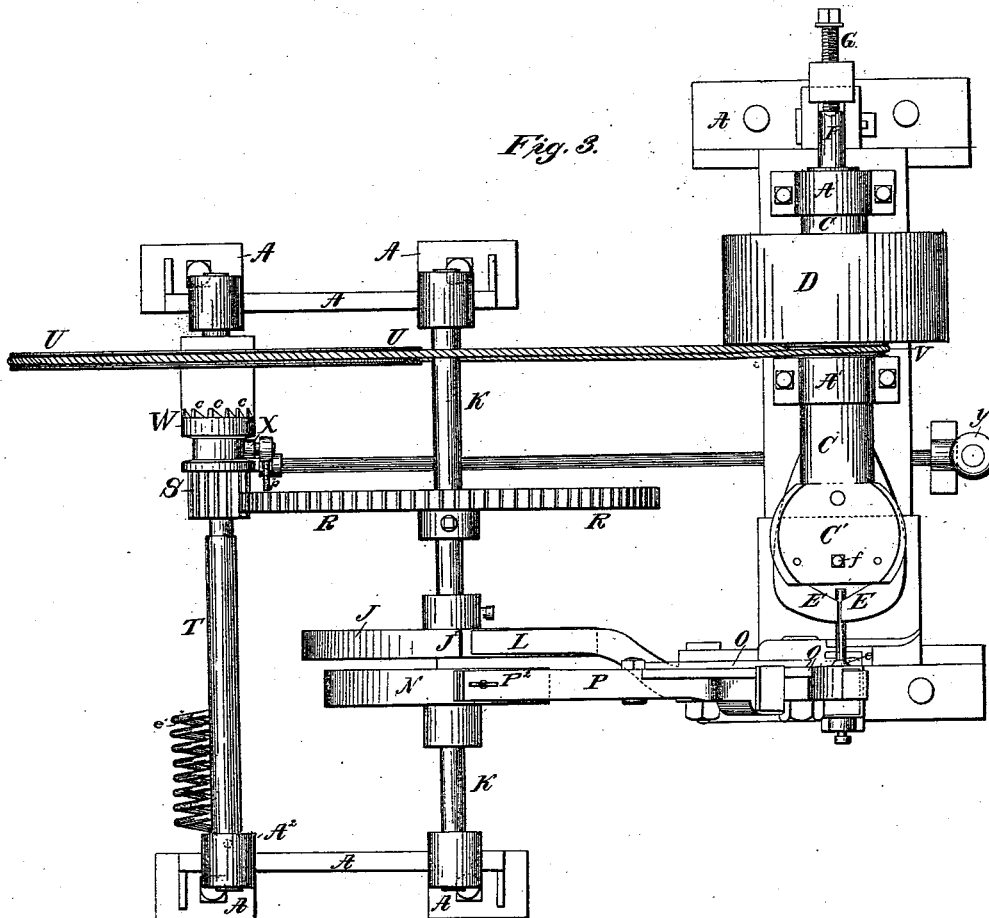
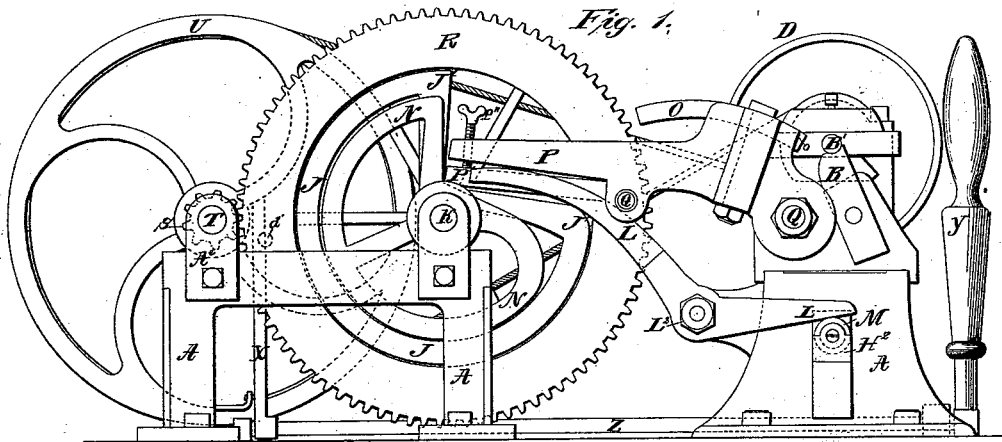


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Machine for Shaving the Heads of Screw Blanks.

No. 3,029.

Patented April 6, 1843.

