AN

ESSAY

ON THE

LAW OF PATENTS

FOR

NEW INVENTIONS.

WITH AN

APPENDIX,

CONTAINING THE

FRENCH PATENT LAW, FORMS, &c.

BY THOMAS G. FESSENDEN,

ATTORNEY AT LAW.

As the West Indies had never been discovered without the discovery of the mariner's needle; so it cannot seem strange if sciences be no farther developed if the art itself of invention and discovery be passed over.

BACON.

PUBLISHED BY D. MALLORY, & CO. BOSTON;

Lyman, Hall, & Co. Portland; Swift & Chipman, Middlebury, Vt.; S. Gould, New York; D. W Farrand & Green, Albany; Farrand & Nicholas, Philadelphia; P. H. Nicklin & Co. Baltimore.

S. T. Armstrong, Printer.

1810.

DISTRICT OF MASSACHUSETTS, TO WIT.

BE it remembered, that on the twentieth day of October, in the thirty fifth year of the Independence of the United States of America, THOMAS G. FESSENDEN, of the said District, has deposited in this office the title of a book, the right whereof he claims as author, in the words following, to wit:

An Essay on the Law of Patents for New inventions. With an Appendix, containing the French Patent Law, Forms, &c. By THOMAS G. FESSENDEN, Attorney at Law. As the West Indies had never been discovered without the discovery of the mariner's needle; so it cannot seem strange if science be no farther developed if the art itself of invention and discovery be passed over. BACON.

In conformity to the act of the Congress of the United States, intitled, "An act for the encouragement of learning, by securing the copies of maps, charts, and books, to the authors and proprietors of such copies, during the times therein mentioned;" and also to an act intitled, "An act supplementary to an act, intitled, An act for the encouragement of learning, by securing the copies of maps, charts, and books, to the authors and proprietors of such copies during the times therein mentioned; and extending the benefits thereof to the arts of designing, engraving, and etching, historical, and other prints."

WM. S. SHAW,
Clerk of the District of Massachusetts.

Rec. Feb. 25, 1803.

INTRODUCTION.

THE investigations, which led to the following essay, were commenced in consequence of the Author's having occasion to turn his attention to the subject, without any design to submit their result to the public. The course of his inquiries led him to observe that the authors of the most useful discoveries, inventions, and improvements in the arts, but rarely meet with that reward either of fame or profit, which their industry and ingenuity merit. Yet to men of this description, mankind are indebted not only for the comforts, ornaments, and luxuries of life, but even for those necessaries, the want of which would convert the human race into hordes of wandering, naked, and houseless savages, much more miserable and defenceless than the brute inhabitants of the wilderness.

The writer has seen with regret, not only that the lower orders in society, for the most part, entertain absurd and unreasonable prejudices against the person, who invents, patronises, or adopts a useful improvement in the arts, but in some instances, legal men, of great and deserved eminence, have shown dispositions hostile to patentees of new and useful inventions, claiming the only reward for their labors and ingenuity,

which they can, in most instances, hope for from the laws of society.*

In Great Britain, however, the prejudices, which formerly subsisted against patents for new and useful inventions seem to have subsided, and the government, the courts of law, and the more enlightened parts of the community appear to be actuated by that liberal policy, which is alone calculated to call forth and secure to the use of the public the exertions of genius: They appear to entertain the opinion of a late elegant writer, who thus expresses his sentiments on this subject. "Next to a conviction of the moral and political importance of domestic trade, the best means of improving it should engage our attention. There is certainly no department of public service more useful than the patronage of the mechanical ingenuity, by whose invention and improvements the necessity for animal labor is diminished. No prejudice can be more absurd and mischievous, than that which has been frequently objected to improvements in mechanism, on the ground of their tendency to abridge the employments of the more laborious parts of society. Among the principal advantages, resulting from the civil association of man-

* "It may be said that perpetuities, monopolies, and patents of concealment were born under an unfortunate constellation, for as soon as they have been brought in question, judgment has always been given against them, and none at any time given for them; and all of them have two inseparable qualities, viz. to be troublesome and fruitless." Buller's Nisi Prius, p. 76.

'kind, we may surely class the opportunity afforded individuals of dedicating their talents to the benefit of the public, and the power of the latter, to bestow adequate remuneration for the time and ability so employed.'

"In return for such disbursements from the common stock, the personal convenience and profit of every member of the community, are more than proportionally increased."

"A solicitude to reduce animal labor, within moderate and reasonable limits, is not merely recommended on the score of political economy, but as one of the most amiable features of civilization; multitudes of our fellow creatures are thereby rescued from the deplorable ignorance, that generally accompanies the lot of manual drudgery, and being thus advanced a rank higher in the human species, may become eligible to many employments, in which the understanding has a share, and which so greatly abound in a wealthy, and civilized country."*

Another British writer, whose work may be styled the text book of statesmen, thus complains of the deleterious effects on society and civilization, which arise from the drudgery incident to the manipulations of extensive manufactories, and which may be greatly alleviated, and in some instances almost entirely annihi-

* Balmanno's Introduction to Jones' Law of Bailments.

lated, by labor-saving machinery. "In the progress of the division of labor, the employment of the greater part of those who live by labor, that is, of the great body of the people, comes to be confined to a few very simple operations; frequently to one or two. But the understandings of the greater part of men, are necessarily formed by their ordinary employments. The man, whose whole life is spent in performing a few simple operations, of which the effects too, are perhaps, always the same or very nearly the same, has no occasion to exert his understanding, or to exercise his invention in finding out expedients for removing difficulties, which never occur. He naturally loses, therefore, the habit of such exercise, and becomes as stupid and ignorant as it is possible for a human creature to become. The torpor of his mind, renders him not only incapable of relishing or bearing a part in any rational conversation, but of conceiving any generous, noble, or tender sentiment, and consequently of forming any just judgment of many, even of the ordinary duties of private life. Of the great and extensive interests of his country, he is altogether incapable of judging; and unless very particular pains have been taken to render him otherwise, he is equally incapable of defending his country in war,"*

The ancients paid divine honors to the inventors, patrons, and improvers of those arts which have a ten-

* Smith's Wealth of Nations.

dency to meliorate the condition of mankind. Most of their deities were mortals, who had no other claim to an apotheosis than their having distinguished themselves by their ingenuity and industry in those arts, which the patricians of our "insect tribes" would deem beneath the notice of any, but persons destined to fill the lowest ranks in society. Bacchus was a successful cultivator of the vine; Apollo, Minerva, Ceres, Vulcan, &c. were personages famous for inventions and improvements in agriculture, and other useful and ornamental arts. Virgil assigns the highest place in the Elysian fields, to those who improved human life by the invention of the arts.

"Inventas qui vitam excoluere per artes."

In Egypt the priests maintained their ascendency over the common people, by blending useful knowledge with the grossest superstition. They were conversant with celestial motions, and were supposed, by the populace, to have some influence in causing those heavenly phenomena, which their science enabled them to predict.*

* When Mr. Bruce arrived at Chendi, he found the people "much alarmed at a phenomenon which, though it occurs every four years, had by some strange inadvertency, never been observed even in this serene sky. The planet Venus appeared shining with an undiminished light all day. The people flocked to me from all quarters, to know what it meant, and when they saw my telescope and quadrant, could not be persuaded but that the star had become visible by some correspondence and intelligence with me, and for my use." Bruce's Travels, vol. iv. p. 531. In China the prediction of eclipses still continues a powerful engine of government. Staunton's Embassy, vol. ii. p. 93.

The Egyptians should seem to have been masters of many useful arts, which have been lost and buried in the rubbish of time. No mechanical powers, by any mode of application with which the moderns are acquainted, could have enabled them to rear those stupendous monuments of useless ingenuity, and ill-directed industry, which have bid defiance to the assaults of time, and seem destined to endure till the dissolution of the "great globe itself, and all which it inherit."

"In Greece," says an elegant historian, "tradition mentions the original production of the olive, the first culture of the vine, and even the first sowing of corn. The first use of mills for grinding corn is also recorded. The knowledge of the cultivation and use of the olive, of the preparation of a lasting food from milk, by converting it into cheese, and the domestication of bees for their honey and wax, was said to have been brought from Africa by Aristœus: and so important was the information to the wild tribes of hunters, who first occupied Greece, that Aristœus had the fame of being the son of Apollo, the god of science; the herdsmen, and rustic nymphs among whom he had been educated, were raised in idea, to beings above human condition, and he was reported to have been himself immortal. The goddess of art, Minerva, according to the oldest Athenian author from whom any thing remains to us, though reputed the peculiar patroness of Athens,

was born in Africa, but deified by the gratitude of Greece."*

The patronage of Pericles, combined with other favoring circumstances, gave Athens a pre-eminence in the arts, which made the inhabitants of a diminutive and naturally barren territory, the masters of Greece, the terror and admiration of cotemporary nations, and caused her to be hailed as the arbitress of taste by all succeeding ages. The whole population of that petty but powerful republic, in the height of its splendor, scarcely amounted to thirty thousand families, of free subjects. Yet Athens reached to a degree of perfection in the fine arts, which all succeeding nations have attempted to imitate, but have never been able to equal. This excellence was the consequence of the patronage afforded to artists by a great man, who at that time presided over the destinies of the republic. "Pericles," says the Abbe Millot, "gave life to the whole, and the Athenians for a couple of ages, continued to produce the most elegant master pieces. Architecture erected those superb monuments, whose delicate proportions enchant the eyes, while the enormous Egyptian masses can only serve to strike with astonishment."

"Before the time of Pericles," continues the same author, "sculpture had produced nothing but clumsy, shapeless figures. The Grecian statues, like those of

* Mitford's History of Greece, vol. i. c. 3. sect. 3.

the Egyptians, had their arms hanging down adhering close to the body, with the legs and feet joined to one another, without gesture, attitude, or elegance." Phidias, Mycon, Polyctetus, Lysippus, and Praxitiles flourished as sculptors. Polygnotus,* Apollodorus, Zeuxis, Pamphilus, Timanthes, and Apelles became immortal for their skill in painting, and the labors of these artists, together with the eulogies of the historian, the orator, and the poet were at once the incentive and the reward of those astonishing feats of valor and displays of patriotism, which have excited the admiration of all succeeding ages.

Among the successors of Alexander the Great, we find Demetrius, the son of Antigonus, a commander, celebrated as a warrior, and no less renowned for his mathematical and mechanical science. "He had an inventive genius; and it may be justly said that curiosity and a fine turn of mind for the sciences were inseparable from him. He never employed his natural industry in frivolous and insignificant amusements, like many other kings, some of whom valued themselves for their expertness in playing on instruments, others in painting, and some in their dexterity in the turner's art, with a hundred qualities of private men, but not of a prince. His application to the mechanical arts, had

* Polygnotus received the thanks of the council of the Amphyctyons, in a public decree, which entitled him to have his expenses defrayed, wherever he travelled, for having painted *gratis* the story of the Trojan wars in one of the porticos at Athens.

something great and truly royal in it; his galliés with five benches of oars, were the admiration of his enemies, who beheld them sailing along the coasts; and his engines called helepoles were a surprising spectacle to those whom he besieged. They were exceedingly useful to him in the war with Rhodes."*

But the triumph of intellect, and of mathematical and mechanical knowledge over even well directed and disciplined, (or what is synonymous Roman) valor was never more strikingly exemplified than in the celebrated siege of Syracuse. In that ever memorable instance the genius of one man baffled and held at bay for a long time the most formidable power the world ever saw, and would in all human probability have finally defeated, and disgraced irreparably, the world's masters, had not treachery supplied the want of force to the conquerors. The siege of Syracuse affords so striking an exemplification of the power of mind over matter, and the importance of inventive and mechanical genius to a kingdom or commonwealth, that we cannot withstand the temptation of giving in this place an extract from Plutarch, descriptive of that event.

"When the Romans attacked them (the Syracusans) both by sea and land, they were struck dumb with terror, imagining they could not possibly resist

* Rollin.

such numerous forces and so furious an assault. But Archimedes soon began to play his engines, and they shot against the land forces all sorts of missive weapons, and stones of an enormous size, with so incredible noise and rapidity, that nothing could stand before them; they overturned and crushed whatever came in their way, and spread terrible disorder through the ranks. On the side next the sea were erected vast machines, putting forth on a sudden, over the walls, huge beams with the necessary tackle, which striking with a prodigious force on the enemy's galleys sunk them at once; while other ships hoisted up at the prows by iron grapples or hooks, like the beaks of cranes, and set on end on the stern, were plunged to the bottom of the sea; and others again by ropes and grapples were drawn towards the shore, and after being whirled about, and dashed against the rocks that projected below the walls, were broken to pieces, and the crews perished. Very often a ship lifted high above the sea, suspended and twirling in the air, presented a most dreadful spectacle. There it swung till the men were thrown out by the violence of the motion, and then it split against the walls, or sunk on the engine's letting go its hold. As for the machine which Marcellus brought forward upon eight gallies, and which was called *sambuca* on account of its likeness to the musical instrument of that name, whilst it was at a considerable distance from the walls, Archimedes discharged a stone of ten talents weight, and after that a second and a

third, all which striking upon it with an amazing noise and force, shattered and totally disjointed it.

"Marcellus, in this distress, drew off his galleys as fast as possible, and sent orders to the land forces to retreat likewise. He then called a council of war, in which it was resolved to come close to the walls, if it was possible, next morning before day. For Archimedes' engines they thought, being very strong, and intended to act at a considerable distance, would then discharge themselves over their heads; and if they were pointed at them when they were so near, they would have no effect. But for this Archimedes had long been prepared, having by him engines fitted to all distances, with suitable weapons and shorter beams. Besides, he had caused holes to be made in the walls, in which he placed *scorpions*, that did not carry far, but could be very fast discharged; and by these the enemy was galled, without knowing whence the weapons came.

"When, therefore, the Romans were got close to the walls, undiscovered, as they thought, they were welcomed with a shower of darts, and huge pieces of rocks, which fell as it were perpendicularly upon their heads; for the engines played from every quarter of the walls. This obliged them to retire; and when they were at some distance, other shafts were shot at them

in their retreat, from the larger machines, which made terrible havoc among them, as well as greatly damaged their shipping, without any possibility of their annoying the Syracusans in their turn. For Archimedes had placed most of his engines under cover of the walls, so that the Romans, being infinitely distressed by an invisible enemy, seemed to fight against the gods.

"Marcellus, however, got off, and laughed at his own artillery-men and engineers. Why do we not leave off contending, said he, with this mathematical Briareus, who, sitting on the shore and acting as it were but in jest, has shamefully baffled our naval assault; and in striking us with such a multitude of bolts at once, exceeds as it were the hundred handed giants in the fable? And in truth, all the rest of the Syracusans were no more than the bodies in the batteries of Archimedes, while he himself was the informing soul. All other weapons lay idle and unemployed; his were the only offensive and defensive arms in the city. At last the Romans were so terrified, that if they saw but a rope or a stick put over the walls, they cried out that Archimedes was levelling some machine at them, and turned their backs and fled. Marcellus, seeing this, gave up all thoughts of proceeding by assault, and leaving the matter to time, turned the siege into a blockade."

Here we cannot but lament that prejudice which prevented this great man from devoting more of his time and talents to such branches of mathematical and mechanical science as would afford results of immediate practical utility. The speculations in which he most delighted seem to have been too sublime for common understandings, and too subtile to afford any substantial benefit to the bulk of mankind. "He had," says Plutarch, "such a depth of understanding, such a dignity of sentiment, and so copious a fund of mathematical knowledge, that though, in the invention of these machines, he gained the reputation of a man of divine, rather than human, knowledge, yet he did not vouchsafe to leave any account of them in writing. For he considered all attention to *mechanics*, and every art that ministers to common uses, as mean and sordid, and placed his whole delight in those intellectual speculations, which, without any relation to the necessities of life, have an intrinsic excellence, arising from truth and demonstration only."

Surely nothing can be more preposterous than to entertain an opinion that those arts which minister to common uses are mean and sordid! Yet this opinion has been more or less prevalent in every age, among those whose birth, talents, fortune, or education, have placed them above the necessity of obtaining a livelihood by the practice of those arts which minister to the necessities and comforts of life, and has perhaps

retarded the progress of improvements in such arts more than the ravages of time, or the devastations of war.

The Romans, though originally a horde of barbarians, little more civilized than the rudest tribes of our American aborigines, yet, with the acquisition of power, gained a knowledge of the arts from the more polished nations they subdued, which they communicated to other nations who were obliged to submit to their dominion. Having desolated Europe, they set themselves to civilize it, and, as a consolation for the loss of liberty, communicated their arts, sciences, language, and manners, to their new subjects. Under their auspices agriculture was encouraged, population increased; the ruined cities were rebuilt; new towns were founded; an appearance of prosperity succeeded, and repaired in some degree the havoc of war.* Such, however, were the defects in the polity of the Romans, and such perhaps as were inevitably incident to an empire of such extent, and composed of such discordant materials, that the whole fabric soon became loose and disjointed; and when assaulted by the hardy and intrepid tribes of the north, was prostrated in the dust, and the arts and sciences, together with even the remembrance of many of the inventions and improvements of

* Robertson's Charles V.

the philosophers, mathematicians, and mechanicians of antiquity, perished from the face of the earth.

When the inundation of northern barbarians had in some measure subsided, and a remnant of the human race in Europe had recovered some degree of comparative tranquillity, many circumstances conspired to render the progress of civilization and improvement in literature, science, and the arts extremely slow, and for a while almost imperceptible. The barbarous nations, says an elegant writer, were not only illiterate, but regarded literature with contempt. They found the inhabitants of all the provinces of the empire sunk in effeminacy, and averse to war. Such a character was the object of scorn to an high spirited and gallant race of men. This degeneracy of manners, illiterate barbarians imputed to the love of learning. Even after they had settled in the countries which they had conquered, they would not suffer their children to be instructed in any science, "for," said they, "instruction in the sciences tends to corrupt, enervate, and depress the mind; and he who has been accustomed to tremble under the rod of a pedagogue, will never look on a sword or spear, with an undaunted eye." Any employment in agriculture, or the useful arts was thought by these wild and ferocious conquerors too menial for freemen. They disdained to cultivate the earth or touch a plough, and even their chiefs lived in a sort of pompous indigence, destitute of those comforts and conveniences,

which, in more modern times are not often denied to the meanest laborer.*

In the dawn, which succeeded the dark ages, literature, science, and the arts were first patronised in Italy, by the Medici; and under the auspices of Lorenzo de

* "Observe the accommodation of the most common artificer, or day laborer, in a civilized and thriving country, and you will perceive that the number of people, of whose industry a part, though but a small part, has been employed in procuring him accommodation exceeds all computation. The woolen coat, for example, as coarse and rough as it may appear, is the produce of the joint labor of a great number of workmen. The shepherd, the sorter of wool, the wool-comber or carder, the dyer, the scribbler, the spinner, the weaver, the fuller, the dresser, with many others, must all join their different arts in order to complete even this homely production. How many merchants and carriers, besides, must have been employed in transporting the materials from some of those workmen to others, who often live in a very distant part of the country. How much commerce and navigation in particular, how many ship-builders, sailors, sail-makers, rope makers, must have been employed in order to bring together the different drugs made use of by the dyer, which often come from the remotest corners of the world. What a variety of labor is necessary in order to produce the tools of the meanest workman. To say nothing of such complicated machines, as the ship of the sailor, the mill of the fuller, or even the loom of the weaver, let us consider only what a variety of labor is requisite to form that very simple machine, the shears, with which the shepherd clips the wool. The miner, the builder of the furnace, the mill wright, the forger, the smith, must all of them join their different arts in order to produce them "† The writer declares that "the accommodation of an European prince, does not always so much exceed that of an industrious and frugal peasant, as the accommodation of the latter exceeds that of many an African king, the absolute master of the lives and liberties of ten thousand naked savages."

† Smith's Wealth of Nations.

Medici, the Italian Pericles, whose name alone suggests an idea of all that is elegant in literature and consummate in science and arts, they rose to an incredible degree of perfection. "Whilst the study of polite literature was emerging from its state of reptile torpor, the other sciences felt the effects of the same invigorating beam; and the city of Florence, like a sheltered garden in the opening spring, re-echoed with the earliest sounds of returning animation. The Platonic Academy existed in full splendor, and served as a common bond to unite at stated intervals, those, who had signalized themselves by scientific, or literary pursuits. The absurd pretensions to judicial astrology were fully examined, and openly exposed; and observation and experiment were at length substituted in the place of conjecture, and of fraud. Paollo Toscanelli had already erected his celebrated guomon.* Lorenzo da Valpajez constructed for Lorenzo de Medici a clock, or piece of mechanism, which not only marked the hour of the day, but the motions of the sun, and the planets, the eclipses, the signs of the zodiac, and the whole revolutions of the heavens."

* This gnomon, which has justly been denominated the noblest astronomical instrument in the world, was erected by Toscanelli, about the year 1460, for the purpose of determining the solstices, and thereby ascertain the feasts of the Romish church. It is fixed in the cupola of the church of St. Maria del fiore, at the height of 277 Parisian feet. A small orifice transmits from that distance the rays of the sun to marble a flag, placed in the floor of the church." Roscoe's Life of Lorenzo de Medici. vol. ii. chap. 7.

The art of printing invented towards the close of the fourteenth century, is said to be of German origin, and is generally attributed to Dr. Faustus, although authors have not agreed to what nation, or individual the honor of this invention belongs. This art, however, was fostered and brought to a high degree of perfection, under the auspices of Lorenzo de Medici; and though the plant might not have been a native of Italy, it found in that country a congenial soil, in which it flourished in high luxuriance. The art of copper-plate engraving, and the revival of that of engraving on gems and stones, are likewise numbered among the happy results of the munificence of the Medici.

In England the prejudices which formerly subsisted throughout Europe, against commerce and the useful arts, have, as before observed, in a great degree subsided. In that country we find their first noblemen, emulous of improvements in agriculture, and the useful arts. Societies have been founded in various parts of the kingdom for their patronage, whose transactions are regularly and periodically published, and premiums and honorary medals are awarded with a liberal hand to those whose inventions and discoveries, give promise of public utility. Many English noblemen, and men of affluence and high standing in society, have obtained letters patent for new inventions, or become interested in patents obtained by others.

To English liberality in encouraging and rewarding the authors of new and useful inventions may, in a great measure, be attributed the flourishing state of British agriculture, navigation, and manufactures. A more contracted policy would have prevented the development of those resources, which have rendered her able, single-handed, to oppose with success, the power which has overwhelmed continental Europe, and threatens to extend its empire over the habitable globe.

It would far surpass the limits of this introduction to give even a sketch of the important inventions, and improvements in the arts, which have so greatly promoted the prosperity of Great Britain. We will, however, briefly advert to some of those, which appear not the least worthy of notice.

Under the patronage of Mr. Alderman Boydell, a new and very considerable article of manufacture and commerce, was given in *engraved prints*. Foreign prints had been so greatly superior to British, that great quantities had been imported. Alderman Boydell although the person principally concerned in their importation, with a liberality, and public spirit, worthy a Pericles, or a Lorenzo de Medici, sought after, encouraged and rewarded British artists, with the well founded idea that under the influence of suitable patronage, they might equal, if not excel the engravers of other countries. The result surpassed his expectations, and the

exports of British engravings in a few years became immense, extending from Madrid to Moscow.

Mr. Josiah Wedgwood introduced a great number of improvements in the potter's art, and the Queen, to encourage the artist, gave the product of his manufactory, the name of Queen's ware. Of the immense importance of this manufactory, some estimate may be formed from the following extract from Anderson's History of Commerce.

"Though the manufacturing part alone, gives bread to fifteen or twenty thousand people, he (the inventor and proprietor) looks upon this as a small object, when compared with the many others which are put in motion by it, viz. the immense quantity of land carriage it creates throughout England, both in its raw materials, and finished goods; the great number of people employed in the extensive collieries for its use; the still greater numbers employed in raising, and preparing the raw materials in several distant parts of the kingdom; the coasting vessels, the river and canal navigation, and the reconveyance of the finished goods to the different parts of the island."

Although this manufacture was so flourishing, yet at the time the above description was given, it was considered still in its infancy. This however was alto-

gether the effect of the inventive genius of the proprietor, and the encouragement which the policy and the laws of England afford to the authors of new and useful inventions.

But the most valuable present that the arts of life, have ever received from the philosopher, and the most curious object, which human ingenuity has yet offered to his contemplation, is the steam engine. The mariner's compass, the telescope, gun powder, and many other most useful servants to the wants and weakness of man, were the productions of chance, and we do not exactly know to whom we are indebted for them; but the steam engine was, in the very beginning the result of reflection, and the product of ingenuity. Every improvement it has received has likewise been the effect of philosophical study. It has now become almost as necessary to the very existence of many important manufactures, as air to that of animal life. The steam engine presents us a most indefatigable drudge, whose strength knows no bounds, and to the utility of whose labors no limits can be assigned.*

Next in importance to the steam engine, may perhaps, be ranked the invention of cotton spinning, generally attributed to Sir Richard Arkwright. This ingenious man constructed a machine, by which with the

* Encyclopedia Britannica.

power afforded by one large water wheel, above 4,000 threads of cotton were spun at once; and of these the finest muslins were manufactured. Cotton spinning, by the assistance of machinery is now introduced into the United States to a great extent, and bids fair to enrich the enterprising individuals, who have embarked in the manufacture, as well as benefit the public to an incalculable amount.

In France, Germany, and other nations of continental Europe, useful science and the arts, have been persecuted by bigots, and too frequently sacrificed at the shrine of superstition. The immortal Galileo fell a victim to popish intolerance. The edict of Nantz, equally cruel, unjust, and impolitic, forced thousands of ingenious and industrious mechanics to seek refuge in England, and gave rise to some of the most flourishing manufactures in Great Britain.

The politicians of the French revolution appeared to have been fully convinced, that "knowledge is power," and the rapid and astonishing success of the "terrible republic," and still more formidable monarchy may in a great measure be attributed to the patronage given to military science, and to new inventions in the art of war. "A man," says an excellent historian of the French revolution, "who would have been obliged to dance attendance half his life time after the minister of war, or of the marine, only to receive the honor of an

audience, where he was more likely to be treated with contempt, than to be encouraged, could now make himself certain of a candid hearing, and a fair trial; and the vices of a government, which produced such advantages, he very naturally overlooked, and became zealous in their cause.*

From the preceding imperfect sketches of the history of the arts, it appears that they have flourished in proportion to the patronage bestowed on artists; and that wherever they have flourished they have exalted the character, increased the resources, and added to the power of a nation. When fostered by a Pericles, a Lorenzo de Medici, or a Colbert, the arts have sprung up as it were by enchantment, like the wizard palaces of romance, and the most arid deserts of barbarism, have suddenly bloomed like Palmyra in the wilderness.

In the United States useful inventions have still stronger claims on public patronage than in older and more populous countries. In Great Britain any important improvement in manufactures has frequently a temporary effect apparently injurious to many of the poorer classes, by depriving them of the manipulations superseded or curtailed by such improvements. Thus it has been said to be impracticable in many parts of that coun-

* Playfair's History of the French Revolution.

try to erect machinery for sawing timber by water or steam, on account of the opposition of those, who have been accustomed to obtain their sole support from the laborious process of sawing timber by hand. Machinery for spinning cotton, on improved plans, is reported to have been burned by those who had been accustomed to derive a support by processes which are abridged or rendered useless by such machinery. But in the United States, such is the demand for labor, the plenty of provisions, and the sparseness of population in proportion to the extent of territory, that the inconveniences experienced in Europe cannot occur in so serious a shape as to form any valid objection to useful inventions for the purpose of lessening animal labor.

