

16FED.CAS.—20

Case No. 8,902.

M'MILLIN ET AL. V. BARCLAY ET AL.

[5 Fish. Pat Cas. 189; 4 Brewst. 275; 3 Pittsb. Rep. 377; 19 Pittsb. Leg. J. 149; Merw. Pat. Inv. 433.]¹

Circuit Court, W. D. Pennsylvania.

Nov., 1871.

PATENTS—PUBLIC USE—UNAVOIDABLE DELAY—HOW RIGHTS ENFORCED—LAW—EQUITY—PREVENTION.

1. Where prevention of the violation of an inventor's rights is sought, the equity jurisdiction of the court must be invoked, as alone competent to furnish adequate relief. A court of law possesses no such power; its remedies afford redress only for past infringement but no effectual security against future aggressions.
2. A trial at law is not a prerequisite to the exercise of the equity jurisdiction of the circuit court.
3. There is a broad distinction between the jurisdictional right to take cognizance of a complaint and a denial of the relief which the complainants ask. Want of equity does not imply a defect of jurisdiction.

[Cited in *Atwood v. Portland Co.*, 10 Fed. 285.]

4. The public use, for more than two years before the application, which renders a patent void, may be a public use by the inventor himself of a single machine.

[Cited in *Consolidated Fruit Jar Co. v. Wright*, 94 U. S. 94; *Henry v. Providence Tool Co.*, Case No. 6,384; *Maiming v. Cape Ann Isinglass & Glue Co.*... Id. 9,041; *Perkins v. Nashua Card & Glazed Paper Co.*, 2 Fed. 453; *Andrews v. Hovey*, 124 U. S. 710, 8 Sup. Ct. 681.]

5. The patentee completed his invention in 1855, and placed it on a steamboat which he owned, and used it as long as the boat remained under his control. He applied in April, 1865, for a patent which was granted in February, 1866: Held, that the patent was void.

[Cited in *Andrews v. Hovey*, 124 U. S. 710, 8 Sup. Ct. 681.]

6. The act of 1861 [12 Stat. 246], which requires "that all applications for patents shall be completed and prepared for examination within two also," also provides that the delay may be condoned by proof to the satisfaction of the commissioner, that it was unavoidable. If a patent be granted, it must be assumed that there was evidence before the commissioner to show that there was no unavoidable delay in preparing the application for examination.

[Cited in *Goodyear Dental Vulcanite Co. v. Willis*, Case No. 5,603.]

7. The decision of the commissioner upon a question of fact, upon which he is authorized to pass, is unimpeachable, except upon the ground that it is ultra vires. An infringer can not assail it for fraud, much less for mere error of judgment.

[Cited in brief in *Fassett v. Ewart Manuf'g Co.*, 58 Fed. 364.]

8. The proof of actual abandonment, after application filed, ought to be indubitably clear. It ought not to rest upon doubtful or disputable inferences.
9. During two years before he applies for a patent an inventor may publicly sell and use his invention, without any presumption of abandonment.

10. If an inventor has furnished, by his application for a patent, conclusive evidence that he does not intend to abandon his invention to the public, the disproof of this intention ought to be by evidence of equal weight and significance.
11. M. applied for a patent July 23, 1855; after various proceedings, he was finally rejected August 25, 1856, on appeal to the commissioner. He did nothing more until the early part of 1867, when the specification was amended, and the patent was granted April 16, 1867: Held, that there was no abandonment of the application between 1856 and 1867.

[Cited in *Johnsen v. Fassman*, Case No. 7,365; *Colgate v. W. U. Tel. Co.*, Id. 2,995; *Andrews v. Hovey*, 124 U. S. 710, 8 Sup. Ct. 681.]

12. If the defendants appropriated the invention of the patentee, without consulting him, and he was passive when he knew it, because he was powerless to prevent them, he is not estopped from asserting his right when he is in a condition to enforce it.

[Cited in *Goodyear Dental Vulcanite Co. v. Smith*, Case No. 5,598.]

13. Although prior publications may be remotely suggestive of the invention, yet if they do not describe it in such terms that the public could construct and put it in practice, without further invention, they can not destroy the patent.
14. If a new or improved useful result is effected by means before well known, or any useful result is produced by a new mechanical device, or combination of old mechanical devices, in both cases the exercise of invention must necessarily be presumed, because both are the proper subjects of a patent.
15. The presumption of law is that the patentee is the original inventor of that for which he has obtained a patent. The burden of disproving this is upon the party who denies it. Evidence of disputable or doubtful import will not meet this requirement but it must be clear and convincing. To doubt is to be resolved against the party upon whom the burden rests.

