

Statement of the Case.

This makes it unnecessary to consider whether there was such fraud on the part of Anthony as to charge the lands in the hands of Ayer, even if the Trust Company were now proceeding against him under the mortgage.

The decree is

Affirmed.

SMITH & GRIGGS MANUFACTURING COMPANY
v. SPRAGUE.

APPEAL FROM THE CIRCUIT COURT OF THE UNITED STATES FOR
THE DISTRICT OF CONNECTICUT.

Argued October 24, 1887. — Decided November 14, 1887.

The use of his own invention by an inventor, for the purpose of testing the machine, in order by experiment to devise additional means for perfecting the success of its operation, is not a public use under Rev. Stat. § 4886, and if a profit is derived from the sale of the product of its operation, merely as incident to such use, the character of the use is not thereby changed; but if the use is mainly for the purpose of trade and profit, the experimenting being incidental only, and it is public, and is continued for a period of more than two years prior to the application for a patent for the invention, it comes within the prohibition of that statute. When it is clearly established that there was a public use of an invention by the inventor for more than two years prior to his application for a patent for it, the burden is on him to show by convincing proof that the use was not a public use, in the sense of the statute, but that it was for the purpose of perfecting an incomplete invention by tests and experiments.

Claims 1, 2, 3, 4, and 6 in letters-patent No. 228,136, dated May 25, 1880, and Claims 2, 3, and 5 in letters-patent No. 231,199, dated August 17, 1880, both granted to Leonard A. Sprague for improvements in machines for making buckle-levers, are void by reason of a public use of the invention by the patentee for a period of more than two years prior to his application for patent No. 231,199; as to claim 5 in letters-patent No. 228,136, and claims 1 and 4 in letters-patent No. 231,199, this court agrees with the Circuit Court, for the reasons stated in the opinion of the latter.

In equity, for infringement of letters-patent. Decree in favor of the complainant; 12 Fed. Rep. 721. From this decree an appeal was taken. The case is stated in the opinion of the court.

Opinion of the Court.

Mr. M. B. Philipp and *Mr. George E. Terry* for appellant.

Mr. Charles E. Mitchell for appellee.

MR. JUSTICE MATTHEWS delivered the opinion of the court.

This is a bill in equity for an injunction and account based upon the alleged infringement by the appellant of letters-patent No. 228,136, dated May 25, 1880, and letters-patent No. 231,199, dated August 17, 1880, for improvements in machines for making buckle-levers, issued to Leonard A. Sprague, the appellee. The defences relied on are, 1st, a denial of the infringement alleged in respect to the fifth claim of patent No. 228,136 and the first and fourth claims of patent No. 231,199; 2d, as to all the other claims of both, that a machine embodying them was in public use for more than two years prior to the application for the patents. The application for patent No. 228,136 was filed on November 11, 1879, while that for patent No. 231,199 was filed December 2, 1878, the two being divisions of an application based on the same model. The machines described in the two patents, it is admitted, are substantially the same in construction and operation, both patents being for different parts and combinations of a single machine. For the purposes of this case, therefore, the date of the application is to be taken as of December 2, 1878, being the earlier of the two.

The machine is for making levers of buckles used almost exclusively on "arctic" overshoes. These levers are made from a single piece of brass, with slots through them near each end to fasten them to the strap of a shoe, and are bent by formers and swaged by dies so that they have what is termed a lip or bead, which bears upon the holding strap, two grooves within which lies the bar or pivot of the buckle, and two beads at the upper edge for a finish and to prevent the strap from cutting when it is fast through the slots and bears upon them when in use. There is no claim in these patents for the buckle-lever itself as a new article of manufacture, for which,

Opinion of the Court.

however, Sprague, the appellee, had a prior patent dated May 27, 1862. The levers are made from a strip of metal by a succession of operations in the patented machine. The first step is to produce the slotted blank; the next, to bend it by doubling it upon itself into a U-shape; the next, to produce the central double bead forming the grooves; and the next, to produce the double beads between the slot and the edge of the lever. The machine is organized to feed a strip of sheet brass under punches which punch the slots in the blank, and then cut it from the strip; to feed this blank over a matrix where it is bent into U-form; to feed it on to a mandrel, on which, by a pair of dies, it is partially formed, and then along that mandrel to a second pair of dies, where its form is completed. The machine is automatic, and while these successive steps take place in the complete manufacture of a single lever, all the various steps in the process, with respect to successive levers, take place simultaneously. So that as each lever is completely and finally formed on the mandrel it is pushed from the mandrel by another to take its place in that stage of formation.

