FOX *v.* PERKINS *et al.*

(Circuit Court of Appeals, Sixth Circuit. October 5, 1892.)

No. 30.

1. PATENTS FOR INVENTIONS—NOVELTY—PRIOR ART.
   Reissued letters patent No. 11,062, issued February 25, 1890, to William R. Fox, for an improvement in miter cutting machines, are void for want of patentable novelty, in view of the prior state of the art, as shown more particularly in the Howard patent of August 21, 1886, No. 57,325; the Aiken patent of February 21, 1871, No. 111,896; the Jones patent of July 21, 1874, No. 153,343; the Nichols patent of July 18, 1876, No. 179,944; and the Lannartson patent of April 16, 1878, No. 202,445.
2. SAME—EXTENT OF CLAIM—PRIOR ART.
   If the Fox machine could be held to show patentable invention, it constitutes one of a series of improvements, all having the same general object and purpose, and the patent must therefore be limited to the precise form and arrangement of parts described in the specifications, and to the purpose indicated therein. *Bragg* v. *Fitch*, 7 Sup. Ct. Rep. 980, 121 U. S. 483, and *Caster Co.* v. *Spiegel*, 10 Sup. Ct. Rep. 409, 133 U. S. 360, followed.
3. SAME—ABANDONMENT.
   This construction of the patent is also rendered necessary by the fact that various broader claims were rejected and abandoned, under both the original and the reissue applications.
4. SAME—NOVELTY—EFFECT OF LARGE SALES.
   Large sales of a patented machine, while evidence, more or less cogent, of value and usefulness, are not conclusive evidence of patentable novelty, and are of little weight when it appears that such sales are the result of active and energetic efforts by means of circulars and traveling agents. *McClain* v. *Ortmayer*, 12 Sup. Ct. Rep. 76, 141 U. S. 427-429, followed.

Appeal from the Circuit Court of the United States for the Western District of Michigan.

In Equity. Bill by William R. Fox against Harford J. Perkins, William J. Perkins, and Joseph W. Oliver for infringement of a patent. Decree for defendants. Complainant appeals. Affirmed.

George H. Lothrop, for appellant.

Edward Taggart and *Arthur C. Denison*, for appellees.

Before BROWN, Circuit Justice, and JACKSON and TAFT, Circuit Judges.

JACKSON, Circuit Judge. This is a suit in equity, brought by appellant against appellees for the alleged infringement of reissued letters patent No. 11,062, granted to William R. Fox, February 25, 1890, for certain new and useful "improvements in miter cutting machines." The defenses chiefly relied on are that the supposed invention was described in previous patents; that, in view of the state of the art, the device claimed as new was not a patentable invention; and that, upon a proper construction of the patent, the defendants do not infringe it. The circuit court entertained doubts whether, in view of the previous patented devices set up in the answer and shown by the exhibits, there was anything patentable in the alleged invention covered by said reissued letters patent, but, without deciding that point, held that defendants' machine was not an infringement of complainant's patent, even assuming the latter to be valid, and thereupon dismissed the bill. From this decree the complainant has appealed, assigning as ground for its reversal that the lower court erred in deciding that the defendants had not infringed, and in dismissing his bill.

The original patent, No. 393,970, was granted December, 1888. The reissue was applied for August 30, 1889, and was issued February 25, 1890. The specifications, which were substantially the same in both the original and reissue applications and patents, after referring to and describing the drawings of the machine, which accompany the same, state that "the gauges arranged at either end of the machine are" adjustable in a curved slot formed in the bed plate, the gauges being guided in their movement by a pin projecting from the gauges into the slot, with a bearing plate connected upon the other side, as shown in Fig. 2, at 2. The gauges are formed with plane faces, and the edges nearest the center are arranged in proximity to the plane of movement of the cutting knives, so that their edges, which I have marked 'E,' act in conjunction with the knives, to form a shear cut. The edges of the gauge nearest the ends of the frame bear against the end posts, which serve as a lateral support, both at the upper and lower parts of the front edge, to sustain the gauge against the cutting action of the knife. The gauges have a cut-away portion at their upper ends, as shown in Figs. 1 and 2, terminating in a curved arm, having a semicircular bearing face, which is in bearing contact with a projection, F, on the cross bar of the frame. Thus each gauge has two bearings at its inner edge."