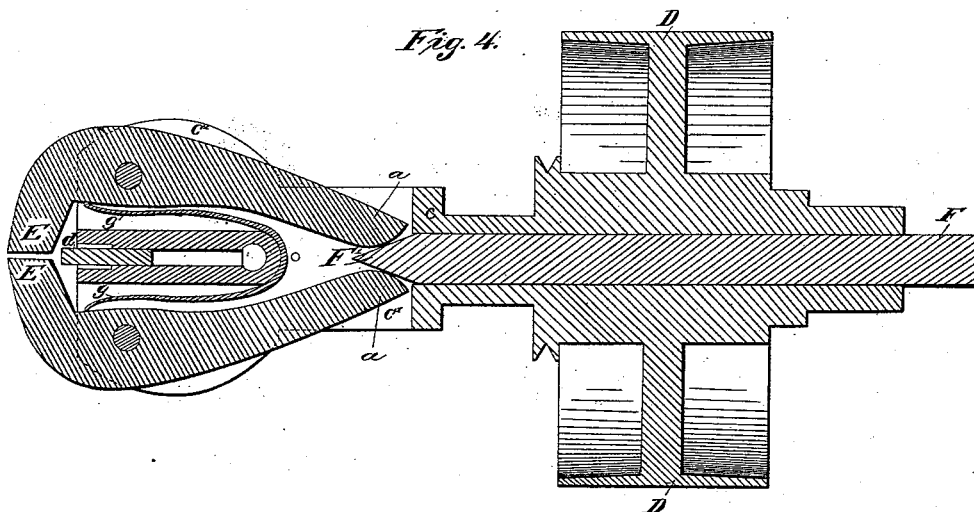
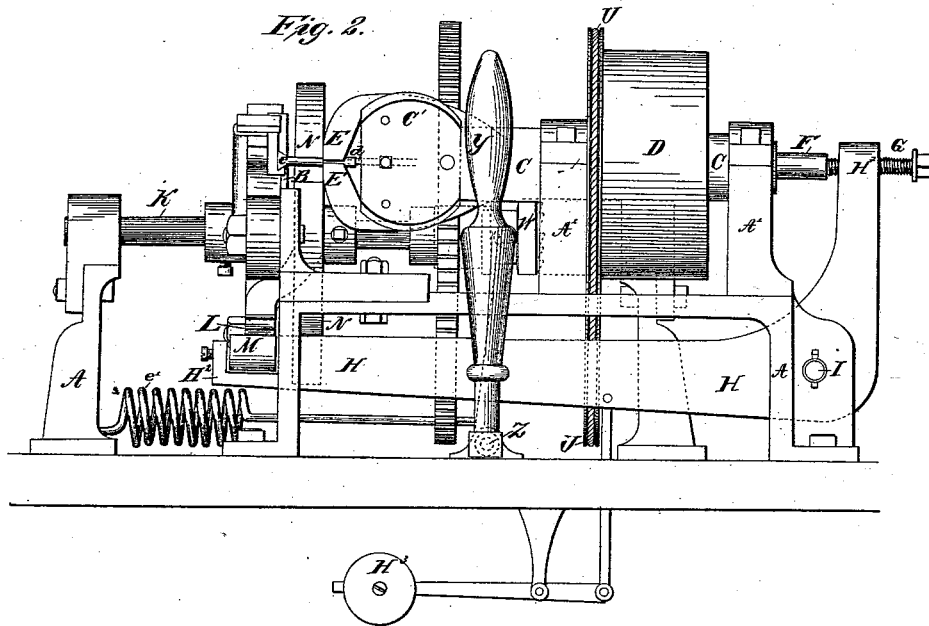


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UNITED STATES PATENT OFFICE.

CULLEN WHIPPLE, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR TO ALEX. HODGES.

MACHINE FOR TURNING OR SHAVING THE HEADS OF BLANKS FOR WOOD-SCREWS.

Specification of Letters Patent No. 3,029, dated April 6, 1843.

To all whom it may concern:

Be it known that I, CULLEN WHIPPLE, of the city of Providence, in the county of Providence and State of Rhode Island, have
5 invented certain improvements in the machine for turning or shaving the heads of the blanks which are to be formed into wood-screws, which I denominate the "self-operating shaver;" and I do hereby declare
10 that the following is a full and exact description thereof.

In the machines heretofore used for turning, or shaving, the heads of blanks, the tool, or cutter, by which they were finished
15 was brought up against them by hand; but in my improved machine the parts are made self-acting, by means of cams and levers, and other devices connected therewith, arranged for that purpose, in a manner to be
20 presently described.

In the accompanying drawing, the machine is represented, in the first three figures, of one half the ordinary size.

Figure 1, is a side, and Fig. 2, a front,
25 elevation of it. Fig. 3, is a plan, or top view, and Fig. 4, a section along the middle of the pulley shaft, showing the manner in which the jaws are made to operate by means of the slide bolt; this last figure is drawn
30 to the full size.

