has been taken until this time. The officer who attends is not considered as counsel for the Commissioner or for the office, and I should think he could not with propriety be considered as an advocate of either of the parties litigant. I have heretofore considered him as attending for the purpose of explaining the decision of the Commissioner, and not as arguing the cause of either of the litigants. He can only appear as an officer of the Department; as such, I shall always be willing to avail myself of his assistance in the investigation of the truth.

Chas. M. Keller, for appellant.

E. B. Stoughton, for appellee.

W. P. N. Fitzgerald, for Commissioner.

ALONZO D. PERRY, APPELLANT,

vs.

SAMUEL G. CORNELL, APPELLEE. INTERFERENCE.

EVIDENCE — SAME AS BEFORE COMMISSIONER.—The judge, upon appeal, can consider only such evidence as was properly before the Commissioner.

DEPOSITION TAKEN WITHOUT NOTICE.—Depositions taken in an interference without notice to a party, as depositions taken before he became a party to the case, are not evidence against him, and cannot be considered by the judge upon appeal.

EVIDENCE—CROSS-EXAMINATION WAIVES OBJECTION.—When a party to the case, otherwise an incompetent witness, is produced to prove the loss of original drawings and sketches, and is cross-examined at large, his answers are thereby made evidence for himself.

REDUCTION TO PRACTICE—NOT REQUIRED—BRINGING INTO USE.—Reducing to practice differs from bringing into use. There is no law requiring the applicant to reduce his invention to actual use before he can obtain a patent.

REDUCTION TO PRACTICE DEFINED.—An inventor has reduced his invention to practice when he has so described it upon paper, with such drawings or model as will enable any person skilled in the art to make and use the

same; but he is not obliged to furnish drawings or model until he makes his application.

REASONABLE DILIGENCE—SECTION 15 OF THE ACT OF 1836 DOES NOT APPLY TO APPLICANT.—Nor is it necessary that the first inventor should use "reasonable diligence in adopting and perfecting his invention." The fifteenth section of the act of 1836, providing that the defendant may show, in order to vacate a patent *already granted*, that it was surreptitiously obtained for an invention which was being diligently prosecuted by another, does not apply to the case of contending applicants.

NO DILIGENCE REQUIRED—ABANDONMENT.—Before a patent is granted to any one for an invention, there is no law that requires the inventor to disclose his invention within any limited time. There is no limitation of his right to obtain a patent, unless the lapse of time be sufficient to show an abandonment of the invention.

INTERFERENCE PROCEEDINGS—DECISIONS OF THE COURTS DO NOT APPLY.—The cases cited from the books are all cases in law or in equity in actions for violation of patents already granted. The proceedings before the Commissioner are initiatory. The question is whether the patent shall be granted, not whether it shall be vacated; and a patent may be granted upon less evidence than would be required to sustain or amend it.

(Before CRANCH, Ch. J., District of Columbia, July, 1847.)

STATEMENT OF THE CASE.

The facts are stated in the opinion.

The Commissioner.

Cornell is not debarred from obtaining a patent by reason of the fact that he did not reduce the invention to practice until after the other parties had built their machines. It is sufficient for the present purpose to state the law as understood by the Office, and show its application to the facts presented in the testimony. It appears by the testimony that Cornell described the machine fully to a practical mechanic, so that he perfectly understood it; that he repeatedly made working drawings representing the machine in so clear a manner that the mechanic was able to make drafts and estimates of its cost, and absolutely did both without the assistance of Cornell. In a word, Cornell made the invention as clearly understood as if the machine had been built and put into operation. The principal merit of the invention in this case was in the conception of the idea, and not, as in many cases, in de-

vising means for carrying it out. After the principle was suggested, any competent mechanic could build the machine without inventing or contriving any devices, but by merely the exercise of his trade or art as previously applied to machinery for the same purpose. It appears, therefore, that Cornell had done all that an inventor, as such, could do, and nothing remains to complete the machine but the labor of the mechanic, which certainly cannot be confounded with invention. The greater number of inventions daily patented have never been reduced to practice, and the Office holds that invention may be as distinct from reduction to practice as it is from the sale of a machine.