Notwithstanding these circumstances, and the state of society in the United States, would seem extremely favorable to the introduction of useful inventions, we are informed by one of the most distinguished of the American artists, whose own inventions have proved of great and extensive utility, that "the ingenious inventors of useful improvements in this country, are still left to struggle, not only with the taunting sarcasms and embarrassing opposition of those, who, wise in their own conceit, apparently take delight in condemning and opposing projects until they are brought successfully into operation, but with heavy losses, and oftentimes ruin, even if the attempt succeeds. Nine tenths of the exclusive rights granted, will injure the

inventor for the first fourteen years in this country; especially if the patent be taken out before the improvement is in full operation; and if not till then, some pilfering genius may attempt, surreptitiously, to take out a patent for the principles of the invention before the true inventor, and occasion him the heavy expense of a lawsuit before his right can be established." The same ingenious man, after pointing out certain principles, which might lead to the discovery of a variety of useful and important inventions, complains that "the expense of the experiments, necessary to bring these principles into operation, would be too great. No prudent man will risk the attempt, until the prospects of a sufficient reward brighten. We unite in a belief that fate has ordained that ingenious men shall never be rich; not considering that the injustice and impolicy of most governments have passed the decree. Who would get rich if the property he acquired by his industry was to become common as soon as he gained it? What prudent man will spend his thoughts, time, labor, and money for property no better secured to him? Ingenuity makes none poor, on the contrary it has made many rich, whose prudence directed them to the pursuit of permanent property. To ingenuity we owe all our superiority over savage nations. England has made herself more rich and powerful than other nations, by her liberal policy of securing to ingenious men an exclusive right to their inventions, so long as

to afford them an opportunity of being amply rewarded.*

Notwithstanding, however, the impediments and discouraging circumstances, which, according to the worthy artist above mentioned, are opposed to the efforts of American ingenuity, it appears that the native genius of our countrymen has surpassed every obstacle, and overleaped every barrier opposed to its splendid display in devising numerous and useful inventions. From the year 1789, to the year 1810, inclusive, more than 1200 patents have been obtained for new inventions and discoveries, some of which are known to be of great and extensive utility. The cotton-gin, invented by Eli Whitney, Esq. has given a new staple to several of the southern states, and is said to have more than doubled the produce of their lands under cultivation. Improvements in flour-mills, by Mr. Oliver Evans, threshing machines, spinning machines, machines for nail-making, those for weaving, for impelling boats by steam, for dressing and spinning flax and hemp, for making cards, for splitting leather, for ruling paper, for pulverising die-woods, making earthen pipes of a new construction for aqueducts, improvements in manufacturing morocco leather, substitution of steel plates for copper in engraving, and a great number of others, evince the inventive genius of Americans, and it is to

* Evans' Tract on the Steam Engine.

be hoped that establishments may be formed, and laws devised, for the purpose of encouraging, securing, and rewarding, its efforts, which will be worthy of a great and rising empire.

It has been the strange and infatuated policy of some of the most ancient nations of the eastern world to oppose modern improvements in science and arts, as useless or injurious innovations. Thus their science has gone but little beyond first principles, their arts have been confined to simple processes, and they have long since stopped in their progress to improvement, at a point very far short of attainable perfection. The Chinese adhere with tenacious formality to processes, whose inconveniences are sanctioned by time; and in India the arts have made little progress since the days of Alexander, in consequence of a superstitious dread of novelty. Americans will not imitate these examples when they reflect that improvements in the arts, if fostered by that liberal encouragement, which true policy dictates, will proceed with an accelerated motion to a degree of perfection now almost inconceivable. Every improvement opens the door to farther and more important improvements, and every step in our progress facilitates farther advances, by furnishing new means, instruments, and a knowledge of intermediate processes, which may lead to results, surpassing the anticipations of the most sanguine. The field of invention and discovery is inexhaustible,

and the fruits of our researches beyond all price.* "Men of genius," says an elegant writer, "are the most productive of all classes of mankind. Their inventions not only fix and realize themselves in some subject, and for some time, but they direct the mode of storing and setting in motion future industry, and instead of perishing in the performance, they are renovated in every renewed action of a similar nature, and endure for ever in some permanent habit, regulating the conduct, shortening the labors, and multiplying the comforts of mankind."

It is true that many novelties attempted to be introduced are not improvements, and sometimes patents are solicited for *new* inventions as *old* as the days of *Tubal Cain*. But the abuse of a privilege is no argument against the privilege itself, and due care in the regulation of the patent office, and caution used not to grant patents for pseudo inventions, and pretended discoveries will generally prevent any deceit of that kind from being palmed on the public.

* "Sir Isaac Newton and Dr. Bentley met accidentally in London, and on Sir Isaac's inquiring what *philosophical pursuits* were carrying on at Cambridge, the Doctor replied, "none; for when you go a hunting, Sir Isaac, you kill all the game; you have left us nothing to pursue." "Not so," said the philosopher, "you may start a variety of game in every bush, if you will but take the trouble to beat for it." "And so in truth it is," observed bishop Watson, "every object in nature affords occasion for philosophical experiment."

Preface to Pursuits of Literature.

In a moral, as well as political point of view, the author of a new and useful invention, has the best of all possible titles to a monopoly of the first fruits of his ingenuity. The invention is the work of his hands, and the offspring of his intellect, and after he is allowed a temporary monopoly, becomes, at the expiration of the patent, a valuable donation to society. In the United States, so long as they retain their freedom, the public can be the only efficient patrons of men of inventive faculties; and the patronage of the public can be obtained in no way so effectually, as by securing to the inventor an exclusive right, for a term of years, to his invention;* we have no Pericles, Lorenzo de Medici, or Colbert, possessing wealth and influence sufficient to enable them to give adequate rewards to the inventors of improvements in the arts. It is therefore of the highest importance that the law, which is intended to secure to useful ingenuity its only appropriate, and

*"It is the dictate of sound policy that a nation, by stimulating encouragements, draw forth *all* the useful products of inventive genius while the possessor is alive. Reward is the only engine in the hands of the public, whereby they *can* draw forth the powers of genius, and if it be bestowed liberally, the inventor will be enabled to make experiments upon the sketches lying on paper in his desk, and on them, which are in embryo upon his memory, from some of which it is probable, valuable results may be drawn. He should, therefore, be furnished with the means of bestowing his undivided attention upon them, during the vigor of life and intellect, which he may now be wasting under the pressure of pecuniary embarrassments." Remarks on the Rights of Inventors, by a Committee of the Massachusetts Association, for the encouragement of Useful Inventions.

adequate remuneration should be destitute of that ambiguity, which would render it rather an instrument of oppression than a barrier of right.

In the plan and execution of this little treatise, the author has aimed rather at perspicuity than elegance. "Other productions of the human genius may be allowed to derive their charms from the beauty of metaphor, and the grandeur of general expression, but the utility and the praise of a municipal code, will depend on the dry simplicity, and scrupulous detail with which it is adapted to the purposes of public security and social confidence."* The author's sole wish has been to render the work useful to those men of inventive ingenuity, who are unacquainted with the niceties of legal distinctions, and to render them less liable to suffer by the wiles of unprincipled and rapacious speculators, who so frequently defraud patentees of those emoluments which were intended to excite and reward their exertions to meliorate the lot of humanity.

The author has been indebted to a number of gentlemen of the bar in Boston and elsewhere, for many useful hints and emendations, furnished on submitting the manuscript to their inspection. The remarks in the Appendix on the policy of granting patents for imported inventions, together with extracts from the patent

* Balmanno's Introduction to Jones' Law of Bailments.

law of France, are from the pen of a French gentleman resident in Boston. The form of petitioning for patents, and of the oath or attestation of the inventor, are from a gentleman of the bar, distinguished for mechanical science and inventive ingenuity. These forms have been approved of at Washington, and a recurrence to them it is hoped will not unfrequently save inventors, and others interested, from much unnecessary delay and fruitless expense, which occur in consequence of forwarding incorrect forms of attestation, specification, &c. to the Secretary's office for the purpose of procuring patents.

ESSAY, &c.

THE privileges allowed to inventors, and discoverers of new and useful arts in the United States, are founded solely upon statutes. Of these there are two, which are now in force, the one entitled "An act to promote the progress of useful arts; and to repeal the acts heretofore made for that purpose," bearing date February 21st, 1793; and the other, entitled "An act to extend the privilege of obtaining patents for useful discoveries, and inventions, to certain persons therein mentioned, and to enlarge and define the penalties for violating the right of patentees," dated April 17th, 1800.

In prosecuting my inquiries into the subject of this essay, I shall attempt,

1st. To shew wherein these statutes coincide with, and are explained by foreign laws and decisions, enacted and decided for the same, or similar purposes,* and to give such decisions in

* To those who may object that the privileges of patentees in the United States, being derived solely from our *own* statutes, the laws and decisions of foreign nations on this subject, have

the Courts of the United States, as I may deem of importance in determining the law of the land, on the subject of patent monopolies of new inventions; and

2ndly. To give a synthetical view of the Law of Patents for New Inventions, together with such rules as may appear best calculated to prevent, as far as possible, future disputes on the subject.

In order to shew the coincidence between our own statutes, and the laws of Great Britain, relative to patents for new inventions, we shall give Lord Coke's definition of *Monopoly*, in its most general, legal acceptation, together with an extract from the statute law of Great Britain, which is the foundation of *patent monopolies* for new inventions. We shall then proceed to examine, consecutively, our own statutes, which

> no validity in the United States, I would reply in the sentiments, and nearly the words of Sir William Jones, expressed in his excellent treatise on the Law of Bailments. In questions of law, no cause can be assigned why we should not shorten our labors by reporting, occasionally, to the wisdom of foreign Jurists, many of whom were the most sagacious of men; what is good sense in one age or country, must, all circumstances remaining, be good sense in another; and pure unsophisticated reason is the same in Italy, England, and the United States; in the mind of a Papinian, a Blackstone, a Marshall, or a Washington.

authorize such monopolies, adverting to such decisions in British and American Courts of Justice, as may have a tendency to elucidate, explain, and determine their meaning and legal effect.

A Monopoly is described by Lord Coke to be "an institution, or allowance by the king, by his grant, commission, or otherwise to any person or persons, bodies corporate or politic, of or for the sole buying, selling, making, working, or using of any thing, whereby any person or persons, bodies politic or corporate, are sought to be restrained of any freedom or liberty they had before, or hindered in their lawful trade."

"And, therefore all grants of this kind, relating to any known trade, are made void by the common law, as being against the freedom of trade, discouraging labor and industry, restraining persons from getting an honest livelihood, by a lawful employment, and putting it in the power of particular persons, to set what price they please on a commodity, all which are manifest inconveniences to the public."

By the 21 Jac. 1. c. 3. it is enacted "that all
"monopolies, and all commissions, grants, licen-
"ces, charters, and letters patent to any person or

"persons, bodies politic or corporate, whatsoever
"of or for the sole buying, selling, making, work-
"ing, or using any thing within this realm, or
"Wales,or of any other monopolies, and all proc-
"lamations, inhibitions, restraints, warrants of
"assistance,and all other matters whatsoever, any
"way tending to the instituting, strengthening,
"furthering, or countenancing the same, or any of
"them, are altogether contrary to the laws of the
"realm, and so are and shall be utterly void and
"of none effect, and in no wise to be put in ex-
"ecution."

But it is provided by sec. 6. of the same stat-
ute, that "no declaration in the statute mention-
"ed,shall extend to any letters patents, and grants
"of privileges, for fourteen years or under, of the
"sole working, or making of any manner of new
"manufactures, within this realm, to the true and
"first inventor, and inventors of such manufac-
"tures, which others at the time of making such
"grant shall not use; so as also they be not con-
"trary to the law, nor mischievous to the state,
"by raising the prices of commodities, nor gen-
"erally inconvenient; the said fourteen years to
"be accounted from the date of the first let-
"ters patent, or grant of such privileges, but
"that the same should be of such force, as they

"should be if the said act had never been made,
"and of none other.

The first section of the patent law of the United States of February 21st, 1793, is as follows,

"Be it enacted by the Senate and House of Rep-
"resentatives of the United States of America,
"in Congress assembled, That when any person
"or persons, being a citizen or citizens of the Unit-
"ed States, shall allege that he or they have in-
"vented any new or useful art, machine, manu-
"facture, or composition of matter, not known
"or used before the application, and shall present
"a petition to the Secretary of state, signifying a
"desire of obtaining an exclusive property in the
"same, and praying that a patent may be granted
"therefor, it shall and may be lawful for the Sec-
"retary of state, to cause letters patent to be made
"out in the name of the United States, bearing
"test by the President of the United States, re-
"citing the allegations, and suggestions of the
"said petition, and giving a short description of
"the said invention, or discovery, and thereupon
"granting to such petitioner or petitioners, his,
"her, or their heirs, administrators, or assigns, for
"a term not exceeding fourteen years, the full and
"exclusive right and liberty of making, con-
"structing, using, and vending to others to be

"used, the said invention or discovery, which let-
"ters patent shall be delivered to the Attorney
"General of the United States, to be examined;
"who within fifteen days after such delivery; if
"he finds the same conformable to this act, shall
"certify accordingly at the foot thereof; and re-
"turn the same to the Secretary of state; who
"shall present the letters thus certified, to be
"signed, and shall cause the seal of the United
"States to be thereto affixed; and the same shall
"be good and available to the grantee or gran-
"tees, by force of this act, and shall be recorded
"in a book, to be kept for that purpose, in the
"office of the Secretary of state, and delivered to
"the patentee or his order."

I shall now proceed to examine the several parts of this section, according to the order in which they are presented to us in the statute.

It is enacted "That when any person or per-sons, being a citizen or citizens of the United States, &c." The power and privileges limited by this clause to a citizen or citizens of the United States, are extended by the following clause in "An act to extend the privilege of ob-
"taining patents for useful discoveries, and inven-
"tions, to certain persons therein mentioned, and
"to enlarge and define the penalties for violating

"the rights of patentees," passed April 17th, 1800.
"Be it enacted, &c. That all and singular the
"rights and privileges given, intended, or provid-
"ed to citizens of the United States, respecting
"patents for new inventions, discoveries, and im-
"provements, by the act entitled 'An act to pro-
"mote the progress of useful arts, and to repeal
"t' act heretofore made for that purpose,' shall
"be, and hereby are extended, and given to all
"aliens, who at the time of petitioning in the
"manner prescribed by the said act, shall have
"resided for two years within the United States,
"which privileges shall be obtained, used, and
"enjoyed in as full and ample manner, and under
"the same conditions, limitations, and restrictions
"as by the said act is provided and directed in
"the case of citizens of the United States."

The British laws have no restrictions, which confine the right of petitioning for, and obtaining letters patent to British subjects, or residents in Great Britain, and it is every day's practice to grant patents for new inventions, to Americans and other foreigners.

The invention for which a patent can be obtained, must be "*new and useful.*"

2. Salkeld, 447. By decisions in British Courts it appears that "a manufacture *newly brought* into the kingdom from beyond sea, though not *new there*, is within this exception, or allowed by the statute of Jac. 1. above mentioned, "and whether it be learned by travel, or by study it is the same thing."

1 Hawk. 223.

Bull. N. P. 77. As to the invention, the rule of law is very different from what it is on the specification, for as on the specification if any one part of the invention be not sufficiently described, the patent is void, but on the invention, if any one part of it be new and useful, that is sufficient to sustain a patent for the particular object of the invention.

Bull. N. P. 76. But the patent must not be more extensive than the invention, therefore if the invention consists in an addition, or improvement only, and the patent is for the whole machine, or manufacture, it is void.

2. H. Black. 470. It will not impeach the validity of a patent that another first made the discovery, which is the subject of it, if in truth the patentee were the first to make it public; for it was the disclosure of new inventions which the statute meant to encourage. It is therefore a provision, and indispensable condition in all patents, that the

patentee shall ascertain the nature of his invention, and in what manner it is to be performed. The specification is the price which the patentee is to pay for his monopoly.

If a man invent a new art, and another happen to learn it before the inventor can obtain a patent, a patent afterwards obtained is void. But it will not be void if the person, who has learned it, has not disclosed it.* 3. Mod. 77. said *arguendo.*

Where a patentee brings an action on his patent, if the novelty or effect of the invention be disputed, he must show in what his invention consists, and that he produced the effect proposed by the patent in the manner specified. Slight evidence of this on his part is sufficient, and it is then incumbent on the defendant to falsify the specification. 1 Term Rep. 607

If a patent be granted in case of a new invention, the king cannot grant a second patent, for the charter is granted as an encouragement to invention and industry, and to secure the paten- 10 Mod. 110

* It is doubtful whether this would be considered law in the present day, see Tenant's case hereafter cited; but as it appears in English books of high authority, it was thought to be intitled to a place in this treatise.

tee in the profits for a reasonable time; but when that is expired the public is to have the benefit of the discovery.

Bull. N. P. [76] The general questions on patents are: 1st, Whether the invention were known and in use before the patent. 2d, Whether the specification be sufficient to enable others to make it up.

Such is the English law as respects the novelty of the invention for which patent privileges are claimed.

The law of the United States is variant from that of Great Britain, as respects the granting of patents for manufactures newly brought from beyond sea.* And it has been determined in the Circuit Court of the United States, "that the right to the patent belongs to him who is the first inventor, even before the patent is granted."† It should seem, therefore, that the dictum above quoted from 3 Mod. 77, and 2 H. Blackstone 470, cannot be law in the United States, and perhaps not in Great Britain; and that it cannot be in the power of a person who is not the inventor of an art, machine, or manu-

* Evans vs. Weiss, quoted hereafter.

† See the case of Whitney vs. Carter, hereafter quoted.

facture, for which a patent has been or may be granted, to deprive the first inventor of his right to a patent.

We will proceed to the statute regulations excluding, in certain cases, imported inventions from being monopolized by patent.

The act of April 17, 1800, contains the following proviso to the first section. "*Provided always*, that every person petitioning for a patent for any invention, art, or discovery, pursuant to this act, shall make oath or affirmation before some person duly authorized to administer oaths, before such patent shall be granted, that such invention, art, or discovery, hath not, to the best of his or her knowledge or belief, been known or used either in this or any foreign country; and that every patent which shall be obtained, pursuant to this act, for any invention, art, or discovery, which it shall afterwards appear had been known or used previous to such application for a patent, shall be utterly void."

It has not, however, been decided, so far as we have been able to ascertain, how great a degree of publicity given to an invention, discovery, or improvement, shall constitute such knowledge or use as to bring it within the above

proviso, and prevent its being a proper subject for a patent. The following decision in the Circuit Court of the United States, held in Philadelphia, goes far to secure the right of the original inventor, in certain cases, to inventions known and used, even before application for a patent.

This was an action on the case for a violation of the plaintiff's patent right, and comes up on the following case agreed.

Evans vs. Weiss. The plaintiff, being the inventor of the improvements in the manufacture of flour, hereafter mentioned, and the patent right for the same heretofore obtained, having been declared by the court void in the action of Evans against Chambers; and the time for which the said patent was granted having also run out, an act of Congress, entitled An act for the relief of Oliver Evans, was passed on the 21st January, 1808, notice whereof was given to the defendant in February last.

On the 7th of May, 1802, during the continuance of the former patent, the defendant purchased of the plaintiff a right to use the said improvement at his mill on Wissahicon creek, in Philadelphia county, in this district, for one wheel and pair of stones; but prior to the pass-

ing said act of Congress, he had applied and used, and continued to apply and use the same improvements for two wheels and two pair of stones, in the same mill. The questions submitted are, whether the defendant is liable for damages for the use of said improvements in application to this second wheel and pair of stones, since the act of the 22d of January, and whether, if so, he is liable before notice from the plaintiff. If the opinions of the court be in favor of the plaintiff, judgment to be entered generally, and amount to be adjusted afterwards by the attornies.

Judge Washington delivered the opinion of the court. "It is contended by the plaintiff that the defendant is liable for using the plaintiff's improvement in application to the second wheel and pair of stones, since the 22d day of January, 1808, or at all events, since the time when the defendant received notice of the plaintiff's patent; because the proviso in the act passed the 21st January, 1808, for the relief of Oliver Evans, extends only to cases of improvements erected for use, or used *prior* to the passage of said law, and does not protect the defendant from damages, for using, after issuing of the patent under this law, an improvement erected prior thereto.

"On the other side, it is insisted, that such a construction would render this an *ex post facto* law, and consequently repugnant to the constitution. To avoid which it should be so construed as to connect with the use of the improvement the erection of it subsequent to the grant of the patent.

"Although the court at the last term, and upon the first argument, felt strongly inclined to give it the construction contended for by the defendant; yet, upon further reflection, we are satisfied that we should do a violence to the words, which no rule of construction should warrant.

"The words of that proviso are, "that no person who shall have used the said improvement, or have erected the same for use before the issuing of the said patent shall be liable to damage therefor."

"That is shall be liable for having erected, or for having used the improvement at any time prior to the patent, but with respect to the use of it after the issuing of the patent, no protection whatever is afforded against the claim for damages under this law.

"The next inquiry is, does the general law give to the plaintiff a right of recovering against a person, who erected a machine prior to the issuing of the patent to the first inventor of it, and who afterwards made use of the same.

"The act of the 17th of April, 1800, which as to this point is the only law in force, declares that "if any person, without permission from the inventor, shall make, devise, use, or sell, the thing whereof the exclusive right is secured to the patentee, he shall pay three times the damage sustained by the patentee, to be ascertained by a jury." Now whatever doubts might have existed as to the meaning of the words "devise and use," in the 5th section of the act of the 21st of February, 1793, thus connecting the using with the devising of the improvement, there can be none under the third section of the act of 1800, which repeals the whole of the 5th section of the old law.

"It is plain that the *using* of an improvement invented by another, and secured by patent, is of itself an offence, no matter at what time such improvement was devised or made, whether the word "devise," which has been a good deal criticised, is synonymous with *make*, as one of the plaintiff's counsel seemed to think, or means to

invent, a mere act of the mind, a construction, which, whether it be to make, or to *contrive*, to *plan*, *form*, or *design*, it is unnecessary in this case to decide, because the charge against the defendant is the *using* of the plaintiff's improvements, unconnected with the making and devising it.

" But is objected to this construction, that it would render the law *ex post facto*, in its operation, in respect to one who has erected his improvement prior to the granting of the patent of the plaintiff.

" It must be confessed that cases of great hardship may occur, if after a man shall have gone to the expense of erecting a machine, for which the inventor has not then, and never may obtain a patent, he shall be prevented from using it by the grant of a subsequent patent, and its relation back to the patentee's prior invention. But the law in this case cannot be termed *ex post facto*, or even retrospective in its operation, because the general law declares beforehand, that the right to the patent belongs to him, who is the first inventor, even before the patent is granted; and therefore, any person, who, knowing that another is the first inventor, yet doubting whether that other will ever apply

for a patent, proceeds to construct a machine, of which it may afterwards appear, that he is not the first inventor, acts at his peril, and with the full knowledge of the law, that by relation back to the first invention, a subsequent patent may cut him out of the machine thus erected.

"Not only may individuals be injured by a liberal construction of the words in the law, but the public may suffer if an obstinate or negligent inventor should decline obtaining a patent, and at the same time keep others at arm's length, so as to prevent them from profiting by the invention for a length of time; during which the fourteen years are not running on. But these hardships must rest with Congress to correct. It is beyond our power to apply a remedy. No such hardships exist in this case, where the defendant erected the improvement with a knowledge, not only that the plaintiff was the first inventor, but had absolutely obtained a patent, although it was afterwards declared invalid.

"The circumstances of this case render it unnecessary to give an opinion as to the right of a first inventor, after a patent obtained, to recover against one, who, believing himself to be the first inventor, constructs a machine or im-

provement, upon the principles of his new invention, or uses the same after such patent is issued."

We proceed now more immediately to the subject or essence of the *thing* or *matter* for which monopolies can be legally granted by letters patent. The statute of 21 *Jac.* before quoted, allows the grant of letters patent for "the sole working or making of any manner of *new manufactures* to the true and first inventor." That of the United States allows a similar monopoly to the person or persons who have invented "any new or useful art, machine, manufacture, or composition of matter not known or used before the application." These clauses may be said to be the pivots on which turns the whole law of patents for new inventions, in Great Britain and the United States. They are descriptive of the *kind of property* which may be obtained by patents for new inventions, while the other regulations in the law of both countries point out the methods by which the title to this species of property may be ascertained and secured, and the persons to whom such titles may be granted. The words "any manner of new manufactures" in the statute of *Jac.* I. as understood and explained in British Courts of Justice, (which will appear fully as we proceed in

in this work,) are co-extensive in signification with the words "new or useful art, machine, manufacture, or composition of matter," made use of in our statute. British authorities, therefore, so far as circumstances are similar, and the reason of the cases remains the same, will be pertinent for determining what kinds of new invented things may be the legal subjects of patent monopolies.

vide note p. 41.

The famous cases of Boulton and Watt vs. Bull and Hornblower, and Maberly vs. Boulton and Watt, are the most prominent and interesting, as respects the kind of invention, discovery, or improvement, which may be secured by patent to the inventor, and afford many important rules and observations which ought not to be omitted in the present essay. The patent on which the action of Boulton and Watt vs. Bull was commenced was for a new *invented method* of using an old engine in a more beneficial manner than heretofore, by the mechanical employment of certain principles. This was an action on the case for infringing a patent, by which the plaintiff was secured in "the sole benefit and advantage of *making*, using, exercising, and vending *a certain invention*, of him the said plaintiff, being a *method* by him *invented*, of lessening the consumption of steam and fuel in

Boulton and Watt vs. Bull. 2. Hen. Black. 463.

fire-engines," which patent was, by a private act of parliament, (15 Geo. 3. c. 61.) continued to the plaintiff for twenty five years. The general issue being pleaded, the cause came on to be tried at the sittings after Trinity term, 1793, when a case was reserved for the opinion of the court, which stated, that by letters patent of 5th January, 1769, the king granted to the plaintiff Watt, who had duly assigned two thirds of the patent right to the plaintiff Boulton, that he might, for fourteen years, make, use, exercise, and vend, *his new invented method* of lessening the consumption of steam and fuel in fire-engines, under the usual condition of enrolling a specification: That Watt, by his specification, declared, that *his new invented method of lessening the consumption of steam, and consequently fuel, in fire-engines, consisted of certain principles;* setting them forth particularly; by which it appeared that the object of the patentee, was, to condense the steam, without cooling the cylinder, or steam-vessel; and that the means adopted to effectuate this, were in substance, to inclose the cylinder, or steam-vessel, in a case of wood, or any other material, which will confine the heat, or transmit it slowly; to surround it with steam, or other heated bodies, and to suffer neither water, nor any other substance colder than steam, to enter or touch it during

that time.* The case then described the old engine, and stated that the plaintiff's was *a new* and *an useful invention;* and that the specifica-

* The specification was as follows, "My method of lessening the consumption of steam, and consequently fuel, in fire-engines consists in the following principles,

"First, That vessel in which the powers of steam are to be employed to work the engine, which is called the cylinder in common fire-engines, and which I call the steam vessel, must, during the whole time the engine is at work, be kept as hot as the steam that enters it; first, by inclosing it in a case of wood or any other materials that transmit heat slowly; secondly, by surrounding it with steam or other heated bodies; and thirdly, by suffering neither water, or any other substance colder than steam, to enter or touch it during that time.