The 1st, 2d, 3d, 4th, and 6th claims of patent No. 228,136, and the 2d, 3d, and 5th claims of patent No. 231,199, are those in respect to which the alleged infringement is admitted, and as to which the defence of two years' prior public use is urged. These claims are as follows:

Of patent No. 228,136—

“1. In combination with the mandrel M, provided at its lower edge with the rib m and with the short ribs m^2 m^2 , the dies N N' O O, whereby, after the partially formed lever has been acted upon by dies N N', the rib m serves as a support or guide over which said lever may be moved to a proper position relative to dies O O, substantially as set forth.

“2. In a machine for making buckle-levers, the combination of the mandrel M, the dies N N', advanced on planes substantially at right angles to the planes of the partially formed buckle-lever, and the tongue n^2 , attached to the die N, substantially as set forth.

“3. In a machine for making buckle-levers, the combination,

Opinion of the Court.

with the mandrel, the punch which punches blanks from a continuous sheet of metal, and two or more dies which successively form the metal into the desired shape, of a carrier which moves a blank from the punches to the forming-dies and advances the partially formed levers against the preceding lever, substantially as set forth.

“4. In a machine for making buckle-levers, the combination, with the matrix L and folder l^2 , of the dies N N', the mandrel arranged to receive the blank from the matrix, and the carrier, substantially as set forth.”

“6. In a machine for making buckle-levers, the combination, with the folder, l^2 , of the pusher-pin c^3 , attached to and moving with the punch-stock C, and a returning-spring, which lifts the folder, substantially as set forth.”

Of patent No. 231,199 —

“2. In a machine for making buckle-levers, the combination, with the die which punches blanks from a continuous sheet of metal, of two or more dies which successively form the metal into the desired shape, and a carrier which moves a blank from the punching-die to the forming-dies and advances the partially formed lever against the preceding lever, substantially as set forth.

“3. In a machine for making buckle-levers, the combination, with the mandrel M, provided with the rib m , of the dies N N' and a stop adapted to engage with the lower end of the lever and determine the length of the bit u , substantially as described.”

“5. The herein-described method of manufacturing buckle-levers—that is to say, by bending the blank into U-shape, then forming the bit u and seats u^2 u^3 , and subsequently forming the grooves u^4 , substantially as herein set forth.”

The claims in respect to which infringement is denied are as follows :

Of patent No. 228,136 —

“5. In a machine for making buckle-levers, the combination, with the mandrel M and dies N N', of the springs N^2 N^2 , to press the dies forward into proper position relative to the mandrel, substantially as set forth.”

Opinion of the Court.

Of patent No. 231,199 —

“1. In a machine for making buckle-levers, the combination of the mandrel *M*, provided with the ribs *m m³*, of the dies *N N' O O*, and a support, which presses the part *u* of the lever against the rib *m*, substantially as set forth.”

“4. In a machine for making buckle-levers, the combination, with the mandrel *M*, having rib *m*, of the dies *N N'* and stops adapted to engage both ends of the partially formed lever, to regulate its position relative to the mandrel and dies, substantially as set forth.”

It will be observed that the claims in respect to which the infringement is denied do not embrace the whole invention claimed in the two patents. They cover only certain definite and specific combinations of parts of the mechanism. It is possible, therefore, that a defendant might be guilty of infringement in respect to all the other claims in the two patents, and yet not infringe the three claims specified above. That is to say, he might use a machine which embodied all the combinations except those specified in these three claims. These he might entirely omit without any substitute, or he might have a substitute for them so different as to amount to a separate invention, and therefore not mere equivalents for them.