[Cited in *Cook v. Ernest*, Case No. 3,155.]

16. Letters patent "for improvement in applying steam-power to the capstans of steamboats and other granted," granted to John S. M'Millin, April 16, 1867, are valid.
17. The import of the claim is operating the capstan of a steamboat by power transmitted from an auxiliary engine, when both engine and capstan are placed on the deck of the boat forward of the steam-boilers, so that their separate efficiency for all other purposes is preserved.

[Cited in *McMillan v. Rees*, 1 Fed. 723.]

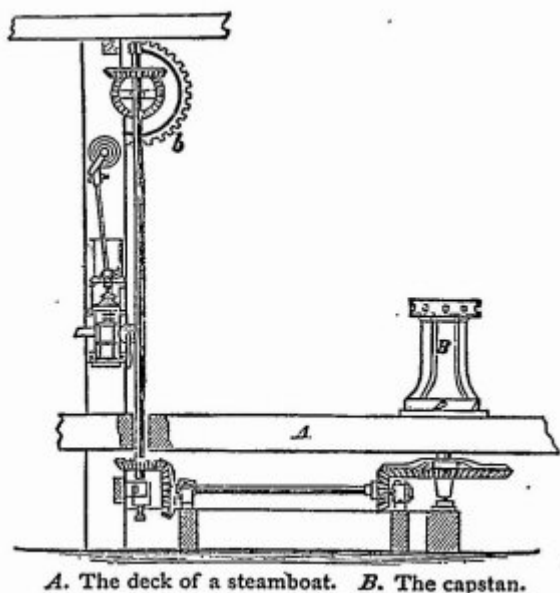
Final hearing on pleadings and proofs.

Suit brought [by John S. M'Millin, Hugh Campbell, and John Shaffer against James Barclay and others] upon two letters patent, granted to complainant, John S. M'Millin, one for "improvements in capstans for steamboats and other dated," dated February 20, 1866; and the other for "improvements in applying steam-power to the capstans of steamboats and other dated," dated April 16, 1867.

The claims of these patents were as follows:

Patent of 1866: "The arrangement of the wheels, 1, m, n, o, k, j, i, h, e, and d, shafts, 6, 5, 4, 3, and B, capstan-barrel, p, heads, q

and r, and pins, Q, the whole being constructed, arranged, and operating substantially as herein described, and for the purpose set forth." Patent of 1867: "Rotating a capstan, placed on deck of a boat, by means of an auxiliary engine, when said engine and capstan are placed forward of the steam-boilers of said boat, substantially as hereinbefore described, and for the purpose set forth."



The foregoing engraving represents the invention embodied in the patent of 1867, which is the only "one which it is material to illustrate, in view of the opinion.

Bakewell & Christy, for complainants.

M. W. Acheson and John Barton, for defendants.

MCKENNAN, Circuit Judge. June 9, 1855, John S. M'Millin, one of the complainants, filed a caveat in the patent office; and, on the 23d of July following, an application for a patent for a new and useful improvement in applying steam-power to the capstans of steamboats and other crafts. After several rejections and repeated renewals of his application, a patent was finally granted to him April 16, 1867, No. 63,917.

April 25, 1865, he applied for a patent for new and useful improvements in capstans for steamboats and other vessels, which was patented February 20, 1866, No. 52,730.

Of his interest in these patents he assigned two-thirds to Hugh Campbell and John Shaffer, and they are, therefore, joint complainants with him in the present bill, praying for an account and an injunction against the respondents for an alleged infringement of both patents.

To this bill the respondents Interpose the plea "that its subject matter is not within the jurisdiction of a court of equity, there being a direct, certain, full, and adequate remedy at law for such alleged grievance." I am not aware that it has ever been held that the court has not jurisdiction of a bill to enjoin the use of a patented invention, and for an account of profits by an infringer, because an action at law may be maintained to recover

damages for infringement By section 17 of the act of July 4, 1836 [5 Stat 124], re-enacted by the act of July 8, 1870 [16 Stat. 198], original jurisdiction is conferred upon the circuit courts, as well in equity as at law, in all suits for the violation of the rights of inventors, under the patent laws, and they are authorized, “upon bill in equity, filed by any party aggrieved, in any such case, to grant injunctions, according to the course and principles of courts of equity, to prevent the violation of the rights of any inventor as secured to him by any law of the United States, on such terms and conditions as said courts may deem reasonable.” It is clear from this that the circuit court may rightfully take cognizance of every controversy arising under the patent laws, and that where prevention of a violation of an inventor’s rights is sought, the equity jurisdiction of the court must be invoked, as alone competent to furnish adequate relief. A court of law possesses no such power; its remedies afford redress only for past infringement, but no effectual security against future aggressions. “The says,” says Mr. Justice Wayne, in *Mott v. Bennett* [Case No. 9,884], “upon which courts of equity have jurisdiction in patent cases, and upon which injunctions are granted in them, is not that there is no legal remedy, but that the law does not furnish a complete remedy to those whose property is invaded; for, if each infringement of the patent were to be made a distinct cause of