The operation of the machine is described as follows:

"The stock to be operated upon is placed upon the bed and against the gauge, D, the end of it passing through between the upright line, *e*, of the gauge and the knife, *c*. The knife is then carried forward by means of the lever, L, cutting the stock at the angle indicated upon the bed, which may be indicated by lines, as shown in Fig. 3. These lines may be marked either upon the edge of the bed, as shown, or upon the slotted areas, M, M. For convenience I construct my devices double, so that they may be operated in either direction; and the two gauges may be set so that one is the complement of the other, if desired. By means of this device, wood or other similar material may be readily and quickly cut upon any desired angle. By adjusting the gauges by means of the thumbscrews, the angle upon the wood will correspond to the angle to which the gauges are adjusted. The cutters are attached to the carriage, so as to be readily removed or set, as occasion may require. It will be understood that one of the cutters may be dispensed with, but I consider two as desirable. I do not wish to be understood as broadly claiming a bed with guides thereon to locate the work, and a sliding cutter to cut the work upon the angle indicated by said gauges, as I am aware that miter cutters of various kinds have heretofore been used embodying such device."

The claim of infringement is limited to the 1st, 3d, and 5th claims of the reissue, which are as follows, viz.:

"(1) In combination, the bed, the knife moving on suitable ways, an adjustable gauge having a shearing edge, and two independent bearings for its inner end, said bearings being in different directions, whereby the shearing edge is always held in the same relation to the knife, substantially as described." "(3) In a miter cutting machine, the combination, with a carriage arranged on a bed in longitudinal ways, carrying a cutting knife of an adjustable gauge, provided with an edge, *e*, acting in connection with the knife to form a shear cut, and having a semicircular bearing struck from the edge, *e*, of the gauge as a center, whereby the said gauge is always in the same relative position to the cut of the knife, substantially as described."

And "(5) In a machine for cutting miters, the combination with the cutting knife of a gauge having an edge, *e*, and a circular bearing and plate or bearing face therefor on the machine frame, the circle of the bearing being struck from the edge, *e*, as a center, whereby the said edge is always maintained in the same relative position to the knife, substantially as described."

Said third and fifth claims of the reissue are the same as the first and third claims of the original patent, and their validity is therefore not affected by the reissue, (*Gage* v. *Herring*, 107 U. S. 640, 2 Sup. Ct. Rep. 819;) nor is it seriously questioned that the first claim of the reissue was not covered by the original patent, or that it was not for the same device or invention therein described; hence there are no questions on the validity of the reissue as such.

In order to determine the proper construction to be placed upon said three claims of the reissue, a brief reference to the prior state of the art, and to the proceedings had in the patent office on both the original and reissue applications, is necessary. In his original application, dated December 4, 1886, as appears from the file wrapper and contents, Fox presented the following, among other, claims:

"In a miter cutting machine, the combination of an adjustable gauge, a carriage arranged on a bed in longitudinal guides, carrying one or more knives, said gauge adapted to be adjusted at any required angle to the knife, and having a perpendicular edge in a perpendicular plane, and always in the same relative position to the cut of the knife, said perpendicular edge and knife forming a shear cut, substantially as described.

"In a miter cutting machine, the combination of the adjustable gauge, the upright frame, and the cutting knife, said gauge having two perpendicular parallel edges, one edge of which is adapted to rest against the upright frame, and the other to remain parallel with the track of the knife, and in such close proximity thereto as to form with such knife a shear cutting device, substantially as described.

"In a machine for cutting miters and leads, a gauge, a portion of which is circular in form, and bearing against a suitable portion of the machine, thereby retaining the edge, *e*, in the same relative position to the cut of the knife, substantially as described."

These claims were rejected and abandoned. There was also presented the following claim:

"In a machine for cutting miters, the combination with the cutting knife of a gauge having a circular bearing adapted to a plate or bearing point on the machine, the circle of the bearing being struck from the edge, *e*, as a center, whereby said edge is always maintained in the same relative position to the knife, substantially as described."

This claim was amended to read as follows:

"In a machine for cutting miters, the combination with the cutting knife of a gauge bearing on edge, *e*, a circular bearing, a plate or bearing point therefor on the machine, the circle of the bearing point being struck from the edge, *e*, as a center, whereby the edge, *e*, is always maintained in the same relative position to the knife, substantially as described."

