

Case No. 11,660.

REEVES v. KEYSTONE BRIDGE CO. ET AL.

[5 Fish. Pat. Cas. 456; 1 O. G. 466; 9 Phila. 368;
5 Am. Law T. Rep. U. S. Cts. 150; 29 Leg. Int. 124;
Merw. Pat Inv. 117.]¹

Circuit Court, E. D. Pennsylvania. April 1, 1872.

PATENTS—SKETCHES AND DRAWINGS—FIRST
INVENTOR—INCHOATE
RIGHT—LACHES—ANTICIPATION—IMPROVEMENT
IN COLUMNS.

1. The invention described in letters patent for an “improvement in the construction of columns,” etc., granted to S. J. Reeves, June 17, 1862, consists in a hollow, shaft, so made as the result of a concentration in its periphery of the metal used in its construction, composed of at least three longitudinal segments of rolled iron, with flanges throughout their whole length, which are to be brought face to face, and through which they are to be fastened by bolts or rivets.
2. This invention is not anticipated by a column composed of two rolled plates of wrought-iron, without flanges, semi-octagonal in form, and secured by rivets passing through the whole length of its diameter, binding the plates firmly to distance-pieces interposed between them to spring them apart in the middle; nor by a column composed of a flat iron bar, with two other flat bars at right angles to it, connected by means of angle irons, which form a hollow space near the center of the connection.
3. A patentee, whose patent is assailed upon the ground of want of novelty, may show by sketches and drawings the date of his inceptive invention; and, if he has exercised reasonable diligence in “perfecting and adapting” it and in applying for his patent its protection will be carried back to such date.

[Cited in *Draper v. Potomska Mills Corp.*, Case No. 4,072; *Kneeland v. Sheriff*, 2 Fed. 902; *Electric Railroad Signal Co. v. Hall Railroad Signal Co.*, 6 Fed. 606; *Consolidated Bunging Apparatus Co. v. Woerle*, 29 Fed. 452; *New York Filter Co. v. O. H. Jewell Filter Co.*, 62 Fed. 583.]

4. In a race of diligence between rival inventors, the one who first perfects an invention and embodies it in a distinct form is entitled to a priority.
5. He is entitled to priority of right to a patent who first reduces his invention to a fixed, positive form, adapted to practical use.
6. Seasonable diligence in “perfecting and adapting” an invention is essential to the efficacy of a claim against the patent of an independent though subsequent inventor.
7. Illustrative drawings of conceived ideas do not constitute an invention; and unless they are followed up by a seasonable observance of the requirements of the patent laws, they can have no effect upon a subsequently granted patent to another.

[Cited in *Pennsylvania Diamond-Drill Co. v. Simpson*, 29 Fed. 291; *Christie v. Seybold*, 55 Fed. 78, 5 C. C. A. 33.]

8. Where A., in 1860, illustrated his idea of an invention by a pencil sketch, which was laid aside and subsequently lost, and did nothing further with the invention for five years, while B., an independent inventor, took out a patent for the invention in 1862: *held*, that A. had not “perfected and adapted” the invention in 1860; and that, by reason of his long-continued remissness, he lost any inchoate right he might have had to priority.
9. To anticipate an invention by a prior publication under the patent law, it is necessary that there shall be, first, a description of the alleged invention; second, that it shall be contained in a work of a public character, and intended for the public; and, third, that this work was made accessible to the public, by publication, before the discovery of the invention by the patentee.
10. While the intended circulation of a book of a public nature may be presumed from its being put into print, it does not follow that a manufacturer’s catalogue was made accessible to the public as soon as it was printed, or that it was actually published at all. The fact of publication must, therefore, be proved by evidence independent of the imprint.

[Cited in *Cottier v. Stimson*, 20 Fed. 910.]

11. Whether an illustration by drawing, unaccompanied with verbal description, is such a prior description as would defeat a patent, within the intent of the clause of the statute, relating thereto, may well be denied on authority of *Seymour v. Osborne*, 11 Wall. [78 U. S.] 516.

[Cited in *New Process Fermentation Co. v. Koch*, 21 Fed. 587.]

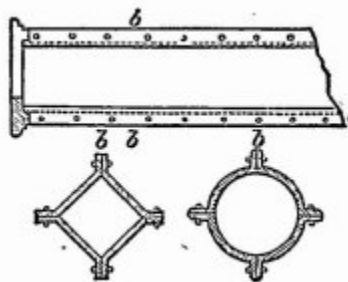
[This was a bill in equity by Samuel J. Beeves against the Keystone Bridge Company and others for an injunction and account] Final hearing upon pleadings and proofs.