action, the remedy would be worse than the evil. The inventor or author might be ruined by the necessity of perpetual litigation, without ever being able to have a final establishment of his rights." *Hogg v. Kirby*, 8 Yes. 223; *Harmer v. Plane*, 14 Ves. 132; *Lawrence v. Smith*, Jac. 472.

Nor is a trial at law a prerequisite to the exercise of this jurisdiction. Such trial may be ordered; but if its allowance were demandable of right, still the jurisdiction of the court would remain untouched, because, in the end, its result might be adopted or rejected, as the exigencies of equity might require. But it is altogether within the sound discretion of the court to allow or refuse such trial. In *Goodyear v. Day* [Case No. 5,569], Mr. Justice Grier says: "It is a practice founded more on convenience than necessity. * * * A trial at law is ordered by a chancellor to inform his conscience; not because either party may demand it as a matter of right, or that a court of equity is incompetent to pass upon questions of fact or of legal titles. In the courts of the United States the practice is by no means so general as in England, or as it would be here, if the trouble of trying issues at law devolved on a different court."

The subject matter of this bill is an alleged infringement of the right of an inventor, and the relief prayed for is an injunction to restrain the further invasion of it. It is then within the express terms of the act of congress, defining the jurisdiction of this court, and authorizing the exercise of equity powers to effectuate it.

There is a broad distinction between the jurisdictional right to take cognizance of a complaint, and a denial of the relief which the complainant asks. Although the relief invoked may be refused, it does not follow that it is because the court can not inquire into the merits of the cause, and adjudge it accordingly. Want of equity does not imply a defect of jurisdiction. But it is only when the court is without power to pass upon the subject matter of the complaint, or to grant the relief sought, that its jurisdiction may be challenged.

These views are in no wise discordant with the manuscript opinion of Mr. Justice Grier, in *Sanders v. Logan* [Case No. 12,295], Western district of Pennsylvania, 1859. So far from disclaiming the jurisdiction of the court, he effect affirms it, by adjudicating the case upon its merits, and denying complainant's prayer, for the reason that he only asked what could be better secured by an action at law, and that to grant his prayer would inflict irreparable injury upon the respondent, but could not benefit him. It is an authority only for a conclusion, founded upon special facts and circumstances, such as characterized the case before him.

The respondents' plea to the jurisdiction must, therefore, be overruled.

The answer of the respondents denies infringement, and sets up various defenses, involving mainly the novelty of the invention and the claim of the parties to originality. These several defenses will be noticed in their proper order.

Two patents are in controversy. The first of these, in the order of date, is the last one applied for. Its claim is much less comprehensive than that of the other. In fact, as describing the method of effectuating the invention claimed in the last issued patent, it is really within the scope of the patent, although the latter is not limited to the specific combination claimed in the former patent. It seems to have been sought for in its restricted form, by reason of the rejection of the first and broader application, and to have led finally to the allowance of that application. The claim is for an arrangement or combination of specified mechanical devices, for the purpose of connecting the capstan of a steamboat with what is commonly known as the "little nigger the," the whole constructed, arranged, and operating as described in the specification. No one of these devices is claimed as the invention of the patentee; it is their combination and adaptation to the production of a new result, in which the novelty of the invention is alleged to consist. The application for this patent was filed April 25, 1865, and the patent was issued February 20, 1866. It is now alleged to be void, for the reason that the invention described in it was in public use more than two years before the application.

The patentee was engaged in the business of navigation on the Western rivers, and in 1854 bought the hull of a steamboat, upon which he proposed to introduce a mechanical arrangement to operate the capstan by a connection with the "nigger engine." The boat was finished in June, 1855. and was supplied with bevel gearing, by means of which the capstan was actuated by steam derived from the "nigger engine"—the whole embodying the same mechanical elements and arrangements which were described in this patent. The steamboat was called the "Silver Wave;" was chiefly owned by the patentee, and was commanded and navigated by him for many years afterwards. During all this time, this improved capstan arrangement was used upon her, without any, or at least any material change. More than two years, therefore, elapsed, during which this use continued, before the application for this patent.