"Secondly, In engines that are to be worked wholly or partially by condensation of steam, the steam is to be condensed in vessels distinct from the steam vessels or cylinders, although occasionally communicating with them; these vessels I call condensers; and while the engines are working, these condensers ought at least to be kept as cold as the air in the neighborhood of the engines, by the application of water or other cold bodies.

"Thirdly, Whatever air, or other elastic vapor, is not condensed by the cold of the condenser, and may impede the working of the engine, is to be drawn out of the steam vessels, or condensers, by means of pumps, wrought by the engines themselves or otherwise.

"Fourthly, I intend in many cases to employ the expansive force of steam to press on the pistons, or whatever may be used

tion was of *itself* sufficient to enable a mechanic, acquainted with the fire-engines previously in use, to construct fire-engines producing the ef-

instead of them, in the same manner as the pressure of the atmosphere is now employed in common fire-engines. In cases where cold water cannot be had in plenty, the engines may be wrought by the force of steam only; by discharging the steam into the open air, when it has done its office.

Fifthly, Where motions round an axis are required, I make the steam vessels in form of hollow rings or circular channels, with proper inlets and outlets for the steam, mounted on horizontal axles, like the wheels of a water-mill; within them are placed a number of valves, that suffer any body to go round the channel in one direction only; in these steam vessels are placed weights so fitted to them as entirely to fill up a part or portion of their channels, yet rendered capable of moving freely in them by the means hereafter specified. When the steam is admitted in these engines between these weights and the valves, it acts equally on both, so as to raise the weight to one side of the wheel, and by the reaction on the valves successively to give a circular motion to the wheel; the valves opening in the direction in which the weights are pressed, but not in the contrary, as the steam vessel moves round it is supplied with steam from the boiler, and that which has performed its office may be discharged by means of condensers or into the open air.

" Sixthly, I intend in some cases, to apply a degree of cold not capable of reducing the steam to water, but of contracting it considerably, so that the engines shall be worked by the alternate expansion and contraction of the steam.

" Lastly, Instead of using water to render the piston or other parts of the engines air and steam tight, I employ oils, wax,

fect of lessening the consumption of fire and steam in fire-engines. And the questions for the opinion of the court, were, 1st, Whether the said patent was good in law, and continued by the act of parliament above mentioned? 2dly, Whether the specification was sufficient to support the above patent? On the part of the defendant it was argued on three grounds. 1st, On the patent itself. 2dly, Upon the act of parliament. 3dly, Upon the act and patent taken together. 1st, Upon the patent itself it was objected, that it was for a formed instrument, or machine, and as such void, because it was admitted that there was *no specification* descriptive of any formed instrument whatever, nor any drawing or model; but that supposing it to be a patent for mere principles, (as the specification stated the invention to consist of principles,) it was neither originally good in law, nor continued by the act, 15 Geo. 3. c. 61. Not good in law, because it did not fall within the construc-

resinous bodies, fat of animals, quicksilver, and other metals in their fluid state."

To the above specification this memorandum was added by Watt, that he did not intend that any thing in the fourth article should be understood to extend to any engine where the water to be raised enters the steam vessel itself, or any vessel having an open communication with it.

tion of the statute, 21 Jac. 1. c. 3. against monopolies, which, in excepting letters patent, speaks of them as patents for the sole *working* or *making* of any manner of *new manufactures*, which is descriptive either of the practice of making a thing by art, or of the thing when made; and that therefore for a mere principle, without having carried it into effect, and produced some new found matter or substance, a patent cannot be good: that the patent was not continued by the act 15 Geo. 3. c. 61.* it was

* The act was entitled, "An act for vesting in J. Watt, his executors, &c. the sole use and property of steam-engines, commonly called fire-engines, of his invention," described in the said act for a limited time.

It recited that the king had by letters patent, 5 Jan. 9. Geo. 3. granted to *Watt*, his executors, &c. "the sole benefit and advantage of *making* and *vending certain engines*, by him invented for lessening the consumption of steam and fuel in fire-engines, for fourteen years," &c. on condition that he should enroll a specification, &c. that Watt had accordingly enrolled a specification of the said engine, (which specification was then set forth as above.) It further recited that *Watt* had employed many years, and a considerable part of his fortune, in making experiments upon steam and steam-engines, commonly called fire-engines, with a view to improve them, by which several considerable advantages over the common steam-engines are acquired, but on account of the many difficulties, which arise in the execution of such large and complex machines, and of the long time requisite to make the necessary trials, he could not complete his intention before the end of the year 1774, when he finished some large engines as specimens of his construction, which had suc-

shewn that the title of the act was for vesting in the plaintiff Watt, the sole property of certain *steam-engines, called fire-engines, of his invention;* which, after reciting and taking notice, among other things, that the king had, by his letters patent, granted to Watt the sole benefit and advantage of *making*, *constructing*, and selling, *the engines*, therein before particularly described, shall be vested in Watt for twenty-five years. It was therefore contended, that if the

ceeded so as to demonstrate the utility of the invention; and in order to manufacture those engines with accuracy, and so that they might be sold at a moderate price, a considerable sum of money must be previously expended in erecting mills and other apparatus, and that several years and repeated proofs would be required before any considerable part of the public could be convinced of the utility of the invention, and of their interest to adopt the same; the whole term granted by the letters patent might probably elapse, before Watt could receive an advantage adequate to his labor and invention; and then it enacted that from and after passing of the act, the sole privilege and advantage of *making, constructing,* and *selling the said engines,* herein before particularly described, within the kingdom of Great Britain, and his Majesty's colonies and plantations abroad, should be and were thereby vested in Watt, his executors, administrators, and assigns, for and during the term of 25 years; and it prohibited any other person's making, using, and putting in practice, the said invention, or counterfeiting or imitating the same, or making any addition to, or subtraction from it, without Watt's licence, &c. with a proviso that the act should not extend to prevent any person making any fire or steam-engine, or any contrivance relating to the same, which was not the invention of Watt, or which had been publicly used by any person before.

patent was really for principles it was not continued by the act; or supposing it to be well continued, as being described according to its import, it would not be within the protection of the statute against monopolies, for the foregoing reasons. 2dly, Upon the act itself it was argued, that the recital that the king had granted a patent for *making and vending certain engines*, was false: and it had been adjudged, that if a private act of parliament, like the present, be founded upon a false recital, the act is void. 3dly, That if the subject was viewed as arising from the patent and act taken together, the arguments respecting these instruments separately, applied more strongly, inasmuch as if the act was to be considered as explanatory of the patent, or as a part of it, there could not be a doubt, but that it meant to grant a monopoly for a formed engine or machine. That *upon the whole of the case, it appeared either that the patent was for an entire formed machine, when it ought to have been for an improvement only; and in which case the specification did not correspond with it: or it was for mere principles, which according to the statute* 21 *Jac.* 1. *c.* 3. *against monopolies, could not be the subject of a patent.* The case was very elaborately argued on both sides; and after full consideration the judges gave their respective opinions.

Rooke, J. The objections are merely formal; they do not affect the substantial merits of the patentee, nor the meritorious consideration which the public have a right to receive, in return for the protection which the patentee claims. With regard to the first objection, it is, that the patent is not for a fire-engine of a particular construction, but for a new invented method. It presupposes the existence of the fire-engine, and gives a monopoly to the patentee of his new invented method of lessening the consumption of steam and fuel in fire-engines. The obvious meaning of these words is, that he has made *an improvement in the construction of fire-engines*, for what doth method mean but mode or manner of effecting? What method can there be of saving steam or fuel in engines, but by some variation in the construction of them? *A new invented method*, therefore, conveys to my understanding the idea of *a new mode of construction.* I think these words are tantamount to *fire-engines of a newly invented construction;* at least I think they will bear this meaning, if they do not necessarily exclude every other. If they will bear this interpretation, then I think this objection which is merely verbal is answered: to which I add, that patents for a method, or art of doing particular things, have been so numerous that *method* may be

considered as a common expression in instruments of this kind. It would therefore be extremely injurious to the interests of patentees to allow this verbal objection to prevail. As to the second objection, that no particular engine is described, that no model or drawing is set forth; I hold this not to be necessary, provided the patentee so describes the improvement, as to enable artists to adopt it when his monopoly expires. The jury find he has so described it. It is objected that he professes to set forth 'principles only; but we are not bound by what he professes to do, but what he has really done. If he had proposed to set forth a full specification of his improvement, and had not set it forth intelligibly, his specification would have been insufficient, and his patent void. It seems, therefore, but reasonable, that if he sets forth his improvement intelligibly, his specification should be supported, though he professes only to set forth the principle. The term *principle* is equivocal, it may denote either the radical elementary truths of a science, or those consequential axioms which are founded on radical truths, but which are used as fundamental truths by those who do not find it expedient to have recourse to first principles. The radical principles on which all steam-engines are formed, are the natural properties of steam, its expansiveness and con-

densibility, whether the machines are formed in one shape or another; whether the cylinder is kept hot, or suffered to cool; whether the steam is condensed in one vessel or another, still the radical principles are the same. When the present patentee set his inventive faculties to work, he found fire-engines already in existence, and the natural qualities of steam already known, and mechanically used. He only invented an improvement in the mechanism, by which they might be employed to greater advantage. There is no newly discovered natural principle as to steam, nor any new mechanical principle in his machine. The only invention is a new mechanical employment of principles already known. The specification describes a practical use of improved mechanism, the basis on which the improvement is founded. The object of the patentee was to condense the steam, without cooling the cylinder: the means adopted to effectuate this, were to inclose the cylinder in a case which will confine the heat, or transmit it slowly, to surround it with steam or other heated bodies, and to suffer neither water nor any other substance colder than the steam, to enter or touch it during that time. These means are set forth. The objection is, that there is no drawing or model of a particular engine; and where is the necessity of such drawing or model,

if the specification is intelligible without it? Had a drawing or model been made, and any man copied the improvement, and made a machine in a different form, no doubt this would have been an infringement of the patent: Why? because the mechanical improvement would have been introduced into the machine though the form was varied. It follows from thence, that the mechanical improvement and *not the form* of the machine, is the object of the patent; and if this *mechanical improvement* is intelligibly specified, of which a jury must be the judges, whether the patentee calls it *a principle*, invention, or *method*, or by whatever other appellation, we are not bound to consider his terms, but the real nature of his improvement, and the description he has given of it; and we may, I think, protect him without violating any rule of law. The patent is for a method already adopted, and the two first and most material articles, are set forth as already accomplished, and the case states it was new and useful, at the time of making the patent. I therefore consider the most essential part of the patent, the keeping the cylinder hot, inclosing it in a case, and surrounding it with steam, as carried into practical effect at the time of granting the patent; this the defendant has infringed. As to the objection of the want of a drawing or model, that at first

struck me as of great weight. I thought it would be difficult to ascertain what was an infringement of a method, if there was no additional representation of the improvement, or thing methodized. But I have satisfied my mind thus: infringement or not, is a question for the jury: in order to decide this case, they must understand the nature of the improvement, or thing infringed; if they can understand it without a model, I am not aware of any rule of law which requires a model or drawing to be set forth, or which makes void an intelligible specification of *a mechanical improvement*, merely because no drawing or model is annexed. In the present case the want of a drawing or a model did not occasion any difficulty to the jury: they have expressly decided, that Mr. Watt has the merit of a new and useful invention: and that this invention was infringed by the defendant. How then can I say that they could not understand it for want of a drawing? especially when they have added that the specification is sufficient to enable a mechanic, acquainted with fire-engines previously in use, to construct fire-engines producing the effect of lessening the consumption of fuel and steam, upon the principle invented by the plaintiff. For these reasons I think the second objection, that no particular

engine is set forth, is not of sufficient weight to destroy the effect of the patent.

Heath, J.* This patent is expressly for a new invented method for lessening the consumption of steam and fuel in fire engines. It appears that the invention of the patentee is original, and may be the subject of a patent; but the question is, inasmuch as his invention is to be put in practice by means of machinery, whether the patent ought not to have been for one or more machines; and whether this is such a specification as entitles him to the monopoly of a *method?* If method and machinery had been used by the patentee as convertible terms, and the same consequences would result from both, it might be too strong to say, that the inventor should lose the benefit of his patent, by the misapplication of his term. In truth it is not so. His counsel have contended for the exclusive monopoly of *a method* of lessening the consumption of steam and fuel in fire-engines, and that therefore would better answer the purposes of the patentee, for the method is a principle reduced to practice; it is in the present instance the general application of a principle to an old

* The opinions of Judges Heath and Buller in this cause, are controverted in the case of Hornblower and Maberly against Boulton and Watt, cited hereafter.

machine. There is no doubt that the patentee might have obtained a patent for his machinery, because the act of parliament he obtained acknowledged his patent, and he himself, in 1782, procured a patent for his invention of certain new improvements upon steam and fire-engines, for raising water, &c., which contained new pieces of mechanism, applicable to the same. Upon this statement the following objections arise to the patent, which I cannot answer, namely, that if there may be two different species of patents, the one for an application of a principle to an old machine, and the other for a specific machine, one must be good, and the other bad. The patent that admits the most lax interpretation should be bad, and the other alone conformable to the rules and principles of common law, and to the statute on which patents are founded. The statute 21 Jac. 1. prohibits all monopolies, reserving to the king by an express proviso, so much of his ancient prerogative as shall enable him to grant letters patent, and grants of privileges for the term of fourteen years, or under, of the sole working or making of any manner of *new manufactures*, within this realm, to the true and first inventor and inventors of such *manufactures*. What then falls within the scope of this proviso? Such manufactures as are reducible to two classes. The first class includes

machinery, the second, substances, such as medicines, formed by chemical and other processes, where the visible substance is the thing produced, and that which operates, preserves no permanent form. In the first class the machine, and in the second the substance produced, is the subject of the patent. I approve of the term *manufacture* in the statute, because it precludes all nice refinements, it gives us to understand the reason of the proviso, that it was introduced for the benefit of trade. That which is the subject of a patent ought to be specified; and it ought to be that which is vendible, otherwise it cannot be a manufacture; this is a new species of manufacture, and the novelty of the language is sufficient to excite alarm. It has been urged, that other patents have been litigated and established; for instance Dolland's, which was for a refracting telescope, I consider that as substantially an improved machine. A patent for an improvement of a refracting telescope, and a patent for an improved refracting telescope, are in substance the same, the same specification would serve for both patents; the new organization of parts is the same in both. I asked in the argument for an instance of a patent for *a method*, and none such could be produced; I was then pressed with patents for chemical processes, many of which are for *a method*, but that

is from an inaccuracy of expression, because the patent is in truth for a vendible substance. To pursue this train of reasoning still farther, I shall consider how far the arguments in support of this patent will apply to the invention of original machinery, founded on a new principle. The steam engine furnishes an instance. The Marquis of Worcester, discovered in the last century, the expansive force of *steam*, and first applied it to machinery. As the original inventor, he was already entitled to a patent. Would the patent have been good applied to all machinery, or to the machines which he had discovered? the patent decides the question. *It must be for the vendible matter, and not for the principle.* Another objection may be urged against the patent, upon the application of the principle to an old machine; which is that whatever machinery may be hereafter invented, would be an infringement of the patent, if it be founded on the same principle. If this were so, *it would reverse the clearest positions of law respecting patents for machinery, by which it has been always holden, that the organization of a machine may be the subject of a patent, but principles cannot.* If the argument for the patentee were correct, it would follow, that where a patent was obtained for the principle, the organization would be of no consequence. Therefore *the*

patent for the application of the principle, must be as bad as the patent for the principle itself. It has been urged by the patentee, that he could not specify all the cases to which his machinery could be applied. The answer seems obvious, that what he cannot specify he has not invented. The finding of the jury, that steam engines may be made upon the principles stated by the patentee, by a mechanic acquainted with the fire-engines previously in use, is not conclusive.

This patent extends to all machinery that may be made on this principle; so that he has taken a patent for more than he has specified; and as the subject of his patent is an entire thing, the want of a full specification is a breach of the conditions, and avoids the patent. Indeed it seems impossible to specify a principle, and its application to all cases, which furnishes an argument that it cannot be the subject of a patent. It has been usual to examine the specification as a condition on which the patent was granted, I shall now consider it in another point of view. It is a clear principle of law, that the subject of every grant must be certain. The usual mode has been for the patentee to describe the subject of it by the specification; the patent and the specification must contain a full description. Then in this, as in most other cases, the patent

would be void for the uncertain description of the thing granted, if it were not aided by statute. The grant of a method is not good, because it is uncertain: the specification of a method, or the application of a principle is equally so, for the reasons I have alleged.

Buller, J. It was expressly admitted in the argument, that there were no new particulars in the mechanism, that it was not a machine or instrument which the plaintiffs had invented; that mechanism was not pretended to be invented in any of its parts; that this engine consists of all the same parts as the old engine, and that the particular mechanism is not necessary to be considered. The fact of there being nothing new in the engine, drove the counsel to argue on very wise grounds, and to touch upon the possibility of maintaining a patent for an idea or principle, though I think it was admitted, that a patent could not be sustained for an idea or principle alone. *The very statement of what a principle is, proves it not to be a ground for a patent.* It is the first ground and rule for arts and sciences, or in other words the elements, and rudiments of them. *A patent must be for some new production* from those elements, and not for the elements themselves. The arguments which have been introduced, were very

much calculated to keep clear of difficulties which it was foreseen might be introduced into the case: as 1st, That unless the principle can be supported as the ground of the patent, there may be some danger of confirming the defendant's objection to it: 2ndly, That unless the principle can be supported, it may open a fatal objection to the specification, because that does not state in what manner the new machine is to be constructed, how it varies from the old one, or in what way the improvements are to be added: or thirdly, Because the patent embraces the whole principle, and is founded on that alone; but the invention is taken to consist of an improvement, or addition only. Another objection may arise, both to the patent and specification, viz. that the patent is granted for the whole engine, and not for the addition or improvement only. Perhaps it may be convenient and judicious to keep those objections as much as possible in the back ground, and out of the view of the court: but it is our duty to sift, and dive into the facts and circumstances of the case, and the bearings and consequences of them, as far as our abilities or knowledge of the subject will admit. There is one short observation arising on this part of the case, which seems to me to be unanswerable; and that is, that if the principle alone be the foundation of the patent, it can-

not possibly stand, with that knowledge and discovery which the world were in possession of before. The effect, the power, and the operation of steam were known long before the date of this patent; all machines which are worked by steam, are worked on the same principle; the principle was known before; and therefore, if the principle alone be the foundation of the patent, though the addition may be a great improvement, as it certainly is, yet the patent must be void *ab initio;* but then it was said, that though an idea, or a principle alone would not support the patent, yet that an idea reduced into practice, or a practical application of a principle was a good foundation for a patent, and was the present case. The mere application, or mode of using a thing was admitted not to be a sufficient ground; for on the court putting the question, whether if a man by science, were to devise the means of making a double use of a thing known of before, he could have a patent for that? it was rightly and candidly admitted that he could not. *The method* and the mode of doing a thing, are the same; and I think it impossible to support a patent for a method only, without having carried it into effect, and produced some new substance. But here it is necessary to inquire, what is meant by a principle reduced to practice. It can only mean a prac-

tice founded on principle, and that practice is the thing done or made, or, in other words, the manufacture which is invented. This brings us to the true foundation of all patents, which must be the manufacture itself; and so says the statute 21 *Jac.* 1. c. 3. All monopolies, except those allowed by that statute, are declared to be illegal and void; they were so at common law: and the sixth section excepts only those of the sole *working* or *making* any manner of *new manufacture:* and whether the manufacture be with or without principle, produced by accident or art, is immaterial. *Unless this patent can be supported for the manufacture, it cannot be supported at all.* I am of opinion that the patent is granted for the manufacture; and I agree that verbal criticisms ought not to avail, but that *principle* in the patent, and *engine* in the act of parliament, mean and are the same thing. Besides, the declaration is founded on a right to an engine; and therefore unless the plaintiffs can make out their right to that extent, they must fail. In most of the instances of the different patents mentioned, the patents were for the manufacture, and the specification rightly stated the method by which the manufacture was made: but none of them go the length of proving that a method of doing a thing, without the thing being done, or actually reduced

into practice is a good foundation for a patent. When the thing is done or produced, then it becomes the manufacture, which is the proper subject of a patent. Dolland's patent was for object-glasses; and the specification properly stated the method of making those glasses. And as I mentioned in the course of the argument, the point contested in that case was, whether *Dolland* or *Hall* was the first and true inventor within the meaning of the statute, Hall having first made the discovery in his own closet, but never made it public; and on that ground Dolland's patent was confirmed. Mechanical and chemical discoveries, all come within the description of manufactures: and it is no objection to either of them, that the articles of which they are composed were known, and were in use before provided the *compound article*, which is the object of the invention, is new. But then the patent must be for the specific compound, and not for all the articles or ingredients of which it is made. The first inventor of a fire-engine could never have supported a patent for the method and principle of using iron. Nor could Dr. James, supposing his patent had been clear of other objections, have sustained a patent for the method and principle of using antimony. In the first place the patent must have been for the fire-engine *co nomine;* and in the second, for

the specific compound powder. Suppose the world were better informed than it is, how to prepare Dr. James' fever powder, and an ingenious physician should find out that it was a specific cure for a consumption if given in particular quantities? I think it must be conceived that such a patent would be void; and yet the use of the medicine would be new, and the effect of it as materially different from what is known, as life is from death. So in the case of a late discovery, which as far as experience has hitherto gone, is said to have proved efficacious, that of the medicinal properties of arsenic in curing agues, could a patent be supported for the sole use of arsenic in aguish complaints? The medicine is not new, and any patent for it, or for the use of it, would be void. The case of water-tabbies, which has been often mentioned in Westminster Hall, may afford some illustration of this subject. That invention first owed its rise to the accident of a man's spitting on a floor cloth, which changed its color; from whence he reasoned on the effect of intermixing water with oils or colors, and found out how to make water-tabbies, and had his patent for water-tabbies only: but if he could have had a patent for the principle of intermixing water with oils or colors, no man could have had a patent for any distinct manufacture produced

on the same principle, yet as the floor-cloth and the tabby, are distinct substances, calculated for distinct purposes, and were unknown to the world before, a patent for one would be no objection to a patent for another. *The true question in this case is whether the plaintiff's patent can be supported for the engine?* I have already said I consider it as granted for the engine; and if that be the right construction of the patent, that alone lays all the arguments about ideas and principles out of the case. The objections to this patent, as a patent for the engine, are two, 1st, That the fire-engine was known before: and, secondly, though the plaintiff's invention consisted only of an improvement of the old machine, he has taken a patent for the whole machine, and not for the improvement alone. As to the first, the fact, which the plaintiff's counsel were forced repeatedly to admit, viz. that there was nothing new in the machine, is decisive against the patent. And the second objection is equally fatal: that *a patent for an addition or improvement may be maintained, is a point which has never been distinctly decided.* For of late times, whenever the point has arisen, the inclination of the court has been in favor of the patent for the improvement; and the parties have acquiesced, when the objection might have been brought directly before the court. "In

Morris vs. Branson, which was tried at the sitting after Easter term, 1776, the question was, whether a patent for making oilet holes, or net work, in silk, thread, cotton, or worsted, and which was done only by an addition to the old stocking frame, was valid? Lord *Mansfield* said that he had paid great attention to it, and mentioned it to all the judges. And that if the general point of law, viz. that there can be no patent for an addition only, was with the defendant, it was open upon the record, and he might move in arrest of judgment; but that the objection would go to repeal almost every patent that was ever granted."* There was a verdict for the plaintiff, with 500*l.* damages, and no motion was made in arrest of judgment. Though his lordship did not mention what were the opinions of the judges, or give any direct opinion himself, yet we may safely collect, that he thought, on great consideration, that the patent was good; and though the objection was taken at the trial, it was not afterwards generally persisted in: since that time, it has been the generally received opinion in Westminster Hall, that

* The United States' law of February 21, 1793, expressly grants the right of obtaining a patent for a "new and useful improvement on any art, machine, manufacture, or composition of matter," and decisions in England allow patents for the same purpose.

a patent for an addition only, is good; but it must be for the addition only, and not for the old machine too. In Jessop's case, for an improved movement in watches, the patent was held to be void, because it extended to the whole watch, and the invention was of a particular movement only. It was admitted that the patent should be applied to the invention itself; but it was contended, that if in consequence the patent gave a right to the whole engine, that would be no objection. To this I answer, that if the patent be confined to *the invention*, it can give no right to the *engine*, or to any thing beyond the invention itself. When a patent is taken for an improvement only, the public have a right to purchase that improvement by itself, without being encumbered with other things. A fire-engine of any considerable size, will cost about 1200*l.* and suppose the alteration made by the plaintiff, with a fair allowance of profit, would cost 50*l.* or 100*l.* is it to be maintained that all the persons who already have fire-engines, must be at the expense of buying new ones from the plaintiffs, or be excluded from the use of the improvement? So in the case of the watch, may not other persons in the trade buy the new movement, and work it up in watches made by themselves? Where men have neither fire-engines nor watches, it is

highly probable that they will go to the inventor of the last and best improvement, for the whole machine: and if they do, it is an advantage which the inventor gets from the monopoly vested in him. But here the plaintiffs claim the right to the whole machine. To that extent their right cannot be sustained, and therefore I am of opinion that there ought to be judgment for the defendant.

Eyre, Ch. J. Patent rights are no where, that I can find, accurately discussed in our books; we must, therefore, resort to the statute, 21 Jac. 1. c. 3. we there find a *monopoly* defined to be, "the privilege of the sole buying, selling, making, working, or using, *any thing*, within this realm:" and this is generally condemned as contrary to the fundamental law of the land; but the 5th and 6th sections of that statute save letters patent, and grants of privileges of the sole working or making of any manner of *new manufacture* within this realm, to the first and true inventor, or inventors, of such *manufactures*, with this qualification, "so they be not contrary to the law, nor mischievous to the state," in these t' ee respects, first, "by raising the prices of commodities at home:" secondly, "by being hurtful to trade:" or, thirdly, "by being generally inconvenient." Ac-

cording to the letter of the statute, the saving goes only to the *sole working and making; the sole buying and using*, remain under the general prohibition, and with apparent good reason for so remaining, for the exclusive privilege of buying, selling, and using, could hardly be brought within the qualification of not being contrary to law, and mischievous to the state, in the respects which I have mentioned. I observe also, that according to the letter of the statute, the words, "any manner of *new manufacture*," in the saving, fall very short of the words *any thing*, in the first section.