There is always a line of demarkation between the province of the inventor and that of the mechanic; and although the boundary is not always obvious, in the present case it is sufficiently so, and it is urged that Cornell covered the whole ground appropriated to the inventor, and that he left nothing undone, except what belongs to the capitalist. There is nothing whatever to militate against this position, except the dictum that "he who first reduces the invention to practice is the first inventor"—a dictum which, though often quoted and reiterated, was not applicable to nor borne out by the case in which it was first pronounced, nor by any of the cases in which it has subsequently been repeated, and which, in the broad terms in which it was announced, is not, and never has been, the law. If by reduction to practice is meant rendering a principle practicable or useful in a new way, and clearly pointing out the way in which it may thus be made useful, so that any competent mechanic can avail himself of it, then and in that sense an invention must be reduced to practice. Neither the statutes nor the decisions of the courts require that a machine should be built or used as a part of the invention, and before the party can be considered an inventor.

The explanation here given of the proper reduction to practice is the only one which will reconcile the decisions and make them conform to the statutes respecting patent rights.

CRANCH, J.

There were four conflicting applications for a patent for the improvement:

1st. By John Robertson, on the 9th of September, 1846.

2d. By Alonzo D. Perry, on the 6th of October, 1846.

3d. By Stephen Parks, Jr., on the 12th of November, 1846; and

4th. By Samuel G. Cornell, on the 21st of December, 1846.

Before the application of Samuel G. Cornell, and while the litigation was going on between the other three applicants, the depositions of twenty-one witnesses had been taken on the part of those applicants, respectively, and, of course, without notice to Mr. Cornell, who had not then made his application. These depositions were returned to the Commissioner of Patents, and objected to by Mr. Cornell's counsel for want of notice.

The Commissioner, without deciding upon the question of admissibility of the evidence as to Mr. Cornell, awarded to him the priority of invention, saying: "The decision of the question raised in reference to the admissibility of testimony is unnecessary to decide; its rejection would not vary the result; the testimony is therefore received, and priority of invention awarded to Samuel G. Cornell March 24th, 1847."

From this decision Mr. Perry has appealed, and his reasons of appeal are, in effect—

1st. That the evidence does not show that Mr. Cornell was the first to conceive the idea of a machine such as he now claims, but that the plan proved to have been so conceived is essentially different and mechanically inferior to the one claimed and now awarded to him by the Commissioner.

2d. That the evidence on which the decision in favor of Mr. Cornell is based is contradictory, and insufficient to establish his claim even to the conception of the idea of the principle or mode of operation of the machine now sought to be patented; but, on the contrary, shows that the plan said to have been conceived was entirely different; and

3d. That if he did conceive the idea of the principle or mode of operation of a machine substantially similar to the one now claimed, and did describe to the witness such a machine prior to the date of invention claimed by the applicant (Perry), yet it was merely an intellectual invention, based on theory, and not an invention in the meaning of the law.

The Commissioner has laid before me "the original papers and evidence in the case, together with the grounds of his decision, fully set forth in writing, touching all the points involved by the

reasons of appeal," to which my revision must be confined, as provided in the eleventh section of the act of March 3d, 1839, chapter 88, pamphlet edition, pages 75 and 76.

The grounds of the decision of the Commissioner, as set forth in writing, are, in substance—

"That it is proved by the testimony of William Frost, and confirmed by that of Benjamin Peck, that the said Cornell invented the machine in dispute as early as the summer of 1843; and there is no testimony that tends to show that either of the other parties invented it until a considerable time afterwards." That "it appears by the testimony of Frost that Cornell described the invention to him fully, so that he perfectly understood it; that he repeatedly made draughts representing it in so clear a manner that the said Frost was able to make draughts and estimates of cost, and absolutely did make both with the assistance of Cornell." That "Cornell made the invention as clearly understood as if the machine had been built and in operation." It appears, therefore, that he had done all that an inventor as such could do, and nothing remained to complete the machine but the labor of the mechanic, which cannot be confounded with invention." The greater number of inventions daily patented have never been reduced to practice.

In the grounds of his decision the Commissioner controverts the dictum found in some of the books, that "he who first reduces an invention to practice is the first inventor"—a dictum which, he says, "although often quoted and reiterated, was not applicable to nor borne out by the case in which it was first pronounced, nor by any of the cases in which it has subsequently been repeated, and which, in the broad terms in which it is announced, is not, and never has been, the law. If by reduction to practice is meant rendering a principle practicable or useful in a new way, and clearly pointing out the manner in which it may be thus made useful, so that any competent mechanic can avail himself of it, then, and in that sense, an invention must be reduced to practice;" but "neither the statutes nor the decisions of the courts require that a machine should be built and used as a part of the invention before the party can be considered an inventor, but that the sense above alluded to is the sense in which the courts have used the phrase 'reduction to practice,'" and the

only sense which will reconcile the "decisions and make them conform to the statutes regulating patent rights."

