with witneſſes, they not being then in town to contradict, and he had reaſon to believe the learned Judge would ſet it right, and the verdict of the jury, which was a general verdict for the Crown, was principally founded upon that kind of evidence.

Mr. Juſtice *Buller*. Which?

Mr. Serjeant *Adair*. Upon that point, as to the originality of the invention.

Mr. Juſtice *Buller*. I cannot ſay that, nor can I ſay, if you aſk now, which point it was, they were all ſo ſtrong.

Mr. Serjeant *Adair*. I will ſtate to your Lordſhip one ground upon which it appears ſtrongly to me, if I am rightly inſtructed, it was the principal point upon which the jury reſted their verdict: I am inſtructed, after your Lordſhip had ſtated the evidence upon the one ſide and the other, that related to the ſpecification in the patent, that your Lordſhip then pauſed, ſtating to the Jury, if they were ſufficiently ſatisfied upon that point, it rendered it unneceſſary to trouble them with any more evidence in the cauſe; after which, I am inſtructed, the jury deſired your Lordſhip to go through the whole of the evidence.

Mr. Juſtice *Buller*. I will ſtate how that was—You ſtate it very clearly and accurately, it appeared to me, after we had been four or five hours in the cauſe, the defendant had not a leg to ſtand upon; I thought it a point of duty and decency in me, in ſuch a cauſe, and of that conſequence, and where it had been tried before two reſpectable judges, who held a difference in ſentiments, that I ſhould hear it fully out. I began with directing the idea of the jury, to that point, and I believe it occurred to the jury, that if it was ever ſo clear, it was better they ſhould hear it all out.

Mr. Serjeant *Adair*. Thinking at leaſt that was doubtful, what opinion the jury might have with reſpect to it, my application to the Court reſts upon this ground, that Mr. *Arkwright* ſtates in his affidavit, that for the reaſons that I have mentioned to the Court, he was not prepared with that evidence which he would have adduced, and ſhould be able to adduce upon a future occaſion, if the Court will give him an opportunity, in order to contradict and explain ſuch part of the evidence for the proſecution againſt him, that deprived him of the opportunity of proving the originality of his invention.—Beſides his own affidavit upon that ſubject, he will produce another affidavit, if the Court thinks it right in this ſtage of the buſineſs before them.—The purport of thoſe affidavits are, ſeverally, to ſtate the evidence that could have been given to contradict the evidence of *Kay* and

Mrs. *Hargrave*, and ſome others that were material witneſſes upon that part of the cale.—Your Lordſhip recollects, one part of the evidence was, the uſe of a part of this machine, called the crank; another, and a very material part of it was, that reſpecting *Hargrave* and *James* at *Nottingham*, the widow of *Hargrave* and her ſon were called, reſpecting the crank, and they ſwore to the uſe of that, thirteen or fourteen years before, they carried their evidence to 1772.—Now I have the affidavit of Mrs. *James*, the widow of the other partner, and of his ſon, and one or two of the workmen employed under *Hargrave* and *James*, that will contradict that fact reſpecting the crank, and ſtate, that it did not come into uſe till the latter period; and they will further ſtate, that they were informed from *Hargrave* himſelf, that the invention had been ſurreptitiouſly obtained from a workman of Mr. *Arkwright*'s himſelf, and ſo far the proof of attacking the originality was opened with reſpect to *Hargrave* and *James*, and it was ſaid, when fully laid before the Court, it would be an additional circumſtance to prove, in truth, *Hargrave* was the original inventor of the crank.