It was admitted in the argument at the bar, that the word *manufacture* in the statute was of extensive signification, that it applied not only to things made, but to the *practice of making*, to principles carried into practice in a new manner, to new results of principles carried into practice. Let us pursue this admission. Under things made, we may class, in the first place, new compositions of things, such as manufactures, in the most ordinary sense of the word: secondly, all mechanical inventions, whether made to produce old or new effects, for a new piece of mechanism is certainly a thing made. Under the *practice of making*, we may class all new artificial manners of operating with

the hand, or with instruments, in common use, new processes in any art, producing effects useful to the public. When the effect produced is some new substance, or composition of things, it should seem that the privilege of the sole making, or working, ought to be for such new substance, or composition, without regard to the mechanism, or process, by which it has been produced, which though perhaps also new, will be only useful as producing the new substance. Upon this ground, Dolland's patent was perhaps exceptionable, for that was for *a method* of producing a new object-glass, instead of being for the object-glass, produced. If Dr. James' patent had been for his *method* of preparing his powders, instead of *the powders themselves*, this patent would have been objectionable on the same ground. When the effect produced is no substance or composition of things, the patent can only be for the mechanism, if new mechanism is used, or for the process, if it be a new method of operating, with, or without, old mechanism, by which the effect is produced. To illustrate this, the effect produced by David Hartley's invention for securing buildings from fire, is no substance or composition of things. It is a mere negative quality, the absence of fire. The effect is produced, by a new method of disposing iron plates in buildings. In the na-

ture of things the patent could not be for the effect produced. I think it could not be for the making the plates of iron, which, when disposed in a particular manner, produced the effects; for these things are in common use. But the invention consisting in *the method of disposing these plates of iron*, so as to produce their effect, and their effect being an use ful and meritorious one, the patent seems to have been very properly granted to him, *for his method of securing* buildings from fire, and this compendious analysis of *new manufactures*, mentioned in the statute, satisfies my doubt, whether any thing could be the subject of a patent, but something organized, and capable of precise specification. But for the more satisfactory solution of the other points, which are made in this case, I shall pursue this subject a little further. In Mr. Hartley's method, plates of iron are the means which he employs; but he did not invent those means, the invention wholly consisted in the *new manner of using*, or, I would rather say, of *disposing a thing in common use;* and which thing every man might make at his pleasure; and which therefore, I repeat, could not in my judgment be the subject of the patent. In the nature of things, it must be that in the carrying into execution any new invention, use must be made of certain means proper for the operation.

Manual labor, to a certain degree, must always be employed; the tools of artists frequently; often things manufactured, but not newly invented, such as *Hartley's* iron plates; all the common utensils used in conducting any process, and so up to the most complicated machinery that the art of man ever devised. Now let the merit of the invention be what it may, it is plain that the patent, in almost all these cases, cannot be granted for the *means* by which it *acts*, for in them there is nothing new, and in some of them nothing capable of appropriation. Even where the most complicated machinery is used, if the machinery itself is not newly invented, but only conducted by the skill of the inventor, so as to produce a new effect, the patent cannot be for the machinery. In *Hartley's* case it could not be for the *effect* produced, because the effect, as I have already observed, is merely negative, though it was meritorious. In the list of patents with which I have been furnished, there are several for *new methods* of manufacturing articles in common use, where the sole merit, and the whole effect produced, are the saving of time and expense, and thereby lowering the price of the article, and introducing it into more general use. Now, I think these *methods* may be said to be *new manufactures*, in one of the common acceptations of the word, as we speak

of the manufactory of glass, or any other thing of that kind. The advantages to the public from improvements of this kind, are beyond all calculation important to a commercial country, and the ingenuity of artists, who turn their thoughts towards such improvements, is in itself deserving of encouragement; and, in my apprehension it is strictly agreeable to the spirit and meaning of the statute of *Jac.* 1. that it should be encouraged: and yet the validity of these patents, in point of law, must rest upon the same foundation as that of Mr. *Hartley's.*

The patent cannot be for the effect produced, for it is either no substance at all, or what is exactly the same thing as to the question upon a patent, no new substance, but an old one, produced advantageously to the public. It cannot be for the mechanism, for there is no new mechanism employed. It must then be *for the method;* and I would say in the very significant words of Lord *Mansfield* in the great case of the copy right, it must be for *method*, detached *from all physical existence whatever.* And I think we should well consider what we do in this case, that we may not shake the foundation upon which these patents stand. Probably I do not overrate it, when I state that two thirds, I believe I might say three fourths of all patents

granted since the statute passed, are for *methods* of *operating*, and of manufacturing, producing no new substances, and employing no new machinery. If the list were examined, I dare say there might be fifty patents, for methods of producing all the known salts, either the simple salt or the old compounds. The different sorts of ashes used in manufactures are many of them inventions of great merit, many of them, probably, mere speculations of wild projectors; the latter ought to fall, the former to stand. If we wanted an illustration of the possible merit of a new method of operating with old machinery, we might look to the identical case now in judgment before the court. If we consider into what general use fire-engines are come, that our mines cannot be worked without them, that they are essentially necessary to the carrying on many of our principal manufactures, that these engines are worked at an enormous expense in coals, which, in some parts of the kingdom, can with difficulty be procured at all in large quantities, it is most manifest that any method found out for lessening the consumption of steam in the engines, which, by necessary consequence, lessens the consumption of coals expended in working them, will be of great benefit to the public, as well as to the individual who thinks fit to adopt it. And shall it now be said, after we

have been in the habit of seeing patents granted, in the immense number in which they have been granted, for *methods of using old machine-ry*, to produce substances that were old, but in a more beneficial manner, and also for producing negative qualities by which benefits result to the public, by a narrow construction of the word *manufacture* in this statute, that there can be no patent for *methods* producing this new and salutary effect, connected, and intimately connected, as it is, with the trade and manufactures of the country? This I confess I am not prepared to say. An improper use of the word *principle*, in the specification, set forth in this case, has, I think, served to puzzle it. Undoubtedly there can be no patent for a mere principle, but for a principle so far embodied and connected with corporeal substances as to be *in a condition to act*, and to *produce effects in any art, trade, mystery, or manual occupation, I think there may be a patent*. Now this is, in my judgment, the thing for which the patent stated in the case was granted, and this is what the specification describes, though it *miscalls it a principle*. It is not that the patentee has conceived an abstract notion, that the consumption of steam in fire-engines may be lessened, but he has discovered a *practical manner of doing it*, he has taken the patent. Surely this is a

very different thing from taking a patent for a principle, it is *not for a principle*, but *for a process*. I have dwelt more largely on this part of the case, because, in my apprehension, this is the foundation upon which the whole argument will be found to rest. If, upon the true construction of the statute, there may be a patent for a *new method* of manufacturing, or conducting, chemical processes, or of working machinery, so as to produce new and useful effects, then I am warranted to conclude that this patent was in its original creation good. I will next consider the specification, before I proceed to the consideration arising upon the statute for continuing this patent. The specification has reference to the patent, and not to the statute, and therefore it will be proper to consider it in this stage of the argument. I distinctly admit that if this patent is to be taken to be a patent for a fire-engine the specification is not sufficient; it is not a specification of mechanism of any determinate form, having component parts, capable of precise arrangement, and of particular description. On the other hand, if the patent is not for a fire-engine, but in effect for *a manner of working a fire-engine, so as to lessen the consumption of steam*, which, as I conceive, the words of the patent import, let us see whether this specification does not sufficiently describe

a manner of working fire-engines so as to produce the effects expressed in the patent, and whether the only objection to this specification is not that it is loaded with a redundancy of superfluous matter.

The substance of the invention is a discovery, that the condensing the steam out of the cylinder, the protecting the cylinder from the external air, and keeping it hot to the degree of steam heat, will lessen the consumption of steam. This is no abstract principle, it is, in its very statement, clothed with practical application. It points out what is *to be done* in order to lessen the consumption of steam. Now the specification of such a discovery seems to consist in nothing more than saying to the constructor of a fire-engine, "for the future condense your steam without the body of the cylinder, instead of condensing it within it, put something round the cylinder to protect it from the external air, and to preserve the heat within it, and keep your piston air tight without water." Any particular manner of doing this, one should think, would hardly need to be pointed out, for it can scarcely be supposed that a workman, capable of constructing a fire-engine, would not be capable of making such additions to it as should be necessary to enable him to execute

that, which the specification requires him to do. But if a very stupid workman should want to know how to go about this improvement, and in answer to his question, was directed to conduct the steam which was to be condensed, from the cylinder into a close vessel, by mean of a pipe and a valve communicating with the cylinder and the close vessel, to keep the close vessel in a state of coldness sufficient to produce condensation, and to extract from it any part of the steam which might not be condensed by the pump, and was also told to inclose the cylinder in a wooden case, and to use a resinous substance instead of water to keep the piston air tight, can it be imagined that he would be so stupid as not to be able to execute this improvement with the assistance of these plain directions? If any man could for a moment imagine that this was possible, I observe that this difficulty is put an end to, because the Jury have found that a workman can execute this improvement in consequence of the specification. Some machinery, it is true, must be employed, but the machinery is not of the essence of the invention, but incidental to it. The steam must pass from the cylinder to the condensing vessel, for which purpose there must be a valve to open, a pipe to convey, and a vessel to receive, the steam. But this cannot be called new in-

vented machinery, whether considered in the parts or in the whole, and therefore there can be no patent for this addition to the fire-engines. Suppose a new invented chemical process, and the specification should direct that some particular chemical substance should be poured upon gold in a state of fusion, it would be necessary, in order to this operation, that the gold should be put in a crucible, and should be melted in a crucible; but it would be hardly necessary to state in the specification, the manner in which, or the utensils with which, the operation of putting gold into a state of fusion was to be performed. They are mere incidents, with which every man, acquainted with the subject, is familiar.

Some objections were made, in the course of the argument at the bar, on its being left unascertained, both in the specification and case, to what extent the consumption of steam would be lessened by the invention; but the method does not profess to ascertain this: it professes to lessen the consumption; and to make the patent good, the method must be capable of lessening the consumption to such extent as to make *the invention useful.* More precision is not necessary, and absolute precision is not practicable. The quantity of steam which will be saved in

each machine, must depend on a great variety of circumstances respecting each individual fire-engine, such as the accuracy of casting or boring the cylinder, or the dimensions of it, the accuracy of the workmen in putting his apparatus together, the care in keeping the cylinder in a proper degree of heat, and the more or less perfect order for working in which the engine is kept. All these circumstances will affect the quantity of steam that is to be lessened.

Some weighty observations have been made upon parts of this specification, but those parts appear to me not properly to relate to the method described in the patent: they are rather intimations of new projects of improvements in fire-engines, and some of them, I am very ready to confess, either very loosely described, or not accurately conceived. I do not undertake to pronounce which, but one or the other is pretty clear. They are the fourth and fifth articles: the first, second, and third, appear to me to belong to this method, and very clearly to point out and explain the method to every man who has a common acquaintance with the subject, and to be intelligible even to those who are unacquainted with it. If there be a specification to be found in that paper, which goes to the subject of the invention as described in the

patent, I think the rest may very well be rejected as superfluous. If indeed the defendant could have shown that he had not pirated the invention, which is sufficiently specified, but that what he hath done hath a reference to another method of lessening the consumption of steam, to which the questionable parts of the specification were meant to relate, the objections which have been alluded to, might have been taken both to the patent and specification. But I would observe here, that with regard to this, and some other difficulties, there is no question reserved in this case, respecting the infringement of the patent. The general fact only is stated; that it has been infringed by the defendant; and in the consideration of a case reserved, we are not to search for difficulties, upon which the parties have not proposed to state any point to us for our judgment, and into which I think we are not at liberty to go. The difficulty which struck me, as it did my brother *Buller*, with respect to the declaration, is applied to the patent as it originally stood, not as it now stands, continued by act of parliament. If we were at liberty to go into it, that difficulty might perhaps produce a nonsuit, and that nonsuit a new action, in which the difficulty would be removed. But this cause was instituted to try the merits of the patent; I thought, therefore,

that a formal objection was very wisely overlooked. Supposing then the difficulties upon the patent itself and the specification, to be got over, the act of parliament remains to be considered. The objection stated in the strongest manner, would amount to this, that the act continues a patent for a *machine*, when, in fact, the patent is for a *process*. It is to be observed, that there is nothing technical in the composition or language of an act of parliament. In the exposition of statutes the intent of parliament is the guide. It is expressly laid down in our books, (I do not here speak of penal statutes,) that every statute ought to be expounded, not according to the letter, but to the intent, 2. Roll. Abr. 118., Plowd. 350, 368. This doctrine has been carried into effect by cases. Though a corporation be misnamed in an act of parliament, if it appears that the corporation was intended, it is sufficient, 10 Co. 576. So the statute of *quia emptores terrarum* has said that every one shall hold of the lord paramount *secundum quantitatem terræ*, but this shall be construed *secundum valorem terræ;* for so was the intent, Plowd. 10, 57. We all know that an act of parliament may be extended in equity.

No authority has been cited which amounts to proof that a mistake in point of description

in an act of parliament of this nature, when the true meaning can be discovered, and when there is a foundation on which the act can be supported, shall vitiate it. The case cited from Plowden, differs essentially from this case. The act of parliament in that case gave effect to a supposed legal attainder, and proceeded upon it altogether. If the ground-work fell, and there was no legal attainder, nothing remained; the supposed attainder in that case fell; consequently all fell. Now the difference between that case and the present is this, here the true patent meant to be described, exists, and may therefore be a ground-work to support the act. This case was compared to the case of the king being deceived in his grant. But I am not satisfied that the king proceeding by, and with advice of parliament, is in that situation, in respect of which he was under this special protection of the law, and that he could on that ground be considered as deceived in his grant; no case was cited to prove that position. The objection on the act of parliament is of the same nature as one of the objections to the specification. The specification calls a method of lessening the consumption of fuel in fire-engines a *principle*, which it is not, the act calls it an engine, which perhaps also it is not; but both the specification and the statute are referable to the same thing, and

when they are taken with their correlative, are perfectly intelligible. Upon the wider ground I am therefore of opinion, that the act has continued this patent. A narrower ground was taken in the argument, which was to expound the word *engine*, in the body of this act, in opposition to the title of it to mean a *method;* and I am ready to say I would resort to that ground, if necessary, in order to support the patent *ut res magis valeat quam pereat.* But it is not necessary; for let it be remembered that though monopolies in the eye of the law, are odious, the consideration of the privilege created by this patent is meritorious, because, to use the words of Lord Coke, "the inventor bringeth to, and for the commonwealth a new manufacture by his invention, costs, and charges." I conclude therefore that the judgment of court, ought to be for the plaintiff.

The principles advanced in this case by judges Rooke and Eyre, were corroborated by the unanimous opinions of the judges of the King's bench, in the case of Hornblower and Maberly against Boulton in Error. The defendants below, pleaded not guilty; and a general verdict having been found for the plaintiffs below, and judgment given for them by the Court of Common Pleas, the defendants brought

3. Durn. and East. 95.

a writ of error, and besides the general error assigned for error, that the invention for which the letters patent were granted, is not an invention of any formed or organized machine, instrument, or manufacture, but of mere principles only, for which no such letters patent could by law be granted. The court delivered their opinions *seriatim* as follows.

Lord *Kenyon*, Ch. J. It was rather from a deference to the very respectable opinions given in the Court of Common Pleas, on the former occasion,* than from any doubt we entertained on the subject that a second argument was awarded here; but the case having been most ably argued, and every argument advanced at the bar that bears upon it, I wish to deliver my opinion now, to prevent any farther delay to the parties interested. I confess I am not one of those who greatly favor patents; for though in many instances, and particularly in this, the public are benefited by them, yet on striking the balance upon this subject, I think that great oppression is practised on inferior mechanics by those who are more opulent. The principal objection made to the patent by the plaintiffs in er-

* Vide the case of Boulton and Watt vs. Bull, quoted last above.

ror is, that it is a patent for a philosophical principle only, neither organized, or capable of being organized; and if the objection were founded in fact, it would be decisive; but I do not think that it is so; as Lord Hardwicke said upon another occasion, there is no magic in words. The questions here are whether by looking at the patent, explained as it is by the specification, it does not appear to be a patent for a new manufacture, and whether the specification is not sufficient to enable a mechanic to make the thing described? The jury have not indeed answered those questions in the affirmative in terms: but they have impliedly done so, by finding a general verdict for the defendant below. By comparing the patent and the manufacture together, it evidently appears that the patentee claims a monopoly for an engine or machine, composed of material parts, which are to produce the effect described, and that the mode of producing this is so described as to enable mechanics to produce it. Having said thus much, it appears that the subject so far as we have to treat of it is exhausted. I have great respect for the contrary opinions that are given in the Common Pleas; and probably if I had been called upon on a sudden to determine this case, I should have been at a loss how to decide. But having now heard every thing that

can be said on the subject, I have no doubt in saying this is a patent for a manufacture, which I understand to be something made by the hands of men.

Ashurst J. Every new invention is of importance to the wealth and convenience of the public; and when they are enjoying the fruits of an useful discovery, it would be hard on the inventor, to deprive him of his reward. In this case the jury have found by their verdict, that all allegations in the declaration were proved, one of which was, that the inventor had by his specification particularly described the nature of his invention, and the manner in which it was to be performed, and having thus complied with the terms of his patent, I think he is, in point of law as well as justice, entitled to the benefit, which the patent, and the act of parliament intended to confer on him.

Grose, J. This is an action for violating that right supposed to have been given originally for 14 years, by the patent in 1769, and contended to be continued to *James Watt*, his representatives and assigns, for 25 years, by the statute in 1774. The statute recites the patent, the benefit of which is now determined by the flux of time; and therefore the action can only be sustained

on the continuance of the benefit to the patentee, by the legislature. The statute, however, expressly provides that every objection in law, competent against the patent, shall also be competent against the statute, that is, against the benefit to be derived to the patentee under the statute. The question then is, whether the patent be good in law, in other words, whether it be conformable to the statute of the 21 Jac. 1. c. 3. s. 6, under which the plaintiff, or any party can alone claim the privilege of a monopoly. The power thereby reserved to the king, is "that any declaration before mentioned, shall not extend to letters patents, and grants of privileges for the term of fourteen years or under, to be made for the sole *working or making* of any manner of *new manufactures* within the realm, to the true and first inventor or inventors of such manufactures, which others at the time of making such letters patents shall not use; so as also they be not contrary to the law, nor mischievous to the state, by raising the prices of commodities at home, or hurt of trade, or generally inconvenient." The questions then upon this patent, are whether it be a patent for the sole working or making of any manner of new manufacture; whether the patentee were the first inventor; whether it be contrary to law, mischievous to the state, or to trade, or gener-

ally inconvenient? By a proviso in the patent, the patentee is bound particularly to describe and ascertain his invention, and in what manner the same was to be performed, by an instrument in writing under his hand and seal, and to cause the same to be enrolled in the Court of Chancery. On which another question arises, namely, whether the specification enrolled be sufficient. The aim of the legislature is obvious; on the one hand, it was to encourage ingenious artificers, and able and studious men to invent and bring forward for the use of the public, new manufactures, the produce of their ingenuity, by holding out to them the reward of fourteen years monopoly: on the other hand, to secure to the public the benefit of the discovery, by causing to be enrolled a complete description of the thing to be done, and the manner of doing it, that others might be fully informed of it, and at the end of fourteen years, be enabled to work or make the manufacture of which the patentee was the inventor. Upon some of the questions there seems to be no doubt. There is no doubt on record coupled with the finding of the jury, that the patentee was the inventor of that which is stated in the declaration, to be (by whatever name it may be called,) an invention, method, principle, or manufacture. Neither is it contended that the "subject of the patent is mis-

chievous to the state, hurtful to trade, or generally inconvenient." On the contrary every man's experience as far as report goes, tells him that the invention has infinite merit; is for very many purposes highly beneficial to the public, and is in great request. As to the specification, I shall content myself with repeating what was said by one of the learned judges of the Court of Common Pleas, that if the specification be such as will enable artists to adopt the invention, and make the manufacture, it is sufficient. It is averred in the declaration, that the patentee, did in pursuance of the proviso, particularly describe, and ascertain the nature of the invention, and in what manner the same was to be performed by an instrument in writing, under his hand and seal in the Court of Chancery; that fact was necessary to be proved to entitle the plaintiffs to a verdict, and by the verdict obtained, I consider that fact as ascertained and concluded in their favor.

The important question is whether it be a patent "for the making or working of any manner of new manufacture." It is argued by the plaintiffs in error, first that it is a patent for a mere *principle*, and not for a *new manufacture*, and that nothing can be the object of a patent but a new manufacture. 2dly, That if it be a

patent for a *new manufacture*, namely, the *steam-engine*, it is *not new*, and that the patent should have been for the addition only, and not for the whole engine. As to the first of those propositions, that under the statute of *James* there cannot be a patent for a new principle, which this is contended to be, it is not necessary for me in my way of considering the case, to form a decided opinion on that point; for if I can shew that this is a patent for a *new manufacture*, whether a patent for a new principle be good or not, will be immaterial. Upon that point I shall only say that having very much turned the question in my mind, and weighed, and considered again and again the words of the statute, specifying what patents the crown may grant, upon which alone I conceive the question must ultimately depend, I am not prepared to say that a patent for a mere principle was intended to be comprehended in these words. It is indeed difficult to conceive that the legislature, in giving power to the crown to grant patents for the sole *working or making* of any manner of *new manufacture*, intended a power to grant patents for any other purpose than that expressly mentioned. But as I said before, this is not material for me to determine, inasmuch as it seems to me upon the best consideration, that this is not a patent for a mere principle, but for work-

ing and making a new manufacture, within the words of the statute. I have been led to adopt this opinion, by considering the words and description of the invention in the patent, as referring to, and explained by the specification and the specification itself as a part of the patent. The ground on which I have felt myself at liberty so to do is this. The benefit to the public is from the specification, disclosing to the world how others may make and use the same manufacture; without the specification the public have not that information; and by the condition of the letters patent, without the specification, the patentee is not entitled to his monopoly. Providing therefore by the patent, that there must be a specification, and there being, necessarily, one in consequence of that proviso. I consider the patent and specification so connected together as to make a part of each other, and that to learn what the patent is I may read the specification, and consider it as incorporated in the patent.

Now the patent recites, that Mr. *Watt* had invented a method of lessening the consumption of fuel and steam in fire-engines; it grants to him the sole use and exercise of that invention, upon condition that he would disclose the nature of the invention, and in what manner the

same was to be performed by an instrument enrolled. He does so, and that instrument describes the principles of the method, and the method by which those principles are to be carried into effect. The method is founded on the principle of keeping the steam-vessel, the whole time the engine is at work, as hot as the steam that enters it: this is to be done by the manufacture of a case of wood, or some other material that transmits heat slowly, and by surrounding it with steam or other heated bodies, and suffering neither water nor any other substance colder than steam, to touch it. Secondly, he points out a mode of condensing the steam, by vessels to be used distinct from the steam-vessels, at sometimes, at others they are to communicate with them, which he calls condensers; and these are new, at least not part of the old engine, and are to be kept as cold as the air in the neighborhood of the engines. Thirdly, he gives directions as to drawing out the air not condensed by the cold of the condenser. Fourthly, he states how he means to employ steam to press on the piston in given cases. Fifthly, he directs how steam-vessels should be formed where rotatory motions, or motions round an axis, are required, namely, with weights and valves; and directs how, in such case, the steam-vessel shall be supplied with

steam, and how that which has done its office shall be discharged. And he also states a method by which the engine shall be worked by the alternate expansion and contraction of the steam. This method, however, if not effected or accompanied by a manufacture, I should hardly consider as within the statute of James. But it seems to me that in this specification he does describe a new manufacture, by which his principle is realized, that is, by which his steam-vessel is kept as hot as the steam, during the time the engine is at work; by which means the consumption of steam and fuel is lessened. Thus he specifies the particular parts requisite to produce the effect intended, and states the manner how they are to be applied. He describes the case of wood in which the steam vessel is to be inclosed, the engines that are to be worked wholly, or partially, by condensation of steam, the vessels that he denominates condensers, and the steam-vessels where rotatory matters are required. Can it then be said, that the making and combining of these parts is not some manner of new manufacture? I cannot say that it is not. But if that had been doubtful, the verdict ascertains the fact. But then it is objected that the patent should have been for that manufacture; whereas it is for principles, which the specification describes. To which I

answer, that the patent is not merely for principles, nor does the specification describe principles only. The patent states the principles on which the invention proceeds, and shows in the specification the manufacture by means of which these principles are to take effect, which effect is to be the lessening of the consumption of steam and fuel, by keeping the steam-vessel of one uniform temperature with the steam, so long as the engine is worked.

Taking it, however, as a patent for an engine, it is objected that the thing was made before, and that the patent should have been for the addition only, and not for the whole engine. But I do not consider it as a patent for the old engine, but only for the addition to, or improvement of, the old engine; and so the act of parliament considers it. The old engine consumed too much steam and fuel, and it was considered that by a case of wood, or of other materials that would transmit heat slowly, surrounding it with steam by the use of condensers, and doing that which was not done in the old engine, but is in this, the defects in the old engine might be corrected, and the new one by its additions made more useful. Experiments were tried, as appears by the act of parliament, and the purpose for which these additions were made is

ultimately found to be completely attained by the methods pointed out in the specification. It possibly occurred to the inventor that if the patent were to be obtained for the whole engine it might be open to cavil, and therefore he took out his patent, not for the engine, but for the *invention of lessening the consumption of steam and fuel in fire-engines.* The method is disclosed in the specification, and it is by the addition of what is there disclosed, and by manag ng it in the way described. The patent, therefore, is only for that additional improvement as described in the specification; and there is no pretence to say that he claims, or could claim, the sole making of the old engine. But a doubt is entertained whether there can be a patent for an addition to an old manufacture. This doubt rests altogether upon Driscott's case, 3. Ins. 184; and if that were to be considered as law at this day, it would set aside many patents for very ingenious inventions, in cases where the additions to manufactures before existing are much more valuable than the original manufactures themselves. I shall content myself with referring to what lord chief justice Eyre said in this case in the Court of Common Pleas, in answer to this passage, and to the case of Morris vs. Branson, cited by my brother *Buller* upon the same point. If, indeed, a pa-

tent could not be granted for an addition, it would be depriving the public of one of the best benefits of the statute of *James*. Lord Coke's opinion, therefore, seems to have been formed without due consideration, and modern experience shows that it is not well founded. The statute, 15 Geo. 3. (I observe) secures to the patentee the privilege of constructing and selling the engines in words; on which account it has been observed, that it falsely recites the patent, and therefore cannot operate in support of it: but the statute must have a reasonable construction, to support, rather than defeat, the intention of the legislature in their grant: and by attending to every part of the statute, it is obvious that the engines, secured to the patentee, are such as are improved in the manner stated in the specification; and not the original fire-engines. For the statute, reciting the patent, recites it as a grant of the benefit and advantage of making and vending certain engines, *by him invented, for lessening the consumption of steam, and fuel, in fire-engines.* Now these were not the original fire-engines, but the improved ones, and those that were so improved were the only ones invented for lessening the consumption of steam and fuel in fire-engines: which shews that the legislature considered the patent as a patent for the improvement of the engine, described in

the specification, and not as a patent for a mere method, or for the original fire-engine. The subject is new to me, not affecting to be a mechanic, and I have had great difficulties in making up my mind upon it. I am inclined to think, however, that a patent cannot be granted for a mere principle; but I think that although in words the privilege granted is to exercise a method of making or doing any thing, yet if that thing is to be made or done by any manufacture, and the mode of making that manufacture is described, it then becomes an effect, (by whatever name it may be called) not a patent for a mere principle, but for a manufacture, for the thing so made, and not for the principle upon which it is made. Where then is the mischief to the public; or how in this case is the intention of the legislature defeated? They intend that after the fourteen years the public should from the specification be in possession of the manufacture, and the art of making it, and that for those fourteen years the patentee should have the monopoly of it as his reward. The patent is nothing without the specification, and the patentee can gain no advantage by it. It is also useless, unless the specification be such from which the public can gain information; therefore, whether the patent call the manufacture by its own name, or style it an invention, a

mode, or method, or in any other manner, it signifies nothing, for the specification describing the thing as required by the patent, must be resorted to, and may fairly be deemed a part of the patent itself. If that be so, I read this patent, and find that it is for a method to be pursued, according to the directions of the specification; and looking to the specification, I see that by pursuing the method pointed out, a manufacture is produced by the ingenuity of the inventor, and of which the public are to have the benefit. Then the intention of the legislature is fulfilled, the public enjoy the fruits of the author's ingenuity, and the author enjoys the monopoly for a certain term. It signifies nothing to either, whether the patent be for the engine so made, or for the method of making it, if that method be sufficiently described in the specification. Upon those grounds, with that deference I ought to feel upon a subject with which I do not profess myself to be much conversant, my opinion is that the judgment of the court ought to be affirmed.