The question then is, did such use of the invention invalidate the patent?

The act of July 4, 1836, forbids the granting of a patent for an invention which had, at the time of the application therefor, been in public use or on sale, with the consent or allowance of the inventor. This provision is modified by the act of March 3, 1839 [5 Stat. 353], so as to allow such use or sale for two years prior to the application. Different

opinions have been entertained as to the kind of use which these acts of congress contemplate. By some judges, they have been hold to mean a use in public by persons other than the inventor, and again, others have held that a use in public by the inventor himself, which is not merely experimental, will have the effect of invalidating the patent. In *Byan v. Goodwin* [Case No. 12, 186], Mr. Justice Story says: "It is clear by our law, whatever it may be by the law of England, that the public use or sale of an invention, in order to deprive the inventor of his right to a patent, must be a public use or sale by others, with his knowledge and consent, before his application therefor." But he must be understood to have predicated this of the facts in the case before him, in which only a use by persons other than the inventor was alleged. "While the object of the law was to protect the public against the exclusive claim of an inventor who had dedicated his invention to their use, by allowing its practical employment in public, it was, at the same time, designed to require of him reasonable diligence in applying for his patent. As it is the public use of a completed invention against which this provision of the law is directed, it could scarcely have been intended to authorize such use by the inventor himself, which, if employed by another, with his eonsent, would work a forfeiture of his right to a patent. His own direct act is just as significant of an intended abandonment of his inchoate right as is that of another, with his consent. Indeed, it is difficult to comprehend that a use in public by an inventor himself is not as effectually "a public use with his consent and as," as where his invention is permissively so employed by another. So it was held in *Pitts v. Hall* [Id. 11,192], Mr. Justice Nelson there says: "The patentee may forfeit his right to the invention, if he constructs it and vends it to others to use, or if he uses it publicly himself, in the ordinary way of public use of a machine, at any time prior to the period of two years before he makes his application for a patent That is, he is not allowed to derive any benefit from the sale or use of his machine, without forfeiting his right, except within two years prior to the time he makes his application. * * * *on other hand, if the machine was complete when it was constructed in June, 1843, and if the patentee put it into public use, or put it into operation himself publicly, deriving profit from it, and having no view of further improvements, or of ascertaining its defects, then, this use having occurred anterior to the two years, the effect would be to work a forfeiture."

It remains, then, to inquire whether the use by the patentee of his invention, more than two years before his application for a patent, was only a trial of it to test its efficiency, or ascertain its defects, and was, therefore, merely experimental. On this point, the proofs are decisively clear. On June 16, 1855, he filed in the patent office a caveat, in which he set forth that he had made certain improvements in applying steam-power to the capstans of steamboats, and that he was then engaged in experiments to perfect the same, preparatory to his application for a patent therefor; and he therein described the mechanism, substantially as claimed in the patent in question. On the 23d July following,

he filed his application for a patent, accompanied by drawings, a model, and specification, in which are set forth the same mechanical devices, by means of which the invention therein claimed might be practiced. His invention then was complete. At this time, he had constructed and applied it on the "Silver "Wave," and he continued to use it on her for years, as long as she remained under his control. In no sense, can this prolonged use be regarded as a mere trial of the invention to discover defects and make improvements. Indeed, on the first trip of the vessel its complete efficiency was demonstrated. It was obviously the use of an invention considered as complete, and with a view to derive such benefit from it, as might be due to a more efficient and economical mode of operating steamboat capstans than had been before applied. It was used, too, in the ordinary way of the public use of such mechanism. In the words of the act of congress, it was a public use of the invention, with the consent and allowance of the inventor. The result is that his patent of February 20, 1866, No. 52,730, is invalid, and can not be made the basis of a decree in his favor.

The patent of April 16, 1867, No. 63,917, stands upon a different footing. As already said, the invention claimed in it is of broader scope than that described in the patent of 1866. It is stated to be a "new and useful improvement in applying steam-power to the capstans of steamboats and other crafts," and, as set forth in the claim, consists in "rotating a capstan, placed on deck of a boat, by means of an auxiliary engine, when said engine and capstan are placed forward of the steam-boilers of said boat, substantially as hereinbefore described, and for the purposes set forth." The mechanical instrumentalities by which the prescribed result is effected are fully described in the specification. The import of the claim, then, is this—operating the capstan of a steamboat by certain mechanical means, actuated by steam derived from an auxiliary engine, where both the engine and the capstan are stationed on the deck of the boat forward of the steam-boilers. The mere effect indicated, however valuable it may be, is not claimed, for that would clearly be unallowable; but it is this effect, produced by means substantially as described, and employed under the conditions stated. If the result, thus accomplished, is new and useful, there can be no doubt of the validity of the patent, so far

as its subject matter is concerned. I do not understand this to be contested by the respondent; but a clear definition and comprehension of the nature of the invention described in the patent are important in considering the defenses set up in the answer.

