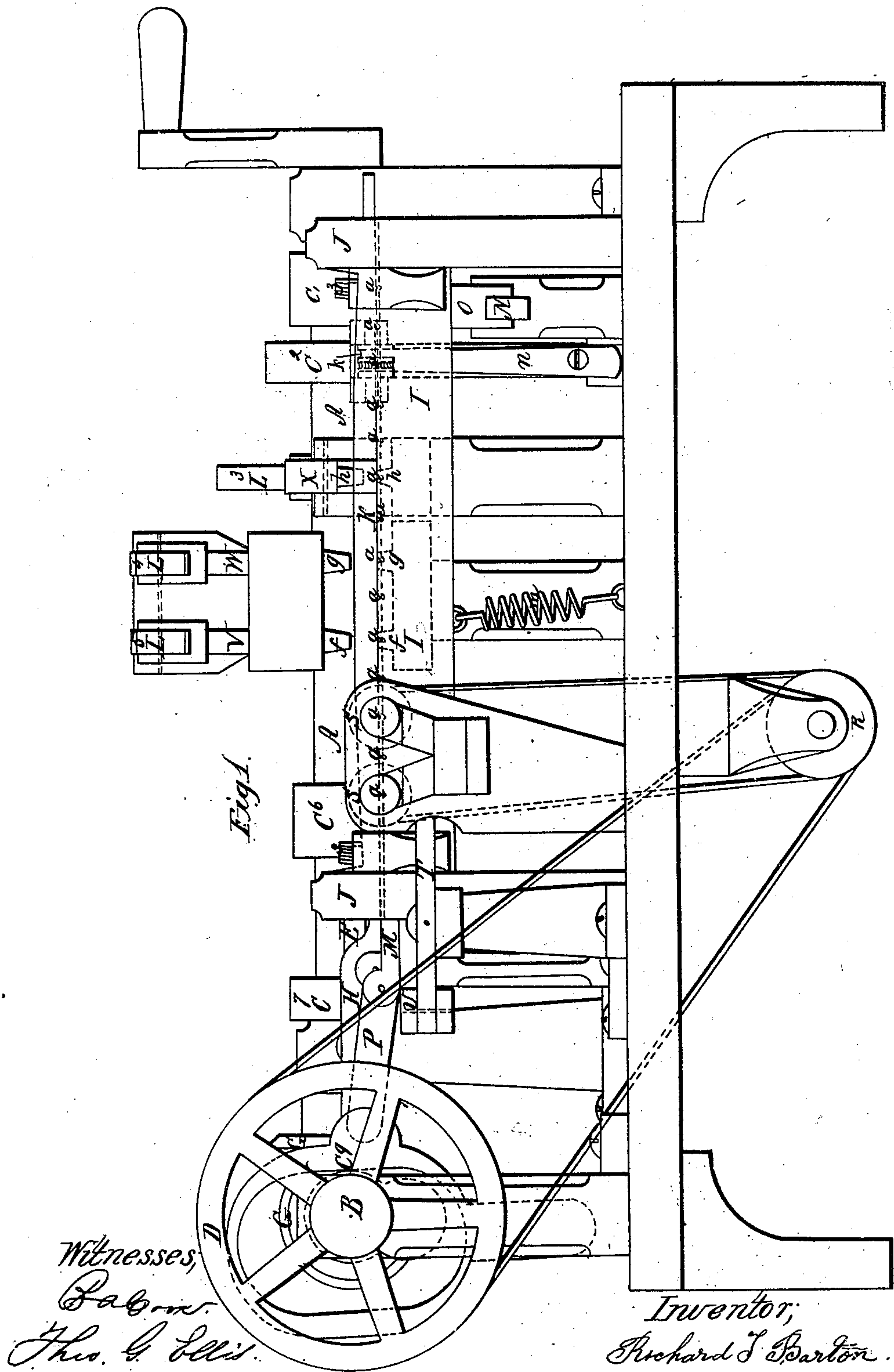


R. T. BARTON.
MACHINE FOR MAKING NEEDLES.

No. 68,593.

Patented Sept. 10, 1867



United States Patent Office.

RICHARD T. BARTON, OF NEW HAVEN, ASSIGNOR TO HIMSELF AND WILLIAM H. FISK, OF WEST MERIDEN, CONNECTICUT.

Letters Patent No. 68,593, dated September 10, 1867.

IMPROVEMENT IN MACHINES FOR MAKING NEEDLES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, RICHARD T. BARTON, of New Haven, in the county of New Haven, and State of Connecticut, have invented a new and useful Machine for Making Needles; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Figure 1 is a front elevation of the machine.

Figure 2 is a horizontal view, showing the working parts.

Figure 3 is an end view of the sharpening tool.

Like letters in the several figures indicate like parts.