There is another point, upon which Mr. *Arkwright* ſtates he was not provided with evidence, not conceiving it was the point to be litigated, which was, there were ſome articles in the ſpecification which your Lordſhip recollects were ſuppoſed to be immaterial, and to be inſerted only for the purpoſe of puzzling and perplexing.—It can be proved to be ſo far from being the caſe, that ſome or moſt of the parts were material, when the machine came to be applied to wool inſtead of cotton, and the others had actually been uſed by Mr. *Arkwright* himſelf and his workmen. It was therefore neceſſary to inſert them in the patent, in order to cover the whole of, what he conceived, his invention, and not for the purpoſe of perplexing, and this ground ſeems to derive additional ſtrength from the conduct of the parties. Upon the other ſide, if your Lordſhip will recollect, that ſome ſurpriſe was expreſſed, not only by us, but I believe even by the Court, when this body of evidence was produced upon the part of the proſecution; Why did it not appear upon the former occaſions? for if it was true, and uncontradicted, it was your Lordſhip's opinion it would make an end of the cauſe: upon that, I recollect, it appeared that though it had not been made uſe of upon former occaſions, yet the parties were clearly in poſſeſſion of it ſo early as the firſt trial; for it was ſtated, that many of thoſe witneſſes were in the original brief upon the firſt trial—if it be ſo, upon what ground upon earth, but that of deceiving and reſerving a maſked battery of evidence, could it be poſſible, a party in a matter in which he was ſo much intereſted, would not diſcover it?

Earl of *Mansfield*. They did very right, I ſuppoſe they ſaw the opinion of the Court upon the ſpecification.

Mr. Serjeant *Adair*. It certainly, in a queſtion of that kind, was keeping back that body of evidence intended to produce the effect it has, to prevent Mr. *Arkwright* coming prepared to contradict or explain that evidence—if the whole of that evidence had been adduced upon the firſt, or even on the ſecond trial, there might have been an opportunity, in the further diſcuſſion of the buſineſs, to procure an examination of that matter, by freſh evidence, or ſome other way, when the defendant would certainly have it in his power to lay evidence before them upon that occaſion, and they ought not to have waited till the trial by *Scire Facias*, which is the laſt ſtage the law admits, the event of which, in the nature of it, is final. In reſpect to the right

between

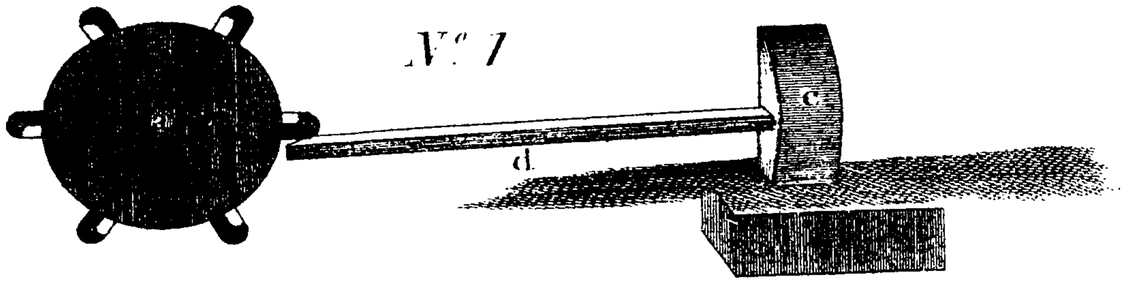
between the parties, they had an opportunity of bringing that evidence forward with ſafety, and without a poſſibility of being contradicted afterwards, unleſs we can ſucceed in the preſent application to the Court, and I flatter myſelf, upon reading this affidavit of Mr. *Arkwright*'s, and the other witneſſes, the Court will ſee ſufficient reaſon to grant a new trial, when this matter will be more fully diſcuſſed.

