(No Model.) 2 Sheets—Sheet 1.

J. NAYLOR, Jr.

MACHINE FOR POINTING AND LAPPING HOOPS.

No. 246,804. Patented Sept. 6, 1881.

Fig. 2.

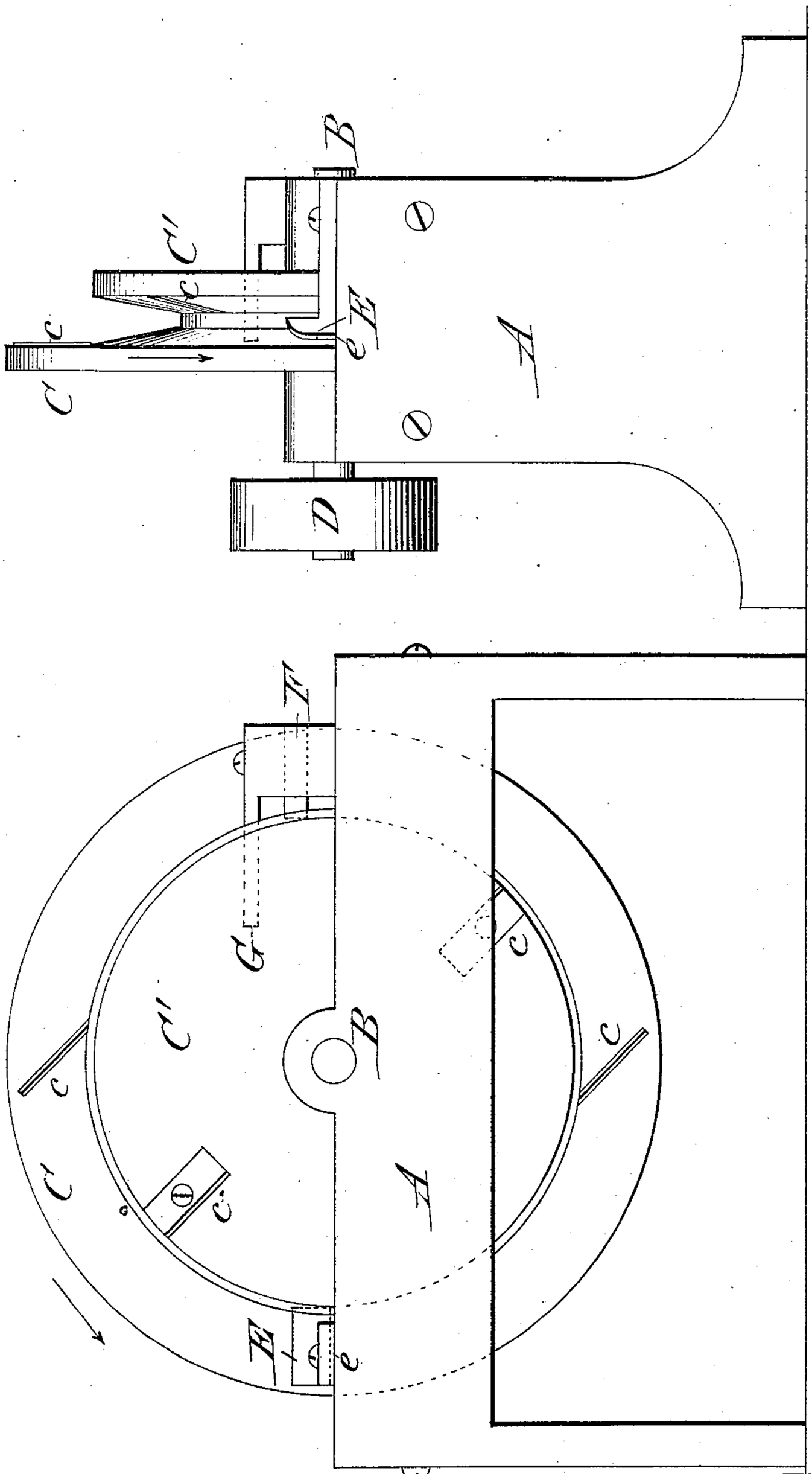

Fig. 1.