Suit brought upon letters patent [No. 35,582] for an “improvement in the construction of columns, shafts, braces,” etc., granted to complainant, June 17, 1862. [The defense relied upon an alleged lack of priority on the part of Beeves and the subsequent validity of his patent]²

R. C. McMurtrie, F. Sheppard, and George Harding, for complainant.

Charles B. Collier and Theo. Cuyler, for defendants.

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MCKENNAN, Circuit Judge. The respondents do not deny the making and use of the column described in the complainant's patent. They deny that he was the first and original inventor of the invention claimed by him, and allege that his patent is invalid. This allegation rests upon the following specifications: 1. That the invention was originally made by Jacob H. Linville and John L. Piper. 2. That it was described in the *Allgemeine Bauzeitung* for September, 1861. 3. That it was illustrated by a drawing in the *Dreyfuss Album*, bearing the imprint of 1861.

To test the defensive sufficiency of this allegation, the nature and peculiarities of the invention must first be exactly understood. They are stated in general terms

in the patent. The patent is dated June 17, 1862, and is for an improvement in the construction of columns, shafts, braces, etc. The invention is thus described: "I use three or more wrought-iron bars, similar to those marked a, a, a, a, in the annexed drawing, to which reference is hereby made, of such shapes and dimensions, so that when arranged together, in the direction of their length, and fastened by rivets or bolts, c, through their flanges, b, they shall form a hollow shaft or column." And the patentee claims: "The uniting together three or more pieces of wrought-iron, made with flanges, in the direction of their length, so that they shall form a column or shaft, to be used as posts, and also as braces or compressive chords, in the construction of buildings, bridges, piers, or other structures."

The peculiar features of this column are, that it is composed of not less than three longitudinal segments or bars of wrought-iron; that the edges are flanged throughout their whole length; that, when they are brought together, the flanges are brought face to face; and the unity of the column is secured by bolts or rivets passing through these flanges at short intervals. Its distinguishing advantages are, that by using three or more pieces, each can be more easily and cheaply rolled; that by increasing the number of pieces, a post of any diameter, and any reasonable length, and of varying thickness of metal, can be made in an ordinary rolling-mill as readily and cheaply by the pound as posts of small diameter; that they can be handled by workmen and put together with greater facility and with the ordinary mechanical appliances; that the material embodied in it is concentrated in its periphery, thereby increasing its diameter, and consequently its strength; and that the flanges serve as buttresses, practically extending its diameter, and giving it additional strength and power of resistance.

A hollow wrought-iron column does not constitute the patentee's invention; but it consists in a hollow shaft, so made as the result of a concentration in its periphery of the metal used in its construction, composed of at least three longitudinal segments of rolled iron, with flanges throughout their whole length, which are to be brought face to face, and through which they are to be fastened by bolts or rivets. This whole organization makes up the distinctiveness of the column, and is necessary to secure the advantages in manufacture and efficiency which are claimed to belong peculiarly to it.

Under the proofs in this case, and aside from the specific objections hereafter to be noticed, it is hardly disputable that such a post is both novel and useful. Its utility is not contested, but its novelty is denied upon the several grounds before stated, which are now to be considered:

I. The invention is claimed by Linville and Piper, two of the respondents. On January 14, 1862, a patent was granted to J. H. Linville for an improvement in iron truss-bridges, which is described as partly consisting in a "novel construction of the posts of wrought and cast iron." This post is composed of two rolled plates of wrought iron, semi-octagonal in form, secured by rivets passing through the whole length of its diameter, or by bands shrunk around it, binding the plates firmly to distance pieces interposed between them at suitable distances to spring them apart at the middle, and terminating in cast-iron bases and capitals. In the second claim of his specification, the patentee, therefore, very properly described his post as "composed of two wrought-iron plates or bars, a, a; distance pieces, b, b; and rivets, J, J; or their equivalents, and cast-iron bases, L, L; and capitals, O, O; the whole combined as herein specified."