A, A, is the frame of the machine, which is made of cast-iron. C, C, is a tubular, or hollow, arbor, or spindle, which is sustained by, and runs in, the heads A', A'. The
35 arbor, or spindle, C, is driven by a band on the whirl, or pulley, D; and it is widened out at its end C', so as to constitute two cheeks which embrace the jaws E, E. Through the tubular arbor C, the sliding
40 bolt F, F, passes, and serves to close the jaws E, its wedge-formed end F', passing in between the tails *a, a*, of the jaws for that purpose. The sliding bolt F, bears, at its outer end, against a regulating screw G.
45 This screw passes through the head H', of the lever H, which has its fulcrum at I; when the end H², of this lever is depressed, its end H', will force the bolt F, forward, and cause the jaws E, to close, and embrace
50 the blank which is to be turned. The lever H, is depressed by means of a cam J, which is carried by a cam shaft K, K. The cam J, as it revolves, operates upon a lever L, having its fulcrum at L², the short arm of
55 which, L', serves to depress the end H², of

the lever H, during the time that its long arm rests upon the periphery of the cam J. The lever H, has a hardened roller M, near its end H², upon which L', bears. As represented in the drawing, Fig. 1, the lever L,
60 is relieved from its action on the lever H, by its having fallen into the recess between the points J', J', of the cam J; the weight H³, serves to raise the lever H. The arbor C, C, and the sliding bolt F, F, then fall
65 back, release the blank that has been turned, and allow a new one to be fed in. There is a second cam N, N, carried by the shaft K, which cam serves to advance the tool, or
70 cutter, O, against the head to be turned. This tool, or cutter, does not differ from those used in other machines for turning the heads of screws. P, is a lever upon which the cam N, operates to raise the cutter, and
75 carry it regularly against the heads of the blank; the fulcrum of this lever is at Q. P', is a branch of the lever P, which by the aid of the set screw P'', allows the action
80 of the cutter to be accurately graduated. The periphery of the cam J, is equidistant from its center K, but that of the cam N, has a gradually increasing diameter, to cause the cutter to advance gradually, as it takes a shaving off the head. The cutting
85 part of the tool is so formed as to cut both the top and bevel of the head at the same time.

On the same shaft with the cams there is a large spur wheel R, and motion is given to this wheel by means of a tubular pinion S,
90 on a third shaft T, the bearings of which shaft are on the standards A², A². The shaft T, also carries the large band wheel U, U, which receives a band from a small band wheel, or whirl, V, on the shaft C. The
95 shaft C, and the band wheel U, have their motion continuous, the band around the whirl V, and the wheel U, connecting these two parts. W, is a sliding clutch box, having the pinion S, attached to it; and these
100 are moved back and forth by the shipper X, which is governed by the handle Y, a rock shaft Z, on the lower end of which extends to the lower end of the shipper, by means of which the clutch box is brought
105 into contact with, or removed from, the clutch pin, the clutching being effected by a tooth, or pin, *b*, falling into one of the spaces *c, c, c*. For the purpose of arresting the wheel R, at the proper time for removing
110

a finished, and feeding in a new, blank, that is to say, at the period when the cams cease to act upon the levers P, and L, there is a pin *p*, projecting from the shipper X, at its upper end, on the side opposite to that seen in Fig. 1, which pin points toward the wheel R, and said wheel has a hole in its side, as at *d'*, Fig. 1, into which said pin will fall when the wheel comes around to the proper point. The spiral spring *e'*, draws upon the shipper X, for the purpose of forcing said pin into the hole, and of arresting the wheel. There is a gage pin *d*, within the cheeks C', against which a blank, *e*, is stopped when fed in; this pin is regulated by a set screw *f*, to suit blanks of different lengths. B, is a rest which sustains the blank while it is being turned. Within the jaws E, E, there is a spring *g*, *g*, by which they are opened, and the blanks relieved as the bolt F, recedes. The feeding is effected by passing the blank in between the jaws on the side shown in Fig. 1, where B', is the head of a blank inserted ready for the shaving, or turning, by the tool O. When it has been turned, and the jaws are opened,

it is removed and another inserted by hand, the blank being stopped by the gage pin *d*.

One person can readily attend two such machines, his duty being to operate the clutch at the proper time, and to feed in a new blank.

Having thus, fully described the nature of the machine for turning the heads of blanks, and shown the manner in which the same operates, what is claimed therein as new, is—

The manner of arranging and combining the apparatus by which it is rendered self-operating; that is to say, the arrangement of the cams J, and N, with the levers L, P, and H, in combination with the jaws spindles, and sliding bolt, A, so as to govern the gripping and releasing of the blank, and the moving up and withdrawing of the turning tool, by the operation of the respective parts constructed and combined substantially as herein set forth.

CULLEN WHIPPLE.

Witnesses:

JAMES WILSON,
HENRY MARTIN.