A is the main shaft, to which the power is applied to drive the machine. It has upon it the cams C_1 , C_2 , C_3 , C_4 , C_5 , C_6 , C_7 , which operate different parts of the machine. It is connected by the guard-wheels G G with the shaft B, which carries the cams C_8 , C_9 and the pulley or wheel D. E is a lever, operated at one end by the groove in the cam C_8 , while at its other end it moves the slide F, which feeds the wire into the machine. H is a cutter, likewise operated by a cam on the shaft B, which cuts off the proper length of wire to form one needle. I I are a bed-piece, consisting of two parallel sides, with notches or grooves a a , &c., upon their upper surfaces, to receive the needles or blanks, so that they may lie across the two, and be firmly held in their positions by the bar K, which is pressed down upon them by the springs s s . This bar moves in grooves in the posts J J, so that it has a vertical play or motion, but is otherwise held in its position. M is a rack, fitting between the two parallel sides of the bed-piece, and having upon its upper surface grooves corresponding in number and position with those upon the upper surface of the bed-piece. This rack M has both a vertical and horizontal motion. The vertical motion is given to it by the cams C_1 , C_6 , which act upon the levers N N, which are connected with the under side of M by the pieces O. The rack M is held down firmly upon these levers by the spring m . The horizontal motion is given by the cam C_9 , which drives the rack backward and forward by means of the connecting-link P. Q Q₁ are revolving cutters for sharpening the needles. They consist of a piece, c , one end of which is attached to the spindle by which the cutter is turned, and the other end is provided with a small hole, d , to admit the needle. The two ends are left circular, and the intermediate part is cut away, as shown in the drawings, and the sliding-piece b is introduced and held in its place by a dove-tailed groove, into which it slides. This sliding-piece b has its surface roughened or cut, and is placed across the line of the needle, and at a slight angle to it, so that when the blank is pushed into the hole d , and the cutter revolved, the point of the needle is sharpened. These cutters are advanced toward the bed-piece which holds the needles, and also withdrawn, by the lever T, which has a fulcrum at e , and is connected with the cam C_7 by the bar U. V is a punch for forming the groove at the eye end of the needle, by means of the dies f f . This punch or press is operated by the lever L_5 and cam C_5 . W is a punch for forming the eye of the needle, by means of the dies g g . It is operated by the lever L_4 and cam C_4 . X is a punch for shearing off the extra metal at the end of the needle after the eye is punched, which is done by means of the dies h h . The upper die is connected directly to the lever L_3 , which is operated by the cam C_3 . Y is a frame, carrying a milling tool, i , for finishing the eye end of the needle. This tool has a groove, K' , for a belt, by which it is rapidly revolved. It is advanced and withdrawn at the proper moment by the rod L_2 and the cam C_2 . The rod L_2 is connected with the part Y, and the whole moves forward and backward in slides or grooves in the stationary part Z, which is attached to the frame of the machine. The sliding part Y is held up to the cam by a spring, n .

The operation of my invention is as follows: The wire of which the needles are to be formed is taken from a reel in any convenient position, and is fed into the machine by the feeder F, being cut off into the proper lengths by the cutter H. The blank is received in one of the grooves a , upon the bed-piece I I, and is moved forward through the machine by the action of the rack M, as follows: In the drawings the rack is shown in its extreme backward or left hand, and in its lowest position. From this position it is raised up vertically, by the action of the cams C_1 and C_6 , until it is sufficiently high to lift the blank out of the groove in the bed-piece I. It then moves forward, under the action of the cam C_9 , the length between the grooves a carrying the blank

with it, which is held down by the bar K, pressing upon it from above. When it has arrived at the next groove the rack is released by the cams C₁ C₆, and drops back to its lowest position, depositing the blank in the next groove in the bed-piece to where it started from. It remains there while the cams finish their revolutions, and the rack returns to its first position. It is then picked up again and carried forward as before. At the instant the blanks are deposited in the grooves opposite the cutters Q Q₁, these last are advanced by the lever T, and, revolving rapidly, sharpen the point of the blank, the operation being partly performed by Q and finished by Q₁. When the blank arrives opposite the punch V, this descends under the action of the cam C₆, and by means of a properly-formed die, makes the groove in the head of the blank. The blank then passes on to the punch W, which punches the hole for the eye. When it has passed along to the punch X, the head of the blank is sheared and trimmed by proper dies, taking off the extra metal which has been spread out by the two previous operations. When the blank arrives opposite the milling tool Z, that advances by the action of the cam C₃, and turns and finishes the eye end of the needle. When finished the needle is thrown off at the end of the rack.

I am aware of the patent granted to C. O. Crosby, March 7, 1865, for improvement in machinery for making fish-hooks, and I do not claim any device or combination of devices shown therein; but what I do claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of the cams C₁ C₂ C₃ C₄ C₅ C₆ C₇ C₈ C₉ and the levers L₂ L₃ L₄ L₅, N N, E, T, and U, the feeding mechanism F, the cutter H, the feeding rack M, the bar K, the sharpening tools Q Q₁, the punch V, the punch W, the shearing-press X, the and milling tool Y, all constructed and arranged substantially as specified, the whole forming a machine for making needles, as herein set forth.

2. The sharpening tool Q Q₁, constructed substantially as herein described.

RICHARD T. BARTON.

Witnesses:

B. A. COOK,

THEO. G. ELLIS.