In the examination of the question, therefore, of the prior public use, for two years before the date of the application, of the invention as embodied in those claims in respect to which the infringement is admitted, we assume for the present that the machine used by the defendant is an infringement of that covered by the complainant's patents only so far as it is covered by them, excluding the three claims in respect to which the infringement is denied.

The testimony on the subject of the prior public use by the complainant is, that from the fall of 1874 until the fall of 1877, and thus more than two years prior to December 2, 1878, the complainant had in use for the purpose of profit in his business, operated in his factory by his workmen for the production of arctic overshoe buckles, a machine which contained all the elements and combinations covered by the

Opinion of the Court.

claims in the two patents in respect to which the defendant confesses infringement. This machine was practically successful in that during the period of its use the complainant produced and sold about 50,000 gross of levers used on these shoe buckles, which he sold to his customers in the market. It was a public use in the sense of the statute and within the decisions of this court, inasmuch as it was used by the complainant in the regular conduct of his business by workmen employed by him in its operation, and in the view of such part of the public as chose to resort to his establishment, either for the purpose of selling material for the manufacture or of purchasing its product. It is claimed, however, and it was so decided by the Circuit Court, that this prior use of the machine in that form was not a public use within the prohibition of the statute so as to defeat the patent, because that use was experimental only, of an imperfect machine, embodying an incomplete invention, in order to enable the inventor to perfect it by improvements actually added, and to overcome defects developed by this use, which improvements are contained in the three additional claims, and which were added as parts of the invention within two years before the date of the application.

The matters under this head are stated by the learned judge of the Circuit Court in his opinion contained in the record, as follows:

"The facts are, that from 1862 to 1868 the patentee made another kind of buckle from those produced by this machine upon two or more different machines. Between 1868 and the fall of 1873 another kind of buckle was made by one machine. For a year prior to the fall of 1874, he made the 'beaded' buckles—*i.e.*, the kind now under consideration,—upon two machines.

"In 1874 he ordered the skeleton of the patented machine from Bliss & Williams, his workmen or himself making the patented portions. This machine was in a condition in which it was used to manufacture buckle-levers in the fall of 1874, and continued to be so used, without substantial change, until the spring of 1878; but it was not a perfected invention. It

Opinion of the Court.

had two defects — one, that it choked, and the overlapping blanks had to be picked apart by a workman; another, that the bead was not parallel with the slot, because the blank could not be forced upon the mandrel evenly. Nevertheless, it was used, in some seclusion from the public, to make levers, and it made about 50,000 gross which were sold; but the organization was defective until it was perfected in the early part of 1878, after repeated experiments. The inventor always adhered to the idea of perfecting the invention, and then obtaining a patent upon it. The two improvements which were introduced in 1878, were the springs between the levers and the dies, which prevented overlapping, and the rib m^3 , in order to keep the blank in position when it was forced upon the mandrel. These changes, which are apparently not of great importance, perfected the invention, and enabled the inventor to take the final step between partial and complete success. It is perfectly true that a patentee cannot be permitted to use for profit a machine which embodies a perfected invention for a period of two years or more, and then obtain a valid patent for the old machine by means of the addition of some new improvements, which, in the language of Judge Lowell, 'were intended to benefit the patent rather than the machine.' *Perkins v. Nashua Card, &c., Co.*, 2 Fed. Rep. 451, 454. The present case is that of a machine which was imperfect, and which demanded and received the continuous experiments of the inventor to remedy the defects in its organization. It is not true that the inventor cannot safely use for profit such a machine in its imperfect state, lest two years should elapse during the experimental period before the invention is completed and the patent is applied for." *Sprague v. Smith & Griggs Mfg. Co.*, 12 Fed. Rep. 721.