These defenses are: 1. That under section 12 of the act of March 2, 1861 [12 Stat. 248], the patentee's application should be regarded as abandoned, and the patent, therefore, as having been improperly granted. 2. That the invention was, in fact, abandoned, and that the patentee is estopped from enforcing his exclusive right against any one using his invention. 3. That, in view of the state of the art when the patentee made his application for a patent, the invention was not novel. 4. That the invention claimed was not original with the patentee. 5. That the respondents are not infringers.

1. The application for this patent was filed July 23, 1855, and on August 25, 1856, on appeal to the commissioner of patents, it was finally rejected. It stood then until the early part of 1867, when the specification was amended, and its renewed consideration was urged upon the patent office. This effort resulted in the granting of a patent, April 16, 1867. Under these circumstances, it is urged that the application was not "completed and prepared for examination" within the time required by the act of 1861, and that the patent is invalid for that reason. The section referred to enacts: "That all applications for patents shall be completed and prepared for examination within two years after the filing of the petition, and, in default thereof, they shall be regarded as abandoned by the parties thereto, unless it be shown to the satisfaction of the commissioner of patents that such delay was unavoidable; and all applications now pending shall be treated as if filed after the passage of this act." This undoubtedly puts applications pending when the act was passed, on the same footing with those subsequently made, and both alike are within its purview, and subject to its operation. Conceding, however, that the act is to be so construed as to bring the present application within its scope—which is by no means clear—it can not be invoked to invalidate the patent.

The act does not interpose an absolute bar to the granting of a patent, where the application has not been completed and prepared for examination within two years. The delay may be condoned by proof that it was unavoidable. The decision of this fact is committed to the commissioner of patents. If it is shown to his satisfaction that the delay was unavoidable, the application is not to be regarded as abandoned. He is invested with power to grant the patent, and he may exercise it, subject to the duty of determining that the preparation of the application for examination was not unnecessarily delayed after two years. This is the plain meaning of the act, and there can be no doubt about it. Now, it must be assumed that there was evidence before the commissioner to show that there was no unavoidable delay in preparing this application for examination, after two years from the passage of the act. Its sufficiency was for him, and, in the exercise of the judicial function intrusted to him, he has decided the fact in favor of the patentee. He was the

only judge to be “satisfied,” and his judgment is conclusive. This court, at least, has no power to revise it, at the instance of the respondents, but must take for granted the truth of the fact which the law authorized him to determine. This is too well settled to need any citation of authority to sustain it. It is to be found in the numerous cases which hold, in accordance with a familiar general rule, that the decision of the commissioner upon a question of fact, upon which he is authorized to pass, is unimpeachable, except upon the ground that it is ultra vires. An infringer can not assail it for fraud, much less for mere error of judgment.

2. Nor has the second branch of the defense, that the invention was actually abandoned, any better foothold. This must result from the intention of the patentee, expressly declared, or clearly indicated by his acts. 1 There is certainly no evidence in the case of any express declaration of the patentee to that effect; and, if the lapse of years between the date of his application and of his patent, and his own conduct, can be fully explained upon any other hypothesis, they ought not to be imputed to an intention on his part to abandon his invention. The proof of actual abandonment, after application filed, ought to be indubitably clear. It ought not to rest upon doubtful or disputable inferences. During two years before he applies for a patent, an inventor may publicly sell and use his invention, without any presumption of abandonment. Upon what reason, then, should he be regarded as having given up his invention to the public, merely because a public officer has repeatedly denied his application for a patent, and the recognition of his right has thus been delayed for years, when he was powerless to prevent it? “By the application filed in the Patent says,” says Mr. Justice Grier, in *Adams v. Jones* [Case No. 57], “the inventor makes a full disclosure of his invention, and gives public notice of his claim for a patent. It is conclusive evidence that the inventor does not intend to abandon it to the public. The delay afterward interposed, either by the mistakes of the public officers or the delay of courts, where gross laches can not be imputed to the applicant, can not affect his right.”