These two claims were both rejected. Fox was required by the patent office to erase the words "bearing point." The patent was subsequently granted, embracing, among others not necessary to be noticed, claims 1 and 3, corresponding or identical with the aforesaid claims 3

and 5 of the reissue. In the application for reissue, made August 20, 1889, as shown by file wrapper and contents, the following claims were made:

"(1) In combination, the bed, having a curved slot; the knife, moving in suitable ways; a gauge, having a shearing edge, and its outer edge held adjustable in the curved slot; and a post, against which the end of the gauge bears, opposed to the pressure of the knife,—all substantially as described. (2) In combination, the bed, having a curved slot; the knife, moving in suitable ways; a gauge, having a shearing edge, and its outer end held adjustable in the curved slot, and its inner end provided with two bearings, whereby the shearing edge is always held in the same relation to the knife,—all substantially as described. (3) In combination, the bed, having the curved slot; the knife arranged to move in suitable ways; a gauge, having a shearing edge, and its outer end held adjustable in the slot; and a lateral bearing upon the machine frame for the inner end of the gauge at the upper and lower parts,—all substantially as described."

These claims were rejected. The following additional claim was presented:

"In combination, the bed; the knife, moving on suitable ways; an adjustable gauge, having a shearing edge, and two bearings for its inner end, whereby the shearing edge is always held in the same relation to the knife,—substantially as described."

This claim was required to be and was amended by inserting "independent" before "bearings," and by inserting after the word "end" the words "said bearings being in different directions." As thus amended, the claim was allowed, and forms the first claim of the reissued patent. It will be observed that the rejected claims of both the original and reissue applications were quite broad and indefinite; so general, in fact, as to cover and embrace more than the particular structure or device described in the specifications, especially in respect to the bearings of the adjustable gauge and the supports therefor, which constitute the chief matter of controversy on the question of infringement. Said rejections clearly operate to limit the scope of complainant's patent; it being well settled that no construction can be given to the claims of the reissue involved in this suit which will include what was covered by the rejected claims under either the original or reissue applications. *Shepard* v. *Carrigan*, 116 U. S. 597, 598, 6 Sup. Ct. Rep. 493; *Sutter* v. *Robinson*, 119 U. S. 530, 7 Sup. Ct. Rep. 376; *Dobson* v. *Lees*, 11 Sup. Ct. Rep. 71; *Roemer* v. *Peddie*, 132 U. S. 313–317, 10 Sup. Ct. Rep. 98. In connection with said rejection, the prior state of the art, as shown in the prior patents for mitering machines and improvements thereon, filed as exhibits in the case, will serve still further to establish the proper construction to be placed upon said claims of the reissued patent, if the margin of improvement or advance made therein by complainant can be regarded as patentable. Such of said exhibits as best illustrate the subject will be noticed briefly in the order of their issuance.

The Howard patent, No. 57,325, granted August 21, 1866, for an improved mitering machine, while not confined to that particular purpose, was especially adapted for cutting moldings, such as picture frames.

It had a bed and inclined knife moving in suitable ways, a slotted adjustable gauge with a shear edge, which always remained at the same distance from the line or plane of travel of the knife. The adjustment of the gauge was made by the use of two set screws, instead of one, as in complainant's machine. The strip of wood to be acted on by the cutter knife was placed on the bed and abutted against the rest or gauge, which could be adjusted to any desired angle with the cutter head, from 90 degrees down to 5 degrees or less, by releasing the two set screws, and moving the outer end of the gauge in a curved slot. For the purpose of mitering articles edgewise, the rest and knife were adjusted in one position, and for mitering articles flatwise the gauge and knife were adjusted in a different position. This machine went into general use, and seems capable of doing the different kinds of work performed by complainant's machine, although not so rapidly or easily. It differs from complainant's device in the method of supporting the inner edge of the gauge, and in the use of two set screws to effect the adjustment of the gauge.

The Tucker patent, No. 89,183, granted April 20, 1869, for an improvement in machines for mitering printers' rules, shows a bed, a knife moving in ways, a gauge and edge always held in the same relative position to the cut of the knife, whose thrust is taken or received chiefly by the bed of the machine. It is conceded by complainant that there is no difficulty in so locating the gauge of this machine as to hold the front end thereof in position close up to the travel of the knife without reference to the angle at which the gauge is placed; and it is shown by defendants' expert that if the knife traveled in a different direction the gauge would receive the thrust of the knife, rather than the bed, in performing the shear cut. Complainant says that the object sought in this machine, and others of like character, is not to have a gauge which will make a shear cut with the knife, but to locate the angle at which the material is presented to the knife. But the question is, does it not suggest more than that?