Attest:

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

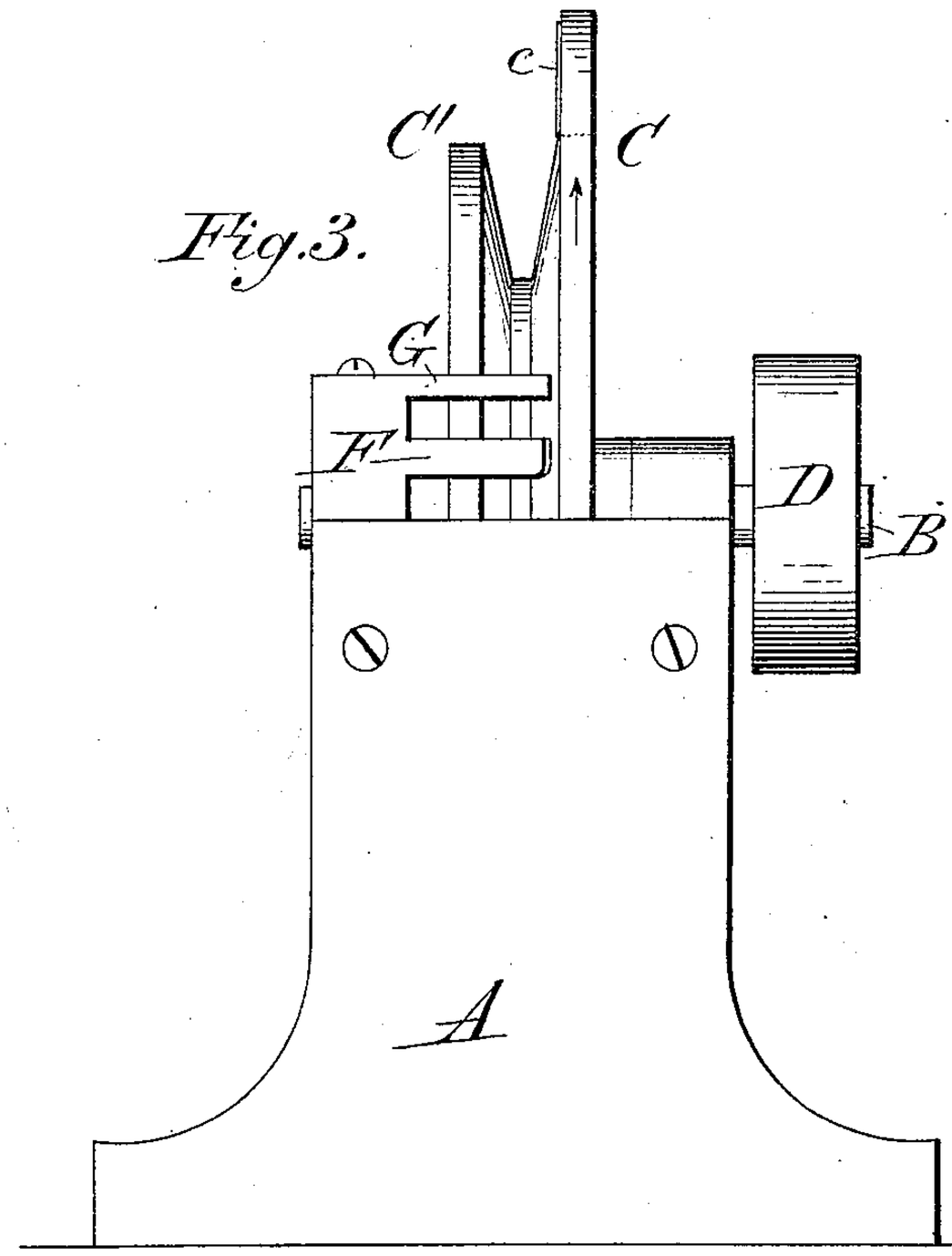
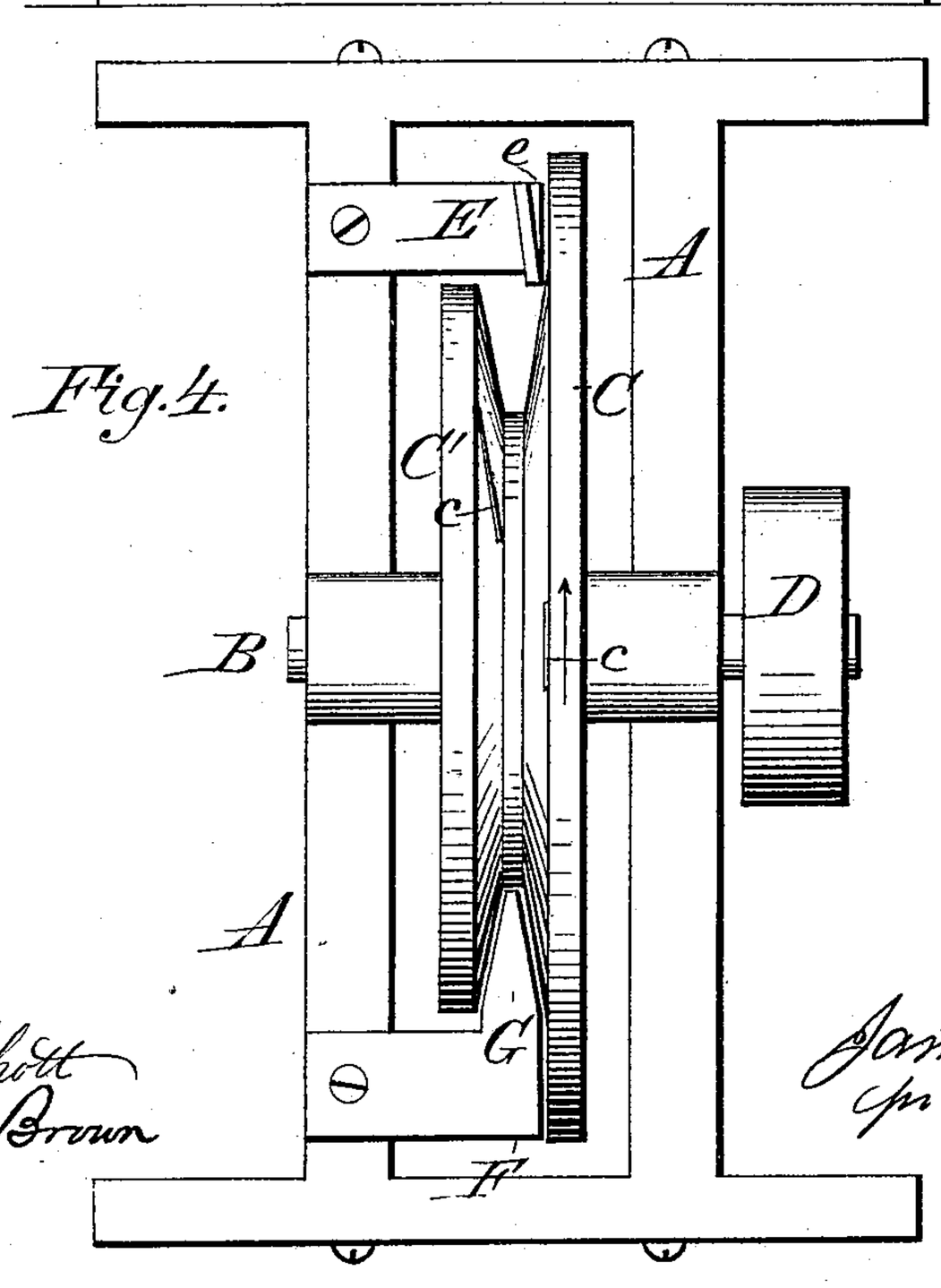