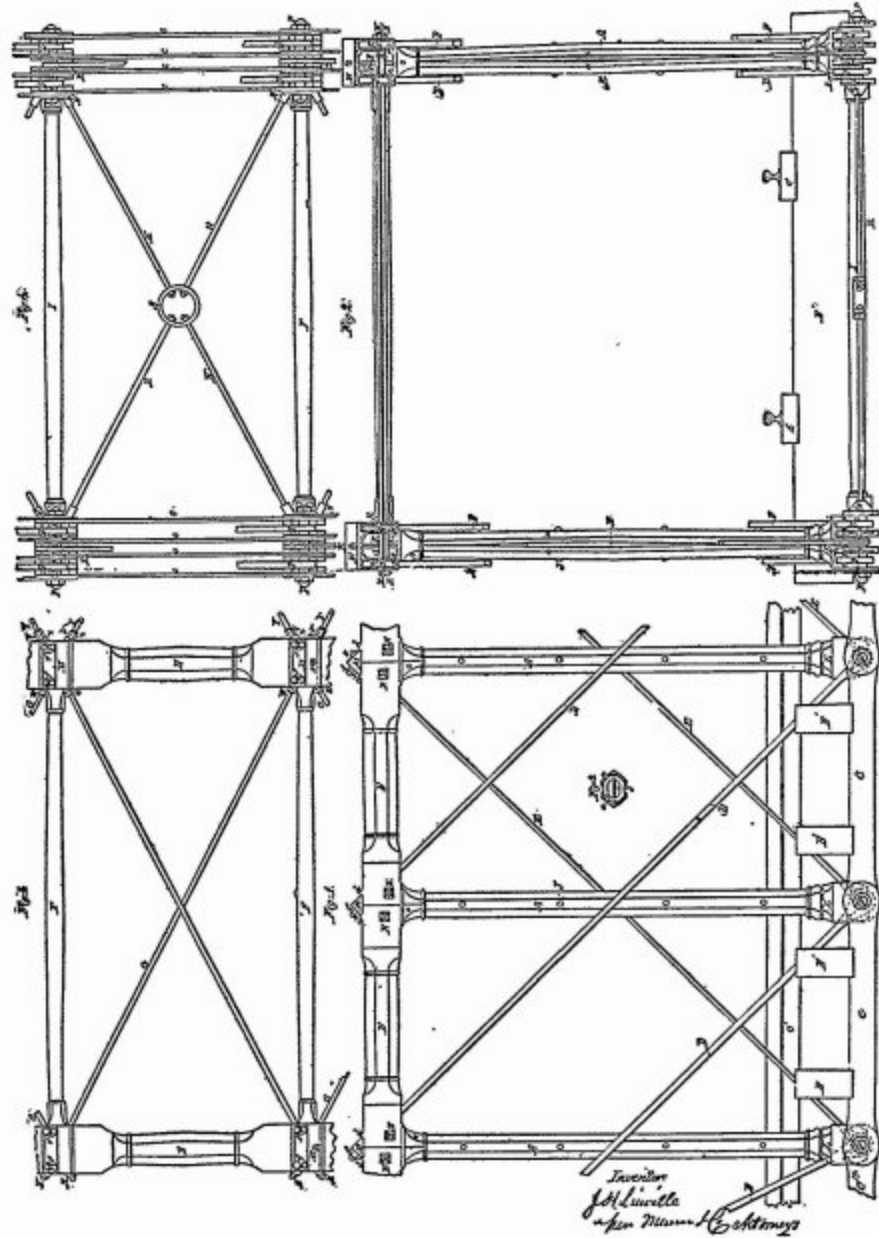
It must be observed that the specification does not indicate the form of the post as an appropriated

or distinctive feature of the invention. The shaft is composed of two rolled-iron bars, but that it must be hollow is an inference merely from the description. In comparing the invention with others, it must be considered as the product only of the elements which the patentee has indicated as necessary to give it its distinctive character. While, therefore, it may be constructed upon the principle of expanding the metal from the center toward the periphery, yet the special mode in which this principle is embodied in it, and is made practically available, constitutes its patented peculiarity.

Treating it, then, as the patentee himself does—not as a technical combination, but an organized unit, composed of the enumerated

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{Drawings of patent No. 34,183, granted January 14, 1862, to J. H. Linville; published from the records of the united States patent office.}



469 constituents, I think it is essentially distinguishable from the complainant's post. They are alike only in this, that neither is solid, and both are made of rolled-iron plates. In every other material point they are unlike. This dissimilarity consists, first, in the number of pieces of which the column is composed; second, in the use or absence of flanges to these pieces; third, in the mode of uniting or fastening the several pieces of the columns together; and, fourth, in keeping the pieces in a straight line, and

therefore parallel to each other, or forming them into curves by swelling the post in the middle. That these differences are essential is apparent from Mr. Linville's specification, in which he describes plates without flanges, their number, the mode of fastening them together, and their being sprung apart at the middle, as component and therefore material constituents of his organized post.