The other two applicants—Mr. Robertson and Mr. Parks—have not appealed; so that the contest is now between Mr. Perry and Mr. Cornell only.

It is admitted that a great and valuable improvement has been made in the old machine for making lead pipe; and the principal, if not the only, point involved in the reasons of appeal is the question "which, or whether either, of these two applicants is entitled to receive the patent prayed for;" and this is to be decided by the evidence produced before the Commissioner. The twenty-one depositions taken in the conflict between Robertson, Perry, and Parks, being taken without notice to Cornell, are not evidence against him, and therefore cannot be considered by the judge upon appeal. The only evidence which he can consider is that which is contained in the depositions of William Frost and Benjamin Peck and in the cross-examination of Mr. Cornell himself by the counsel of Mr. Perry.

The question, then, is, whether the machine described by Mr. Cornell to those two witnesses is substantially the same as that for which he asks a patent.

The improvement consists in the great diminution of the friction of the machine, by which the same effect is produced by a power much less than that which was necessary to work the old machine.

As the question is merely priority of invention, it is not necessary to describe the particular alterations of the old machine which constitute the improvement. It is, however, necessary to examine the testimony to see whether the improvement which Mr. Cornell described to the witness is substantially the same as that for which he now claims a patent.

It appears by the deposition of Mr. William Frost, the principal witness, and who seems to have testified fairly and intelligently, that Mr. Cornell, in June or July, 1843, described to the witness a plan for a machine for making lead pipe different from any machine for that purpose then in use; and that he intended to use a hollow ram with an aperture in the bottom coming out at the side of the ram; that he intended to place a die on the top of the ram, then to have a mandril pass through the top of the cyl-

inder long enough to pass through the interior of the die, leaving a space between the mandril and the die for the lead pipe to pass through when the ram was forced up against the lead, making the pipe from that portion of the lead which was first acted upon by the top of the ram being pressed against it; his object being, as he stated it, to avoid the immense friction that was produced by driving so large a mass of lead before the ram out through the aperture, as used in many other machines then in use; that he (Mr. Cornell) exhibited to the witness a sketch or drawing of his plan, and the witness then prepared and produced a drawing of Mr. Cornell's plan, as he then drew and described it, which is annexed to his deposition, and marked "A;" that about a fortnight afterward the witness had a further conversation with Mr. Cornell in relation to his said plan for a pipe-machine in Mr. Cornell's office in New York; that he then stated to the witness and described the manner in which he intended to construct a pipe-machine for the purpose of passing the lead through the interior of the ram and forming a movable mandril in connection with the hollow ram, and for forming the pipe at the point on which the ram pressed against the lead; that Mr. Cornell made a sketch of such machine, a copy of which this witness has made, thinking it might be called for, and to explain the arrangement which he then described. Mr. Cornell said he intended to make such a machine. The counsel for Mr. Perry objected to the introduction of the copy of Mr. Cornell's sketch unless the loss of the original should first be proved. After the proof of the loss of the original, the witness produced and filed his copy, which is annexed to the deposition, and marked "B."

It further appears by the testimony of the witness William Frost that the sketch or drawing "B" differs from the sketch or drawing "A" in having two cross-heads and two rods to connect them together; also an upper movable mandril, which was connected to the upper cross-head and kept in its proper position by means of a stand or frame, which was secured to the lead cylinder, the lower cross being secured to the ram rising from the hydraulic cylinder; the upper mandril or ram, he stated, might be hollow or solid, for the purpose of holding either the short mandril or die; that these drawings do not exhibit the nuts, bolts, or screws, or the manner in which the different parts are guided or secured to

