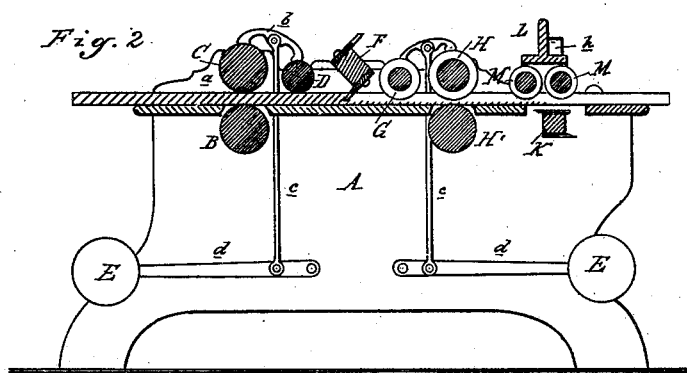
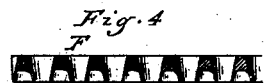
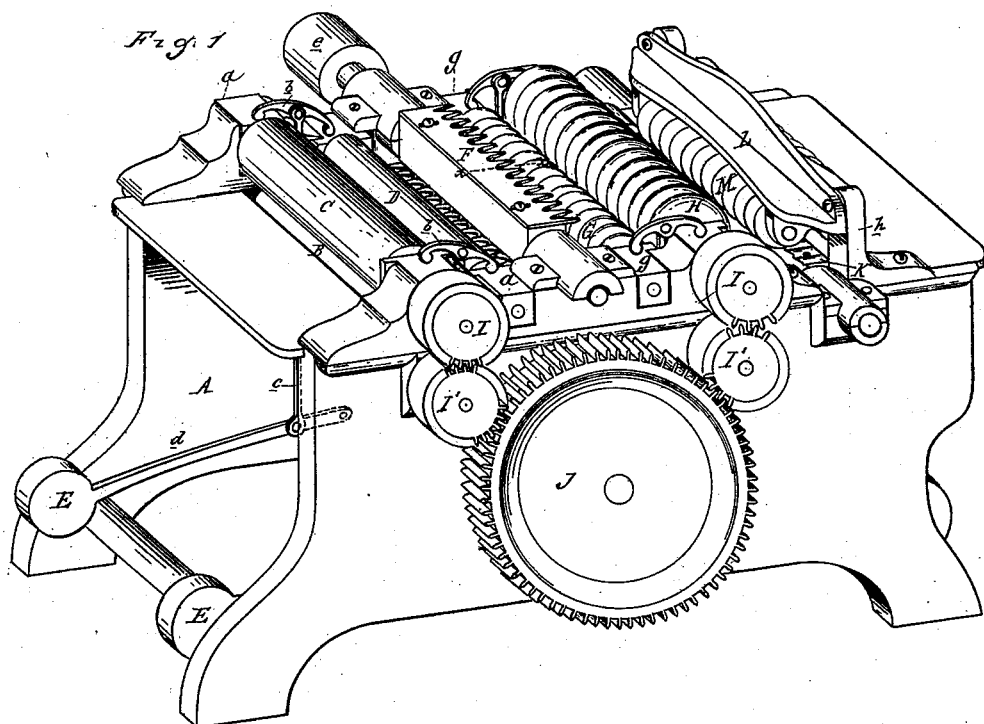


R. H. NOGAR.
Hoop-Machine.

No. 221,344.

Patented Nov. 4, 1879.



Attest:
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By atty
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UNITED STATES PATENT OFFICE.

RUSSELL H. NOGAR, OF CARLETON, MICHIGAN.

IMPROVEMENT IN HOOP-MACHINES.

Specification forming part of Letters Patent No. **221,344**, dated November 4, 1879; application filed April 15, 1879.

To all whom it may concern:

Be it known that I, RUSSELL H. NOGAR, of Carleton, in the county of Monroe and State of Michigan, have invented an Improvement in Hoop-Machines, of which the following is a specification.

The nature of my invention relates to certain new and useful improvements in the construction of that class of machines employed to cut hoops from planks or boards; and the invention consists in the peculiar construction and arrangement of certain rotating cutters which form the hoops and finish their edges, all as more fully hereinafter set forth.

In the drawings, Figure 1 is a perspective view. Fig. 2 is a vertical longitudinal central section; and Figs. 3 and 4 are sections, on lines *x x* and *y y*, through the cutter-knife.

In the accompanying drawings, which form a part of this specification, A represents a suitable frame, near the front end of which is journaled the feed-roll B. Below the bed of the machine, and immediately above it, is the feed-roll C, journaled in boxes *a*, which are removably placed in the frame. Just in the rear of these rolls is another smaller roll, D, which acts as a pressure-roll. These rolls are retained in their proper positions by means of the yokes *b*, the ends of which press upon the top of the boxes. These yokes are connected at or near their centers to rods *c*, the lower ends of which are attached to levers *d*, pivoted at one end to the frame, while their outer ends carry the weights E. This manner of arranging the parts allows the rollers to give to any inequalities there may be in the plank or board as it passes under and between them.

A rotating cutter, F, is journaled in proper bearings laterally across the machine, and the shaft of the cutter carries upon one end a pulley, *e*, by means of which the said cutter is rotated.

The teeth of these cutters are concave in cross-section, as shown, and taper from their heads to their points, and the heads of the spaces between the teeth are also concave and sharpened. As these cutters rotate they

cut nearly through the plank, partially forming the same into bevel-hoops, the sides and the upper edges of which are finished as they leave the cutter.

G is a corrugated pressure-roll, journaled in boxes *g*, which guides the strips or hoops to and between the guide-rolls H H'.

The guide-roll H and pressure-roll G are retained in their positions by a yoke and lever, similar in construction to those already described, which press upon their boxes.

Upon one end of the shafts that carry the feed-rolls B C and the guide-rolls H H' are secured the pinions I I', which mesh with each other in pairs and with a geared driving-wheel, J, as shown.

At the rear end of the frame is properly journaled a rotating cutter, K, the knives of which, operating upon the under side of the plank, complete the dividing of the same into bevel-hoops, while at the same time they finish or round off the thicker edges.

h are standards, to which is secured a frame, L, and in such a manner that it will have a vertical play therein. To the under side of this frame L are secured suitable hangers and boxes, in which are journaled the corrugated pressure-rolls M, the office of which is to keep the hoops in contact with the cutter K.

In practice, a plank or board of the desired thickness is passed to the machine between the feed-rollers B C. These rollers then feed the plank under the pressure-roll D and the revolving cutter F, which latter partially divides the board into bevel strips or hoops, and rounds off or finishes the thinner edges.

The strips thus formed pass on under the corrugated pressure-roller G, which guides them to and between the guide-rolls H H', and from thence they are fed under the pressure-rolls M, holding the strips in contact with the cutter K, by which the hoops are completely divided and the thicker edges of the hoop are finished.

The strips are now ready to be operated upon by a machine especially designed to point and chamfer their ends.

What I claim as my invention is—

The cutter F, the front faces of the teeth of which are concave in cross-section, thereby forming two cutting-edges, said teeth tapering from their base to their points, with the heads of the spaces between said teeth also concave and sharpened, and adapted to smoothly cut both sides of the hoops and

round off or finish their upper edges as presented to the cutter, substantially as set forth.

RUSSELL H. NOGAR.

Witnesses:

H. S. SPRAGUE,
CHAS. THURMAN.