Lawrence, J. Two objections have been made by the plaintiffs in error; 1st, that this is not an invention for any formed, or organized machine, instrument, or manufacture, but of mere principles only: 2dly, that the specification is bad.

As to the first; the claim of the plaintiffs below is founded on the proviso in the statute of James, which allows the crown to grant patents in favor of new manufactures, and therefore it must rest on the ground of *Watt's* having invented some new manufacture. If it were necessary to consider whether or not mere abstract principles are the subject of a patent, I should feel great difficulty in deciding what they are, but that consideration is unnecessary on the present occasion, because by looking at the patent, and the recital in the act of parliament, it appears that *Watt* applied for and obtained a patent for an *engine or mechanical contrivance* for lessening the consumption of steam in fire-engines. The letters patent recite that he had invented a method of lessening the consumption of steam, and grant to him the sole right of using the said invention for fourteen years.

In order to see what the invention was, it is necessary to refer to the specification; that states what the invention is, and that the method consists of certain principles, as they are called, which are described in the specification. Then followed the statute, which after reciting that the king had granted to *Watt* the sole benefit of making and vending *certain engines*, invented by him, for lessening the consumption

of steam in fire-engines, and that he had enrolled in the Court of Chancery a description of the *said engine*, vests in him the sole right of making and selling the said engines, for twenty-five years. From this therefore it is clear that the legislature understood that the patent was for an engine for some mechanical contrivance, and the form of the patent, and the specification does not contradict this. Engine and method mean the same thing, and may be the subject of a patent. "Method," properly speaking, is only placing several things, and performing several operations in the most convenient order: but it may signify a *contrivance* or device: so may an *engine*, and therefore I think it may answer the word method. So "principle" may mean a mere elementary truth, but it may also mean constituent parts. And in effect the specification is this, "the contrivance by which I lessen the consumption of steam, consists in principles, that is, constituent and elementary parts; a steam vessel, in which the powers of steam are to operate, to be kept as hot as the steam, by a case, a distinct vessel, to condense the steam; and pumps to draw off such vapour as is likely to impede the motion of the fire-engine," &c. That is the description of the thing, when put into different language.

Then taking this to be a patent for an engine it is objected that the specification is bad. In considering that question, it is necessary to see for what Mr. Watt has obtained his patent. He does not claim it for an improvement to a fire-engine to any particular purpose, e. g. for raising water out of mines, or any other specific thing: but his claim is generally to an invention, for lessening the consumption of steam, applicable to all fire-engines for whatever purpose they may be used, and whatever may be their construction; by an alteration and addition to parts, which are common to all, and upon which their powers of working depend. The objection that requires a more full description of the engine, goes the length of requiring a description of every engine that is acted upon, and worked by the force of steam. But I do not think, that, if his specification had been so comprehensive, his invention would have entitled him to a patent for the sole vending and working the whole engine so altered and improved; for such patent would have been more extensive than the thing invented. The patent must be supported as granted for an improvement and addition to old engines known and in use, and I think that the patent is good in this point of view. For *Watt* claims no right to the construction of engines for any determinate object, except

that of lessening the consumption of steam in fire-engines. His patent supposes the existence of such engines; and his contrivance, method, or engine is for lessening the consumption of fuel in such pre-existing engines, and for nothing else. In the argument, the engine to diminish the consumption of steam, was confounded with that which it was intended to improve. Some of the difficulties in the case, have arisen from considering the word *engine* in its popular sense, namely; some mechanical contrivance to effect that to which human strength without such assistance is unequal: but it may also signify "device," and that *Watt* meant it in that sense, and the legislature so understood it, is evident from the word "engine" and "method" being used as convertible terms. Now there is no doubt but that for such a contrivance a patent may be granted, as *well* as for a more complicated machine; it equally falls within the description of a manufacture, and unless such devices did fall within that description, no addition or improvement could be the subject of a patent. If this be so, it only remains to be considered whether or not for the improvement of fire-engines, *Watt* has with sufficient accuracy stated a definite alteration or addition, which may be made in all fire-engines, in such a way as to enable a workman to execute it; and it seems to me that

he has. For he has directed him to make a vessel for the condensation, distinct from that in which the powers of steam operate, and to convey steam as occasion requires, from the cylinder to the condensing vessel; to keep the cylinder hot by means distinctly described, and to extract by pumps the vapour, which may impede the work. Therefore, it seems to me, that he has given distinct directions for the purpose. Whether those directions were or were not sufficient, is not now a question for our decision; it was a question for the determination of the jury, and they have decided it.

The above cited cases show the care with which the subject of patent rights for new inventions, has been investigated in British Courts of Justice, and the laudable solicitude evinced by those courts of late years, to secure to patentees their monopoly to the full extent, which could, by any mode of construction, be considered as authorized by the statute.

The following very able decision in an American Court of Justice, will throw additional light on the subject, as respects the novelty and utility necessary, in order to support a patent for a new invention.

At a Circuit court of the United States, for the District of Georgia, was tried the case of Eli Whitney vs. Isaiah Carter, for infringing a right, vested by patent for a new and useful improvement in the mode of ginning cotton. The plaintiff supported his declaration, by proving the patent, model, and specification, and proving the use of the machine in question by the defendant. He also introduced the testimony of several witnesses, residing in New-Haven, to prove the origin and progress of his invention. Whitney vs. Carter.

The defendant rested his defence on two grounds. First, That the machine was not originally invented by Whitney. Second, That the specification does not contain the whole truth relative to the discovery.

General Mitchel, of counsel for the defendant, produced a model, which was intended to represent a machine used in Great Britain, for cleaning cotton, denominated the "Teazer or Devil." A witness was produced, who testified that he had seen in England, about seventeen years ago, a machine for separating cotton from the seed, which resembled in principle, the model now exhibited by the defendant,

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Another witness testified that he had seen a machine in Ireland, upon the same principle, which was used for separating the motes from the cotton, before going to the carding machine.

By the machine of which a model was exhibited, the cotton is applied in the first instance to the rollers, made of iron, revolving inversely. By these rollers the fibres are separated from the seeds, and protruded within the sweep of certain straight pieces of wire, revolving on a cylinder, which tear and loosen the cotton as they revolve. It was contended by the defendant's counsel, that this model conforms in principle, to Mr. Whitney's machine, and that the evidence, given in support of it, establishes a presumption, that he must have derived the plan of his machine, from a similar one used in the manufactories in Great Britain.

In support of the second ground of defence, evidence was produced to shew that Mr. Whitney now uses, and that the defendant also uses teeth, formed of circular plates, instead of teeth made of wire. And it was contended that this was a departure from the specification, and an improvement on the original discovery, which destroys the merit of that discovery, and the validity of the plaintiff's patent. It was also

contended that the plaintiff had concealed the best means of producing the effect contemplated. Whitney vs. Carter.

Mr. Noel of counsel for the plaintiff, in opposition to the first ground of defence, stated two points. First, That if the principle be the same, yet the plaintiff's application of that principle being new, and for a distinct purpose, has all the merit of an original invention. Second, That the principle of Mr. Whitney's machine is entirely different from that exhibited by the defendant. He defined the term principle, as applied to the mechanic arts, to mean the elements and rudiments of those arts, or in other words, the first grounds and rule for them. That for a mere principle a patent cannot be obtained. That neither the elements nor the manner of combining them, nor even the effect produced can be the subject of a patent, and that it can only be obtained for the application of this effect, to some new and useful purpose.

To prove this position, several examples were stated of important inventions, for which patents had been obtained, which had resulted from principles previously in common use, and an argument of a celebrated judge at Westminster Hall was cited, in which it was asserted, "that two thirds or three fourths of all pa-

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tents, granted since the statute passed, are for methods of operating and manufacturing, producing no new substances, and employing no new machinery; and he adds, in the significant words of lord Mansfield, " a patent must be for a method, detached from all physical existence whatever."

The second point was principally relied on, to wit, That the principle of Mr. Whitney's machine is distinct from that produced by the defendant, and new in its origin.

It consists of teeth, or sharp metallic points, of a particular form and shape, and its application is to separate cotton from the seed; whereas the principle of that model, exhibited by the defendant, and of every other machine, before invented, and used for the same or a similar purpose, consists of two small rollers, made of wood or iron. In illustration of this point, the plaintiff's counsel cited the following extract from the opinion of the court, delivered by Judge Johnson, in December term, 1807, in the case of Whitney and others vs. Fort, upon a bill for injunction.

" To support the originality of the invention, the complainants have produced a variety of

depositions of witnesses, examined under commission, whose examinations expressly prove the origin, progress, and completion, of the machine by Whitney, one of the co-partners. -Persons, who were made privy to his first discovery, testify to the several experiments, which he made in their presence, before he ventured to expose his invention to the scrutiny of the public eye. But it is not necessary to resort to such testimony to maintain this point. The jealousy of the artist to maintain that reputation, which his ingenuity has justly acquired, has urged him to take unnecessary pains on this subject. Whitney vs. Carter.

"There are circumstances within the knowledge of all mankind, which prove the originality of this invention more satisfactorily to the mind, than the direct testimony of a host of witnesses. The cotton plant has furnished clothing to mankind before the age of Herodotus. The greenseed is a species much more productive than the black, and by nature adapted to a much greater variety of climate; but by reason of the strong adherence of the fibre to the seed, without the aid of some more powerful machine for separating it than any formerly known among us, the cultivation of it could never have been made an object. The machine, of which Mr.

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Whitney claims the invention, so facilitates the preparation of this species for use, that the cultivation of it has suddenly become an object of infinitely greater importance than that of the other species ever can be. Is it then to be imagined that if this machine had been before discovered, the use of it would ever have been lost, or could have been confined to any tract of country left unexplored by commercial enterprize? But it is unnecessary to remark further on this subject. A number of years have elapsed since Mr. Whitney took out a patent, and no one has produced, or pretended to prove the existence of a machine of similar construction or use.

"With regard to the utility of this discovery, the court would deem it a waste of time to dwell long upon this topic. Is there a man who hears us, who has not experienced its utility? The whole interior of the southern states was languishing, and its inhabitants emigrating, for want of some object to engage their attention, and employ their industry, when the invention of this machine at once opened views to them, which set the whole country in active motion. From childhood to age, it has presented us a lucrative employment. Individuals who were depressed with poverty, and sunk in idleness, have suddenly risen to wealth and respectabili-

ty. Our debts have been paid off; our capitals increased; and our lands are trebled in value. We cannot express the weight of obligation which the country owes to this invention: the extent of it cannot now be seen: some faint presentiment may be formed from the reflection that cotton is rapidly supplanting wool, flax, silk, and even furs, in manufactures, and may one day profitably supply the use of specie in our East India trade. Our sister states also participate in the benefits of this invention; for besides affording the raw materials for their manufactories, the bulkiness and quality of the article afford a valuable employment for their shipping.

The second objection relied on by the defendant, was, "that the specification does not contain the whole truth respecting the discovery." To this it was answered, that by the testimony it appears, Mr. Whitney in the original construction of his machine, contemplated each mode of making the teeth, and doubted which mode was best adapted to the purpose. If the alteration, which forms the basis of this objection has the merit of an improvement, how far does it extend? An improvement, not in the principle, nor in the operation of the machine, but in making one of its component parts;

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merely in forming the same thing, to produce the same effect by means somewhat different. In the case above cited, Judge Johnson remarked on this point as follows:

"A Mr. Holmes has cut teeth in plates of iron, and passed them over the cylinder. This is certainly a meritorious improvement in the mechanical process of constructing this machine. But at last what does it amount to, except a more convenient mode of making the same thing? Every characteristic of Mr. Whitney's machine is preserved. The counsel for Whitney admitted that an improvement in a particular part of the machine, would entitle the inventor to a patent for that specific part, but not for the whole machine, as in the case of Boulton vs. Bull, where a patent was granted for an invention to lessen the quantity of fuel in the use of a certain steam-engine. It was decided, "that the patent was valid for this improvement; but that it gave no title to the machine itself."

It was also stated, that by experiments made on the plaintiff's model, in the face of the court and jury, and by testimony produced, it was apparent, no improvement had resulted from this alteration; that no beneficial change, or

amendment in the principle, had taken place; nor had the effect been aided or facilitated. In the charge of the court to the jury, Judge Stevens remarked, that the case cited, Whitney and others vs. Fort was decided without any evidence on the part of the defendant: That from the testimony now produced, his opinion is, that the plaintiff must have received his first impressions from a machine previously in use on a similar principle; and that an improvement had been made as to the teeth, by which the merit of Mr. Whitney's invention was diminished. For these reasons Judge Stevens had some doubts whether the plaintiff ought to recover.

Judge Johnson remarked that after hearing the evidence, which had been relied on by the defendant he remained content with the opinion which he had given in the case of Whitney against Fort, and that he was also as fully satisfied with the charge he was about to give as any he had delivered. That as to the origin of this invention the plaintiff's title remained unimpeached by any evidence which has been adduced in this cause. He agreed with the plaintiff's counsel that the legal title to a patent consists not in a principle merely, but in an application of a principle, whether previously in existence or not, to some new and useful

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purpose. And he was also of opinion, that the principle of Mr. Whitney's machine was entirely new; that it originated with himself, and that it had no resemblance to that of the model exhibited by the defendant.

He considered the defendant's second objection equally unsupported, and referred to the sixth section of the patent law of the United States, by which it is required that the concealment alleged (in order to defeat the patentee's recovery,) must appear to have been made for the purpose of deceiving the public. That Mr. Whitney, in the original formation of this machine could have no motive for such concealment, and that in making use of wire in preference to the other mode, he appears to have acted according to the dictates of his judgment, the error related to a point, not affecting the merits of his invention, or the validity of his patent. Verdict for the plaintiff: Damages 1500 dollars.

The following case is from the Repertory of Arts.

Huddart vs Grimshaw.

King's Bench, Guildhall, Dec. 22, 1803, before Lord Ellenborough and a special jury.

Huddart vs. Grimshaw.

This was an action brought by the plaintiff for infringement on his patent for "a new mode or art of making great cables and other cordage, so as to attain a greater degree of strength therein, by a more equal distribution of the strain upon the yarns."

The plaintiff obtained his patent, in 1793. The defendant, Mr. Grimshaw, visited him in 1799. On this occasion he requested the plaintiff to permit him and his partner to *adopt his method of rope-making at their great ropery only, without premium.* To this latter, the plaintiff, after consulting his partners, returned an answer containing a positive refusal.

From that time it was proved, that the defendant carried on his manufacture in a private manner, shutting up his work-place, and suffering none to enter it, excepting persons in whom he could confide; and, as it was alleged, practising a part of the plaintiff's invention.

In support of the plaintiff's case, several witnesses were examined.

Mr. Gibbs, for the defendant, asserted, that this action was brought as a bill of discovery, in order to find out by what means the defendant was enabled to manufacture ropes, equal in quality to the plaintiff's, and bring them to market at a cheaper rate. If he could only make this discovery, the plaintiff was unconcerned about the fate of the present action. He would, however, be disappointed, said the learned counsel, for his client would not let him into his secret. There was no proof, he contended, that the defendant had infringed on the plaintiff's patent, and that the former was not obliged to discover how, and in what manner, he was enabled to make as good cordage as the plaintiff. He then argued that the plaintiff had, in his specification, described certain parts of the machinery as his own invention, though they had actually been before invented by a Mr. Balfour, who had obtained a patent for the same. The defendant's patent could not therefore be valid. In point of law; a person must take out a patent neither wider nor narrower than his invention; the specification must be sufficient to enable a workman, of ordinary skill, to perform the thing described. And he contended that the plaintiff could not maintain his patent, because it is wider.

The defendant called no witnesses.

Lord Ellenborough, after stating the principal points of the law relative to the case, recapitulated the evidence, and observed, that there was certainly a *prima facia* evidence that the defendant had made use of part of the plaintiff's invention, but he left it to the jury to consider whether or not it was an infringement of the plaintiff's patent.

The jury, without retiring, returned a verdict for the plaintiff.

The United States' statute of February 21st, 1793, next points out the *mode of proceeding* necessary to be adopted by the patentee, in order to obtain a patent monopoly of the profits of his invention. The inventor "shall present a petition to the Secretary of state, signifying a desire of obtaining an exclusive property in the same, and praying that a patent may be granted therefor," and "it shall and may be lawful for the said Secretary of state to cause letters patent to be made out in the name of the United States, reciting the allegations and suggestions of the said petition, and giving a short description of the said invention or discovery, and thereupon granting to such petitioner or peti-

tioners, his, her, or their heirs, administrators, or assigns, for a term not exceeding fourteen years, the full and exclusive right and liberty of making, constructing, using, and vending to others to be used the said invention."

Black. In Great Britain, the king's "grants, whether of lands, honors, liberties, franchises, or ought besides, are contained in charters, or letters *patent*, that is open letters, *literæ patentes*, so called, because they are not sealed up, but exposed to open view, with the great seal pendant at the bottom; and are usually directed or addressed to all his subjects at large."

These letters patent are "to be delivered to "the Attorney General of the United States, to "be examined; who within fifteen days after such "delivery, if he finds the same conformable to "this act shall certify accordingly at the foot "thereof, and return the same to the Secretary "of state, who shall present the letters, thus "certified to be signed, and shall cause the seal "of the United States to be thereto affixed: and "the same shall be good and available to the "grantee or grantees, by force of this act, and "shall be recorded in a book to be kept for that "purpose, in the office of the Secretary of state, "and delivered to the patentee or his order."

Sect. 2. "Provided always, and be it further "enacted, that any person, who shall have dis- "covered an improvement in the principle of any "machine, or in the process of any composition "of matter, which shall have been patented, and "shall have obtained a patent for such improve- "ment, he shall not be at liberty to make, use, "or vend the original discovery, nor shall the "first inventor be at liberty to use the improve- "ment, and it is hereby further enacted, and "declared that simply changing the form or "proportions of any machine or composition of "matter in any degree, shall not be deemed a "discovery."

Similar principles have been recognized and sanctioned in British Courts. See the cases of Boulton and Watt vs. Bull, page 59, and Hornblower and Maberly vs. Boulton, page 102.

Sect. 3, enacts that "Every inventor, before "he can receive a patent, shall swear or affirm, "that he does verily believe that he is the true "inventor or discoverer of the art, machine, or "improvement, for which he solicits a patent, "which oath or affirmation may be made before "any person, authorized to administer oaths, "and shall deliver a written description of his "invention; and of the manner of using, or pro-

"ccss of compounding the same, in such full,
"clear and exact terms, as to distinguish the
" ame from all other things before known, and
"to enable any person, skilled in the art or sci-
"ence of which it is a branch, or with which it
"is most nearly connected, to make, compound,
"and use the same. And in the case of any
"machine, he shall fully explain the principle,
"and the several modes, in which he has con-
"templated the application of that principle or
"character, by which it may be distinguished
"from other inventions; and he shall accompa-
"ny the whole with drawings and written ref-
"erences, where the nature of the case admits
" of drawings, or with specimens of the ingre-
"dients, and of the composition of matter, suffi-
" cient in quantity, for the purpose of experi-
"ment, where the invention is of a composition
" of matter; which description, signed by him-
"self, and attested by two witnesses, shall be
"filed in the office of the Secretary of state, and
" certified copies thereof shall be competent
" evidence, in all courts, where any matter or
" thing, touching such patent right, shall come
" in question. And such inventor shall more-
" over, deliver a model of his machine provided
" the Secretary shall deem such model to be
"necessary."

With respect to the privileges allowed by the law of the United States to the "true inventor," in cases where the invention had been purloined or made use of by another, previous to a patent being granted, we would refer to the case before cited, of Evans vs. Weiss, p. 52. and Huddart vs. Grimshaw, p. 133. With regard to the requisites in describing the invention, the following is in point.

Turner vs. Winter, 1 Term Rep. 602.

This was an action on the case, brought against the defendant for infringing on the plaintiff's patent, which was granted to him for producing yellow color, for painting in oil or water, and making white lead, and separating the mineral alkali from common salt, all by one process. On the trial before *Buller*, J. at the last sittings at Westminster, a verdict was found for the plaintiff, and on a motion to set aside that verdict, and grant a new trial, these facts were reported. The plaintiff, within the usual time, had enrolled the following specification. "Take any quantity of lead and calcine it, or minium or red lead, litharge, lead ash, or any calx or preparation of lead, fit for the purpose; to any given quantity of the above mentioned materials, add half the weight of sea salt, with a sufficient quantity of water to dissolve it, or rock salt, or sal gem, or fossil salt, or any marine salt,

or salt water, proper for the purpose; mix them together by trituration, till the lead becomes impalpable, or sufficiently comminuted. When the materials have been ground, let them stand for twenty-four hours, in which time the lead will be changed into a good white, and the salt decomposed; if not the trituration must be repeated with a further addition of salt, till the white color be obtained; the decomposition of the salt may also be brought about by digestion, or by calcination. The materials may be suffered to remain together, before the alkali is separated by the addition of water, for a longer time than is specified above, according to the discretion of the operator, and the end he wishes to obtain. The yellow color is produced by calcining the lead after the alkali has been separated from it, till it shall acquire the color wanted: This will be of different tints, according to the continuance of the calcination, or the degree of heat employed. The white lead must be finished by repeated ablutions, and by bleaching it till the white be made perfect." On the part of the plaintiff, it was proved that the first effect of the process was the separating of the mineral alkali from common salt; that that produced white lead; and that by continuing the process to a certain degree, and afterwards exposing the matter, the yellow color was produced. That

as the specification required the heat to be continued till the color was obtained, any person trying the experiment would necessarily be led to fusion. That a chemist would see by the specification, that if less heat would not answer the purpose, he must go on to fusion. The difference between fusion and calcination, both of which proceed from different degrees of heat operating upon the subject matter, was that the substance to be calcined continued in a solid form; whereas fusion is a liquid state, to which the substance may be reduced by continuing the heat. Instances were produced of persons who had made the color by the help of the specification, after trying some experiments. In trying these experiments, minium had been used in the first instance. The white lead produced by following the directions in the specification was not what was sold as such, but a white substance the basis of which was lead. For the defendant it was proved, that the patent color could not be made by following the directions in the specification. The calcination was not sufficient to produce the effect intended; it was necessary to go on to fusion. That, as it appeared upon the specification, minium or red lead might be considered most convenient for the purpose, because a previous process was necessary to reduce lead to minium or litharge,

before the other parts of the process were to be begun; miniuin and litharge differing only in having undergone different degrees of calcination. But that minium would not produce the effect unless first fused. And that if red lead were calcined, the experiment would not succeed without fusion: whereas according to the terms of the specification, fusion should be cautiously avoided. That the specification was calculated to mislead also with respect to the salts. For *fossil sal*, is a generic term, including all mineral salts: but only one species of fossil salt; namely, *sal gem*, has marine acid, without which the color could not be produced. That several persons had tried to make white lead by the specification, but had not succeeded. They could only produce a greyish white powder, quite unfit for painting, and not merchantable.

Mr. J. Buller, after stating these facts, observed, that at the trial, three objections had been taken to the specification. 1st, That after directing that lead should be calcined, it directed another ingredient to be taken, which would not answer the purpose, namely, minium. Neither was it said that the minium should be calcined, or fused; but if it had any reference to the preceding words, then it should be calcined,

which would not produce the effect, fusion being necessary. 2dly, that fossil salt was improperly mentioned. There were many kinds of fossil salt, only one of which, namely, "*sal gem*," would answer the purpose: because it must be a marine salt. 3dly, That all these things put together, did not produce the thing intended. And the patent was for an invention to do three things in one process, whereas one of them, namely, white lead, could not be produced at all; for that a substance like lead remained, applicable only to some of the purposes of common white lead. The learned Judge then said, that at the trial he had told the jury, that if either of these objections were well founded, it would avoid the patent.

Erskine and Pigot shewed cause against the rule for granting a new trial, and contended that in actions for infringing patents, it is not necessary for the plaintiff to give any evidence to show what the invention is, but it is incumbent on the defendant, if he objects to the specification, to show that it is defective, and that persons acquainted with the subject, could not, by the assistance of the specification, effect the thing intended. The consideration which the patentee gives for his monopoly, is the benefit, which the public are to derive from his in-

vention, after the patent is expired: and that benefit is secured to them by means of a specification of the invention: But it is not necessary that that specification should be such as that persons unacquainted with the terms of art, which must necessarily be used in writing it, should be able to understand it. It is sufficient if persons of skill can understand the process by means of the specification, so as to keep alive the discovery after the patentee's exclusive title has expired.

The first objection which has been raised against the sufficiency of the specification has no weight; for though the direction to calcine is applicable to all the ingredients in the first part of the description, yet scientific persons would instantly discover what degree of heat was necessary to be used to each of those ingredients; and that minium, being already a calx, must be fused. 2dly; The heat is ordered to be continued till the experiment succeeds, and the color is produced. Fusion is a necessary consequence of continuing the heat; and this direction would be sufficiently understood by all persons acquainted with the subject.

As to the second objection, with respect to the fossil salt, the specification begins with

"sea-salt," which is the genus, then it afterwards states not "*any* fossil salt," but "fossil salt," or "*any marine salt;*" the *marine salt* is therefore the basis of the experiment. So that no *fossil salt*, but what is likewise a *marine salt*, can be taken under this description.

The answer to the third objection is, that a species of white lead is produced, though not the common ceruse; and the patent does not profess to make the common white lead. Besides the making of white lead was not the subject of the present action, which was for making the yellow color; this accounts for the plaintiff's not being prepared to prove this part of the specification. Upon the whole this was a mere matter of evidence, as to the sufficiency of the specification, upon which the jury have exercised a sound discretion.

Bearcroft, in sup ort of the rule, was stopped by the Court.

Ashurst, J. I think that as every patent is calculated to give a monopoly to the patentee, it is so far against the principles of law, and would be a reason against it, were it not for the advantages which the public derive from the communication of the invention, after the expi-

ration of the time for which the patent is granted. It is therefore incumbent on the patentee, to give a specification of the invention in the clearest and most unequivocal terms of which the subject is capable. And if it appear that there is any unnecessary ambiguity affectedly introduced into the specification, or any thing which tends to mislead the public, in that case the patent is void. Here it does appear to me, that there is at least such a doubt on the evidence that I cannot say this matter has been so fully and fairly examined as to preclude any further investigation of the subject. Three objections have been made to this specification. The first is, that in the specification the public are directed " to take any quantity of lead, and calcine it, or minium or red lead," from whence it is inferred that *calcining* is only to be applied to *lead*. I confess if the objection had rested here, I should have entertained some doubt. The next objection is, that in the subsequent materials to be added, the public are directed to add half the weight of " sea salt," or " sal gem," of " fossil salt, or any marine salt." Now " fossil salt" is a generic term, including " sal gem," as well as other species of fossil salt. And I understand that sal gem is the only one which can be applied to this purpose; so that throwing in fossil salt can only be calculated

to raise doubts, and mislead the public. That word could not have been added with any good view; it must produce many unnecessary experiments; therefore, in that respect, the specification is not so accurate as it ought to have been.