each other, but merely the arrangement of the raised dies and mandrils to each other, and as he designed to place them for the purpose of manufacturing lead or other pipe; that the leading essential feature of those two plans, which distinguished them from machines previously known for the purpose of making lead pipe, is the hollow ram and the die placed on the top of it, and the forming of the pipe on the head of that ram from the point where it presses against the lead, and the passing of the pipe when so formed in the interior of the ram; that the second plan drawn and described to this witness contained this essential feature or difference, with the addition of the parts which are before described; that from the drawings and descriptions so made by Mr. Cornell to this witness he could make and construct machines for making pipe upon those plans; that the drawing marked Exhibit "B" shows the relations of the rams to each other, of the die, of the short mandril, of the cross-heads, and the rods which connect them together, as also the lead cylinder, the cast-iron stand or frame, the hydraulic cylinder, and a portion of the ram rising therefrom, as also the columns for connecting the hydraulic and lead cylinders together; it also shows the upper hollow ram, as also the lower hollow ram, with the apertures through the ram. It does not describe the manner in which the different parts are secured to each other, but simply the arrangement described by Mr. Cornell in New York. The witness says he is not aware that Mr. Cornell ever built a machine with the improvements which he described to the witness. He further testified that Mr. Cornell, at different times, showed him at least half a dozen drawings like Exhibit "B," on separate and distinct pieces of paper; also two in Connecticut and two in Brooklyn; also two like Exhibit "A"—one of them on board of the steamboat "Croton," in June or July, 1843, and the other at his factory in Glenville, Connecticut; that in the fall of 1844 he made, at the request of Mr. Cornell, an estimate of the cost of such a machine as that described in Exhibit "B."

The witness Benjamin Peck testified that in June, 1843, before Mr. Cornell had applied for a patent for his invention of an improvement in the machine for the manufacture of lead pipe, he communicated to this witness his plan for the construction thereof; that he stated that the die was to be attached to the end of the

ram, the ram to be hollow, the pipe to form at the end of the ram, and pass down through the hollow ram; that the object was to prevent friction; the core was to pass through the cylinder, the end of it to be inserted in the die, the die and mandril to move together; that the mandril forms the inside of the pipe; it is sometimes called the core; the pipe is formed over the mandril or core; the hollow ram and the movable mandril were to move together by force of an hydraulic press; that Mr. Frost was present at this communication.

This witness states that the machine for which Mr. Cornell seeks a patent contains, among other things, the lead cylinder, the ram, the die, and the core-rod or mandril. That the construction of this machine differs from that of the old machine which was worked by Parks in this: the die is placed at the head of the ram; in the old one at the top of the cylinder. In this the pipe forms at the head of the ram; in the old one at the top of the cylinder. That the advantage of this over the old one is, that in the old one the whole body of lead from the body to the top of the cylinder was required to move in a body in order to form the pipe at the top of the cylinder, whereas in this improvement the main body of lead is not required to move, because the pipe forms at the head of the ram immediately after the pressure is put on, and passes out through the ram. That about two months ago (November, 1846) Mr. Cornell showed this witness a pencil sketch of his improvement, saying that that was his plan for the machine for which he was about to get a patent and to have a model made of it. That sketch did not show the hollow ram. That when Mr. Cornell showed to this witness that sketch, he said that was a sketch of his invention, which he had before disclosed to this witness, and that there was a die at the head of the ram, and that the ram was hollow. That on the sketch he saw he could not say whether the ram was hollow or not; he thinks there was no hydraulic press on that sketch; there was a lead cylinder and a mandril, core, or ram; the end of the core or mandril extended out of the top of the cylinder, and down to the head of the ram, or near to it. This witness was sure there was a representation of a ram; one end of the ram was placed near the cylinder, the other below. He thinks that no part of the ram, as represented in the sketch, entered the lead cylinder. That the ram of the

lead-cylinder, as represented in the sketch, was a round piece of iron. This witness only saw the sketch for a few minutes, and handed it back to Mr. Cornell.

Being asked, in cross-examination, to describe the frame-work of the machine as it appeared on the said sketch, he says there was a mark across the top, which he supposed represented a piece, and one straight line down each side; the core was in the centre of the cylinder; one end projected at the top, and came down near the bottom cylinder; there was a piece across the top. He does not recollect seeing the die. He does not know by whom the sketch was made. This, he says, was a rough and, to all appearances, an imperfect, sketch.

Mr. Cornell, the appellee, having been affirmed and examined as to the loss of the two original drawings or sketches, of which the witness (Mr. Frost) testified that the exhibits "A" and "B" are copies made by him, was cross-examined by the counsel of Mr. Perry at large, as if he (Mr. Cornell) were a competent witness-in-chief, thereby making the answer of Mr. Cornell evidence for himself.

