

**Case No. 2,050.**

BRUFF v. IVES.

[14 Blatchf. 198;<sup>1</sup> 2 Ban. & A. 595; 11 O. G. 924.]

Circuit Court, D. Connecticut.

April 12, 1877.

## PATENTS—AUGER MACHINES—VALIDITY.

1. The reissued letters patent granted to Richard P. Bruff, assignee of James Swan, October 21st, 1873, for an improvement in machinery for manufacturing curved or gauge-lip augers (the original letters patent having been issued to said Swan June 9th, 1868,) are valid.

2. The invention defined and the claims of the patent construed.

[In equity. Bill by Richard P. Bruff against William A. Ives for infringement of reissued patent No. 5,624, for an improvement in machinery for manufacturing curved or gauge-lipped augers. Decree for complainant.]

Thomas L. Livermore and Benjamin F. Thurston, for plaintiff.

Charles R. Ingersoll and John S. Beach, for defendant.

SHIPMAN, District Judge. This is a bill in equity charging an infringement by the defendant of reissued patent No. 5,624, dated October 21st, 1873, which was issued to Richard P. Bruff, assignee of James Swan, for an improvement machinery for manufacturing curved or gauge lip augers. The original patent [No. 78,769,] was issued to said Swan on June 9th, 1868. Since the suit was brought, the patent has been assigned by the plaintiff, and no injunction is now asked.

In the manufacture of augers, the end of the bit blank is first cut out into a trident like shape, and the body of the blank is then twisted into the form of an auger. The central prong at the end of the blank becomes the pivot of the auger, and the two other prongs become the floor lips or cutting edges. Formerly, these cutting edges were formed by hand. The operation of bringing or drawing the cutting edges so as to start from the base of the screw, and to continue in a line with the axis of the thread upon the pivot of the auger, was a difficult one, and required skilled labor. The patentee describes the object and nature of his invention as follows: "In making augers or bits of the above description," (viz., curved or gauge-lip augers,) "it is necessary to leave a sufficient

thickness of metal at the bit to admit of the point or screw being formed, after which the lips require to be reduced and brought to a knife-like edge at their cutting parts, which process is termed 'upsetting,' and has hitherto been done by hand; but the most skilful workman can scarcely obtain a perfect form of cutters, and perfect uniformity in the two lips is rarely ever obtained. In my invention, I employ gripping or clamping jaws, that grasp and firmly hold the auger-blank just above the lips, the jaws being fitted to receive the helical threads of the auger blank, and, in connection with these jaws, swaging or drawing dies, to which is imparted a rotative movement while they are in contact with the lips of the blank, such rotative movement upsetting the auger-lips and forming them to shape against the griperdies." The machine consists, in general, of two jaws connected at one end by a pivot, which have dies inserted in their opposite ends, to receive and hold the screw portion of the auger, while its cutters or lips are being operated upon. The specification describes the dies as follows: "The upper surfaces of the dies B, B, are grooved or hollowed out to conform to the desired shape of the lips or cutters, as shown at C, C." An arbor is fitted upon the socket of a curved standard, which arbor rotates and moves longitudinally to and from the auger or bit. To the lower end of the arbor the swaging or drawing dies are fitted. These dies act upon the lips or cutters of the bit when the arbor is moved, and the lips are drawn out to a thin edge against the ends of the jaws by the rotative and forward action of the swaging dies. The mechanism by which the various parts are operated is fully described in the specification, but a sufficient description has been here given for the purposes of this case. The first two claims of the patent are alleged to have been infringed. There are: "1. The combination of clamping-jaws, having dies formed to receive the screw thread of an auger, with a rotative die for upsetting the auger-lips, the jaws and die acting in conjunction to draw the lips, and the combination being substantially as shown and

471

described. 2. The described method of forming or drawing the lips of augers, the auger-blank being first clamped in jaws formed to receive the auger-screw, (the lips extending beyond the jaws,) and the lips being then upset and drawn against the ends of the jaws by the rotative and forward action of a die, the ends of the jaws being formed to shape the lips under the action of the die."

Infringement by the defendant of these two claims is not denied. The defence which was relied upon at the trial, was want of novelty of the patented machine, resulting from the public use, prior to the date of the invention, of a machine made by Ransom Cook, and known as the Cook machine. After the end of the blank had been stamped into a trident-like shape, and after the body of the blank had been twisted, the Cook machine receives the bit blank in clamping dies which fasten into the twist of the auger. A die, called upon the trial a forming die, and, by the mechanics who operated the machine, called a wringer, being a transverse bar with a cavity in the centre, and with a spiral incline outside of the centre, was then brought forward in contact with the end of the central prong of the bit, and rotated, by which rotation the two outside prongs were twisted, so that they were very nearly at right angles with the axis of the blank. At this point, the

parties were at variance upon a question of fact, the defendant contending, that, by this rotatory and forward motion of the forming die or wringer bar, the lips or cutting edges were substantially formed as in the Swan machine, and that the floor lip was drawn out, abreast of the central prong, in a line with the thread upon the pivot of the auger. It was agreed, that, in the Swan machine, by the action of the swaging dies upon the bit held in the clamping dies, the floor lips were drawn, or rolled out, or plated out, and spread into their proper shape, and the cutting edges were brought into line with the thread of the pivot. The plaintiff insisted that the action of the Cook wringer was nothing more than a twisting of the lips, and that subsequently they must be drawn into proper shape, and the proper position must be given to the lips by a hand operation, which required, at least, one or two reheatings, and careful labor.