But it is unnecessary to enlarge upon this. Any other hypothesis is inconsistent with the patentee's acts. His patent imports that he was the sole inventor of the post therein described. But in 1865, in conjunction with Mr. Piper, he applied for and obtained a patent nominally for improvements in his post of 1862, but really changing its fundamental organization, and seeking to fix its invention in 1860, and, in fact, describing and appropriating the distinctive features of Beeves' post, which had been patented three years before. Not only does this show that the post in question was not an improvement of which the post of 1862 was the basis, and that the patent of that year was not regarded as expansive enough to embrace it, but it is, in fact and in law, an impressive disclaimer of his right to make an exclusive appropriation of it.

It is vigorously urged that although the patent of 1865, to Linville and Piper, is subsequent in date to Beeves, the post described in it was invented in 1860, and that they, therefore, anticipated him. It is in evidence, by several witnesses, that, in 1860, Linville and Piper were engaged together in getting up plans for a proposed railroad bridge over the Schuylkill, near the arsenal, at Philadelphia; that sketches of various forms of posts were made, among them those described in the patents of 1862 and 1865; that all the forms thus delineated were rejected, except the one described in the patent of 1862, which was adopted for the construction of the posts in that bridge; that

the sketches of the posts described in the patent of 1865 were preserved for a time, but were lost; that no post of that description was made by the patentees until after the date of that patent; and, in fact, that nothing beyond the making of the sketches was done to embody or carry out the alleged invention until the patent was applied for.

Will these sketches carry back the date of the invention to the time when they were made, and thus give the patentees priority over the complainant or invalidate Beeves' patent? There is no doubt that Beeves was an original inventor of the post claimed by him. It was the product of his own reflections and mechanical knowledge. He is presumed to be the first inventor of the thing patented by him, and this presumption is in no wise impaired by the subsequent grant of a patent to another for the same thing. The effect of the sketches referred to, upon his rights, must therefore be determined without reference to the patent of Linville and Piper.

A patentee, whose patent is assailed upon the ground of want of novelty, may show, by sketches and drawings, the date of his inceptive invention, and, if he has exercised reasonable diligence in "perfecting and adapting" it, and in applying for his patent, its protection will be carried back to such date; and in a race of diligence between rival inventors, the one who first perfects an invention, and embodies it in a distinct form, is entitled to priority; but can this be accorded to one who has conceived the idea of an invention, and has sketched it on paper, but has done nothing more in reference to it for a period of five years, as against the patent of an independent though subsequent inventor? Reasonable diligence in "perfecting and adapting" the invention is essential to the efficacy of such a claim. This is the express condition prescribed by section 15 of the patent act of 1836 [5 Stat 123], as held by Mr. Justice Story in *Reed v. Cutter* [Case No. 11,645].

Independent of this provision, he is entitled to priority of right to a patent who first reduces his invention to a fixed, positive form, adapted to practical use. Unless, therefore, the speculations of Linville and Piper, in 1860, had attained the perfection of a completed and patentable invention, their inaction until 1865 would clearly deprive them of the benefit of section 15.

Can an invention be considered as “perfected and adapted,” which has reached only the maturity of an illustration on paper? In *White v. Allen* [Id. 17,535], Judge Clifford says: “Original and first inventors are entitled to the benefit of their inventions if they reduce them to practice, and seasonably comply with the requirements of the patent laws in procuring letters patent for the protection of their exclusive rights. While the suggested improvement, however, rests merely in the mind of the originator of the idea, the invention is not completed within the meaning of the patent laws; nor are crude and imperfect experiments sufficient to confer a right to a patent; but, in order to constitute an invention in the sense in which that word is employed in the patent act the party alleged to have produced it, must have proceeded so far as to have reduced his idea to practice and embodied it in some distinct form. *Gayler v. Wilder*, 10 How. [51 U. S.] 498; *Parkhurst v. Kinsman* [Case No. 10,757]; Curt Pat § 43. Mere discovery of an improvement does not constitute it the subject matter of a patent, although the idea which 470 it involves may be new; but the new set of ideas, in order to become patentable, must be embodied into working machinery and adapted to practical use. *Sickles v. Borden* [Id. 12,832].”

