HASKELL *v.* HOTCHKISS & UPSON CO. *ET AL.*

Circuit Court, D. Connecticut. December 24, 1890.

PATENTS FOR INVENTIONS—SCREW-MAKING MACHINES—CONSTRUCTION OF CLAIMS—ANTICIPATION.

The specifications for letters patent No. 125,269, granted April 2, 1872, to James M. Carpenter for improvements in machines for cutting gimlet-pointed screws, recite that "the purpose of the present improvement is to cut the gimlet point upon the screw by an operation subsequent to that by which the thread is cut upon the, body, so that the strain of the two operations shall not come upon the screw blank at the same time," as had previously been the case; and the specifications further recite that "my first improvement consisted in the combination with the dies which cut the body of the screw of a threaded back rest, which * * * holds the screw after the dies which cut the body have left it, and the pointing tool or tools by which the thread is cut upon the point while the screw is supported by the threaded, rest. My second improvement consists in the use of what I call the 'serial cutter or tool,' which is made with a series of cutting edges, * * * and its relation to the pattern or former * * * is such that the several cutting edges will remove successive shavings from the point of the blank." The claims are: "(1) The threaded rest as a device to support the screw already formed, * * * and in connection with the screw to act as a leader to give motion to the tool-carrier (2) The serial tool, *e,* in combination with a former or guide so related thereto that * * * the several teeth will cut successive shavings" from the blank. *Held,* that the second claim could not be construed to include a threaded rest and screw with the two elements therein mentioned, but must be limited to a combination of the latter; and, as it was anticipated as so limited by letters patent No. 123,307, granted January 30, 1872, to Cyrus B. F. Tingley, it was void.

In Equity.

Wilmarth H. Thurston, for plaintiff.

John P. Bartlett and *Charles E. Mitchell,* for defendants.

SHIPMAN, J. This is a bill in equity which alleges infringement by the defendants of letters patent No. 125,269, dated April 2, 1872, to James M. Carpenter, for improvements in machines for cutting gimlet-pointed screws. The bill was filed in May, 1885, and prays for an injunction and an accounting. The plaintiff, in his testimony, sought only, to prove infringement of the second claim. For many years blunt

pointed wood screws were cut either by solid dies or by chasing tools. In cutting by solid dies a machine was employed having a revolving spindle, in the end of which a blank was fixed. A sliding holder held the dies, which consisted of several longitudinal series of teeth encircling the bolt. The dies were rigid, and could only cut a screw of the same diameter throughout its length. The screw-cutting tool of the chasing tool machine had only a single tooth, which traced the spiral around the blank by the control of independent mechanism, which gave motion to the tool-holder. Having only a single tooth, the tool-holder had to repeat its travel during many times before a full thread could be made. When gimlet-pointed screws were introduced, the old methods were inadequate to cut a thread upon the entire screw. A solid die machine could cut only the body, and a single-pointed chasing tool, pushed in a truck parallel with the axis of the screw to be cut, could do no more. At this point Mr. Coleman, the plaintiff's expert, says that "it occurred to an inventor to fasten a single-toothed tool in a vibratory holder, mounted upon a longitudinally traveling carriage, receiving its motion, as before, along the course of the screw blank, from a permanently placed independent feed mechanism. The vibratory holder permitted the cutting tool point to advance towards, and recede from, the axis of the screw blank under the influence of a form fastened to the bed of the machine against which the vibratory holder impinged as it was pushed past upon its carriage by the feed mechanism of the machine. This form was straight along the body of the screw blank, and inclined towards the axis of the blank at the point of the blank, and the tool accordingly cut a shaving from the straight portion of the blank, and was pushed in by the incline of the form as it advanced to cut down the corresponding incline of the screw-blade point. * * * This is the principle and method employed to this date by all the great screw companies for making the celebrated gimlet-pointed wood screws." At this time lag or coach screws began to be made, which were large wood screws, having square heads for wrenches, instead of slotted heads for screw-drivers. When they were made with gimlet-points, the slow chaser tool system, of which I have last spoken, was resorted to, but it was expensive. At this stage of the art Mr. Carpenter, the patentee of the patent in suit, procured letters patent No. 119,916, dated October 17, 1871, for a machine which employed the solid die system for the body and the chaser system for the point, in the same machine, the design being to cut the body and the point simultaneously. The object of the invention is described by the inventor, in his specification, as follows:

"The purpose of my invention is to form a gimlet point on the screw when it is cut in dies, and consists in combining with the dies which cut the body of the screw, made in any of the well-known forms, one or more tools or chasers placed at the back side of the dies, and having a motion towards and from the axis of the screw, and working in suitable guides, which tools are set in such relation to each other and to the thread formed by the dies that they will follow each other with successive cuts, if more than one tool is used in

forming the point of the screw, and will also coincide with the thread formed by the dies upon the body of the screw, so that the thread formed on the point

will be a continuation of that formed on the body. By this means the dies act as a rest to hold the body of the screw firmly while the point is being formed by the tools, which have a simultaneous movement towards and from the axis of the screw so graduated to the progressive motion of the dies or screw, as the case may be, that their united action will give to the point the tapering form required at the same time that the dies are cutting the thread upon the body."