I am satisfied, from all the testimony, that the primary object of the rotating action of the wringer, was to twist the external prongs into a position from which the lips could thereafter be formed, and that, incidentally, this rotatory action upon the heated metal might have drawn the metal to a limited extent, but that, as a rule, it was necessary to take the blank from the machine and complete the drawing out operation and the spreading of the metal and the adjustment of the lips in line, with a hammer upon the horn of an anvil, and that, previously to this hand operation, an additional twist was sometimes given to the lip, with a pair of tongs, after the blank had been taken from the machine, and that these hand operations were not resorted to merely to "true up," or to remedy occasional incompleteness in the effect produced by the wringer, but were resorted to in order to accomplish what the Cook machine was, from its construction, not able to accomplish.

It will be remembered, that it is necessary to draw the metal out in order to form a floor lip, and that the cutting edge must start from the base of the screw and continue in a line therewith. It is, therefore, necessary that the thin places at the root of the screw, where the metal has been cut out, must be corrected. This drawing process is effected in the Swan machine by the two dies coming in contact with the metal on its opposite sides, and the swaging and rolling action of the swaging die. The under side of the metal rests on the holding die, and the upper side is pressed upon by the rotating die, and the heated malleable iron is plated out and forced into shape by these two opposing surfaces acting together. In order to draw this metal forward into proper shape, the under side of the lip should rest upon a bevelled surface, and be supported by that surface, and there must be an opposing pressure upon the upper side, as well as a simultaneous forward movement. The Cook machine did not draw forward the lip, because there was no adequate support on the under side. The forming die or wringer twisted the lips, but did not press them against an opposing surface, and by the simultaneous rotary motion draw forward the malleable metal. The superiority of the Swan machine consists in the form of the surfaces of the dies against which the rotating dies press the metal. If the Swan dies were substituted for the Cook dies in the latter machine, the plating out process could be accomplished, although it is very probable that the machine would not be practically successful. It thus appears that the Cook machine was not, in fact, an anticipation of the Swan invention.

But, the defendant insists, that, inasmuch as the first claim of the Swan patent is for a combination of clamping jaws having dies formed to receive the screw thread of an auger, with a rotative die for upsetting the auger lips, the jaws and die acting in conjunction to draw the lips, and inasmuch as the dies upon the clamping jaws are not particularly described, the claim is broad enough to include any dies which will draw or give shape to any portion of the lips, and that such dies have been clearly proved to exist in the Cook machine, which coact to some extent in giving shape to the lips. The object of the invention is stated in the patent to be, to reduce and bring the lips, by machinery, to a knife-like edge at their cutting parts. The invention consists generally in the combination of the two sets of dies,

472

so that the action of the rotating dies upon the lips clamped by the gripping dies may upset and form the lips. It is plain, from the description, that the rotating dies are to act upon the metal upon the upper surfaces of the gripping dies, which upper surfaces are grooved or hollowed out so as to conform to the desired shape of the lips or cutters. The first claim should be construed in connection with the specification, and in view of the actual invention and of the state of the art, and is for a combination of clamping jaws with its described dies and a rotative die, the two sets of dies so acting in conjunction as to draw, that is, to form into shape the lips, and shaped relatively to each other, substantially as shown. The essential feature of this claim is, that the described combination should so coact that the actual and necessary result should be to draw the lips, which result is to be attained in substantially the same way in which it is accomplished by the patented machine, which is, the drawing of the lips against the ends of the jaws by the rotative and forward action of a die, the ends of the two sets of dies being formed relatively to each other so as to shape, and not merely to turn over, the lips under the action of the rotating die. If the jaws and die are shaped relatively to each other so as to accomplish this result, they are within the patent, notwithstanding a variation in form from that which is described. The patent is not, therefore, broad enough to include the Cook mechanism, because the result of the coaction of the Cook dies is not to form into shape or plate out the lips, but is generally to twist the lips into a position from which they can subsequently be drawn out into the proper shape. And, although the Swan dies in the Cook machine might accomplish the drawing out result, that fact does not permit their unauthorized use in the combination, because the Swan dies were unknown, and did not, apparently, exist, previously to their invention by Swan.

If the plaintiff is the exclusive owner of the mechanism described in the first claim, it is not denied that he has an exclusive right to the process described in the second claim. Let there be a decree in favor of the plaintiff, for an accounting, and a reference to a master.

<sup>1</sup> [Reported by Hon. Samuel Blatchford, Circuit Judge, and here reprinted by permission.]

This volume of American Law was transcribed for use on the Internet through a contribution from [Google](#). 