If an inventor has furnished, by his application for a patent, conclusive evidence that he does not intend to abandon his invention to the public, the disproof of this intention ought to be by evidence of equal weight and significance. The proof in this case falls far short of that standard. Indeed, if the applicant was required to disprove an imputation

of only sluggish diligence, the records of the patent office would more than meet such a demand. His application twice rejected, and as often renewed; appeals taken to the board of examiners and to the commissioner of patents; a new application filed in aid of his first; this one twice rejected, and as often renewed; an appeal and final rejection; another application limited to the combination of mechanical devices described in his first application; its rejection and renewal under an amendment of his specification, and the grant of a patent upon it; then a revival of his old application, accompanied by satisfactory proof that he had not abandoned his invention, and, some time after, followed by a decision in his favor and the issue of a patent. So far, then, from showing gross laches, this is a record of unexampled tentativeness, in the face of repulses by which most men would have been thoroughly disheartened. Not so the applicant here, but each failure only brought into stronger light the fixed purpose and unrelaxing diligence with which he sought to secure the recognition of his rights. He was not only a persistent, but an importunate solicitor, and to his importunity was largely due the ultimate result in his favor. Now, as the delay of the decision in his case is all that remains touching his alleged laches, it is hardly necessary to add that it is not to be imputed to him, because he did all he could to prevent it, but that the responsibility for it rests solely with the patent office.

I have failed to discover any evidence upon which an equitable estoppel in favor of the respondents can rest. It must necessarily grow out of some declaration or act of the applicant, by which they were induced to believe that they might rightfully or innocently use the invention now claimed by him. If they appropriated it without consulting him, and he was passive when he knew it, because he was powerless to prevent them, he is not estopped from asserting his right when he is in a condition to enforce it. If they took the risk of using what they did not own, the owner's helplessness then will not shield them from accountability to him now. This is the only effect of the proof; for, although the applicant publicly used his invention after he applied for a patent, he did not intend to abandon it, as has been already shown; and, as he had a clear right so to use it, the law does not presume from that fact that he assented to its use by others. *Ryan v. Goodwin* [Case No. 12,186]. Nor is this supposed estoppel invigorated by the fact that invasion of the patentee's rights has been wide-spread, and that all who may be found in that category may be held liable accordingly. Whoever reaps where he did not sow, wrongfully appropriates what belongs to another, and equity will not stay the hand of the rightful owner of the harvest against him.

3. The next objection to the patent is that the invention described in it was previously described in printed publications, and was anticipated by like mechanism devised by others. It would unnecessarily extend this opinion to point out in detail the specific differences between the several exhibits in evidence and the invention claimed by M'Millin. Of the publications exhibited, it may be said, generally, that they do not describe M'Mil-

lin's invention. Remotely suggestive of it they may be, but they do not describe it in such terms that the public could construct and put it in practice without further invention. Prior publications must come up, at least, to this measure of fullness and precision. Even a stricter rule is prescribed by high authority; for in *Hills v. Evans*, 6 Law T. (N. S.) 90, it is held that the publication must furnish "knowledge equal to that required to be given by a patent, namely, such knowledge as will enable the public to perceive the very discovery, and to carry the invention into practical use." No such exactness of description of M'Millin's invention is to be found in any of these publications. They indicate methods for the working by steam of coiling devices of different forms; but none of them, except Sickel's patent, contemplates the employment of an auxiliary engine, or the retention of the capstan on the forecastle of the boat, so that all the functions it is required to perform are unimpaired. In their mode of operation they are different from M'Millin's, and certainly, by conforming to the directions given for their construction and application, the public would not be able to construct and carry into practical use M'Millin's method. That a windlass or a drum, or any other form of coiling device might be operated by steam, or that a capstan might be so operated, when the place where it must be kept to perform its peculiar office is changed, and it is located in proximity to its motor, is not the problem which he proposed to solve. If that were so, he could not claim the merit of originality. But he aimed at the accomplishment of a result not before produced, under the conditions prescribed by him, by a new arrangement and organization of old instrumentalities adapted to that end.

It is satisfactorily shown by the proofs, that upon steamboats navigating the Western rivers, the operation of the capstan, in its usual place, by the main engine, is impracticable. Certainly it has not been done. Before M'Millin's invention, the capstan in these boats was worked by muscular power alone. If a method, then, could be devised by which the power of steam could be applied to the capstan, without changing its location, so that it could be worked more economically, easily, and efficiently, a new and useful result would thereby be produced. This was the problem which engaged the thoughts of M'Millin, and he solved it by taking the capstan in its accustomed place, and the auxiliary or "nigger" engine at the place usually assigned to it, both forward of the main engine,

and connecting them by appropriate, but well-known mechanical devices, thereby producing the desired result.