The Howell patent, No. 104,458, granted June 21, 1870, for an improvement in hand-mitering machines, shows a bed, knives moving in ways, gauges, and posts against which such gauges rest, said posts being adapted to support the gauges in the different directions or positions into which the latter may be moved. The lower part of this gauge, which rests against the bed and at right angles to the board, furnishes a support to the stock operated upon against the thrust of the knife, which in this machine is set to a plane stock, like an ordinary plane, and passes over the wood with a scraping or shearing motion. But it appears that if a knife like complainant's or defendants' was substituted for this planing cutter, nothing more would be required to make this Howell machine perform the work of complainant's machine except the independent adjustment of each end of the gauge. By means of such substitution and adjustment its gauge would make a shear cut with the knife. The upper end of this Howell gauge is not otherwise supported than by the strength of the material or metal of which it is composed.

But it would hardly require anything more than mechanical skill to give it such support or strengthen it in that particular.

The Aiken patent, No. 111,896, granted February 21, 1871, for an improved machine for cutting and mitering printers' rules, shows a bed, a cutting or filing tool to dress the material operated on, and a gauge or guide bar, pivoted at its inner end, with its edge always held in the same position with reference to the dressing or cutting device, and adapted to be set at any angle to make a required bevel. If a knife were substituted for the Aiken cutting device, and set at an angle with the line of motion necessary in cutting the end grain of wood, the gauge could be readily arranged to make a shear cut with the knife. In making such substitution, and to produce such shear cut, the bed of the Aiken machine might have to be changed so as to permit a full and unbroken line to support the wood as the knife goes over it. This would involve merely mechanical arrangement and construction.

The Malin patent, No. 125,745, granted April 16, 1872, for an improvement in mitering machines, presents another device for mitering. It has a knife set in a plane stock, somewhat like that in the Howell patent, and moving in ways; a bed, which is adjustable at different angles to the line of movement of the knife, so as to cut the stock at any desired angle, said bed or rest being provided with a shear edge; and a gauge that may be set in any required position, adapted to maintain the same relation to the knife. Defendants' expert states that this machine more nearly resembles the construction of defendants' machine than that of the complainant, but that it presents substantially all the elements found in each of them. It is conceded by complainant, on cross-examination, that if the gauge of this machine was arranged to lie close to the knife, and its edge was provided with some metallic support, coming in close proximity to the knife, the wood could be cut clean at any required angle from 45 to 90 degrees.

The Jones patent, No. 153,343, granted July 21, 1874, for an improvement in mitering machines, shows a combination of a bed, a knife traveling in ways, and an adjustable gauge, pivoted a little distance from the path of the knife. The specification states that "when the gauge is adjusted at other than a right angle with the front edge of the frame and bedplate, there is necessarily an open space between its end and the face of the plane, so that no rest is provided for the end of very thin or very narrow material. To obviate this difficulty, I have provided an auxiliary plate, *m*, attached to the rest, *l*, by means of tongue and groove joints and bolt, *m*, which forms the pivot for said rest, on the upper end of which bolt is a thumb nut, *n*, etc. The gauge, thus supplemented by the additional plate, *m*, has its edge always flush with the edge of the bed, and thus remains in the same relation to the knife."

The Lannartson & Bergstorm patent, No. 179,662, granted July 11, 1876, for an improvement in miter planing machines, presents a bed hinged to its vertical structure, with the axis of its hinges in line with the cutting knife. The bed is made adjustable up and down, with co-

working lateral gauges. The table and gauge, by means of suitable screw arrangements, can be adjusted to any desired angle, while its edge opposite to the cutting knife from the point at which it is hinged remains in the same relation to the knife. The gauge in this machine does not swing in an arc whose center is its inner edge; but the table gauge, B, which is the principal gauge of this device, does swing in such an arc, and its inner edge is the center of such arc, thus presenting the principle of an unchanging center, as found in the machines under consideration.