And, in *Ellithorpe v. Robertson* [Case No. 4,408], Judge Ingersoll said: “The making of drawings of conceived ideas is not such an embodiment of such conceived ideas into practical and useful form, as will defeat a patent which has been granted.”

Equally strong is the language of Mr. Justice Nelson in *Winans v. New York & H. B. Co.* [Case No. 17,864], where he says: “The circumstance that a person has had an idea of an improvement in his head, or has sketched it on paper, has drawn it, and then gives it up, neglects it, does not, in judgment of law, constitute or have the effect to constitute him a first and original inventor.”

Numerous other cases affirm the same doctrine; and it must, therefore, be considered as an established rule that illustrative drawings of conceived ideas do not constitute an invention, and that unless they are followed up by a seasonable observance of the requirements of the patent laws, they can have no effect upon a subsequently granted patent to another. Applying this rule to the present case, the conclusion is unavoidable that Linville and Piper had not “perfected and adapted” an invention in 1860, and that, by reason of their subsequent and long-continued remissness, they lost any inchoate right they might have had to priority over Reeves.

But we are not left to speculation to determine the actual character of what was done by Linville and Piper in 1860. They were induced to make sketches of different forms of wrought-iron posts by the proposed erection of the arsenal railroad bridge, and their object was to devise and present the form of post best adapted to that structure. What was done, very satisfactorily appears in the testimony of Edward Grueger, a witness for the respondents, who was Mr. Linville’s draughtsman at the time. He says: “Mr. Linville showed and sketched for me different forms of wrought-iron bars or pieces for posts; any number of them and all shapes, of angle-iron, of T-iron, of round iron, of oval iron. I can’t remember the number of shapes he gave me; they were too many. He had two pieces in some posts and four in others. Finally

he (Linville) rejected all the other pieces except these pieces, which we employed at the Schuylkill bridge.”

And the testimony of Linville and Piper is in substantial accord with this. Can there be any doubt in view of this testimony, that the efforts thus described were experimental merely as to all the forms of post except the one which was adopted? The proofs show further, that the sketch of the post, then rejected, but now in controversy, was lost, with other sketches, in 1863, and that it was not reproduced until 1865, when steps were taken to obtain a patent. In the meantime Reeves had invented, “perfected and adapted,” and obtained a patent for his post, and was engaged in its manufacture and introduction into public use. In point of fact, then, all that Linville and Piper did before the date of Beeves’ patent can only be regarded in the light of experiment, which they abandoned, and did not take up again until the lapse of more than two years after his patent was issued. Whether the sketches made are to be considered as an incomplete invention, not prosecuted with the required diligence, or as an experiment actually abandoned, they can not impair the right of Beeves to be treated as the first inventor.

II. The publication of the description and plates in the *Allgemeine Bauzeitung* preceded Beeves’ invention. It is a public work, and describes the post illustrated by the accompanying drawing “in such full, clear, and exact terms that any one skilled in the art to which it appertains could construct it.” If Reeves’ post would be the product of this description his patent can not be sustained.

The post described in this work is cruciform. It consists of a flat iron bar, which forms the main part of the column, with two other flat bars at right angles to it, connected by means of peculiarly shaped angle-irons, so that in the center of the connection a hollow space is formed, which produces an increase of the

rigidity of the column, while the section remains which is necessary for carrying the load Now it is apparent that the single flat bar is prescribed as the main part of the column relied upon to bear up the weight imposed upon it; that the two other bars are designed to furnish it lateral support; and that the angle-irons, while they serve the purpose of connection, are further auxiliary to it by giving it additional stiffness. This, I think, is the fair interpretation of both Mr. Bonzano's and Mr. Both's translations. Following the description, then, all these bars, or at least the single one, must necessarily be incorporated in the structure. To omit them would be to discard the part prescribed as necessary to resist the compressive strain upon the column, and, therefore, to abandon the vital principle of its construction. Indeed, all these constituents must be embodied in it to fulfill the fundamental requirements of the text.

Now, a column thus constituted is not the column of Beeves. It differs from it in the necessary elements which compose it and in the principle of its construction and operation. Four angle-bars and at least one flat cross-bar must be incorporated in its structure; while in the Beeves column three flanged bars, without any cross-bar, are required, and as many more as are desired may be employed. The latter is entirely hollow, and must be made so to conform to the fundamental conditions of its construction. It corporealizes the principle that increase of diameter secures additional power of compressive resistance, and, therefore, that the metal 471 used in its construction must be thrown out as much as possible from its center and concentrated in its periphery. Its resisting power is located exclusively in its circumference. Such a condition is certainly not indicated in the German description of that post. As before stated, the bar which traverses its diameter is an indispensable part, and as it is described as subject to

the greatest compressive strain, corresponding strength for resistance must be provided in the diameter of the post. This is a vital diversity, so that the two posts can only be identified by confounding the distinct principles embodied in each of them.