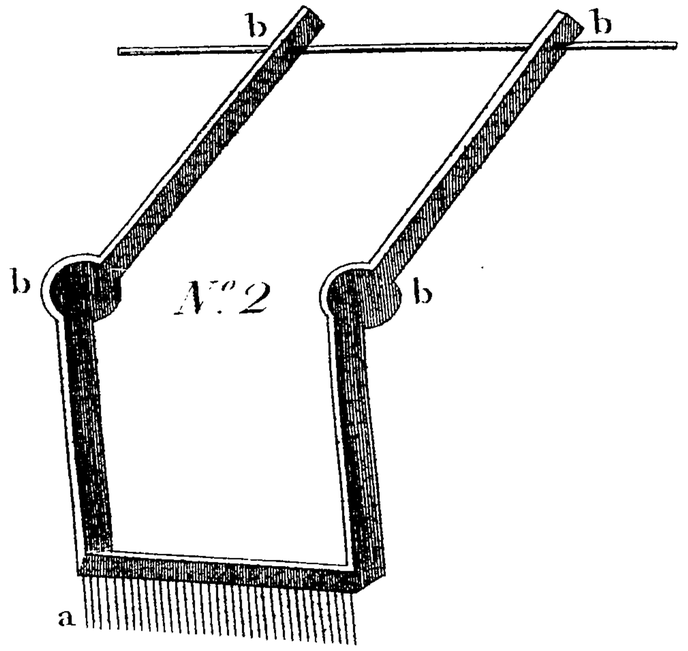
Earl of *Mansfield*. It is very clear to me, upon your own ſhewing, there is no colour for the rule; the ground of it is, if there is another trial, you may have more evidence. There is no ſurpriſe ſtated, no new diſcovery, but upon the material points in queſtion, you can give more evidence. — There were two queſtions to be tried, that is, the ſpecification, and the originality of the invention; there has been one trial in this Court, another trial in the Common Pleas, where this patent has been queſtioned, and this proceeding is brought finally to conclude the matter—for it is a *Scire Facias* to repeal the letters patent. The queſtions to be tried, are ſtated upon Record—there is not a child but muſt know they were to try the queſtions there ſtated; they come prepared to try them, they have tried them, and a verdict has been found, which is ſatisfactory to the Judge, and now you deſire to try the cauſe again, only that you may bring more evidence.—There is not a colour for it——The rule was not granted—And

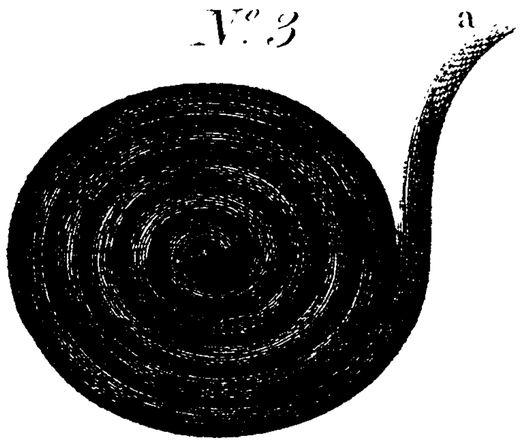
Afterwards on the 14*th of* November 1785, *the Court of* King's Bench *gave Judgment to* CANCEL *the Letters Patent.*

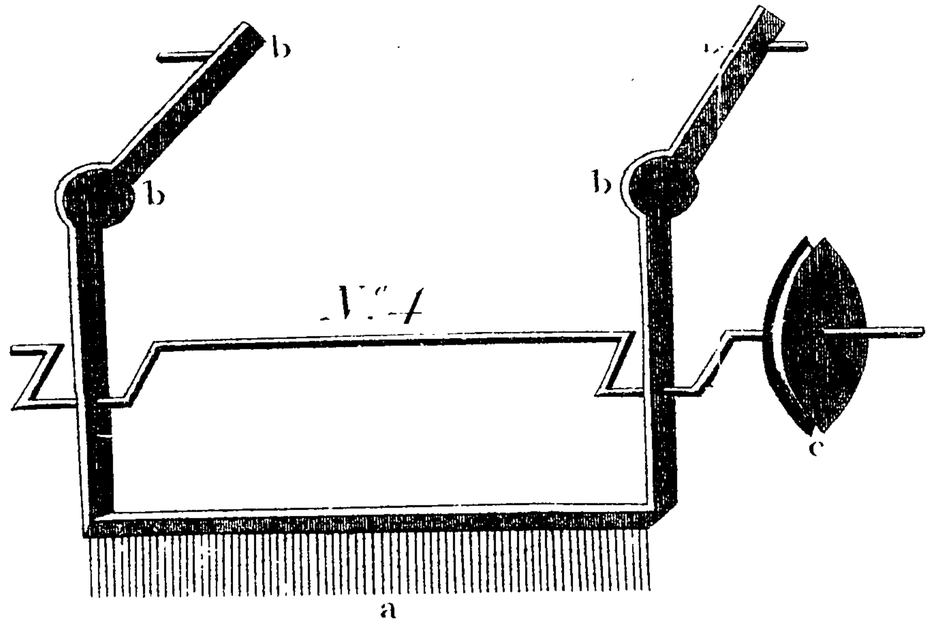
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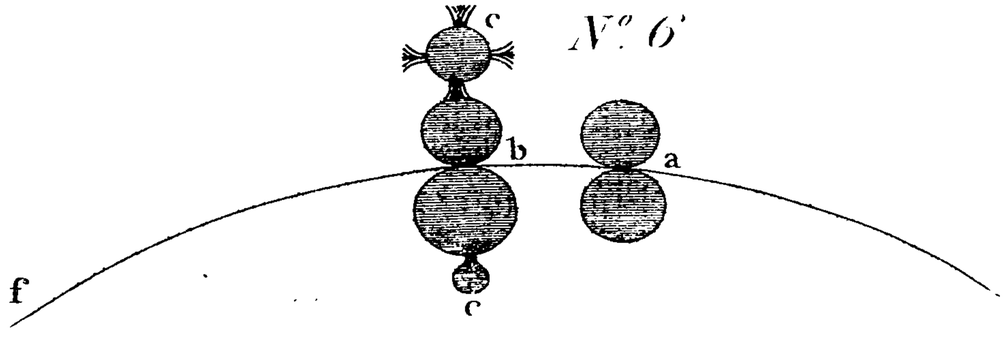
(R. ARKWRIGHTS). Plan, of the Machine for preparing, Silk, Cotton, Flax and Wool for Spinning, 1775.