We think this view might be correct and applicable to the case if the invention of the complainant, which he sought to embody and protect by the patents, consisted of the entire machine as he ultimately constructed and operated it, considered as a unit; for, in that view, it would have been imperfect and incomplete, and merely experimental, until it had received from its inventor every element necessary to its operation.

Opinion of the Court.

But that supposes that his invention is nothing less than the single, entire, and completed machine. We do not think that to be the present case. Here the invention is not one, but many; each of the claims in both of the patents is for a specific combination in a practically successful machine for making buckle-levers, and each is a separate and distinct invention, and claimed as such. All the elements of these combinations were old; it was the specific arrangement and several combinations and sub-combinations of them that are claimed as new. The use of any one of these combinations, or of any number of them, in such a machine, would be an infringement of the complainant's rights as patentee. And if, without the use of the combinations contained in the excluded claims, the complainant had a machine practically useful for the purpose for which it was designed, which could be used with commercial success as superior to modes of manufacture previously in use, and which, in fact, he did so use for profit in the ordinary course and conduct of his business, and for the purpose of a successful prosecution of that business, it can hardly be said with propriety that such use was merely experimental, although during the period of its operation he was also engaged in the invention of improvements by which he hoped and expected to make it more valuable and useful.

A use by the inventor, for the purpose of testing the machine, in order by experiment to devise additional means for perfecting the success of its operation, is admissible; and where, as incident to such use, the product of its operation is disposed of by sale, such profit from its use does not change its character; but where the use is mainly for the purposes of trade and profit, and the experiment is merely incidental to that, the principal and not the incident must give character to the use. The thing implied as excepted out of the prohibition of the statute is a use which may be properly characterized as substantially for purposes of experiment. Where the substantial use is not for that purpose, but is otherwise public, and for more than two years prior to the application, it comes within the prohibition. The language of § 4886 of the Revised Statutes is, that "any person who has invented or discovered

Opinion of the Court.

any new and useful . . . machine, . . . not in public use or on sale for more than two years prior to his application, . . . may . . . obtain a patent therefor."

A single sale to another of such a machine as that shown to have been in use by the complainant more than two years prior to the date of his application would certainly have defeated his right to a patent; and yet, during that period in which its use by another would have defeated its right, he himself used it, for the same purpose for which it would have been used by a purchaser. Why should the similar use by himself not be counted as strongly against his rights as the use by another to whom he had sold it, unless his use was substantially with the motive and for the purpose, by further experiment, of completing the successful operation of his invention?

On the other hand, the use of an invention by the inventor himself, or by another person under his direction, by way of experiment, and in order to bring the invention to perfection, has never been regarded in this court as such a public use as under the statute defeats his right to a patent. *Shaw v. Cooper*, 7 Pet. 292; *Elizabeth v. Pavement Co.*, 97 U. S. 126; *Egbert v. Lippmann*, 104 U. S. 333. In this last case it was said (p. 336): "A use necessarily open to public view, if made in good faith, solely to test the qualities of the invention, and for the purpose of experiment, is not a public use within the meaning of the statute." In *Elizabeth v. Pavement Co.*, 97 U. S. 126, 134, it was said: "When the subject of invention is a machine, it may be tested and tried in a building either with or without closed doors. In either case, such use is not a public use, within the meaning of the statute, so long as the inventor is engaged, in good faith, in testing its operation. He may see cause to alter it and improve it, or not. His experiments will reveal the fact whether any and what alterations may be necessary. If durability is one of the qualities to be attained, a long period, perhaps years, may be necessary to enable the inventor to discover whether his purpose is accomplished. And though, during all that period, he may not find that any changes are necessary, yet he may be justly said to be using

Opinion of the Court.

his machine only by way of experiment; and no one would say that such a use, pursued with a *bona fide* intent of testing the qualities of the machine, would be a public use within the meaning of the statute. . . . Whilst the supposed machine is in such experimental use, the public may be incidentally deriving a benefit from it. If it be a grist mill, or a carding machine, customers from the surrounding country may enjoy the use of it by having their grain made into flour, or their wool into rolls, and still it will not be in public use, within the meaning of the law. But if the inventor allows his machine to be used by other persons generally, either with or without compensation, or if it is, with his consent, put on sale for such use, then it will be in public use and on public sale within the meaning of the law."