Another objection was taken as to the white lead; to which it was answered, that the invention did not profess to make common white lead. But that is no answer; for if the patentee had intended to produce something only like white lead, or answering some of the purposes of common white lead, it should have been so expressed in the specification. But in truth the patent is for making white lead, and two other things by one process. Therefore if the process as directed by the specification, does not produce that which the patent professes to do, the patent itself is void. It is certainly of consequence that the terms of the specification should express the invention in the clearest and most explicit manner; so that a man of science may be able to produce the thing intended, without the necessity of trying experiments.

Buller, J. Many cases upon patents have arisen in our memory, most of which have been decided against the patentees, upon the ground of their not having made a full and fair discov-

ery of their inventions. Wherever the patentee has made a fair disclosure, I have always had a strong bias in his favor, because in that case he is entitled to the protection which the law gives him. How far that law is politic, it is not for us to determine. When attempts are made to evade a fair patent, I am strongly inclined in favor of the patentee: but where the discovery is not fully made, the court ought to look with a very watchful eye to prevent any imposition on the public. Then the question is whether the present plaintiff has made a fair discovery? I do not agree with the counsel, who have argued against the rule, in saying it was not necessary for the plaintiff to give any evidence to show what the invention was, and that the proof that the specification was improper lay on the defendant; for I hold that a plaintiff must give some evidence to show what his invention was, unless the other side admits that it has been tried and succeeds. But wherever the patentee brings an action on his patent, if the novelty or effect of the invention be disputed, he must show in what his invention consists, and that he produced the effect proposed by the patent in the manner specified. Slight evidence of this on his part is sufficient: and it is then incumbent on the defendant to falsify the specification. Now, in this case no evidence was

offered by the plaintiff to show that he had ever made use of the several different ingredients, mentioned in the specification, as for instance minium, which he had nevertheless inserted in the patent; nor did he give any evidence to show how the yellow color was produced. If he could only make it with two or three of the ingredients specified, and he has inserted others, which will not answer the purpose, that will avoid the patent. So if he makes the article for which the patent is granted, with cheaper materials than those which he has enumerated, although the latter will answer the purpose equally well, the patent is void, because he does not put the public in possession of his invention, or enable them to derive the same benefit from it which he himself does.

As to the first objection, which has been taken with respect to the minium; it was not pretended by any of the plaintiff's witnesses that he ever made use of minium. And it was proved from the defendant's witnesses, that from the specification, they should be led use minium, because minium is lead already calcined, which is what the specification directs in the first instance. But minium will not answer the purpose. Then as to fusion: it is said that the public are directed by the words of the

specification, to continue the heat till the effect is produced. Now it does not mention fusion, and as one of the witnesses said, in order to produce the effect, "you must go out of the patent," for fusion is beyond calcination, and in some sense contrary to it; and by mentioning calcination it should seem that fusion was to be avoided, as a distinct species of salt, and many other salts are also mentioned as indifferent whether one or the other be used. But it was proved that fossil salt was a generic term, including several species, and that "*sal gem*" was the only species of it, which would answer the purpose; because none of the others contained a marine acid, which was essential.

There was no contradiction by the witnesses on the third objection, for the most that the plaintiff's witnesses said, was that following the specification, the experiment only produced a white substance like lead.

Now on either of these grounds, the patent is void. Because, if the patentee says that by one process he can produce three things, and he fails in any one of them, the consideration of his merit, and for which the patent was granted fails, and the crown has been deceived in the grant. Slight defects in the specification will be

sufficient to vacate the patent. In a case before lord Mansfield, for infringing a patent for steel trusses, it appeared that the patentee in tempering the steel, rubbed it with tallow, which was of some use in the operation, and because this was omitted, the specification was held to be insufficient, and the patent was avoided."*

* The following specification of a patent, and observations on a decision for setting it aside, appear to have been of ex parte origin, and published at the request of the plaintiff. From those circumstances and from its being the production of a person in a private, and unofficial capacity, it cannot be considered as entitled to any weight of authority in a court of justice. Still the arguments here made use of, may be found applicable to cases, which may occur under this head, and may help to elucidate the subject of the present essay.

To all to whom these presents shall come, &c. Now know ye, that in compliance with the said proviso, I the said Thomas Rowntree, do hereby declare, that my said invention is described in manner following; that is to say: for heating of coppers, boilers, furnaces, ovens, and stoves, my fire-place is much smaller than heretofore made use of for the same sized copper, boiler, furnace, oven, or stove. Instead of placing my fire-place according to the common practice, immediately under the boiler, or other vessel, I place it at the front, side, or end, as I see most convenient, in such manner as to oblige the flame to rise in the front, side, or end, and pass all round the vessel, &c. at the same time it strikes the bottom of the vessel, &c. without suffering the flame to pass off in a flue, or flues, as it usually does in the common way, and by that means sending the heat into the flues, instead of its being used where it ought to be, namely, on the vessels, &c.; this my method effectually prevents; for, by means of a small perpendicular or other open-

The following trial for an alleged infringement of Mr. Tenant's patent for a bleaching liquor, will further elucidate the claim of the

ing, into a box or trap, which I call a reservoir, and which I place horizontally or diagonally, as the situation may require, and is made of iron, brick, stone, or any other material, capable of bearing heat, where a valve is placed riding on centres, or otherwise, and standing in a diagonal or other direction, as is found most convenient, the flame is returned or impeded in its progress to the chimney, and made to descend below the bottom of the vessel, and pass out at the bottom, top or side of said box trap, or reservoir, into the common chimney. This reservoir is placed between the vessel, &c. and the chimney. To the opening which admits the flame into the reservoir is affixed, when necessary, sliders, registers, or stops, which serve to increase or diminish the heat. The valve in the reservoir is for the same purpose in another degree, which more immediately appertains to increasing or diminishing the draft, which it does by moving the said valve into different positions, as the speed of the operation may require. In witness whereof, &c.

The above patent having been made void by a trial before lord Eldon, and a special jury, in the Court of Common Pleas, is inserted at the request of the patentee; who has also desired us to add to it the following account of Mr. Hindmarsh's, and some other evidence in support of his specification: to which, (though deviating from our general plan,) we readily accede as that evidence tends to illustrate the principles of the invention.

Without entering into the particulars of evidence, relative to the effect produced by my furnaces, in heating boilers, &c. and the great saving of fuel which the several witnesses, who had tried them, proved to be more than one third, and in some cases nearly one half of what is usually consumed in furnaces

first inventor, and prove that a patent obtained for the invention of another, without his consent, cannot be supported.

constructed in the old method, it will be sufficient to state the substance of Mr. Hindmarsh's evidence, because he described it accurately.

Being interrogated by the counsel for the defendant, what he took to be the principle of Mr. Rowntree's invention, or in what his invention consisted, this witness answered to the following effect, viz.: That, in his opinion, the invention consisted in the three following things: first, in the peculiar mode of constructing the furnace, or in setting the boiler, and of placing the fire not immediately under, but a little in front, or at one side of it, whereby the flame and hot air can get access to every part of the vessel, and not only impinge with force against its bottom, but also with equal effect reverberate against, and violently embrace its sides, and whole external surface; unlike every former contrivance, the most perfect of which could only cause the flame or hot air to act partially upon the bottom and sides of the vessel.

Secondly, He conceived that it farther consisted in the elevated situation, and smallness of the aperture leading from the furnace towards the chimney; whereby the flame and hot air are impeded in their progress to the atmosphere, and compelled to tarry in the cavity of the furnace, and occupy every part thereof much longer than they otherwise would do. This effect in stopping, checking, and, as it were, arresting the flame and hot air in their attempt to escape into the atmosphere. Mr. Hindmarsh considered as not only new, but singularly beneficial; for by this means the flame and hot air are detained in the very place where their presence is most wanted, and constrained to give forth their energies with an *impetus* against the sides and bottom of the vessel to be heated; whereas in none of the furnaces heretofore erected, was any effectual stop

Tenant's Case, Rep. of Arts, Jan. 1, 1803.

Several witnesses were called in support of the patent, who proved the great utility of the invention, and the general ignorance of the bleach-

interposed between the fire and the chimney, to cause the flame and hot air to dwell under and round the sides of the vessel; but they passed rapidly off into the atmosphere, either by a direct communication through the chimney, or indirectly, but almost as speedily, by flues; or else by a drain, (as it is called,) whose aperture is equal in dimensions to that of the chimney itself.

Thirdly, He was of opinion, that the invention also consisted in an open space between the furnace and the chimney, called by the patentee, a box trap, or reservoir, and intended as a receptacle of the flame, hot air, and smoke, which being closed at the top and external sides, and open only at the bottom outwards, for the purpose of permitting the smoke, &c. to pass off into the chimney, still further checks and detains the flame and hot air in the furnace; and being itself constantly full of warm air, smoke, &c. causes the heat to be reverberated against the sides and bottom of the vessel or boiler, and effectually prevents the admission of the cold atmospheric air from the chimney, which on the old plans of construction, is found by experience to rob the furnace and vessel of more than half the supply of heat which any quantity of fuel is capable of yielding. The valves, sliders, and dampers, this witness did not consider as essential parts of the invention, but merely as regulators, which in many cases, may be altogether omitted, without detriment to the operation of the fire. The counsel farther asked Mr. Hindmarsh, if he had read Count Rumford's Essays on the Combustion of Fuel, &c. to which he replied in the affirmative. The counsel then quoted a passage from one of those essays, and asked if that did not clearly point out the principle of Mr. Rowntree's invention, inasmuch as it made express mention of *detaining* or *stopping* the flame and hot air *prevous* to their escape into the atmosphere. The witness answered that it did not

ers of it, till after the date of Mr. Tenant's patent. On the contrary, a bleacher near Nottingham, deposed that he had used the same means

appear to him by any means, to point out Mr. Rowntree's invention; for in the first place, it gives no distinct idea how that stoppage of the flame and hot air is to be effected, as Mr. Rowntree has done, but leaves every thing undefined and undetermined to any particular form. In the next place, he thought the passage quoted might, with great propriety, be supposed to allude to those forms or plans of furnaces which were then in use, and which the Count has taken so much pains to describe and recommend; in several of which, it is true, a trifling kind of stoppage is put to the progress of the flame and hot air, by giving them a circular or semicircular direction round the body of the vessel to be heated, by means of flues or canals; but it is evident that this kind of stoppage or impediment is merely in proportion to the length of the flues; that the velocity with which the flame and hot air necessarily pass through them is so great, and the time they occupy within the limits of the flues and furnaces so short, that their retardation is rather ideal than actual; while by far the greatest part of the heat arising from the fuel in combustion, is wasted in the atmosphere, without having contributed its due portion to the purpose for which it was generated; consequently that all former methods of constructing furnaces are, in their two most essential points, namely, for economy and effective operation, much inferior to Mr. Rowntree's.

The witness farther added, that however penetrating and successful Count Rumford has been in extending his researches to discover the most economical plans in the management of fire, and the generation of heat for culinary and other purposes, it does not appear from his writings, that he had a clear idea, or distinct conception, of any thing like Mr. Rowntree's invention, until after the enrolment of his specification in May 1798.

of preparing his bleaching liquor, for five or six years anterior to the date of the patent. He also stated, that he had kept his method a secret

Nay, said Mr. Hindmarsh, in vol. ii. p. 73, of his Essays, the Count evidently takes it for granted, and even reasons on the fact, which he there supposes to be unavoidable, and beyond remedy, that the fire cannot be made to impinge against the sides of a vessel with the same force and effect as against the bottom; which is a plain proof that at the time of writing that Essay he was totally unacquainted with Mr. Rowntree's method of applying and managing the fire; in which the very effect which the Count considers as a *desideratum* in science, and which appears to have been one grand object of his philosophical pursuits, is in fact, completed and brought to perfection. But in the year 1799, being a twelvemonth after the enrolment of Mr. Rowntree's specification, Count Rumford published his tenth Essay, in the appendix to which, p. 93, he speaks nearly in Mr. Rowntree's own words, of "the great importance of causing the smoke *to descend at least as low as the bottom of the oven*, after it had passed round and over it, before it is permitted to rise up fully, and escape by the chimney into the atmosphere."

Being again interrogated by counsel, whether or not, in his opinion, an *ordinary* tradesman could, from a sight of Mr. Rowntree's specification alone, have constructed a furnace on his principles; Mr. Hindmarsh answered, that he thought it very probable, that there might be found some tradesmen or brick-layers who were of so *ordinary* a capacity, as not to be able to construct such a furnace without personal and repeated instructions; but he was also of opinion, that an *intelligent* tradesman could readily enough have constructed such a furnace as Mr. Rowntree has described, without any other instructions than such as the specification itself contains. In this latter sentiment he was confirmed by the evidence of at least one other witness, who declared that he himself could have constructed

from all but his two partners, and two servants, concerned in preparing it.

A chemist at Glasgow deposed that, having had frequent conversation with Mr. Tenant, on the means of improving bleaching liquor, he had in one of them suggested to Mr. Tenant that he would probably attain his end, by keeping the lime water constantly agitated. Mr. Tenant, afterwards, informed the witness, that his method had succeeded. These conversations took place in the year 1796, and Mr. Tenant obtained his patent in 1798. Upon this evidence the plaintiff was non-suited.

such a furnace merely by the assistance of the specification; and it appears that several other witnesses were in court ready to make the same declaration; but it is no less true, that several of the witnesses who were examined even in favor of the plaintiff, declared themselves incapable of understanding the specification, or of constructing the furnace without further instructions, having never seen any thing of the kind before; although, what is singular enough, before they came into court they all professed to understand it perfectly, and that they could have erected the furnace by the help of the specification alone. On this point the trial hinged; and the jury having declared their opinion, that the specification was not sufficiently clear for an ordinary tradesman to act by, Lord Eldon observed that the trial could not proceed any farther, but that the plaintiff must be *non-suited.*

Thus the patent becomes the public property, or void, as to the exclusive right of the patentee.

Sect. 4, regulates the mode of assignment of patent rights, and enacts "That it shall "be lawful for any inventor, his executor, or administrator, to assign the title and interest in "the said invention at any time, and the assignee "having recorded the said assignment, in the "office of the Secretary of State, shall, thereafter, "stand in the place of the original inventor, both "as to right and responsibility, and so the assign-"ees of assigns, to any degree."

On this clause, we have the following important decision obligingly furnished by a gentleman of the bar in Vermont.

Supreme Court of the United States, Feb. Term, 1810.

John Tyler et al. vs. Gilbert Tuel.

Tyler et al. vs. Tuel.

This was an action of the case brought originally into the Circuit Court for the District of Vermont, October Term, 1804, by the plaintiffs as assignees of Benjamin Tyler, the original patentee, for a violation of the patent set forth in the record.

There are two counts in the declaration. The first recites the substance of the statutes,

authorizing the issuing of patents, the facts which were supposed necessary to entitle the patentee to a patent for his supposed invention, and the patent and specification themselves *verbatim*

The patent is for an improvement in building mills, and is dated Feb. 20, 1800.

The assignment in the first count is set forth in the following words: "And the plaintiffs further say, that the said Benjamin Tyler afterwards, to wit, at said Claremont on the fifteenth day of May, in the year last aforesaid, by his certain deed of that date by him signed, sealed, and to the plaintiffs then and there by the said Benjamin, delivered and ready to be shown to the court, did, in consideration of the sum of six thousand dollars to him before that time by the plaintiffs paid, grant, bargain, sell, assign, and set over to the plaintiffs, their executors, administrators, and assigns, *all the right, title, and privilege*, in, unto, and over the said improvement in the said patent described and thereby vested in the said Benjamin in any part of the United States, *excepting in the Counties of Chittenden, Addison, Rutland, and Windham* in the state of Vermont.

The second count states concisely the same facts as the first, omitting the recital of the statutes, and the patent at large.

The assignment in this count is as follows, "And that the said Benjamin Tyler afterwards and before the expiration of said fourteen years to wit, at said Claremont, on the 15th day of May, in the year last aforesaid by his certain deed of that date by him then and there signed, sealed, and to the plaintiffs delivered, assigned to the plaintiffs the full and exclusive right and liberty of making, constructing, using, and vending to others to be used, the said improvement, in and throughout the United States, *excepting in the Counties of Chittenden, Addison, Rutland, and Windham* in the state of Vermont, as fully and amply as by said letters patent, the said Benjamin Tyler was thereto entitled, and *all his title and interest* in and unto said improvement, *excepting as aforesaid.*"

The defendant pleaded the general issue with liberty under the statute of giving special matter in evidence. The action came to be tried at Rutland, October Term of the Circuit Court, 1807, when a general verdict was found by the jury for the plaintiffs, damages assessed at thirty dollars.

The record then set forth a motion in arrest of judgment filed by the defendant's counsel, stating among other reasons, "that it is not alleged in the plaintiffs' declaration, that the said patent mentioned therein, was assigned to the plaintiffs according to law. Whereupon on the discussion of which motion last aforesaid by the defendant's counsel, in arrest of judgment, it became a question whether the plaintiffs by their own showing, are legal assignees to maintain this action?" On which question the Judges were opposed in opinion.

The cause was removed into this court under the 6th sect. of the Act of Congress, vol 6. page 89.

Counsel for defendant.

The question presented by the record for the opinion of the court is whether the plaintiffs are intitled, *as assignees*, to maintain this action.

It is contended in behalf of the defendant, that an assignee cannot maintain an action for an invasion of a patent right *in his own name*, unless he is assignee in the technical sense of the word, unless he holds the *whole* interest in the invention.

The patent not being a common law instrument, can only be assigned in the manner authorized by the statute.

It is made assignable by the fourth section of the statute of 1793, and is found in vol. 2. page 202, in the following words,

"And be it further enacted, that it shall be lawful for any inventor, his executor, or administrator, *to assign the title and interest in the said invention* at any time, and the assignee having recorded the said assignment in the office of the Secretary of State, shall thereafter *stand in the place of the original inventor*, both as to RIGHT and RESPONSIBILITY, and so the assignee of assignees, to any degree."

The plaintiffs are not assignees of the whole interest in the invention; it appears from both counts in the declaration, that the whole interest was not conveyed; there being an exception of four counties in the state of Vermont reserved to the patentee.

The statute appears too plain to require or admit of reasoning on the subject. The word, "to assign" used on this occasion is a technical term, and is understood to mean, to transfer the

whole interest in the thing assigned, and is so used throughout this statute. See sect. 1, page 200, sect. 5, p. 203, sect. 10, p. 206.

"To assign the *title and interest* in the invention," not a *part* of the title and a *part* of the interest in the invention.

"And the assignee, shall thereafter *stand* in the *place of the original inventor* both as to RIGHT and RESPONSIBILITY." If the "*title and interest*" in a patent can be so secured as to enable one purchaser to maintain an action in his own name, for an invasion of such part of the interest as he may have purchased, they may be subdivided without limitation, and instead of an entire thing which may pass by assignment, the interest in a patent would become like matter divisible *ad infinitum*. It is not perceived how a person claiming such an interest, could stand in the place of the original inventor, either as to right or responsibility. If such person should bring a suit for an invasion of his part of the interest, and a verdict should be found against him upon any of the grounds mentioned in the sixth section of the act, would the judgment repeal a part of the patent, or the whole of it; and if the whole, would not such a construction present opportunities to those who were slightly

interested in the invention, fraudulently to defeat the rights of others, who were not parties to the suit? Such construction would greatly increase the number of suits.

By the 10th sect. an assignee is liable to be cited before the Judge of the District Court where he resides, and for certain causes to have the patent vacated, but there are such assignees claiming partial interest in every district. Which of those assignees is to be thus cited, and before what District Judge? Or is it necessary that each purchaser be cited in his turn, to answer for his individual interest?

Such are the absurdities to which any construction of the statute, by which this action can be supported does inevitably lead; while that for which we contend, presents a plain and practical course, by which the intention of the statute would be effectuated, and the rights of all parties preserved; it is, that every purchaser holding less than the whole interest, pursue his remedies in the name of the original patentee.

Counsel for the Plaintiffs.

The objection in arrest of judgment is merely technical, and will not be favored by the court. It is presumable, as a verdict has been

given for the plaintiffs, that the equity of the case is with them; the court will therefore sustain the verdict, if they can do so by the rules of law.

1st. The first objection is to the regularity of the proceedings, the cause is not properly before this court. In case of an equal division in the opinion of the court, the judgment passes of course. The court below should not therefore have certified the record to this court; but should have pronounced judgment in favor of the plaintiffs.

2d. By the words of the assignment of the patent, the whole legal estate passed to the assignees. It is a rule of law, that if there are contradictory words in a deed, the first being words of grant, shall control the subsequent contradictory words: not so in the case of a will. A grant was made of all the underwood on a certain piece of land, excepting the underwood on the same land: it was holden that the exception was void, and that the grant was good for all the underwood. In this case the words in the assignment are very extensive, they are "all right, *title, and privilege, in, unto, and over, the said improvement,*" the exception being contradictory to these is void, and does not stand in the

way of the grant made by words so extensive. The result is, that the case comes within the law relied upon by the defendant's counsel, and that therefore the plaintiffs are entitled to judgment.

Defendant's Counsel in reply.

With respect to the first point made by the counsel for the plaintiffs, it is doubted whether the law is as has been stated: the rule is applicable to interlocutory judgments, but will it extend to those that are definitive. It is however immaterial to inquire whether any judgment could have been rendered in the court below. The statute authorizing the removal, does not place the question upon such grounds. From the peculiar organization of the Circuit Courts, consisting of two Judges only, a division of opinion was to be apprehended. By the rule of law relied upon by the plaintiff's counsel, the opinion of the District Judge might frequently decide a cause against the opinion of the presiding Judge, and against what he might know to be the practice of this court. It was therefore provided by the statute under which this cause was removed, " That whenever *any question* shall occur before the Circuit Court, upon which the *opinions of the Judges shall be opposed*,

the point upon which the disagreement shall happen, shall, during the same term, upon the request of either party or their counsel, be stated under the direction of the Judges, and certified under the seal of the Court to the Supreme Court, at their next session to be held thereafter, and shall by the said Court be finally decided." It is immaterial, therefore, whether the question be such that no judgment could be rendered or not; the statute extends to all cases wherein the opinion of the Judges shall be opposed.

2d. With respect to the second point, in deeds as well as in wills, the intention of the parties is to be carried into effect, if it can be done consistent with the rules of law. In this case nothing can be clearer than the intention of parties, it was to transfer the whole right to the invention, except the four counties mentioned in the assignment, and there is no rule of law which interferes with the justice of the case. The cases cited in behalf of the plaintiffs do not apply. In those cases the exception was as large as the grant, one was a complete contradiction of the other, they could not both stand together, the grant or the exception must be void. But in this case the exception contains mere words of description, and the whole may well stand to-

gether. The plaintiffs, therefore, are not proprietors of the whole invention, and are not entitled to judgment.

By the court, the judgment must be arrested.

The Attorney General for the plaintiffs. J. H. Hubbard for defendant.

Sec. 5, Is repealed by the 4th section of the patent act for April 17, 1800.

Sec. 6, provides, "That the defendant in "such action," to wit, an action on the case, founded on this act, "shall be permitted to "plead the general issue, and give this act, and "any special matter, of which notice in writing "may have been given to the plaintiff or his at- "torney thirty days before trial in evidence, tend- "ing to prove that the specification, filed by the "plaintiff, does not contain the whole truth rela- "tive to his discovery, or that it contains more "than is necessary to produce the described ef- "fect, which concealment or addition shall ful- "ly appear to have been made for the purpose "of deceiving the public, or that the thing thus "secured by patent, was not originally discov- "ered by the patentee, but had been in use, or "had been described in some public work, ante-

"rior to the supposed discovery of the patentee,
"or that he had surreptitiously obtained a patent
"for the discovery of another person: in either
"of which cases judgment shall be rendered for
"the defendant with costs, and the patent shall
"be declared void."

If the patent is void, the patentee cannot enforce the performance of a covenant for the observance of the exclusive right entered into by another in contemplation of its being good. This point was decided in the case of Hayne & al v. Maltby, which was an action of covenant, and the declaration was on articles of agreement, which, after reciting that the plaintiffs were assignees of a patent for an engine or machine to be fixed to a common stocking frame, for making a sort of net or open work called point-net, contained a covenant, whereby the defendant, in consideration of being permitted by the plaintiff to use one stocking frame with the patent engine annexed thereto in a particular way, covenanted that he would not use any of the patent engines, or any engines resembling the same, except that allowed by the articles of agreement. The declaration then averred enjoyment by the defendant, without interruption by the plaintiffs, and assigned two breaches, one for using other patent engines

1 Term Reports 438.

besides the one allowed by the plaintiff; the other for using engines resembling the patent machines. To this there were several pleas; the three last of which only were material here; viz. the third plea was, that the patentee did not enroll the specification; the fourth that the invention was not a new invention; the fifth, that the invention was not discovered by the patentee. The plaintiff demurred to the third, fourth, and fifth pleas, because the defendant attempted to put in issue matters foreign to the merits of the cause, inasmuch as he was estopped by his deed from putting those matters in issue here.

By lord *Kenyon*, Ch. J. the facts of this case are shortly these: the plaintiffs pretending to derive a right under a patent, assigned to the defendant part of that right, on certain terms; and notwithstanding the facts now disclosed shew that they have no such privilege, they still insist that the defendant shall be bound by his covenant, though the consideration of it is fraudulent and void. This is not to be considered as a covenant to pay a certain sum in gross at all events; but to use a machine in a particular way, in consideration of the plaintiffs having conferred that interest on the defendant, which they professed to confer by the agreement. Now in point of conscience, it is impossible that two

persons can entertain different ideas upon the subject. But it is said, that though conscience fails, the defendant is estopped in point of law from saying that the plaintiffs had no privilege to confer. *But the doctrine of estoppel is not applicable here.* Where indeed an heir apparent, having only the hope of succession, conveys, during the life of his ancestor, an estate which afterwards descends upon him, although nothing passes at that time, yet when the inheritance descends upon him, he is estopped to say that he had no interest at the time of the grant. There an estoppel is founded on law, conscience, and justice. But what is the case here? Who is estopped? The person supposed to be estopped is the very person who has been cheated and imposed upon. In the case of landlord and tenant, the tenant is not at all events estopped to deny the landlord's title. The estoppel only exists during the continuation of his occupation. And if he be ousted by a title paramount, he may plead it.

Ashurst, J. This is a good plea; and the defendant is not estopped from disclosing any of the matters contained in it. In the case of landlord and tenant, as long as the latter enjoys the estate, he shall not be permitted to deny his landlord's title, for

he has a meritorious consideration; but when it is applied to a person having a superior title, he may plead it. The plaintiffs use this patent as a fraud on all mankind, and they state it to be an invention of the patentee, when in truth it is no invention of his. The only right conferred on the defendant by his agreement was that of using this machine, which was no more than that which he, in common with every other subject has without any grant from the plaintiffs.