The Lannartson patent, No. 202,445, granted April 16, 1878, was for an improvement in the said Lannartson & Bergstorm mitering machine, and shows a vertical structure or device for miter work, in which the table is adjustable to any position required, and which operates as a rest or gauge. This table rest or gauge, in whatever position adjusted, always remains in the same relation to the knife, which moves perpendicularly, instead of horizontally. It is stated by complainant's expert "that if the machines are arranged with the parts of the knife in vertical plane, and the gauge was made with its circular bearing and shearing edge in the same relative positions, I do not see that there would be any substantial change made." This is manifestly so, and would require only the exercise of mechanical skill in changing the relative positions of the several parts. In this Lannartson machine, the knife, with the table, forms a shear cut upon the wood or stock; but there is no claim of this nature either in the specification or claims of the patent. It is also conceded that it will cut wood in as many different forms as the complainant's machine. It is shown by stipulation of the parties that many of these Lannartson machines were manufactured and in practical use at Erie, Pa., as early as 1877.

The Nichols patent, No. 179,944, granted July 18, 1876, for improvements in mitering machines, shows the following elements in combination: A table or bed, adjustable gauge, and a saw cutting device, instead of a knife. The adjustment of the gauge is effected by means of two screws. The gauge on this machine, as stated in the specification, "may be adjusted and fastened at any angle desired, with the beveled inner end of the gauge always at the same point; and the miter will always be true, and be supported close to the saw." It is admitted by complainant that this gauge can, by independent adjustment at each end, be adjusted so that the point, x, will always lie close to the edge of the saw. If a knife were substituted for the saw employed in this machine, (and which would not require the exercise of invention,) we would have substantially the same arrangement as found in the machines under consideration. The defendants' expert states that the point, x, constitutes an unchanging center, with the edge of the gauge always in the same relative position to the plane of the cutting device.

The Schreppel patent, No. 223,819, granted January 27, 1880, for a new and useful mitering machine, like the preceding machine shows in combination a bed, a knife moving in ways, and adjustable gauges, which do not rest against end posts, as in complainant's machine. The gauge

in this Schreppel patent, as shown in the drawing, will make, as complainant admits on cross-examination, both a shear cut and a draw cut. He claims as a defect in the machine that it has no support for the top of the gauge other than the strength of the material of which the gauge is made, and if the gauge is swung into a position at right angles to the knife it would leave an opening between the gauge and knife, and in that position would not form a support for the wood as last acted upon by the knife, which would result in leaving a ragged edge to the wood. This Schreppel machine closely resembles complainant's in outline and operation, and the specifications and claims of the patent are hardly distinguishable without drawing the most refined distinctions.

The Kinch patent, No. 243,597, granted June 28, 1881, for improvement in miter boxes or machines, presents a device with the bed so adjustable that the front upper edge next to the knife is always held in the same relative position to the knife, at whatever angle the bed is adjusted.

The Leffingwell patent, No. 334,247, granted January 12, 1886, for improvements in mitering machines, presents the same general features found in most of such machines, consisting of a table or bed, a moving knife, adjustable gauges adapted to be set at any angle, and in proper relation to the knife. The defect which complainant finds in this machine is that the gauge is pivoted back of the corner or edge which makes the shear cut, so that it will only form a shear cut in one position. The gauges of this patent are pivoted to the table at or near their inner end, instead of being loosely supported. The specification states that the machine "will cut miters on wood in any shape from an angle to directly across the grain of the wood." It further appears that in June, 1879, the complainant obtained a patent for an improved mitering machine, called a "trimmer," which had the same general features as those already referred to, but was defective in not having a gauge that would make a shear cut with the knife at different angles. While these prior patents differed in mechanical construction, details, and operations,—some having the bed, instead of the gauge, adjustable; some having the gauge adjustable, and by different devices; some having the gauge so pivoted that its inner edge would make a shear cut with the knife at any angle; some with the gauge so pivoted or arranged that it would make a shear cut with the knife in only one position; some making the adjustment of the gauge with one set screw, others with two set screws; some with the gauge supported at both the upper and lower ends, and others with the gauge supported at only the lower end; some with saw and plane cutting tools, others with knives set in different ways and in different relations to other parts of the machine; and some specially adapted to one purpose, others for different purposes,—there is found in all of them the same general idea or principle, and substantially the same elements in combination, as shown in the patent sued on. It may be true, as claimed, that complainant's machine is superior to prior devices in the smoothness of its cut, and in leaving less of ragged and broken edges of the wood operated on; but the question is whether, in view of what is