The only witness called to prove the fact of two years' prior use was the patentee himself. It is to be supposed that his statement of the circumstances is as favorable to himself as the facts will justify. It appears from this that he commenced making buckles under his patent of May 27, 1862, No. 35,401, in the course of that year. The manufacture of the levers for these buckles required the use of three separate machines, one for cutting the blank with the holes punched, another for drawing it into a U-shape, and the other for pressing the U-shaped blank into its final form on a mandrel. This continued until 1867 or 1868, from which time until the fall of 1873, he testifies that he made a certain class of levers in one operation, but that they were "not arcties." In order to make the levers for the arctic buckles, from the fall of 1873 to the fall of 1874, two machines were used, one for making the whole of the lever, "except putting on a bead on the tail of the lever;" this operation was performed by a second machine. While producing the buckle-levers in this way upon two separate machines, the patentee states that he made changes in the mechanism with a view of producing the entire lever with a bead on by means of one machine. One change was, to put in an apparatus "to stop the machine when it worked imperfectly." Another was to put "a friction-joint in the lever," that is, the lever of the machine, which he thinks he put in dur-

Opinion of the Court.

ing the year 1866. The change whereby he was enabled to put the bead on, and which he says was made in 1870, or 1871, or 1872, he states was not successful. In describing the causes of the failure in this machine to produce the beaded arctic buckle-lever he says: "One feature, it broke the levers that done the pressing, and, by not driving on to mandrel true, it would not strike it in the right place, and had to be sent back by customers." The result was, that in the year 1874 he abandoned the use of this machine for the purpose of making beaded arctic buckle-levers, and constructed, in the spring of that year, a new one. This press was manufactured for him by Bliss & Williams, in March, 1874, and, as made by them, included the press, the main shaft, one of the levers, the lever for driving the carrier, the arrangement for working the levers for operating the striking dies, and the bed of the buckle-lever machine was planed for receiving the dies and the working parts of the buckle-lever machine. The other parts of the machine were made by the patentee himself and his own workmen. On the subject of this machine, the following is a portion of his examination:

"Q. 115. After carefully examining your patent 231,199 again, please state wherein that machine, as it was used by you in the latter part of the year 1874, differed, if at all, from the machine described in your said patent and shown therein.

"A. The springs between the levers that worked the striking dies are in the patent, but were not in the machine, and this rib m^3 on top of the mandrel, which projects over the matrix to keep the U-shaped blank down in position when forced on to the mandrel to keep it true and straight, was not in the machine. The point in the lower side of the carrier or driver is not in the patent, as I used the bar m^3 in its place. It gave me a great deal of trouble, and so I changed it. I don't know as I see a great deal more. I don't see anything more that I can describe.

"Q. 116. When did you put the springs between the levers and the striking dies in that machine?

"A. It was in 1877, in the fall.

"Q. 117. When did you put the extension of the mandrel,

Opinion of the Court.

referred to as m^3 in your patent, in that machine in place of the point on the carrier to hold the U-shaped blank down in the matrix?

“A. It was either in January or February, 1878; I think it was.

“Q. 118. Did you use that machine between the fall of '74 and the fall of '77 for making buckle-levers such as are described in your patent 231,199?

“A. Yes.

“Q. 119. How many did you make during that period of time on that machine?

“A. Well, I must have made about fifty thousand gross, as near as I can come at it.

“Q. 120. And what did you do with that fifty thousand gross?

“A. Sold them. I might have made a few more and I might have made a few less; I can't tell till I look at my books; I could come nearer to it.

“Q. 121. Which of the figures of the drawings of your patents in suit illustrates these fifty thousand gross of buckle-levers?

“A. Figure 9 of 231,199.”