In Reeves' specification it is said, "The stiffness and strength of columns made in this manner may be increased at a very moderate expense by setting plain bars of iron between the flanges of the bars, a, a, a, a, a, and riveted to them, and extending outward from the center; thus, in effect increasing the diameter of the column." Hence it is argued that a post thus constructed is identical with the post described in the German work. To reach this conclusion, the clause quoted must be construed as directing the extension of the bars set between the flanges outwardly from the center as the beginning, and not outwardly from the flanges. The advantages contemplated are increased stiffness and strength of the column, and it is proposed to secure them by an increase of its diameter only in the effect due to an extension of the interposed bars. An increase of actual diameter by an enlargement of the circumference to the extent of the thickness of the bars was not designed, because that would be due only to the interposition of the bars between the flanges—not, in any sense, to their extension in either direction beyond them. An inward extension of the bars might impart increased strength to the column, but it certainly would not lengthen its diameter. As interior braces, the extensions would doubtless give additional stiffness to the column; but that would involve a distribution of material in conflict with the general design of the patentee and the tenor of his specification, and would secure it by an agency different from the one expressly prescribed by him. An operative increase of the diameter, produced, not by an expansion of the periphery, but by an extension of the interposed bars, is what the specification contemplates.

A cheap method of practically increasing the diameter without a corresponding enlargement of the whole circumference, is the suggestion. How is this to be attained? Solely by an exterior extension of the bars set between the flanges. "When it is considered, then, that the effect of the extension only in increasing the diameter was contemplated, and that this will not be produced by extending the bars wholly within the column, the specification must necessarily be taken to fix the flanges as the starting point, whence the bars are to extend outwardly, or away from the center.

III. The only remaining reference is the "Dreyfuss Album." It is a book of printed drawings, representing different forms of iron fabrics made by a Paris manufacturer, and bears the imprint of 1861. Under the head of "Corners" is a drawing representing a transverse section of an iron column, corresponding with one of the figures referred to in the specification of Reeves. When this book was printed does not appear, otherwise than presumptively from the imprint on its title-page. When it was published or put in circulation does not appear at all, except that possession of it was obtained by the respondents after the institution of this suit.

Section 15 of the patent act of 1836 [supra],—and it has been incorporated in the act of 1870 [16 Stat. 198],—provides that a patent may be successfully opposed by showing that the thing patented "had been described in some public work anterior to the supposed discovery thereof by the patentee." It is obvious that this provision requires, first, a description of the alleged invention; second, that it shall be contained in a work of a public character and intended for the public; and, third, that this work was made accessible to the public by publication before the discovery of the invention by the patentee.

Whether the work in evidence is a public or only a private work, intended merely for private circulation, is

fairly a disputable question. It contains an illustration, by a drawing, of the thing intended to be represented, without verbal description; and whether this is a description at all, or such a 1 one as the act contemplates, may well be denied on the authority of *Seymour v. Osborne*, 11 Wall. [78 U. S.] 516, and the cases there referred to with approval. But it is unnecessary to decide these questions, as the proof is deficient in another essential particular. It is not shown that the work was published before the date of the complainant's patent. This must be directly proved. It is not deducible from the imprint on the title-page. That the work was then printed may be inferred from this imprint; but when it was put in circulation or offered to the public is a distinct fact, which must be proved independently. The intended circulation of a book of a public nature may be presumed from its being put into print; but it does not, follow that a work, such as the one in question, was made accessible to the public as I soon as it was printed, or that it was actually published at all. As it does not appear that this book was published before the patentee's invention, as evidence it is altogether inconsequential.

The complainant is entitled to an allowance of the prayers of his bill, and a decree will, therefore, be entered for a perpetual injunction and an account with costs.

{For hearing on an application for rehearing, see Case No. 11,661.

{For another case involving this patent, see Case No. 7,751.}

¹ {Reported by Samuel S. Fisher, Esq., and here reprinted by permission. Merw. Bat. Inv. 117, contains only a partial report.)

² {From 1 O. G: 466.}

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