Fig. 4.



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UNITED STATES PATENT OFFICE.

JAMES NAYLOR, JR., OF ROCHESTER, NEW YORK.

MACHINE FOR POINTING AND LAPPING HOOPS.

SPECIFICATION forming part of Letters Patent No. 246,804, dated September 6, 1881.

Application filed May 11, 1881. (No model.)

To all whom it may concern:

Be it known that I, JAMES NAYLOR, Jr., a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Machines for Pointing and Lapping Hoops; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in machines for pointing, thinning point, and lapping hoops, whereby the work is done more effectually and more rapidly than heretofore; and it consists essentially in the arrangement of parts in such manner that a proper knife-edge is maintained to suit exactly the nature of the different cuttings, and also to bring the parts in closer proximity, so that the manipulations of the blanks are made easier.

The object of these improvements is to produce better and quicker work, as will be hereinafter described.

In the drawings, Figure 1 is a side elevation of the machine. Fig. 2 is an elevation of the front end. Fig. 3 is an elevation of the rear end. Fig. 4 is a plan view.

A A is the frame of the machine. Running in bearings secured thereto is the shaft B, carrying the wheels C C′, being driven by the pulley D, located outside the frame. Knives *c c c c* are placed so that their cutting-edges protrude beyond the faces of the wheels C C′. The wheel C is larger in diameter than the one C′, that part extending beyond the periphery of the cutting of the knives on the wheel C′ being perfectly straight; otherwise the wheels are similar to each other. The arrows show the direction in which the wheels are run.

Located outside the periphery of the V formed by part of the wheel C and the whole of the other, C′, is the lapping-rest E. This rest extends along the straight part of the wheel C, and has its opening for the blank all along its upper edge. Being arranged in this manner it enables the operator in handling the blanks to strike them laterally against the straight face of the wheel C. The wheel C′ being smaller in diameter also allows of this movement. The downward motion of the wheel draws in the blank between the face of the rest E and the straight face of the wheel C down to the shoulder *e*, and is cut away by the action of the knives to the required taper to form the lap.