The witness further states that into the room where this machine was being operated people came at will, some to sell brass; others, people from the neighboring factories; and others to buy buckles; that the machine was open to their inspection; and in answer to the question whether an attempt was made to keep the operation of the machine secret during this period of time, the witness states: “From parties whom we thought were manufacturing buckles; we endeavored not to let them see them closely;” “not from those that we became acquainted with, and did not suppose would want to use any such machine.”

In respect to the changes made in the machine in 1877 and 1878, and which are covered by claims in the patents, he further testifies on cross-examination as follows:

“Q. 171. After you had completed the new machine in the way described in reply to question 115 in your testimony, did you have any practical trouble in its working?

Opinion of the Court.

“A. Not near as much.

“Q. 172. What had been the trouble up to that time?

“A. Forming the bead or telescoping or failing to drive on the mandrel.

“Q. 173. Describe what you mean by telescoping.

“A. The buckle-levers, when the die formed the first impression on to the mandrel — the next blank from the matrix has to force that along, and it would spread open and go on the outside of the tongue formerly on there, and what I call telescope.

“Q. 174. Was this telescoping a real practical difficulty in the operation of this machine up to that time?

“A. It was, and gave me considerable trouble.

“Q. 175. Did you experiment from time to time to devise means to prevent it?

“A. Yes, sir.

“Q. 176. Now, about the trouble in the beading which you say existed up to the time when, in the fall of 1877, and in January or February, 1878, you made the change you have described. Please explain what the trouble was.

“A. One trouble was, that if it was not held in the right position in the matrix, it would go on to the mandrel one side longer than the other to match the ribs. It would not come in the centre.

“Q. 177. What would be the result of one side of the bent blank being longer than the other when it went on to the mandrel?

“A. It made a bad lever, which was rejected by my customers, and consequently was lost.

“Q. 178. Did you have any trouble from the bead not being made precisely parallel with the slot before you made these improvements of 1877 and '78?

“A. Yes, sir.

“Q. 179. How did that come about?

“A. One cause that I have described, and telescoping, not being held in the right position in the matrix to be forced on to the mandrel.

“Q. 180. State whether or not it was a very delicate operation to make the bead precisely parallel with the slot, and why.

Opinion of the Court.

“A. It gave me a great deal of trouble to do it. If it was not forced on to the mandrel evenly it would come that way.

“Q. 181. Did you have any practical trouble in any of these respects after you completed the machine in 1877 and '78 by the changes which you have described?

“A. Not when the dies and tools were in order—mandrel, carrier, &c.

“Q. 182. I suppose you mean that the parts were liable to wear and get out of order like other machines; am I right?

“A. Yes, sir.

“Q. 183. State whether or not it was your intention, while you were experimenting upon and improving this last machine, to obtain a patent when it should be completed.

“A. It was.”

“Q. 187. State whether to complete the machine for making these arctic buckle-levers with a slot and bead so that all, or practically all, the levers would come out of the machine with a perfect bead required the later improvements which you put upon the machine.

“A. Yes, sir; or I would not have put them on.

“Q. 188. What would be the effect of telescoping upon the machine itself before you devised the improvements which you made in 1877 and 1878?

“A. It would break the mandrel sometimes, and choke up the machine so that we had to get it out.

“Q. 189. In what way did you get out the telescoping blanks when the machine was choked?

“A. Stopped the machine, and took a pointed steel with a hook on and drew them back, and sometimes worked them off the further end of the mandrel.”

On reëxamination, he further testifies as follows:

“Q. 190. Did you ever have any trouble with the machine in choking after you had made the slight alterations you have spoken about, of extending the mandrel and putting in the springs?

“A. Yes, sir; some, but it was not near as much.

Opinion of the Court.

“Q. 191. What caused this choking, since those alterations —telescoping, or what ?

“A. Sometimes telescoping and sometimes the blank not being cut smooth.

“Q. 192. In what way did you get out the telescoping blanks when the machine was choked, after it was altered ?