It is to be observed that the retention of the auxiliary engine and the capstan in the positions where they were before located, is an essential element of this method. The main object was to secure the unabridged performance of other valuable functions pertaining to them. Now, by the patents and other publications referred to, no information is furnished as to where the engine and capstan must be located to produce the results effected by M'Millin's invention. On the contrary, assuming that they all describe a capstan, or its fair equivalent, the capstan must be located so that its usefulness, derived from its position on the forecastle, is lost, or the engine, which actuates it, so that it can not be used for the purposes for which the "nigger" engine is employed.

But it is urged that, as the "nigger" engine and capstan were before used independently on steamboats, and bevel gearing was before used to connect machinery in mills, any mechanic of ordinary skill could supply the mode of connecting the "nigger" engine and capstan employed by the patentee, and, therefore, no inventive skill was exerted by him. This is a narrow view of the patentee's invention. If a new or improved useful result is effected by means before well known, or any useful result is produced by a new mechanical device, or combination of old mechanical devices, in both cases the exercise of invention must necessarily be presumed, because both are the proper subjects of a patent. If the patentee, then, has devised a method of rotating the capstan of a steamboat, by an organization of elements not before employed in the concrete, for that or an analogous purpose, or if his method produces an improved result, a sufficiency of invention to support his patent must be presumed. The proofs undeniably show that he did demonstrate the practicability of operating the capstan of a steamboat by power transmitted from the "nigger without," without changing the place of either, so that their separate efficiency for all other purposes was preserved. They show more—that he was the first to do this, and that it was followed by the almost universal abandonment, on Western boats, of the old method of working the capstan, and the adoption of M'Millin's. With the suggestive help of all this literature of the art, and the stimulus of a result of such general interest and utility to be achieved, no one put in practice a method of effecting it, until M'Millin demonstrated it to the public. These are notable facts, and surely they are persuasive, not only that the result accomplished was novel, but that it was the fruit of inventive skill.

Of the other exhibits but little need be said. They all fall short of illustrating M'Millin's complete method, or of embodying all the essential features of his organization. The first of these is the capstan on the "John H. Bills." It was arranged horizontally on one side, and nearer the stern than the bow of the boat; was coupled to the starboard wheel, and could therefore only move with and in the direction of the wheels. It was operated by the main engine through the paddle-wheel, and, after some time, was abandoned. If it

embodied M'Millin's invention, which it plainly did not, as an abandoned experiment, it can not affect his patent.

In 1851, A. Martin made a model of a freight-hoisting apparatus to be operated by the "doctor" engine, aft the main engine. It was not put into practical use, was left by Martin on the steamer "Georgia," in 1852, was shortly after burned up and was forgotten. However it may have been constructed, or what its intended use, it is plainly valueless as evidence in this case.

The marine railway at Cincinnati embodies in its construction several vertical shafts. On the upper end of each of these a spool is made, around which the ropes used in drawing boats up the ways are coiled. These shafts are located fixedly on the bank of the river, and are revolved by the power of the main engine. Taking them and their mode of operation as a guide, the highest degree of mechanical skill, without invention, would be found inadequate to construct and apply M'Millin's invention. Of the devices used on the "Hope," it is only necessary to say that they were constructed more than a year after the time to which M'Millin's invention relates back, and can not, therefore, impugn its novelty.

4. The only remaining question, affecting the validity of the patent, is, was M'Millin the author of the invention claimed by him? The presumption of law is that a patentee is the original inventor of that for which he has obtained a patent. The burden of disproving this is upon the party who denies it. Evidence of disputable or doubtful import will not meet this requirement, but it must be clear and convincing. To doubt is to be resolved against the party upon whom the burden rests. It is alleged here that John Shaffer, one of the complainants, is the author of the invention claimed by M'Millin; that he had a drawing of it prepared, in which are exhibited the essential features of M'Millin's plan; and that M'Millin saw and examined it, and derived from it the first knowledge he had of what he now claims to have devised himself.

There is no dispute that this drawing represented, substantially, the M'Millin invention, or that M'Millin saw and examined it. The earliest date of its existence, which the proofs can be claimed to show, is November 20, 1854; but M'Millin did not see it for a considerable time, perhaps several months, after that date. In August, 1854; he bought the hull of the "Silver and," and at once ordered