The strain upon the screw, which was incident to the simultaneous operation of the dies and the chasing tool, was so great that the blanks twisted. To remedy this defect the patentee made the invention described in the patent in suit, by which the two systems were performed in succession. The invention is thus described in the specification:

"The purpose of the present improvement is to cut the gimlet point upon the screw by an operation subsequent to that by which the thread is cut upon the body, so that the strain of the two operations shall not come upon the screw blank at the same time, while the screw-threads upon each part of the screw shall be made accurately to coincide. My first improvement consists in the combination with the dies which cut the body of the screw of a threaded back rest, which is formed like the segment of a nut, and accurately fits the threads formed upon the body of the screw, and holds the screw after the dies which cut the body have left it, and the pointing tool or tools by which the thread is cut upon the point while the screw is supported by the threaded rest, by which means the rest becomes the support of the screw, and, in connection with the threads already formed upon the screw, the leader, which controls the progressive motion of the tool or tools which cut the threads upon the point. My second improvement consists in the use of what I call the 'serial cutter or tool,' which is made with a series of cutting edges, say four or more, the edges of which are set in a line nearly coinciding with the inclination of the point of the screw, and its relation to the pattern or former; which controls its radial movement, is such that the several cutting edges will remove successive shavings from the point of the blank, so that when they have all passed by the point the thread there on will be completed. My third improvement consists in the combination of a threaded back rest, which is made to serve as a support to the screw, and as a leader in the operation of forming the threads upon the point, and the series of cutting points or teeth which are moved radially under the control of a pattern or former, as will be described, by which means screws may have gimlet points formed upon them, the bodies of which have been cut by a separate operation, as will be hereafter described, as a modification of my invention."

The claims are as follows:

"(1) The threaded rest, as a device to support the screw already formed, while being operated upon by the pointing or other tools, and, in connection with the screw, to act as a leader to give motion to the tool-carrier, substantially as described. (2) The serial tool,

e, in combination with a former or guide so related thereto that as the tool is carried past the point of the blank the several teeth will cut successive shavings therefrom and complete the thread, substantially as described. (3) The combination of the threaded rest and pointing tool, substantially as described. (4) The combination of the threaded rest, and the pointing tool or tools, with the dies for cutting the body of the screw, substantially as described."

Both the body and the point are cut in the machine which embodies the first improvement. The point only is cut in the machine which represents the third improvement. The mechanism of the second improvement

is used in the point-cutting mechanism of either machine. The defendants' machine is described in letters patent No. 300,908, dated June 24, 1884, to F. A. Smith and A. Doll, Jr., and is said to infringe the second claim of the second Carpenter patient. The important point in the case is the proper construction of this claim, for it is substantially conceded that if it is to be construed as a combination of the two elements, which are specifically named, viz., the serial tool and a former or guide in the specified relation to each other, and actuated by some means, (but by what means is immaterial,) the claim, thus broadly stated, was anticipated by the machine described in letters patent No. 123,307, dated January 30, 1872, to Cyrus B. F. Tingley. This was riot a machine for cutting the body and completely cutting the point by successive operations, but after they had been cut simultaneously by dies and chasing tools, respectively, the specification says that "a finishing tool, *i,* comes in contact with and moves along the screw towards its point finishing and rendering the threads smooth and even. The fining tool, *i,* is similar in shape to the pointing tools and is secured to, the tool block, its edge projecting directly opposite to the pointing tools. * * * The finishing tool, *i,* serves to remove the surplus stock left by the tools *d, d.*" The plaintiff strenuously and truly insists that a very important part of Carpenter's second invention was to compel the screw-threads upon each part of the screw to coincide accurately, although they were cut by successive operations, and that, the important new idea or principle of the machine was to give ah already body-threaded screw the capacity to furnish, in its threaded rest, power to completely thread its own point at a subsequent operation. He did this either in a distinct machine from that in which the body thread was cut, or in the same machine. Wherever done, a new function was given to an already body-threaded screw, which was to be gimlet pointed. The plaintiff says, by his expert, that the patent "shows for the first time, so far as I know, a machine for cutting a gimlet point upon a screw which has already a thread cut upon its body, and which screw, of itself, gives motion and pitch control to a vibrating pointing tool to gimlet point the screw itself." The plaintiff, therefore, insists that the proper construction of the second claim is to make the combination of four elements, the two specifically named, viz., the serial tool and a former, and the two whose presence is necessary to make the whole machine operative, viz., a threaded rest and the screw, and that, unless this is done, the invention, which the patentee called his "third improvement," will not be claimed. There is no claim which in terms describes the combination of the pointing tool, former, screw, and threaded rest, but my belief is that the patentee intended that the first claim should describe and include the invention of pointing the screw after the dies had performed their part of the work, and consisted of the combination of threaded rest, already formed body screw, and pointing tools, the threaded rest and, screw to act as a leader to give motion to the tool carrier. This claim was the one which, in his mind, correctly described the mechanism which he, had devised, to carry into effect the leading, new idea of

the invention, viz., the taking an already, body-thread screw and cutting a point upon it by a subsequent operation, so that both threads shall coincide, this being done by the action of the threaded rest and the screw, as a leader, to impart motion and pitch control to the tool carrier. A guide, which was then a well-known instrumentality, would in his judgment, be used, as a matter of course, in connection with the pointing tool. This part of the invention is far from being contained in the second claim, which was for the invention, which he characterizes and his "second improvement," and was expressed almost in the language of the descriptive part of his specification. The patentee deemed that a specific part of his invention was the serial tool, made with a series of cutting edges, in connection with a former which so controls the radial movement of the cutter that as it is carried forward by some actuating means successive shavings will be cut from the point of the blank. In asmuch as this claim is substantially in the language in which the patentee described his second improvement, it would be a strained construction to import into it two omitted parts of mechanism. The patentee regarded his serial tool and the former as a separate and distinct invention, his patent was drawn accordingly, and the phraseology of the, third improvement, which was not specifically and in terms used, cannot be pushed into the patent by reading into the claim for the second improvement two unnamed elements. The theory of the plaintiff's case is that the validity of the second claim requires the construction which was given to it. The bill is dismissed.