“A. By stopping the machine, and using a sharp-pointed hook, the same as before.

“Q. 193. Since those alterations were made, have you had any trouble about putting the bead on, on account of the blank not going on the mandrel just right in this machine ?

“A. Yes, sir ; when the matrix was worn and the die was worn, the die, not cutting smooth, will throw it around.

“Q. 194. Would the telescoping of the blanks, after the alterations were made in this machine, also injure the machine, and, if so, what part ?

“A. The telescoping would produce the same injury as before when it did telescope.”

Also, on further cross-examination, he testified as follows:

“Q. 203. After your machine was completed, by the changes of 1877 and 1878, did you have any practical trouble in forming the bead, or pushing the blank into the mandrel, or from telescoping, or from waste, when the machine was in good running order and in repair ?

“A. No, sir ; not any practical trouble.”

And on further examination :

“Q. 204. Wasn’t the telescoping that you have testified about, that occurred in this machine after it was altered by extending the mandrel and putting in the springs, a practical difficulty ?

“A. Yes ; one of them.

“Q. 205. What caused this practical difficulty after those changes were made ?

“A. There was several. The matrix wearing, the dies wearing smooth, not holding the brass evenly upon the mandrel, and the end of the carrier wearing so as not to force the U-shaped blanks on evenly.

Opinion of the Court.

"Q. 206. And those same things caused the telescoping in the machine before it was altered, didn't they?

"A. Yes; and when the die wasn't worn it would telescope."

The effect of this testimony, it is claimed by the appellee, is that "before the changes the telescoping took place when the machine was in order, the defect residing in the organization; after the changes, it would only take place when the machine was out of repair." On the other hand, it is contended on the part of the appellant, that, although the patentee, on being asked the question whether he experimented from time to time to devise means to prevent the difficulty of telescoping which he had experienced, answered in the affirmative, yet "there is nothing to show that these experiments were made prior to the fall of 1877, and he is entirely silent as to what, if any, they were, and what, if anything, was done by him by way of experimenting. As the record stands, this machine was not changed or altered, nor was any experiment made with it or on it, during the period of some three years while it made over 7,000,000 buckle-levers, which were sold. Sprague does not intimate anywhere that he made any experiments to overcome the objection which he said existed in the guiding of the U blanks upon the mandrel, at any time before he added to the mandrel an ordinary guide or rib, *m³*, which was in January or in February, 1878;" and that "the only testimony as to his intention of patenting the machine while experimenting is his answer to X-Q 183, as follows: 'X-Int. 183. State whether or not it was your intention, while you were experimenting upon and improving this last machine, to obtain a patent when it should be completed. A. It was.'"

In considering the evidence as to the alleged prior use for more than two years of an invention, which, if established, will have the effect of invalidating the patent, and where the defence is met only by the allegation that the use was not a public use in the sense of the statute, because it was for the purpose of perfecting an incomplete invention by tests and experiments, the proof on the part of the patentee, the period covered by the use having been clearly established, should be full, unequivocal, and convincing.

Opinion of the Court.

The testimony of the patentee seems to be indefinite and vague. The question whether, during the period of his use of the machine, he was experimenting for its improvement, put to him by his counsel, suggested its own answer, which was in the affirmative, as also that respecting his intention during that time to apply for a patent. He gives no account of the dates of any such experiments, nor any particulars respecting them. He does not say whether more than one mode of overcoming the difficulties experienced was suggested and tried, or not; nor, if more than one device was attempted, what they were. The statements are meagre and bald, and quite insufficient to satisfy us that the problem of perfecting the machine, in the particulars in which it was proved to be deficient, was one that was exercising the ingenuity and inventive faculty of the patentee continuously, with the ever-present intention, during the whole period, to make an application for the patents as soon as he had reached a satisfactory solution.