On the rear side of the wheels are the thinning and pointing rests. Located outside the periphery of the wheel C′ is the rest F. This is for thinning the end to be pointed. This rest has no shoulder, as the one E; consequently there is an opening clear through between the face of the rest and the face of the wheel, so as to allow the blank in its operation to pass through with the motion of the wheel. In its passage the knives cut the blank away to its required thinness. It must be observed that both these rests E and F are located outside the periphery of the V, so as to be in juxtaposition with the straight-faced part of the wheel C, and also that both these devices are for presenting the blank with its flat side to the action of the knives. The knife-edges for this purpose are set very fine, especially so at the inner ends, and are set as drawing as possible, so as to cut toward the end of the blank, and thus cut a smooth and even lap.

Within the V formed by the tapered faces of the wheels is the pointing-rest G. This rest fills the V, the knives just clearing it. The hoop-blank is presented flat against this rest, so that the knives cut away from the edges until it comes in contact with the bottom of the V.

The knives are set very rank toward the outer ends and fine at their inner ends. This is for the purpose of cutting the point rapidly, for when first presented the corners of the blank come in contact with the knives rankly set, and as the point is almost finished it does it fine, as the point of the blank is held by the fine set of the knives at their inmost cutting-point.

It is apparent that to cut on the broad side of the blank and to cut on its edge does not require the same set of the knives. To make the point by the set required for the lap is altogether too slow, and is hard work; and to make a good lap on the set required to make

a point would be impossible. Therefore, in this improved machine there are two distinct sets of knives, each set having its own especial work to do, and set accordingly. Another important feature gained is the difference in the velocities of these respective sets of knives, the set taking away from the broad side requiring the greatest velocity, and hence is larger in diameter.

The operation is as follows: A hoop-blank is presented laterally to the straight part of the wheel C and outside the periphery of the wheel C′, and coming in contact with the face carrying the knives it is so carried downward between the face of the wheel and the face of the rest E until it comes in contact with the shoulder *e*, and then it is easily withdrawn. Whatever angle or inclination the face of the rest has to the face of the wheel, such will be the taper of the lap. The blank is then passed over and the other end of the blank thinned and pointed on the other side of the wheels. Here the cutting is upward. The end of the blank is passed between the face of the rest F and the face of the wheel C, which thins it away to whatever the opening is. After being withdrawn and being turned one-quarter around it is presented to the pointing-rest G. The rank set of the knives draws in the blank, and it is so pointed very rapidly at first, but at the finish it receives the fine cuts to make it smooth, after which, being withdrawn, the operation is complete.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a machine for the combined purpose of pointing, thinning points, and lapping barrel-hoop blanks, the combination of the wheel C′, having an inclined face, with the wheel C, having a like inclination, to form the V, and a straight-faced part extending beyond the periphery of the cutting extremities of the knives in the wheel C′, as shown and described.

2. In a machine for pointing, thinning points, and lapping hoops, the combination, with the wheel C, carrying two distinct sets of knives, and the wheel C′, carrying but one set, both wheels having inclined inner faces, forming a V, and the wheel C, being of larger diameter and provided with a straight portion projecting beyond the periphery of the small wheel C′, of the pointing-rest G, arranged within the V formed by the tapering faces of the wheels, and the thinning-rest F and lapping-rest E, located outside the periphery of said V and in juxtaposition with the straight-faced part of the large wheel, substantially as and for the purpose set forth.

3. In a machine for lapping hoops, the combination, with the wheel C, having its inner face centrally tapered, with a straight portion extending therefrom to its periphery, of a lapping-rest, E, placed outside the V formed by the inclined faces of the wheels C C′ and in juxtaposition to the straight portion of the large wheel, substantially as shown and described.

4. In a machine for pointing hoops, the combination, with the wheels C C′, of different diameters, and having inner-inclined faces, the larger wheel being provided with a straight portion projecting beyond its inclined face, of the thinning-rest F, located outside the periphery of the small wheel, near the straight face of the large wheel, and the pointing-rest G, arranged within the V formed by the inclined faces of said wheels, whereby the blank is held in the same line during the operation of thinning and pointing, substantially as set forth.

5. In a machine for thinning and pointing hoops, in which the motion of the wheels is from the thinning-rest to the pointing-rest, the combination, with the pointing-rest G, located within the V formed by the inclined faces of the wheels, of the thinning-rest F, arranged near the straight-faced portion of the larger wheel, whereby a passage is afforded for the blank between the face of the large wheel and the thinning-rest, substantially as described.

6. In a machine for pointing, thinning points, and lapping hoops, the combination, with the wheels having different diameters and inclined faces, the larger wheel being provided with a straight portion projecting beyond the periphery of the small wheel and carrying two distinct sets of knives, while the small wheel carries one set, of the lapping and thinning rests located outside the V formed by the inclined faces of the wheels, and the pointing-rest arranged within said V, substantially as and for the purpose shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES NAYLOR, JR.

Witnesses:
F. H. CLEMENT,
JOHN GREENWOOD.