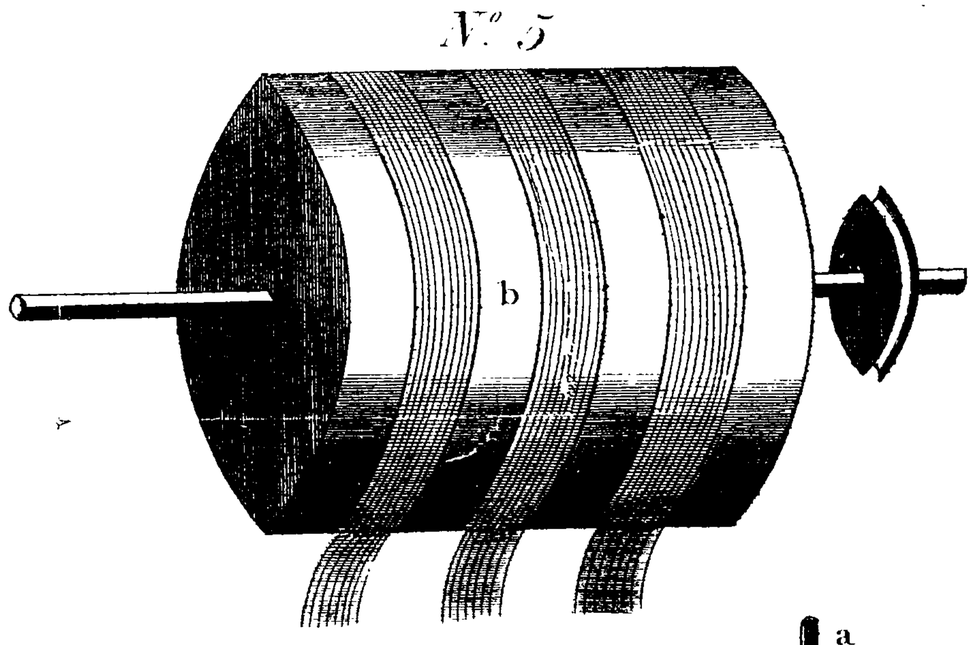










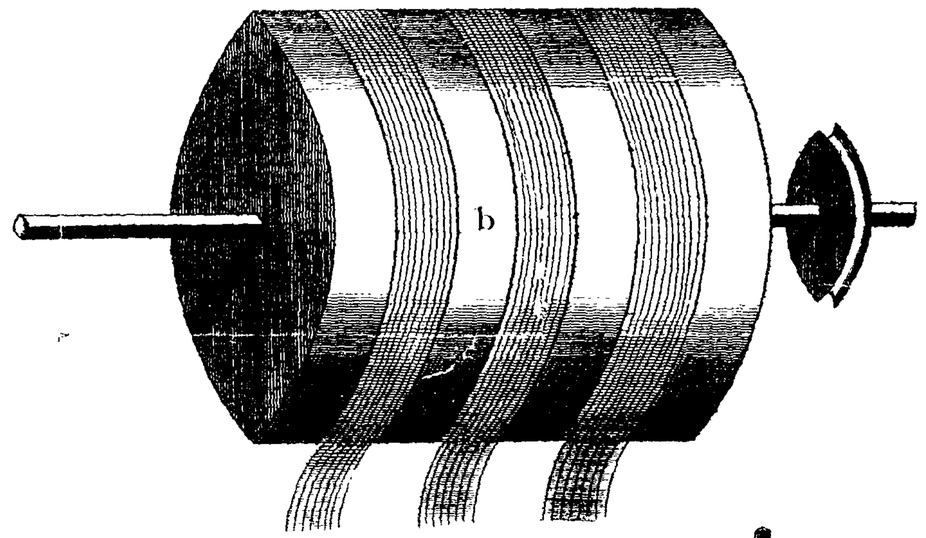




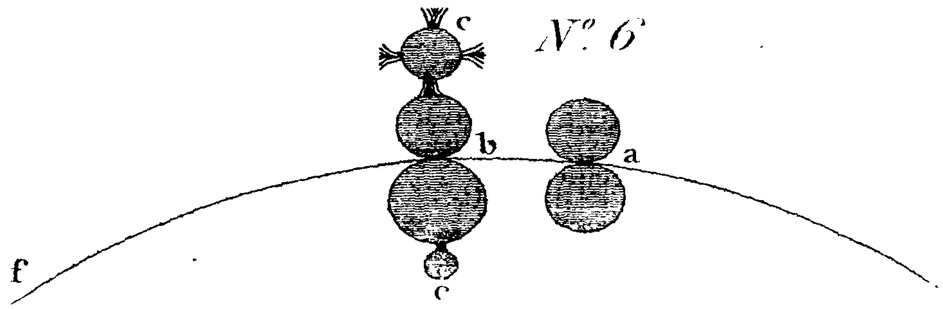


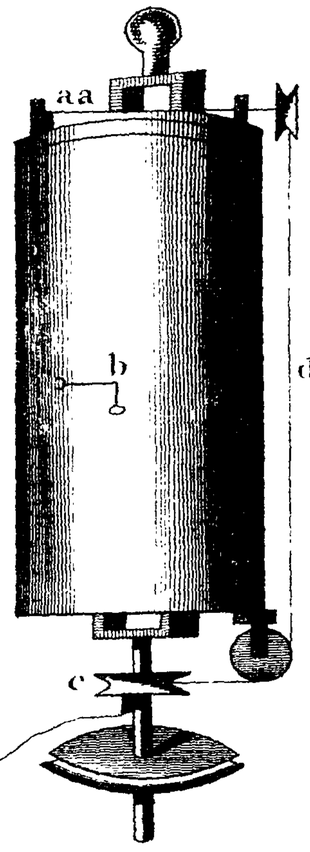