disclosed in the previous machines, it can be properly said that his machine or combination constitutes such a substantial advance or improvement over prior devices as involves invention, and will entitle him to a patent therefor. "It is well settled that not every improvement in an article is patentable. The test is that the improvement must be the product of an original conception. A mere carrying forward or more extended application of an original idea—a mere improvement in degree—is not invention." *Burt* v. *Evory*, 133 U. S. 358, 10 Sup. Ct. Rep. 394; *Smith* v. *Nichols*, 21 Wall. 112–119; *Howe Mach. Co.* v. *National Needle Co.*, 134 U. S. 397, 10 Sup. Ct. Rep. 570; *Ansonia Brass & Copper Co.* v. *Electrical Supply Co.*, 144 U. S. 11–19, 12 Sup. Ct. Rep. 601; *Roller Co.* v. *Walker*, 138 U. S. 124, 11 Sup. Ct. Rep. 292.

"A shear cut," as complainant understands it, is "a cut that is made by at least one cutting edge against some kind of a support," while "a draw cut" is made with a knife inclined to the plane of motion. It was customary, as he explains, in pattern making with plane in different positions, to use a piece of hardwood as such support for the end of the wood last acted upon, to prevent its edge from breaking or being left ragged. The gauge was employed in mitering machines, or many of them, not only to determine the angle of cut, but to furnish the edge support, which, with cutting device, would produce the shear cut. Now, what the complainant did was to so locate his gauges that the edges thereof, marked "*e*," should be in proximity to the plane of movement of the cutting knives, and form an unchanged center in the adjustment of the gauges, whose edges were provided with lateral support in the shape of posts at the ends of the frame, to sustain the gauge against the cutting action of the knife. At their upper ends the gauges have a cut-away portion, terminating in a curved arm over the upper part of the frame, said curved arm having a semicircular bearing face, which is in bearing contact with a projection on the cross bar of the frame, thereby preventing the upper end or edge of the gauge from moving into the line or plane of the knife's movement, while permitting some degree of motion in the other direction. These mechanical changes suggested, if not actually shown, in prior machines, (whether covered by the specifications and claims thereof is not material,) do not rise to the dignity of invention.

The large sales of complainant's machine, (about 2,400 of them having been sold from the beginning of 1886 to the middle of 1890,) is relied on as strong evidence of the validity of the patent. It is true that such extensive public use, superseding other similar devices, is evidence, more or less cogent, of value and usefulness. "It is not conclusive of that; much less of its patentable novelty." *McClain* v. *Ortmayer*, 141 U. S. 428, 429, 12 Sup. Ct. Rep. 76. Complainant was active and energetic in pressing the sale of his machine by means of circulars and traveling agents; the latter drumming for it in 13 states. Under such circumstances, extensive sales constitute little or no evidence or test of patentability, as is clearly explained by Mr. Justice BROWN in delivering the opinion of the court in *McClain* v. *Ortmayer*, 141 U. S. 427–429, 12 Sup. Ct. Rep. 78, 79. In our opinion the Howard, Aiken, Jones, Nichols,

and Lannartson devices, above referred to, present substantially the same elements in combination as those contained in complainant's machine, and our conclusion is that the latter is wanting in patentable novelty.

But if the complainant's device constituted a patentable invention, it is clearly "one in a series of improvements, all having the same general object and purpose; and that, in construing the claims of his patent, they must be restricted to the precise form and arrangement of parts described in his specifications, and to the purpose indicated therein." *Bragg v. Fitch*, 121 U. S. 483, 7 Sup. Ct. Rep. 978; *Caster Co.* v. *Spiegel*, 133 U. S. 360, 369, 10 Sup. Ct. Rep. 409. The rejected and abandoned claims under both the original and reissue application would require this restricted construction and limitation. Complainant's expert is asked in cross-examination (question 36) how a rejected claim of the original application differed from the first claim of the reissue patent, and his reply was: "In not specifying two independent bearings for the inner end of the gauge," and in not having the clause, "the bearings being in different directions." These clauses or specific descriptions of the bearings were required to be inserted before the first claim of the reissue would be allowed by the patent office. By force of the words, "substantially as described," found in each of the three claims of the reissue involved in this suit, there must be read into each of said claims (*Shepard v. Carrigan*, 116 U. S. 598, 6 Sup. Ct. Rep. 493) that portion of the specification showing that "the two independent bearings" referred to were the bearings against the posts at the ends of the frame and the projection, *f*, on the upper part of the frame, against which the curved arm of the gauge rested, said bearings being at right angles to each other, or "in different directions." The three claims are thus substantially the same. The defendants' machine does not adopt the form and arrangements of parts described in complainant's specification, and covered by his claims. Their gauge is supported or secured by pivots concentric with the inner edge of the gauge, and having circular bearings. It has no end posts, furnishing or serving as a lateral support at the upper and lower parts of the front edge to sustain the gauge against the cutting action of the knife; neither has it the projection upon the upper part of the frame, which forms the rest or support of complainant's upper bearing. There are other particulars in which they differ, as explained by defendants' expert, whose testimony is direct and convincing that there is no infringement. He has shown to our satisfaction, in view of the prior state of the art, and of what occurred upon the original and reissue applications, that, if complainant's claims should receive such construction as would cover defendants' machine, then it was clearly anticipated in the prior devices, already referred to; that if valid under a narrow and restricted construction, which would limit the patent to the specific device described in the specification, then it is not infringed by defendants. Our conclusions, however, are that the complainant's patent is wanting in patentable novelty; and, furthermore, that, if valid to any extent, it is not infringed by the defendants' machine. It follows that the judgment of the lower court should be, and the same is, affirmed.