such changes in its construction as would fairly indicate a purpose to operate the capstan by power transmitted from the “nigger” engine. This hull, in the spring of 1855, was brought to Pittsburg, to be supplied with its outfit of machinery. A main engine and a “nigger” engine were ordered for it, and different machinists were employed to mate a connection of some sort between the latter and the capstan. It is evident, therefore, at this time, that M'Millin entertained the purpose, and had in his mind a plan, definite or indefinite, to operate the capstan by power derived from the “nigger” engine. During the progress of his efforts in this direction, the Shaffer drawing was shown to him, when he at once declared that it represented what he wanted, and the connections indicated by it were made accordingly. It is claimed by the respondents, that, up to this time, he had not devised any practical or determinate plan for carrying his purpose into effect, but that it was furnished to him by the Shaffer drawing. Much testimony has been taken in relation to his declarations, and as to conversations with him, after he bought the “Silver for,” for which this effect is earnestly claimed. If this were the only evidence, it might, not illogically, be treated as sustaining the respondents' hypothesis; although the weight of most of it is dependent upon the accurate recollection by witnesses, after the lapse of years, of the full and precise import of conversations with M'Millin, and of the dates and order of time when they occurred, in relation to the time when he examined the Shaffer drawing. But such is not the conclusion to which a consideration of all the evidence would lead.

It is evident that this subject had occupied the thoughts of M'Millin for years. His experience in the management of steamboats on the Western rivers enabled him to comprehend the advantages to be derived from the operation of the capstan by steam. To accomplish this by a connection with the main engine was confessedly impracticable. The only possible mode was to make the “nigger” engine available for that purpose. But this engine and the capstan each had appropriate and indispensable functions to perform, and it was therefore a condition that they should be retained in their accustomed places. To effect their co-operation, and at the same time to preserve their separate efficiency, was the problem which engaged M'Millin's reflections. That he conceived a practical solution of it, I think is clearly proved. He had not tested it by experiment, and therefore he was prompt to heed, and even to defer to the suggestions of experience and mechanical skill. This may account for his adoption, at first, of Hartupee's suggestion of the endless chain to connect the “nigger” engine with the capstan. At any rate, it is obvious he had sought the aid of Hartupee, as a machinist, to embody in a practical form, on the “Silver a,” a plan which he had before formed in his own mind. However this may be, the testimony of William O. Leslie and John E. Smith conclusively shows that, long before, his speculations had reached the maturity of a definite method of reducing them to practice. In the fall of 1853 he had a conversation with Mr. Leslie, in which he explained his mode of working a steamboat capstan by power transmitted from the “nigger” engine, by means of

shafting and bevel wheels, substantially as described in his specification; Illustrated it by a rough sketch on paper, and suggested its application to the Coal Hill inclined railway, in which they were both interested. Like conversations occurred between them afterwards, during the winter of 1853-54. In the spring or early part of the summer of 1854, a similar explanation was made by him to John E. Smith. He then described how the attachments between the "nigger" engine and capstan should be made, consisting of a "bevel-wheeled gearing and upright shaft from the 'nigger' down into the hold—the horizontal shaft with the same kind of gearing connecting that with the spindle of the capstan." The significance of this testimony is apparent. It is given by unimpeached and disinterested witnesses. Its accuracy as to approximate dates is supported by satisfactory reasons. It is, therefore, entitled to full credence. And it is decisive of the fact that more than a year before the Shaffer drawing is shown to have been in existence, or M'Millin had seen it, he had devised the mechanical means of practicing his invention, substantially as he has described them in his specification. The legal presumption that he invented what he has patented is not impugned.

5. The fact of infringement by the respondents is satisfactorily proved. The models exhibited in evidence clearly show this—"Oculis subjecta fidelibus." From the course of the proofs, the respondents' denial of infringement would seem to have been made upon the assumption that this patent also was for a technical combination of mechanical devices. As before stated, this is not so. It is for an improvement in operating capstans by steam, under prescribed conditions, and by means substantially as described. To produce the same result by a mechanical organization not essentially different from that described in the patent, is within its scope. On the respondents' boat, the "Armenia," the capstan is rotated by power derived from the "nigger" engine, both being forward of the main engine, through mechanical connections, which, in their mode of operation, are the same, and in their construction and arrangement are substantially the same as are described in the patent.

The result of the whole case is that the letters patent No. 63,917, dated April 16, 1867, are valid; that the respondents have infringed them, and that the complainants are

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entitled to a decree for an injunction and an account, with costs.

A decree will be prepared accordingly.

{For other cases involving this patent, see *McMillin v. Rees*, 1 Fed. 722; *Same v. St. Louis & M. Y. Transp. Co.*, 18 Fed. 260; *Same v. St. Louis & V. Anchor Line*, 22 Fed. 169; *Morris v. McMillin*, 112 U. S. 244, 5 Sup. Ct 218.}

¹ [Reported by Samuel S. Fisher, Esq., and here reprinted by permission. *Merw. Pat. Inv.* 433, contains only a partial report.]