In the present case, the use of the machine was apparently for the purpose of conducting an established business; the machine itself was the only one used for the manufacture, of which the patentee, by a prior patent, already had a monopoly. He alone supplied the market with the article, and the whole demand was satisfactorily met by this single machine. To this extent, it operated successfully. That it was capable of improvement need not be denied, nor that, while it was in daily use, its owner and inventor watched it with the view of devising means to meet and overcome imperfections in its operation; but this much can be said in every such case. There are few machines, probably, which are not susceptible of further development and improvement, and the ingenuity of mechanics and inventors is commonly on the alert to discover defects and invent remedies. The alterations made in the machine in question, however useful, were not vital to its organization. Without them, it could and did work so as to be commercially successful.

The impression made upon us by the evidence, the conclusion from which we cannot resist, is, that the patentee unduly

Opinion of the Court.

neglected and delayed to make his application for the patents, and deprived himself of his right thereto by the public use of the machine in question, so far as it is embodied in the claims under discussion.

The proof falls far short of establishing that the main purpose in view, in the use of the machine by the patentee, prior to his application, was to perfect its mechanism and improve its operation. On the contrary, it seems to us that it shows that the real purpose in the use was to conduct the business of the manufacture, the improvement and perfection of the machine being merely incidental and subsidiary.

The case upon the proofs seems to us to fall within the principle of the decision of this court in *Hall v. Macneale*, 107 U. S. 90, 96, 97. It was there said: "It is contended that the safes were experimental and that the use was a use for experiment. But we are of opinion that this was not so, and that the case falls within the principle laid down by this court in *Coffin v. Ogden*, 18 Wall. 120. The invention was complete in those safes. It was capable of producing the results sought to be accomplished, though not as thoroughly as with the use of welded steel and iron plates. The construction and arrangement and purpose and mode of operation and use of the bolts in the safes were necessarily known to the workmen who put them in. They were, it is true, hidden from view after the safes were completed, and it required a destruction of the safes to bring them into view. But this was no concealment of them or use of them in secret. They had no more concealment than was inseparable from any legitimate use of them. As to the use being experimental, it is not shown that any attempt was made to see if the plates of the safe could be stripped off, and thus to prove whether or not the conical bolts were efficient."

It follows that patent No. 228,136, to the extent of the 1st, 2d, 3d, 4th, and 6th claims, and patent No. 231,199, in respect to the 2d, 3d, and 5th claims, must be held void by reason of a prior public use of the invention covered thereby for more than two years before the date of the application. In respect to the alleged infringement of the 5th claim of patent No.

Counsel for Parties.

228,136, and the 1st and 4th claims of patent No. 231,199, we agree with the conclusions of the Circuit Court for the reasons stated in its opinion, which it is not necessary here to repeat. *Sprague v. Smith & Griggs Mfg. Co.*, 12 Fed. Rep. 721.

As we find the decree of the Circuit Court to be erroneous in respect to the other claims, it must be

Reversed, and the cause remanded with instructions to take further proceedings therein, in conformity with this opinion.

ANDREWS *v.* HOVEY.

APPEAL FROM THE CIRCUIT COURT OF THE UNITED STATES FOR THE SOUTHERN DISTRICT OF IOWA.

Argued October 18, 19, 1887. — Decided November 14, 1887.

Reissued letters-patent No. 4372, granted to Nelson W. Green, May 9th, 1871, for an "improvement in the method of constructing artesian wells," the original patent, No. 73,425, having been granted to said Green, as inventor, January 14th, 1868, on an application filed March 17th, 1866, are invalid, because the invention was in public use by others than Green more than two years prior to his application for the patent.

The proper construction of § 7 of the act of March 3d, 1839, (5 Stat. 354,) is, that if, more than two years before the application for a patent, the invention covered by it was in public use, whether with or without the consent of the subsequent patentee, the patent was rendered invalid.

In equity; for alleged infringement of letters-patent. Decree dismissing the bill, from which complainant appealed. The case is stated in the opinion of the court.

Mr. Joseph C. Clayton and *Mr. Anthony Q. Keasbey* for appellants.

Mr. Jed Lake for appellee. *Mr. M. W. Harmon* was with him on the brief.