ILLINOIS WATCH CO. v. ROBBINS *et al.*

(*Circuit Court of Appeals, Seventh Circuit.* October 1, 1892.)

No. 32.

1. PATENTS FOR INVENTIONS—CONSTRUCTION OF CLAIMS—STEM-WINDING WATCHES.
In reissued letters patent No. 10,631, granted August 4, 1885, to Duane H. Church, for an improvement in stem-winding watches, consisting in a combination of a short stem arbor, and a winding and hands-setting train, having no positive connection therewith, each claim, being couched in general terms, and concluding with the words, "as and for the purposes specified," is to be construed as including such devices and combination shown in the specifications as are necessary to meet the requirements of its general terms, and the claims must be limited to this extent. *Corn Planter Patent*, 23 Wall. 181, applied.

2. SAME—INVENTION—PRIOR ART.
In view of the prior state of the art as shown by the patent of February 9, 1883, to Charles F. Woerd, and patent No. 206,674, to Hoyt, there was no invention in the mere introduction of springs in the mechanism for effecting the winding and hands-setting engagement, in order to avoid liability of injuring the wheels by the force of the push or pull upon the short stem arbor; but the claims are valid as covering a new and useful combination, the peculiar usefulness consisting principally in rendering watches and cases interchangeable. 50 Fed. Rep. 542, modified.

3. SAME—INFRINGEMENT—MECHANICAL ADAPTATION.
The Church patent is infringed by watches made under the patent of January 3, 1888, to Thomas F. Sheridan, No. 376,015, and reissued August 5, 1890, No. 11,100; for, although there is a plain difference in the operation of the springs which produce the winding and hands-setting engagement in each watch, that difference is produced by a simple mechanical change, and the other differences arise from the use of mechanical equivalents.

4. SAME.
A certain lever in defendant's watch movement could, when the works were out of the watch case, be adjusted to produce normal winding engagement, but in a stem-set watch, when the works are in the case, it is always held adjusted in such manner as to produce normal setting engagement. *Held*, that such a construction, when used in stem-set watches, is to be regarded as operating on the principle of normal setting engagement, and as not different in that respect from the construction of the Church watch.

Appeal from the Circuit Court of the United States for the Northern Division of the Northern District of Illinois.

In Equity. Bill by Royal E. Robbins and Thomas M. Avery against the Illinois Watch Company for infringement of patent. Decree for complainants. 50 Fed. Rep. 542. Defendant appeals. Affirmed.

Statement by WOODS, Circuit Judge:

By the decree of the circuit court the appellant was held to have infringed the 1st, 3d, 4th, 5th, and 6th claims of reissued patent No. 10,631, issued August 4, 1885, to the appellees, as assignees of the original letters No. 280,709, granted July 3, 1883, to Duane H. Church. Here, as in the court below, the appellant, besides denying infringement, disputes both the validity of the reissue and the novelty of the claims. Only the first and second claims of the original patent are relevant to the question of the validity of the reissue, and they are as follows:

"(1) In a pendant winding and setting watch, a movement having winding and setting mechanism, adapted to be operated by the endwise movement of a winding bar or key, and normally in position to operate the hands, whereby a positive connection between the movement and the winding bar