Buller, J. The plaintiffs had no exclusive right, and therefore the defendant has not the consideration for which he entered into that covenant. The case of landlord and tenant is not unlike this, for the facts in this case disclosed by the plea are equal to an eviction of the tenant: as long as the tenant holds under the lease, he is estopped from denying his landlord's title; but when he is evicted, he has a right to shew that he does not enjoy that which was the consideration for his covenant to pay the rent, notwithstanding he has bound himself by that covenant.

Grose, J. declared himself of the same opinion.

The patentee after an assignment of his interest, cannot himself set up that the patent is void: for where an action was brought against a patentee, who had conveyed his interest in a patent to the plaintiff, and yet in violation of his assignment, infringed the plaintiff's right; the defence set up was, that it was not a new invention. But lord Kenyon was of opinion that the defendant was estopped from his own deed from making that defence. Oldham v. Langmead, cited 3 Ter. Rep. 439. 441.

By Sec. 7, it is enacted that exclusive rights granted by States, prior to the adoption of the Federal Constitution, shall be relinquished by the party soliciting a patent under this act, and his having obtained such patent shall be sufficient evidence of such relinquishment.

Sec. 8, directs how applications, pending under the former laws "to promote the progress of the useful arts," shall be proceeded with under this act. These Sections are obsolete.

Sec. 9, directs that "in case of interfering "applications, the same shall be submitted to the "arbitration of three persons, one of whom shall "be chosen by each of the applicants, and the "third person shall be appointed by the Secretary "of State: And the decision or award of such ar-

"bitrators, delivered to the Secretary of State, in
"writing and subscribed by them, or any two
"of them, shall be final, as far as respects
"the granting of the patent: And if either
"of the applicants shall refuse or fail to choose
"an arbitrator, the patent shall issue to the
"opposite party. And where there shall be
"more than two interfering applications, and
"the parties applying shall not all unite in ap-
"pointing three arbitrators, it shall be in the
"power of the Secretary of State to appoint three
"arbitrators for the purpose."

Sec. 16 directs the mode of repealing patents surreptitiously obtained, as follows: "Upon oath
"or affirmation being made, before the Judge of
"the District Court, where the patentee, his exec-
"utors, administrators, or assigns reside, that any
"patent which shall be issued in pursuance of this
"act was obtained surreptitiously, or upon false
"suggestions, and motion made to the said Court
"within three years after issuing the said patent,
"but not afterwards; it shall and may be lawful
"for the Judge of the said District Court, if the
"matter alleged shall appear to him to be suffi-
"cient, to grant a rule that the patentee, or his
"executor, administrator, or assign shew cause
"why process should not issue against him to re-
"peal such patent: And if sufficient cause shall

"not be shown to the contrary, the rule shall be "made absolute, and thereupon the said Judge "shall order process to be issued against such "patentee, or his executors, administrators, or "assigns, with costs of suit. And in case no suf- "ficient cause shall be shown to the contrary, or if "it shall appear that the patentee was not the true "inventor or discoverer, judgment shall be ren- "dered by such court for the repeal of such patent; "and if the party, at whose complaint the process "issued, shall have judgment given against him "he shall pay all such costs as the defendant shall "be put to in defending the suit, to be taxed by the "court, and recovered in due course of law."

Perkins v. Odiorne.

The only proceedings which we have known to have taken place on this clause were commenced in the District Court of the United States for the District of Massachusetts, holden before the Hon. Judge Davis on the first Tuesday of December, 1809. On motion of Charles Jackson attorney for complainants, praying for the repeal of a patent, William Francis Cutter made affidavit that a patent granted for a nail machine for cutting and heading nails at one operation, dated February 22, 1807, to Jesse Reed and by said Reed assigned to Thomas Odiorne, was obtained surreptitiously or upon false suggestions, upon which, with the additional affidavits

of Jonathan Ellis, Paul Peter Francis Degrand, and Joseph C. Dyer, sworn to out of Court before Justice Donnison to the same effect, ordered that notice be given to the said Reed and Odiorne to appear at the next term of said Court, to be holden at Boston on the fourth Tuesday of June following, to shew cause why process should not issue for the repeal of said Reed's patent. At said term the said parties appeared, and it was considered that the respondent's answer to the complaint should be by affidavit, and the cause was continued for the purpose of allowing the respondent time to prepare his answer accordingly.*

Although there have been no precedents in the United States which would determine the form of the affidavit or complaint on which process for the repeal of a patent in the District Court is founded, yet as this process is similar, in all material points, to informations in nature

* Although the gentlemen employed in this cause (Messrs. Otis and Jackson for plaintiff, and Messrs. Dexter and Fairbanks for defendants) are justly reputed among the most able advocates in this or the United States, we are informed that there existed considerable doubt and hesitancy relative to the most eligible mode of proceeding, as there are no American precedents, applicable to this case, and, perhaps none, directly in point, can be found among the British authorities.

of a *quo warranto* frequently brought in British Courts, the rules of proceeding in the latter may be applicable to the former, and the following will perhaps be in point.

This was an information in the nature of a *quo warranto* against a portreeve of a borough and manor. The affidavit in support of the rule, omitted a material fact which was stated in the affidavit filed on the other side, and it was decided that the latter affidavit might be read by the prosecutor in support of his rule, and lord Kenyon, Ch. J. observed that if the matter had rested on the relator's affidavit alone I should have been clearly of opinion that the information could not go; but upon conference with my brothers, I find it is not unusual to have recourse to the affidavits against the rule, in order to come (if possible) at the whole truth of the transaction. And I agree that in so doing we must not garble any sentence referred to, so as to give it a different meaning from that which it naturally imports, when taken altogether; but still we are not bound to take the whole of it to be true, but merely refer to it as evidence of certain facts. King vs. Mein. 2 Durn. and East, 596.

The relator or applicant must in his affidavit state the case definitely and not generally, or King v. Sargent. 5 Durn.

and East, 466. the Court will not send the cause to trial by jury. It is not sufficient for the prosecutor to found his application on general allegations; and defendant must state the facts fairly, candidly, and correctly in his affidavit. Thus in the above cited case lord Kenyon, Ch. J. observed, "I cannot forbear reprehending the manner in which the prosecutor's case has been laid before the Court: the affidavits on his part contain nothing but a loose, general charge against the defendant. When lord Mansfield first came into this Court he found that informations in the nature of a *quo warranto* were had almost for asking; but he soon saw the impolicy and vexation of such a rule: and therefore before he granted any such application he canvassed the case; and unless he found strong grounds for questioning the defendant's title he (and the Court sitting with him) always refused to let the information go. Such is the conduct which I am inclined to pursue; and therefore I shall consider all the circumstances of the case." Mr. J. Buller likewise in the same case decided that "before the relators applied for this information, they ought to have been prepared to state such a case as was proper to be tried. To compare the affidavits on either side, the prosecutors swear to no fact whatever. No indict-

ment for perjury could be founded on their affidavits."

The following extract from Saunders' Reports explains the English mode of proceeding in order to obtain the repeal of letters patent.

With respect to a *scire facias* to repeal letters patent. If the king by his letters patent grants the same thing to two persons, the *first* patentee may have a *scire facias* to repeal the second patent. But the second patentee cannot bring a *scire facias*, though the better right should be in him. So if the king's grant be founded upon a fraud or a false suggestion, he may have a *scire facias* to repeal it. As if the patent recites another to have an office, who had in truth forfeited it, and grants it when it shall happen to be vacant after the death, surrender, &c. of that other, but no *scire facias* can be sued out in this case until the king's attorney general grants his fiat to take it out. So if the king grants any thing which by law he cannot grant, he, *jure regio*, for the advancement of justice and right, may have a *scire facias* to repeal his own letters patent. But if the patent be void in itself, it is said that *non concessit* may be pleaded to it without a *scire facias* to repeal his patent.

4. Ins. 88 Dy. 197. b. 198 a. 2. Roll. Abr. 191 (a) pl. 2.

Dy. 276. b 277 a.

4. Ins. 88 2. Roll. Abr. 191. T.

T. 197 6.

4. Ins. 88.

Dy. 177. b 198 a 210, 211.

Dy. 276 b 3 Lev. 220 Rex. v. Sir Oliver Butler, S. 6. 2 Vent, 344.

Where a patent is granted to the prejudice of another, he may have a *scire facias* to repeal it at the king's suit; as if a market, fair, &c. be granted to the annoyance and prejudice of an ancient market or fair of another. And in this case the king of right is to permit the person prejudiced by the patent, upon his petition, to use his name for the repeal of it, in a *scire facias* at the king's suit, to prevent multiplicity of actions upon the case, which will lie notwithstanding such patent. And indeed it has been holden, that the person prejudiced by the patent, may, upon the inrolment of it in chancery, have a *scire facias* to repeal it as well as the king.

2. Vent: 344.

6. Mod. 229. Brewster v. Weld.

A *scire facias* for repealing a patent may be sued in the petty bag in chancery, for it is a record there. So it may be in the king's bench. If the writ alleges matter by the words "whereas we are given to understand and be informed" it is well enough, for they are sufficient to put the party to answer.

3. Lev. 222.

Judgment on a *scire facias* to repeal a patent may be by confession or by default, if the defendant be returned warned, or upon two *nihils*. So the defendant may demur to a *scire facias* if the matter alleged be not sufficient to repeal the patent.

Dy. 1776 198 a 2. Roll. Abr. 192 Xpl. 1. 3 Lev. 221. Rex. v. Sir Oliver Butler.

The judgment in a *scire facias* for repealing a patent is "that the said letters patent of our said lord the king be revoked, cancelled, vacated, annulled, void, and invalid, and be altogether had and held for nothing, and also that the inrolment thereof be cancelled, quashed, and annulled. See the form of a *scire facias* to repeal a patent. Lill. Ent. 411. See the form of the memorial to his Majesty for a *scire facias*, and his Majesty's warrant to the attorney general to sue it out, the attorney general's fiat, and the writ of scire facias thereon. 2 Rich. Prac. C. P. 391, 398.*

4. Ins. 88. Dy. 197. 6

Williams' Edition of Saunder's Reports.

Sec. 11, enacts that "Every inventor before he "presents his petition to the Secretary of State, "signifying his desire of obtaining a patent, shall "pay into the treasury thirty dollars, for which he "shall take duplicate receipts; one of which re-"ceipts he shall deliver to the Secretary of State, "when he presents his petition: and the money, "thus paid, shall be in full for the sundry services, "to be performed in the office of the Secretary of "State, consequent on such petition, and shall

* Quere—Whether in case of a repeal of letters patent by the District Judge, by the 10th Section of the act, or by the Circuit Court, by virtue of the 6th Section, information of such repeal ought not to be transmitted to the patent office.

"pass to the account of clerk-hire in that office.
"*Provided nevertheless*, That for every copy
"which may be required at the said office, of
"any paper respecting any patent, that has been
"granted, the person obtaining such copy, shall
"pay at the rate of twenty cents, for every cop
"sheet of one hundred words, and for every
"copy of a drawing, the party obtaining the
"same shall pay two dollars: of which payments
"an account shall be rendered, annually, to the
"Treasury of the United States, and they shall
"also pass to the account of clerk-hire, in the
"office of the Secretary of State."

In Great Britain, we are informed, that the requisite fees to be paid at the different offices, in order to obtain a patent, amount to from 100 to 120 pounds sterling; which secures the monopoly for England, Wales, and the town of Berwick upon Tweed, and an additional clause with further fees, secures the patent right for the colonies.

Sec. 12, repeals the act passed April 10, 1790, (vol. i. p. 99,) with this proviso, "That nothing "contained in this act, shall be construed to in-"validate any patent that may have been granted, "under the authority of the said act; and all pa-"tentees, under the said act, their executors, ad-

"ministrators, and assigns, shall be considered "within the purview of this act, in respect to the "violation of their rights: Provided such viola- "tion shall be committed, after the passing of "this act."

ACT OF APRIL 17, 1800. (Vol. v. p. 88.)

The first section of this act extends the privilege of petitioning for and obtaining patent rights, limited by the former statute to citizens of the United States, to aliens having resided two years within the United States. "All and "singular the rights and privileges given, in- "tended or provided to citizens of the United "States, respecting patents for new inventions, "discoveries, and improvements, by the act, en- "titled, "An act to promote the progress of "useful arts, and to repeal the act heretofore "made for that purpose," shall be, and hereby "are extended and given to all aliens, who, at "the time of petitioning, in the manner prescrib- "ed by the said act, shall have resided for two "years within the United States, which privi- "leges shall be obtained, used, and enjoyed, by "such persons, in as full and ample manner, and "under the same conditions, limitations, and re- "strictions, as by the said act is provided and "directed in the case of citizens of the United

"States. *Provided always*, That every person, "petitioning for a patent for any invention, art, "or discovery, pursuant to this act, shall make "oath or affirmation, before some person duly "authorized to administer oaths, before such "patent shall be granted, that such invention, "art, or discovery, hath not, to the best of his or "her knowledge or belief, been known or used "either in this or any foreign country; and that "every patent, which shall be obtained pursu- "ant to this act, for any invention, art, or dis- "covery, which it shall afterwards appear had "been known or used previous to such applica- "tion for a patent, shall be utterly void.*

Sec. 2, authorizes the legal representatives of a deceased inventor to obtain a patent for the invention of the deceased, and directs the mode of proceeding therein. "Where any person hath "made, or shall have made, any new invention, "discovery, or improvement, on account of "which a patent might, by virtue of the above- "mentioned act, be granted to such person, and "shall die before any patent shall be granted "therefor, the right of applying for, and obtain- "ing such patent, shall devolve on the legal re- "presentatives of such person in trust for the

* See p.

"heirs at law of the deceased, in case he shall "have died intestate; but if otherwise, then in "trust for his devisees, in as full and ample "manner, and under the same conditions, limita- "tions, and restrictions, as the same was held, "or might have been claimed or enjoyed by such "person, in his or her life time; and when appli- "cation for a patent shall be made by such legal "representatives, the oath or affirmation, pro- "vided in the section of the beforementioned "act, shall be so varied as to be applicable to "them.

"Sec. 3. When any patent shall be, or shall "have been granted pursuant to this, or the "abovementioned act, and any person without "the consent of the patentee, his or her execu- "tors, administrators, or assigns, first obtained "in writing, shall make, devise, use, or sell, the "thing whereof the exclusive right is secured to "the said patentee, by such patent, such person "so offending shall forfeit and pay to the said "patentee, his executors, administrators, or as- "signs, a sum equal to three times the actual "damage, sustained by such patentee, his ex- "ecutors, administrators, or assigns, from, or "by reason of, such offence, which sum shall, "and may be received, by action on the case, "founded on this, and the abovementioned act,

" in the Circuit Court of the United States, hav-
" ing jurisdiction thereof.

Sec. 4, Repeals the 5th section of the act of February 21, 1793. This concludes the last statute of the United States on the subject of patent rights for useful discoveries and inventions.

It remains now, in conformity to the plan proposed in the commencement of this Essay, to give a Synthetical View of the Law of P[illegible] for New Inventions, together with such Ru[illegible]y appear best calculated to prevent, as far as possible, future disputes on the subject. In this it will be necessary to give an abridged Sketch of what is contained in the preceding pages, and we shall refer to the pa[illegible] of this work in which the maxims and rules [illegible] expressed, are more particularly and at large explained.

1. Patents for new inventions are a species
41 to 46 of monopoly held to be illegal at common law, and, both in Great Britain and America, are founded on statute.

2. Patents for new inventions in the United
46 States can be legally obtained by none but those who are native citizens, their heirs, or assigns;

or aliens, who, at the time of petitioning for such patents, shall have resided two years in the United States. The British laws have, however, no restrictions, which confine the right of petitioning for, and obtaining letters patent, to British subjects, or residents in Great Britain. 46, 47, 183

3. The manufacture, invention, or discovery, for which a patent can be maintained, must be "new or useful." In Great Britain a manufacture newly brought into the kingdom from beyond sea, though not new there, may be the subject of a patent. In the United States, the inventor, if an alien resident, is required to make oath that such invention, art, or discovery, hath not, to the best of his or her knowledge or belief, been known or used in this or any foreign country. 47 48 48; 51 184

4. In Great Britain it was formerly held, that it would not impeach the validity of a patent, that another first made the discovery, which is the subject of it, if the patentee were the first to make it public. This principle, however, has been contradicted by later decisions in England, and in the United States it has been determined that the right of the patent belongs to him, who is the first inventor, even before the patent is granted. 48 154 to 156

5. When a patentee brings an action on his patent, if the novelty or effect of the invention be disputed, he must shew in what his invention consists, and that he produced the effect proposed by the patent in the manner specified. Slight evidence of this on his part is sufficient,
49 and it is then incumbent on the defendant to falsify the specification.

57 to 72 86 to 102, and 103 to 122 6. A patent may be obtained for a new invented *method* of producing a useful effect.

7. It is not necessary that a particular engine
68 be described, or a model or drawing set forth, provided the patentee so describes the improvement as to enable artists to adopt it when his
70, 71 monopoly expires, and a Jury to understand it.

8. A patent may be supported for a new em-
69 ployment or mechanical application of principles already known, but cannot be sustained for an idea or principle not reduced to practice.

9. The mechanical improvement and not the
70 form of a machine is the object of a patent.

10. Patents for improvements and additions
84 85, 115 137 to old arts, discoveries, machines, and inven-

tions may be maintained, both in Great Britain and the United States.

But the patent must be for the improvement and addition only, and the patentee thereof shall 85 137
not be at liberty to make, use, or vend the original machine, discovery, or invention.

11. A patent may be maintained for a principle so far embodied with corporeal substances 93
as to be in a condition to act and produce useful effects, in any art, trade, mystery, or manual occupation.

12. A redundancy in a specification does not 98
vitiate a patent.

13. Engine and method may be considered 119
as mere convertible terms. Engine may also
signify device or contrivance, and principle may 121
mean a mere elementary truth, and also contituent parts.

14. [illegible]ply changing the form or the proportion o[illegible]machine or composition of matter in any degree, shall not be deemed a discovery. 130 131 132
An alteration in forming the same thing, to produce the same effect, by means somewhat different, will not sustain a patent. 137

15. If a person carries on a patented manu-
130 to 135 facture in a private manner, without licence, and against the prohibition of the patentee, it shall be taken as *prima facie* evidence that he is infringing the patent, and judgment will be given against him.

16. An inventor, in order to obtain a patent,
135, 136 must present a petition to the Secretary of State, who may cause letters patent to be made out, and submitted to the Attorney General, who shall certify and return them, if conformable to the act.

17. A written description with suitable draw-
137, 138 ings, written references, and in some cases a model of the invention, and of the manner of using, or process of compounding it, set forth in such clear and explicit terms as to distinguish the same from all other things before known, and sufficient to enable any person skilled in the art or science of which it is a branch, or with which it is most nearly connected, to make, compound, and use, the same, are necessary to entitle the inventor to a patent.

158 19. Patents may be assigned, and the assignment being recorded in the office of the Secretary of State, the assignee shall thereafter stand

in the place of the original inventor, both as to right and responsibility, and so the assignee of assignees to any degree.

20. The assignee of *a part* of the patent cannot bring an action in his *own name* for an invasion of his part of the interest, but every purchaser, holding less than the whole interest, shall pursue his remedy in the *name of the original patentee.* 158 to 168

21. The defendant in an action brought for a violation or infringement of a patent, may plead the general issue, and give the act and special matter after notice in evidence on the trial. 168, 169

22. If the patent is void, the patentee cannot enforce the performance of a covenant for the observance of the exclusive right, entered into by another in contemplation of its being good. 169 to 173

23. The patentee, after the assignment of his interest, cannot himself set up that his patent is void. 173

24. In case of interfering applications for patents, the right, so far as respects granting the patent, shall be determined by arbitrators, chosen under the act. 173, 184

170, 177, 178

25. Patents surreptitiously obtained, or otherwise void or voidable, may be repealed by the Judge of the District Court, where the patentee, his executors, administrators, or assignees, reside. The proceedings shall be by complaint and affidavit, and in the nature of a *quo warranto*. English mode of proceeding for the repeal of letters patent is by *scire facias*.

179 to 181

188, 189

26. Thirty dollars must be paid into the treasury on obtaining a patent in the United States. In England, from 100 to 120 pounds sterling.

184, 185

27. The legal representatives of a deceased inventor may obtain a patent for the invention of the deceased.

185

28. A person making, devising, using, or selling, the invention of a patentee, without his or her consent, or that of his or her executors, expressed in writing, shall forfeit a sum equal to three times the actual damage sustained by such patentee.

APPENDIX.

An ACT *to promote the progress of Useful Arts, and to repeal the acts heretofore made for that purpose.*

SECTION 1. BE *it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled,* That when any person or persons, being a citizen or citizens of the United States, shall allege that he or they have invented any new and useful art, machine, manufacture, or composition of matter, or any new and useful improvement on any art, machine, manufacture, or composition of matter, not known or used before the application, and shall present a petition to the Secretary of State, signifying a desire of obtaining an exclusive property in the same, and praying that a patent may be granted therefor, it shall and may be lawful for the said Secretary of State, to cause letters patent to be made out in the name of the United States, bearing teste by the President of the United States, reciting the allegations and suggestions of the said petition, and giving a short description of the said invention or discovery, and thereupon granting to such petitioner, or petitioners, his, her, or their heirs, administrators, or assigns, for a term not exceeding fourteen years, the full and exclusive right and liberty of making, constructing, using, and vending to others to be used, the said invention or discovery, which letters patent shall be delivered to the Attorney General of the United States, to be examined; who, within fifteen

Letters patent how and by whom made out.

To bear teste by the President, and be examined by the Attorney-General.

days after such delivery, if he finds the same conformable to this act, shall certify accordingly, at the foot thereof, and return the same to the Secretary of State, who shall present the letters patent thus certified, to be signed, and shall cause the seal of the United States to be thereto affixed: and the same shall be good and available to the grantee or grantees, by force of this act, and shall be recorded in a book, to be kept for that purpose, in the office of the Secretary of State, and delivered to the patentee or his order.

The liberty of using an improvement defined.

SECT. 2. *Provided always, and be it further enacted,* That any person, who shall have discovered an improvement in the principle of any machine, or in the process of any composition of matter, which shall have been patented, and shall have obtained a patent for such improvement, he shall not be at liberty to make, use, or vend the original discovery, nor shall the first inventor be at liberty to use the improvement: And it is hereby enacted and declared, that simply changing the form or the proportions of any machine, or composition of matter, in any degree, shall not be deemed a discovery.

How to proceed to obtain letters patent.

SECT. 3. *And be it further enacted,* That every inventor, before he can receive a patent, shall swear or affirm, that he does verily believe, that he is the true inventor or discoverer of the art, machine, or improvement, for which he solicits a patent, which oath or affirmation may be made before any person authorized to administer oaths, and shall deliver a written description of his invention, and of the manner of using, or process of compounding the same, in such full, clear, and exact terms, as to distinguish the same from all

other things before known, and to enable any person skilled in the art or science, of which it is a branch, or with which it is most nearly connected, to make, compound, and use the same. And in the case of any machine, he shall fully explain the principle, and the several modes, in which he has contemplated the application of that principle or character, by which it may be distinguished from other inventions; and he shall accompany the whole with drawings and written references, where the nature of the case admits of drawings, or with specimens of the ingredients, and of the composition of matter, sufficient in quantity for the purpose of experiment, where the invention is of a composition of matter; which description, signed by himself and attested by two witnesses, shall be filed in the office of the Secretary of State, and certified copies thereof shall be competent evidence, in all courts, where any matter or thing, touching such patent-right, shall come in question. And such inventor shall, moreover, deliver a model of his machine, provided, the Secretary shall deem such model to be necessary.

Inventors may assign their titles.

SECT. 4. *And be it further enacted*, That it shall be lawful for any inventor, his executor or administrator to assign the title and interest in the said invention, at any time, and the assignee having recorded the said assignment, in the office of the Secretary of State, shall thereafter stand in the place of the original inventor, both as to right and responsibility, and so the assignees of assigns, to any degree.

Forfeiture on using patent in-

SECT. 5. *And be it further enacted*, That if any person shall make, devise, and use, or sell the thing so invented, the exclusive right of which shall, as afore-

ventions without leave.

said, have been secured to any person by patent, without the consent of the patentee, his executors, administrators, or assigns, first obtained in writing, every person, so offending, shall forfeit and pay to the patentee, a sum, that shall be at least equal to three times the price, for which the patentee has usually sold or licensed to other persons, the use of the said invention; which may be recovered in an action on the case founded on this act, in the Circuit Court of the United States or any other Court having competent jurisdiction.

how recovered.

How defendants may give this act in evidence,

SECT. 5. *Provided always, and be it further enacted*, That the defendant in such action shall be permitted, to plead the general issue, and give this act and any special matter, of which notice in writing may have been given to the plaintiff or his attorney, thirty days before trial, in evidence, tending to prove, that the specification, filed by the plaintiff, does not contain the whole truth relative to his discovery, or that it contains more than is necessary to produce the described effect, which concealment or addition shall fully appear to have been made, for the purpose of deceiving the public, or that the thing, thus secured by patent, was not originally discovered by the patentee, but had been in use, or had been described in some public work, anterior to the supposed discovery of the patentee, or that he had surreptitiously obtained a patent for the discovery of another person: in either of which cases, judgment shall be rendered for the defendant, with costs, and the patent shall be declared void.

and judgment shall be given.

State rights to inventions

SECT. 7. *And be it further enacted*, That where any State, before its adoption of the present form of government, shall have granted an exclusive right to any in-

vention, the party, claiming that right, shall not be capable of obtaining an exclusive right under this act, but on relinquishing his right under such particular State, and of such relinquishment, his obtaining an exclusive right under this act shall be sufficient evidence. when to be deemed void.

SECT. 8. *And be it further enacted*, That the persons, whose applications for patents, were, at the time of passing this act, depending before the Secretary of State, Secretary at War, and Attorney General, according to the act, passed the second session of the first Congress, intitled, "An act to promote the progress of useful arts," on complying with the conditions of this act, and paying the fees herein required, may pursue their respective claims to a patent under the same. How applications depending under former law shall be prosecuted under this act,

SECT. 9. *And be it further enacted*, That in case of interfering applications, the same shall be submitted to the arbitration of three persons, one of whom shall be chosen by each of the applicants, and the third person shall be appointed by the Secretary of State; and the decision or award of such arbitrators, delivered to the Secretary of State, in writing, and subscribed by them, or any two of them, shall be final, as far as respects the granting of the patent: And if either of the applicants shall refuse, or fail to choose an arbitrator, the patent shall issue to the opposite party. And where there shall be more than two interfering applications, and the parties applying shall not all unite in appointing three arbitrators, it shall be in the power of the Secretary of State to appoint three arbitrators for the purpose. Proceedings to be had on interfering applications.