Upon that cross-examination he stated that he had a distinct recollection of making a sketch, and has no doubt it was at the time referred to by Mr. Frost; thinks it was made on foolscap paper with a lead pencil, but it might have been with ink; it was made in the office at his works (in Connecticut); presumes it was at the time Mr. Frost speaks of; they had many conversations on the subject. He showed the drawings to Mr. Peck, and he thinks to Mr. Parks, who was at work for him. He affirms, positively, that he showed them to Mr. Peck and Mr. Frost. He does not wish to identify any particular drawings. He made a number at different times, and had frequent conversations with Mr. Peck and Mr. Frost on the subject. He is not certain whether he mentioned it first to Mr. Frost or Mr. Peck; the first time to Mr. Peck was, no doubt, in his works in Connecticut, in June, 1843; he cannot recollect when the first time he mentioned it to Mr. Frost, but it was either in June or July, 1843; he thinks it was early in June. He has none of his drawings at present. The first drawing showed the appearance of a lead cylinder, the ram at the mouth of the cylinder, which ram should be hollow; a die, to be placed in the head of the ram; the pipe should

form at the head of the ram as the ram rose by any power that might be applied to it, and pass out through the bottom of the ram; the mandril or core, to form the calibre of the pipe, should come from the head of the cylinder.

From comparing this evidence with Mr. Cornell's specification, it will be seen that the invention therein described is substantially, if not exactly, that for which he now claims a patent. That it is a great improvement is admitted; and the only question is, Who is entitled to the priority of invention? There being no evidence that any other person invented it, Mr. Cornell must be adjudged to be the first inventor. But it is said that Mr. Cornell is not entitled to a patent because he has never reduced the invention to practice. But reducing to practice differs from bringing into use. There is no law requiring the applicant to reduce his invention to actual use before he can obtain a patent. On the contrary, the use of the invention before obtaining a patent is one of the reasons for refusing it. An inventor has reduced his invention to practice when he has so described it on paper, with such drawings or model, as to enable any person skilled in the art to make and use the same. He must show that it is practicable, and the manner in which it may be used. But it is not necessary that he should do this until he has perfected his invention and is ready to apply for a patent. He may have conceived the idea years ago, but is not obliged to furnish drawings or model until he makes his application. In the present case, the specification and drawings and model have been filed, showing the invention to be practicable and the manner in which it can be used.

It is suggested that Mr. Cornell has not used "reasonable diligence in adapting and perfecting" his invention, having done nothing from the spring of 1843 to the winter of 1846, and therefore has lost the benefit of his priority of invention. That clause of the section is only applicable to the case of a patent surreptitiously or unjustly obtained while the first inventor was using reasonable diligence in adapting and perfecting his invention—not to the case of conflicting applicants before any patent is granted. It is one of the pleas which the defendant, who is a supposed violator of the surreptitious patent, may plead; and if pleaded, it may be necessary for the defendant to show, in order to vacate the patent, that he was using reasonable diligence,

&c., when the patent was obtained. But before a patent is granted to any one for the invention, there is no law that requires the first inventor to disclose his invention within any limited time before application for a patent; and there is no limitation, unless the lapse of time be sufficient to show an abandonment of the invention, which is a question for the jury and not for the Commissioner; nor does the priority of application for a patent decide the priority of invention.

It should be borne in mind that the cases cited from the books are all cases at law or in equity in actions for violations of patents already granted. The proceedings before the Commissioner of Patents are initiatory. The question is "whether the patent shall be granted"—not "whether it shall be vacated;" and a patent may be granted or refused upon less evidence than would be required to sustain or amend it.

Upon all points made in this case, I refer to the opinion in the case of appeal of Hildreth *v.* Heath, filed in the Patent Office on the 15th of October, 1841. (*Ante*, p. 12.)

Upon consideration of the whole case, I am of opinion that Samuel G. Cornell is the first inventor of the improvement in the machine for making lead pipe, as claimed in his specification, and that the decision of the Commissioner of Patents awarding the priority of invention to the said Samuel G. Cornell be, and the same is hereby, affirmed, and that he is entitled to receive a patent as prayed for.

Chas. M. Keller and *J. J. Greenough*, for appellant.

E. B. Stoughton, for appellee.

W. P. N. Fitzgerald, for Commissioner.