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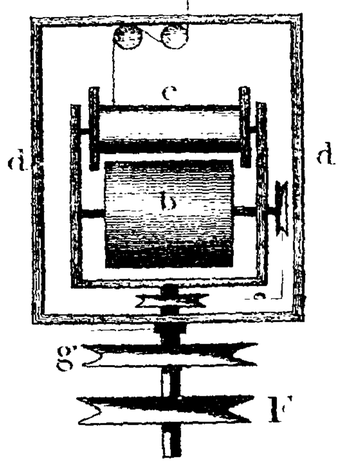
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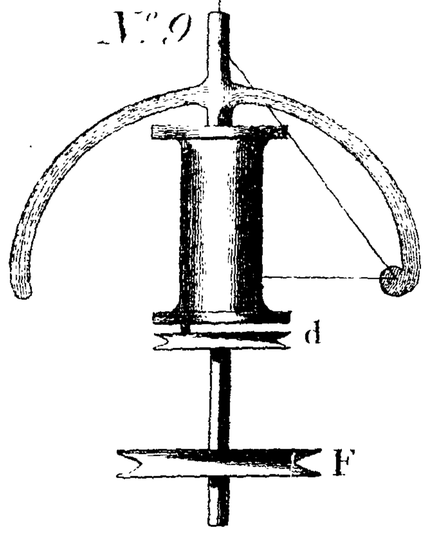


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