SECT. 10. *And be it further enacted*, That upon oath or affirmation being made, before the Judge of the Dis- And against

persons surreptitiously obtaining patents.

trict Court, where the patentee, his executors, administrators, or assigns, reside, that any patent, which shall be issued in pursuance of this act, was obtained surreptitiously, or upon false suggestion, and motion made to the said court, within three years after issuing the said patent, but not afterwards, it shall and may be lawful for the Judge of the said District Court, if the matter alledged shall appear to him to be sufficient, to grant a rule, that the patentee, or his executor, administrator, or assign shew cause, why process should not issue against him to repeal such patent. And if sufficient cause shall not be shewn to the contrary, the rule shall be made absolute, and thereupon the said Judge shall order process to be issued against such patentee, or his executors, administrators, or assigns, with costs of suit. And in case, no sufficient cause shall be shewn to the contrary, or if it shall appear that the patentee was not the true inventor or discoverer, judgment shall be rendered by such court for the repeal of such patent; and if the party at whose complaint, the process issued, shall have judgment given against him, he shall pay all such costs, as the defendant shall be put to, in defending the suit to be taxed by the Court, and recovered in due course of law.

Inventor before presenting petition to pay 30 dollars into the treasury.

SECT. 11. *And be it further enacted*, That every inventor, before he presents his petition to the Secretary of State, signifying his desire of obtaining a patent, shall pay into the Treasury thirty dollars, for which he shall take duplicate receipts; one of which receipts he shall deliver to the Secretary of State, when he presents his petition: and the money, thus paid, shall be in full for the sundry services, to be performed in the office of the Secretary of State, consequent on such petition;

and shall pass to the account of clerk-hire in that office. *Provided, nevertheless*, That for every copy, which may be required at the said office, of any paper respecting any patent, that has been granted, the person, obtaining such copy, shall pay, at the rate of twenty cents, for every copy-sheet of one hundred words; and for every copy of a drawing, the party obtaining the same, shall pay two dollars: of which payments, an account shall be rendered, annually, to the Treasury of the United States, and they shall also pass to the account of clerk-hire in the office of the Secretary of State. Copying fees.

SECT. 12. *And be it further enacted*, That the act, passed the tenth day of April, in the year one thousand seven hundred and ninety, intitled, "An act to promote the progress of useful arts," be, and the same is hereby repealed. *Provided always*, That nothing contained in this act, shall be construed to invalidate any patent, that may have been granted under the authority of the said act; and all patentees under the said act, their executors, administrators, and assigns, shall be considered within the purview of this act, in respect to the violation of their rights: provided, such violations shall be committed after the passing of this act. Former act repealed.

JONATHAN TRUMBULL,
Speaker of the House of Representatives.

JOHN ADAMS, *Vice President of the United States, and President of the Senate.*

Approved, February 21, 1793.

GO: WASHINGTON: *President of the United States.*

An **ACT** *to extend the privilege of obtaining patents for useful discoveries and inventions, to certain persons therein mentioned, and to enlarge and define the penalties for violating the rights of patentees.*

SECTION 1. *BE it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled,* That all and singular the rights and privileges given, intended, or provided to citizens of the United States, respecting patents for new inventions, discoveries, and improvements, by the act, intitled, "An act to promote the progress of useful arts, and to repeal the act heretofore made for that purpose," shall be, and hereby are extended and given to all aliens, who at the time of petitioning in the manner prescribed by the said act, shall have resided for two years within the United States, which privileges shall be obtained, used, and enjoyed, by such persons, in as full and ample manner, and under the same conditions, limitations, and restrictions, as by the said act is provided and directed in the case of citizens of the United States. *Provided always,* That every person petitioning for a patent for any invention, art, or discovery, pursuant to this act, shall make oath or affirmation before some person duly authorized to administer oaths, before such patent shall be granted, that such invention, art, or discovery, hath not, to the best of his or her knowledge or belief, been known or used, either in this or any foreign country; and that every patent which shall be obtained pursuant to this act, for any invention, art, or discovery, which it shall afterwards appear had been known or used previous to such application for a patent, shall be utterly void.

Persons having resided two years within the U. S. entitled to the benefit of the former act.

Oath to be taken by such resident.

SECT. 2. *And be it further enacted*, That where any person hath made, or shall have made, any new invention, discovery, or improvement, on account of which a patent might, by virtue of this or the abovementioned act, be granted to such person, as shall die before any patent shall be granted therefor, the right of applying for and obtaining such patent, shall devolve on the legal representatives of such person in trust for the heirs at law of the deceased, in case he shall have died intestate; but if otherwise, then in trust for his devisees, in as full and ample manner, and under the same conditions, limitations, and restriction, as the same was held or might have been claimed or enjoyed by such person, in his or her lifetime; and when application for a patent shall be made by such legal representatives, the oath or affirmation, provided in the third section of the beforementioned act, shall be so varied as to be applicable to them.

The legal representatives of a deceased inventor may obtain a patent.

SECT. 3. *And be it further enacted*, That where any patent shall be, or shall have been granted, pursuant to this or the abovementioned act, and any person without the consent of the patentee, his or her executors, administrators, or assigns, first obtained in writing, shall make, devise, use, or sell, the thing whereof the exclusive right is secured to the said patentee by such patent, such person so offending, shall forfeit and pay to the said patentee, his executors, administrators, or assigns, a sum equal to three times the actual damage sustained by such patentee, his executors, administrators, or assigns, from, or by reason of such offence, which sum shall, and may be recovered, by action on the case founded on this and the abovementioned act,

Damages for breach of patent-right.

in the Circuit Court of the United States, having jurisdiction thereof.

Repeal of part of the former act.

SECT. 4. *And be it further enacted*, That the fifth section of the abovementioned act, intitled, "An act to promote the progress of useful arts, and to repeal the act heretofore made for that purpose," shall be, and hereby is repealed.

THEODORE SEDGWICK,
Speaker of the House of Representatives.

TH: JEFFERSON, *Vice President of the United States, and President of the Senate.*

Approved, April 17, *A. D.* 1800.

JOHN ADAMS, *President of the United States.*

Form of Petition, &c. for a Patent.

To the Hon. R. S. Esq. Secretary of State, of the United States of America.

The petition of A. B. of B. in the County of S. and State of M. gentleman, humbly showeth,

That he has invented, constructed, made, and applied to use, a new and useful improvement in the mode of making, or manufacturing [here say what] by machinery at one operation [or] called the [insert the name of thing invented.] Vide specification in next page.

Your petitioner is therefore desirous of obtaining an exclusive property in his said improvement, and humbly prays that Letters Patent, duly executed according

to law, may be granted him therefor. As in duty bound will ever pray,

Your most obedient and very
humble servant,

A. B.

B. August 25, 1810.

To all persons to whom these presents shall come, A. B. of B. in the County of S. and State of M. gentleman sends greeting. Be it known that I the said A. B. have invented, constructed, made, and applied to use a new and useful improvement [&c. as above] called [here insert the name, &c.] specified in the words following, viz. This improvement in [here specify the improvement definitely.]

In testimony that the above is a true specification of my said improvement as above described, I have hereto set my hand and seal, the twenty-fifth day of in the year of our Lord, &c. in presence of

{C. D.}
{E. F.}

A. B. (seal.)

S. ss. B. Aug. 25, A. D. 1810. Then personally appeared the above named A. B. and made oath that he does verily believe that he is the true inventor, or discoverer of his said improvement, as by him above specified.*

* Note. If an alien say from this* or that the same has not to his best knowledge or belief, been before known or used in this or any foreign country, and also say that he has resided more than two years last past in America, &c.

Sufficient testimony was also produced to prove that said A. B. is a citizen of the United States of America.

Before me S. G.
Justice of the peace for said County.

Form of Letters Patent.

The United States of America.

To all to whom these Letters Patent shall come:

WHEREAS A. B. a citizen of the State of M. in the United States, hath alleged that he has invented a new and useful improvement being [here is inserted the technical name, or a short description of the nature of the invention,] which improvement has not been known or used before his application; has made oath that he does verily believe that he is the true inventor or discoverer of the said improvement has paid into the treasury of the United States, the sum of thirty dollars, delivered a receipt for the sum, and presented a petition to the Secretary of State, signifying a desire of obtaining an exclusive property in the said improvement, and praying that a patent may be granted for that purpose: THESE ARE THEREFORE to grant to the said A. B. his heirs, administrators, or assigns the full and exclusive right and liberty of making, constructing, using, and vending to others to be used, the said improvement, a description whereof is given in the words of the said himself, in the schedule hereto annexed, and is made a part of these presents.

In Testimony whereof, I have caused these letters to be made patent, and the seal of the United States is hereunto affixed.

(L. S.) Given under my hand, at the City of Washington, this day of in the year of our Lord, one thousand eight hundred and and the Independence of the United States of America the

By the President J. M.
R. S. Secretary of State.

City of Washington——to wit:

I DO HEREBY CERTIFY, that the following Letters Patent, were delivered to me on the day of in the year of our Lord, one thousand eight hundred and to be examined; that I have examined the same, and find them conformable to law. And I do hereby return the same to the Secretary of State within fifteen days from the date aforesaid, to wit on this day of in the year aforesaid.

C. A. R. Atty. Gen. of the United States.

To these Letters Patent is annexed the following.

The schedule referred to in these Letters Patent, and making part of the same, containing a description in the words of the said A. B. himself of his [here is recited the specification with the inventor's signature, and that of the witnesses to the specification.]

Declaration in an Action on the case, for infringing a patent.

To answer to in a plea of trespass on the case: for that whereas by certain letters patent, made out in due form of law in the name and under the seal of the United States, dated the day of in the year of our Lord, and in court to be produced, was granted to the plaintiff, a citizen of the United

States, and to his heirs, administrators, or assigns, for the term of fourteen years from the said date, the full and exclusive right and liberty of making, constructing, using, and vending to others to be used, his invention, [or improvement,] of [here insert the technical name or term by which the art, &c. or improvement, &c. is known and distinguished in the patent.] And the plaintiff in fact says, that the defendant well knowing the premises, but contriving and fraudulently intending to injure the plaintiff in this behalf, did on the said day of and at divers times between that day, and the day of the purchase of this writ, to wit at said without the consent of the plaintiff in that behalf first obtained in writing, or otherwise unlawfully devise, make, and use the said invention, [or improvement,] so invented by the plaintiff, and secured to him as aforesaid, contrary to the form of the statute of the United States, made and passed on the twenty-first day of February, in the year of our Lord one thousand seven hundred and ninety-three, entitled "An act to promote the progress of useful arts, and to repeal the act heretofore made for that purpose." By means of which, and by force of another statute of United States made and passed on the seventeenth day of April, in the year of our Lord eighteen hundred, entitled "An act to extend the privilege of obtaining patents for useful discoveries and inventions to certain persons therein mentioned, and to enlarge and define the penalties for violating the rights of patentees," the defendant has forfeited to the plaintiff, a sum equal to three times the actual damage sustained by the plaintiff from or by reason of the premises, which actual damage the plaintiff avers, is equal to the sum of dollars, and an action hath ac-

cued to the plaintiff to have and recover of the defendant the said sum of dollars. Yet the defendant, though often requested, hath never paid the said sum to the plaintiff's damage, &c.

For the following communications respecting the French Patent Laws, and recommending certain alterations in the Patent laws of the United States, we are indebted to a foreign gentleman, residing in Boston. We have before expressed our obligations to this correspondent, (p. xxxix of the Introduction), and think his remarks and statements highly worthy the attention of our national Legislators, and the American public.

FRENCH PATENT LAWS

The name of Lewis the XIV. will ever be dear to the lovers of the fine arts. Under him improvements of every kind flourished; and at one time his power had risen to a height, which threatened Europe with slavery. But with so much greatness of character was unfortunately mixed the blindness of religious enthusiasm which led him to proclaim the edict of Nantz; and thus to contribute much to the decline of his own empire, and to the rise of his most powerful rival. Industry driven from France took refuge in the congenial soil of Britain; where it was fostered with a care which has been amply repaid: for here we may trace one of the prominent causes of the present grandeur of the British Empire.

Under the two immediate successors of Lewis, a party in the French court either through ignorance or through the insinuating persuasion of the British ministry, was ever and effectually, though secretly, opposed to the advancements of French manufactories. Nothing was thought elegant or fashionable at court, unless it was English: and the court manners gradually descending from one class of society to another, guided th whole body of the inhabitants of France, and until 1790, inventors of new discoveries were generally obliged to keep their discoveries a secret, so as to secure to themselves a small part of the benefit to which they were entitled. Hence the slow progress of the French in many branches of industry.

When the Revolution first broke out, the great body of the French people took side against the court, and more particularly against the foreign influence which had too long directed its proceedings. Soon however, the opinion and the mass of the people were counted for nothing. One set of men at Paris overpowered another, and seemed to take pleasure in destroying almost every thing which its predecessor had reared. Still one aim seemed to be common to all, the glory of the nation and its greatness. This seemed to be an object which the government must desire, or in which it must cede to the impulse of the people, and to advance that object, nothing appeared more important than to surpass the nations of the continent, but more especially Great Britain in all the sciences and in all the arts. It is to these feelings that we are to attribute the constancy of revolutionary France in adhering to the law in favor of new inventions, which was enacted at a very early period of the revolution. The English

decisions were taken as the basis of this law, and only a few modifications were introduced. Its leading tracts are as follows:

Considering that every new idea, the manifestation or developement of which may be useful to society, appertains first to him who has conceived it, &c. the national Assembly decrees as follows:

Every discovery or new invention in every species of industry, is the property of its author. Consequently the law guarantees to him the full and entire enjoyment of it for 5, 10, or 15 years, at his own option, and according to the fees he pays. A patent may be prolonged by the Legislative body.

Every means of adding to whatsoever manufacture it may be some new species of improvement, shall be considered as an invention.

Whoever first brings to France a foreign discovery shall enjoy the same advantages as if he were the inventor.

Whoever wishes to obtain a property as above, or patent, shall deposit in the hands of goverment the drawings, models, and descriptions which may serve to give an accurate idea of it.

For objects of general utility, but too easily imitated to form a subject of speculation, and in all cases, when the inventor shall prefer treating directly with the government, he may address himself to the Legislature

to communicate his discovery, demonstrate its advantages, and solicit a reward.

The duration of patents for imported discoveries shall not extend beyond the term fixed for the privilege of the original inventor, in his own country.

Every citizen shall be at liberty to consult the descriptions filed; except when the inventor, having judged that reasons of policy or commerce require secrecy, has obtained a particular decree for such secrecy.

In case of infringement, the patentee shall recover the damage he may sustain, and a penalty for the benefit of the poor, not to exceed 3,000*f.* (or $550) and double in case of a second offence.

The proprietor of a patent may form establishments, all over France, and authorize other persons to do the same. He may also sell his patent, as if it were personal estate. The purchaser shall stand in lieu and place of the patentee: but the assignment must be recorded under pain of nullity.

At the expiration of every patent, its description shall be published, and the use of the discovery become common, unless the Legislature has ordered the description to be kept secret.

The description of the discovery shall also be published, and its use shall become common, if the patent be annulled, which shall take place only in the following cases.

1st. If the inventor has concealed the true means by which he obtains the desired effect.

2dly, If the inventor be convinced of having used in his manufacture secret means which he has not detailed in his description, or of which he has not made his declaration to be added to his description.

3dly, If the patent be for a discovery already published.

4thly, If the inventor shall not within two years, either have put his discovery in activity, or have justified his inaction.

5thly, If the inventor obtains a patent in a foreign country after having obtained one in France.

These grounds of nullity are independent of that arising from a bad description: for it is of course that unless the description be accurate, for either the whole or part of the discovery, the patent does not secure it. The patent secures nothing more than what it says it secures, viz: the discovery as described by the patentee.

"Every inventor shall be at liberty to make changes in his original description, by paying a trifling tax."

The inventor of any improvement upon a discovery already patented, shall be entitled to a patent for the improvement: but shall thereby acquire no right, under any pretence, to the original discovery: neither shall the original inventor be entitled to use the improvement. Changes of form, or proportion, or ornaments of any kind shall not be deemed improvements.

So far goes the original law, and it has since been enacted that to every patent should be annexed the following declaration. "The government in granting a "patent without previous examination do not mean to "guarantee in any way, either the priority or the merit "or the success of the invention."

It is the practice of the Government, to annex this remark to any patent, when issued. They also cause the description to be examined at the patent office. If they suppose it interferes with a prior discovery, they give notice of it to the applicant: but if he still insists upon his demand, they grant the patent and annex to it a detailed account of the supposed interference.

It may be remarked that the tedious and complex formalities to be fulfilled in obtaining a patent, are a great obstacle to the utility of the law; that the influence of men in power is great on the subject of patents, as well as in other respects; and that no patent is now granted without a special decree from Napoleon.

In justice to the present government of France, it may also be said that great encouragements have often been given to particular branches of industry in that country. The following decree is certainly worthy of the munificence of the head of a great Empire.

At the Palace of Bois-le-duc, May 7, 1810.

Napoleon, Emperor of the French, &c. &c. &c.

TAKING a particular interest in the progress of the manufactures of our Empire, of which flax is the chief article;

Considering that the only obstacle which prevents the combination of cheapness, with good perfection of products, results from the fact, that machines have not as yet been applied to the spinning of flax as is the case in the spinning of cotton;

We have decreed, and do decree as follows:

ART. I. One million of francs shall be granted to the inventor, of whatsoever nation he may be, for the best machine for spinning of flax.

II. To this end, the sum of one million is placed at the disposal of our Minister of the interior.

III. Our present decree shall be translated into all languages, and sent to our ambassadors, ministers, and consuls in foreign countries, there to be made public.

IV. Our ministers of the interior, of the treasury, and of foreign relations are charged with the execution of this present decree.

By the Emperor.

NAPOLEON.

The Minister Secretary of State.

(signed.) H. B. Duke of Bassano.

To the now existing Patent Laws of the United States, the following alterations are respectfully suggested, as essentially necessary to promote their object.

1. WHOEVER is the first to bring to the United States a foreign discovery, shall be considered as the inven-

tor, and entitled to the same advantages as if he were the inventor.

2. Whoever within four years from the date of his patent, shall not have put it into execution, shall forfeit his patent.

3. A patentee may, at the expiration of the term of fourteen years, renew his patent for seven years more by paying 100 Dollars, and at the expiration of these seven years, he may renew it for seven years more by paying 200 Dollars.

4. A copy of all descriptions and models shall be given to any applicant, upon his paying proper fees.

In favor of these alterations, it is well to state that the Patent laws of England, and those of France* contain similar provisions.

The United States now wish to encourage home manufactories. The British have long had the same object in view, and long among them have these laws existed. The French in 1791, began to direct their attention to the same object, and passed like statutes, which they have ever since maintained. Extraordinary as it seems; the French manufactories, notwithstanding all the difficulties naturally arising from a state of civil and foreign war, have continued, since 1792, to be

* As respects the similitude of the French law, we ought to add that since Napoleon came in power, no patent is granted without his approbation.

daily improving; so much so that they can manufacture many articles for half what they did sixteen years ago.

It is hardly credible what number of English discoveries have been introduced in consequence of these laws, notwithstanding the war, and notwithstanding that it is prohibited in Great Britain, under severe penalties, to export either Machinery or Mechanics.

1. Suppose the first paragraph suggested be passed, What will the consequence be?

Allured by the profits promised to introducers, the well known spirit of enterprize of our citizens cannot long remain inactive. A number of rich and respectable companies will be formed, one to introduce every thing valuable in France, another every thing valuable in England; a third, every thing that Holland has; a fourth to take from the laborious German what he has employed ages to obtain. Thus shall we be enriched at once with the fruits of the industry of all nations. But somebody asks me, were it not proper, is it not just that the foreign inventor should sell his right to the introducer? Does not this accord with the general principle of patents? To both questions I answer at once, No. What do we owe in equity to any one, but that man who has directed his industry to make us enjoy the benefits of the discovery? An inventor, in his own country, ceases to possess a right to his invention, if within a limited time he has not put it into use; and why should he be more favored in another country than he is in his own? So much on the ground of justice. Now to that of policy. Suppose you make it necessary

for the introducer, to hold the privilege from the inventor, do you not see that you tie the hands of all those whose sole object is like yours, "to introduce the inventions into the United States?" and suppose an inventor or a government has a peculiar interest in withdrawing the right to introduce any art, (and this will often happen,) he will purchase it from the inventor, and thus do away the probability of your object being attained. But, it will be said, this new law is only multiplying the *number* of *privileges*. I answer, do so, because the good of the country requires it imperiously; because you can, by no other mode, so speedily free yourselves, not only from the privileges given your countrymen; but from what is to be dreaded; from privileges given to citizens of other countries, residing in other countries: for in no other light can be viewed the monopoly now assumed by foreign nations of manufacturing almost all our articles.

2. This guards against some apprehensions to which the first paragraph might have given rise.

3. To inventors and to introducers, it is equitable that a proper reward should be given for their trouble, especially as they almost always make money, only in proportion as they advance the public good, and as they even spend, (I say even, for I know of extremely few exceptions, and indeed of none in this country,) all they have earned in contriving or introducing new improvements. Fourteen years has, by experience, been found too short a space of time in this extensive and thinly inhabited country to pay, *on an average*, the expences of the patentees. Fourteen years is the term in Eng-

land, which is certainly more than equal to twenty-eight years in this country.

4. Without a provision like this, every individual is ever uncertain of what is free to him, and what is not, and such has been the decision of the Department of State, that there are no means of getting at the descriptions of patented objects, except by beginning a suit against the patentee. I have seen most industrious men spend their life and fortune in inventing what was already patented.* No objection can arise to this provision, worth mentioning. In England they have even periodical works where every discovery which is thought valuable is particularly described.

* At Philadelphia, in the case of Oliver Evans vs. Jno. Weiss, it has been lately decided that "Congress having declared be-"fore hand that the right to the patent belongs to the first in-"ventor, he may keep others at arms length and cut off, by a "subsequent patent; the right to use machines by them erected "prior to the issuing of the patent."

This far, as the learned Judge hints, the law is lame. To correct this inconvenience, it is therefore respectfully suggested that a law be enacted providing "that in future inventions, if "the original inventor does not obtain his patent till after an im-"provement has been in common use ten years, the patent shall "be void." See page 52 of this work.

AUTHORITIES.

ENGLISH LAWS.

In the reign of James I. the prerogative assumed by the crown to give monopolies became so oppressive that it was thought necessary to restrain it. This was done by Stat. 21. Jac. 1: but a proviso was inserted in the following words (c. iii. s. 6.):

"Provided that any declaration before mentioned, "shall not extend to any letters patent, or grants of "privileges for the term of fourteen years or under, for "the sole working of any manner of new manufactures "*within this realm*, to the true and first inventor and "inventors of such manufactures, which others at the "time of making out such letters patents, or grants "shall not use, so as also they be not contrary to law, "nor mischievous to the State by raising prices of "commodities at home, or hurt of trade, or generally "inconvenient." (See Term Reports, in the Court of the King's Bench, from 1798 to 1800, vol. viii. p. 100. Hornblower vs. Boulton in error.)

It is under this proviso that the king grants patents to any person for inventions made or first brought into the realm by the grantee.

"The patent is granted upon condition that the in- "vention is new, or new in this country. The inven- "tion must be so described that the public may, at the "end of fourteen years, have the use of it, in as cheap

"and beneficial a manner as the patentee himself uses "it. *The specifications are preserved in an office for* "*public inspection.*" See Christian's Blackstone, Vol. ii. p. 407, note 8, and he quotes as authority, Bull. N. P. 76, I. T. R. 602.

From Espinasse's Digest, vol. ii. p. 648.

"A PATENT may be granted though the thing was "practised beyond sea before; for the statute speaks of "*new manufactures within the realm;* so that if they "be new here, it is within the statute; for the act in- "tended to encourage new devices, useful to this king- "dom, and *whether learned by* travel or by study, it is "the same thing." Edgeberry vs. Stephens. 2 Salk- eld, 447.

See also Hawk. ch. 79. s. 14. In Salkeld, vol. ii. p. 447, a number of other authorities are cited.

In the English authorities I find no express decision that "a man forfeits his patent, if he makes no use of it within a certain time," the only grounds I have to be- lieve it is law in England, are that it is reasonable, and that it is law in France, where they have, on that sub- ject, copied almost wholly from the English laws. A foreign government or an individual might, if such a provision was not made, deprive the country for fourteen years of the benefits of the new improvements.

FRENCH LAWS.

Loi du 7 Janvier.

ART. 1. Toute découverte ou nouvelle invention, dans tous les genres d' industrie, est la propriété de son auteur; en conséquence la Loi lui en guarantit la pleine et entière jouissance, suivant le Mode, et pour le tems qui seront ci-après determinés.

ART. 2. Tout moyen d' ajouter à quelque fabrication que ci puisse être un nouveau genre de perfection sera regardé comme une invention.

ART. 3. *Quiconque apportera le prémier en France, une découverte étrangère jouira des mêmes avantages que s'il en était l' inventeur.*

ART. 8. Les Patentes seront donnés pour 5, 10, au 15 annés au choix de l' inventeur; mais ce dernier terme ne pourra jamais être prolongé sans un décret particulier.

ART. 11. Il sera libre à tout Citoyen domicilie d' aller consulter au Secrètartât de son Départment le Catalogue des inventions. *Il sera libre de même à tout Citoyen domicilié de consulter au dépôt général établi à cet effet, les spécifications des defferents patentes actuellement en exercise;* cependant les descriptions ne seront point communiqués dans le cas où l' inventeur ayant jugé que des raisons politiques ou commerciales exigent le secrèt se serait gresenté au Corps législatif

pour lui exposer ses motifs, et en aurait obtenu un décret particulier sur cet object.

ART. 16. 4° *Tout inventeur qui dans l' espace de deux, ans à compter de la date de sa patente n aura point mis sa découverte en activite et qui n' aura point justifié les causes de son in action, sera dechu de sa Patente.*

TRANSLATION.

Law of the 7th January, 1810.

ART. 1. Every discovery or new invention in every species of industry, is the property of its author: consequently the law guarantees to him the full and entire enjoyment of it, according to the mode and for the term hereinafter expressed.

ART. 2. Every means of adding to whatsoever manufacture it may be, a new mode of perfection shall be considered as an invention.

ART. 3. *Whoever first brings to France a foreign discovery, shall enjoy the same privileges as if he were the inventor.*

ART. 8. The patents shall be given for 5, 10, or 15 years, at the option of the inventor; but this last term shall never be prolonged without a particular act of the Legislature.

ART. 11. Every domiciliated citizen shall have liberty to consult at the Secretary's office of his Depart-

ment the catalogue of new inventions. *He shall also be at liberty to consult at the general deposit, established for that purpose, the specifications of the several patents actually in use;* the descriptions however shall not be communicated in case the inventor having judged that commercial or political reasons require secrecy; has presented himself to the Legislature to develop to them his motives, and has obtained a particular act on the subject.

ART. 16. 4. *Every inventor who, within two years from the date of his patent, shall not have put his discovery in activity, and who shall not have justified the reasons of his inactivity, shall forfeit his patent.*

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ADDITIONS AND CORRECTIONS.

Page xiii, line 14, from the top, after "Inventan" insert *aut.*

Page 45, line 11, from top, after "matter," add *or any new and useful improvement on any art, machine, manufacture, or composition of matter.*

Page 47, bottom line, for "*and,*" read *or.*

Page 50, line 14, erase *; line 18, after "granted," add *, and erase †, and erase the bottom line of the same page.

Page 59, line 11, add a comma at the word "*Bull,*" and erase the comma at the word "Hornblower."

Page 135, line 5, from top, for "*facia,*" read *facie.*

Pat. Off. 2.3.
8/19/03