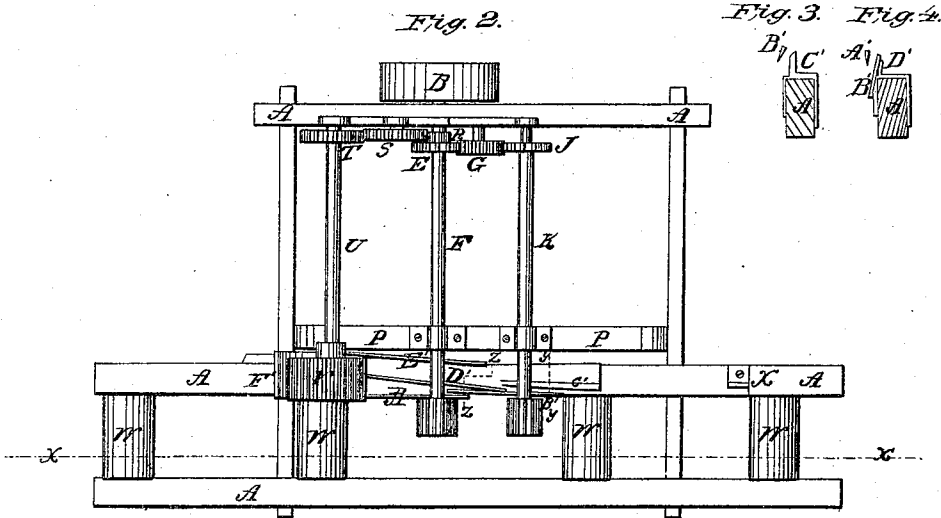
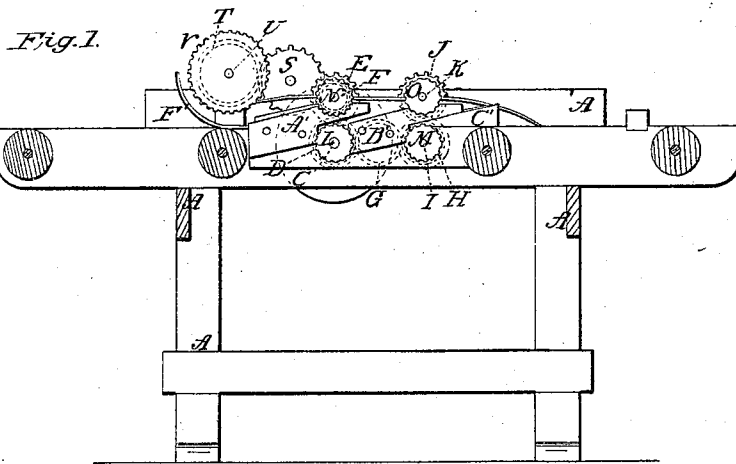


*J. Dobbin's,  
Making Hoops.*

*No 59,369.*

*Patented Nov. 6, 1866.*



*Witnesses:*  
*Jas. A. Linn*  
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# UNITED STATES PATENT OFFICE.

JACOB DOBBINS, OF WATERLOO, MICHIGAN.

## IMPROVEMENT IN MACHINES FOR BENDING WOODEN HOOPS.

Specification forming part of Letters Patent No. 59,369, dated November 6, 1866.

*To all whom it may concern:*

Be it known that I, JACOB DOBBINS, of Waterloo, in the county of Jackson and State of Michigan, have invented a new and useful Improvement in Machines for Cutting and Bending Hoops; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a vertical longitudinal section of my improved machine, taken through the line *x x*, Fig. 2. Fig. 2 is a top or plan view of the same. Fig. 3 is a detail sectional view of the same, taken through the line *y y*, Fig. 2. Fig. 4 is a detail sectional view of the same, taken through the line *z z*, Fig. 2.

Similar letters of reference indicate like parts.

My invention has for its object to improve my machine for cutting and bending hoops patented July 4, 1865; and it consists, first, in the combination of the straight knives, arranged as hereinafter described, with the feed-rollers and spiral guides, for the purpose of cutting the hoops and bringing them into proper position to be acted upon by the bending device; second, in the combination of a smooth concave metallic surface or guide with the roller, for the purpose of giving the proper shape to the hoops.

A is the frame of the machine. B is the driving-pulley, which is attached to the end of a shaft, C, and which imparts motion to said shaft, and through it to the other parts of the machinery. Upon this shaft is placed a cog-wheel, D, meshing into a cog-wheel, E, attached to the shaft F, and also into the cog-wheel G, pivoted to the side of the frame A, as shown in Fig. 2. The cog-wheel G meshes into the cog-wheel H attached to the shaft I, which thus receives its motion from the shaft C and revolves with the same velocity as said shaft C. The cog-wheel H also meshes into the cog-wheel J, attached to the shaft K, and communicates motion to said shaft.

Upon the forward ends of the shafts C I F K are attached the feed-rollers L M N O, which carry the bolt or board from which the hoops are to be cut forward against the knives.

These rollers are grooved, as shown in Fig. 1, so as to carry the said bolt forward against the knives with sufficient force to cut the hoops.

The shafts C and I revolve in bearings in the frame A of the machine. The rear ends of the shafts F and K revolve in bearings in the side of the machine; but their forward ends revolve in bearings attached to a yielding foundation, P, so that the feed-rollers may accommodate themselves to the different thicknesses of the bolts fed to the machine.

To the end of the shaft F, at the side of the gear-wheel E, is attached a small gear-wheel, R, which meshes into a gear-wheel, S, pivoted to the side A of the machine. This gear-wheel S meshes into a gear-wheel, T, attached to the shaft U, by which means motion is communicated from the shaft F to the shaft U. The shaft U revolves in bearings attached to the frame A of the machine, and carries upon its forward end a feed-roller, V, by means of which the cut hoops are fed forward through the bending device. This roller V must be either grooved, as shown in Figs. 1 and 2, or set with sharp points, so as to force the hoops through the said bending device.

W are rollers pivoted to the forward part of the frame of the machine, as shown in Figs. 1 and 2. These rollers W form the table upon which the bolts are fed forward to the knives and feed-rollers L M N O.

To the side of the frame A is attached a guide, X, to keep the bolt in proper position while being fed forward to the knives.

The knives A' and B' are straight, and are attached to the side of the frame A by screws or bolts, or in any other substantial manner. These knives are represented in the drawings as being attached to the frame A only at their lower ends; but, if desired, their upper ends may also be secured to some fixed support.

The knife B' is set inclined, as shown in Fig. 3, so that the hoop cut by this knife may be thicker at its lower edge or beveled to correspond to the bilge of the cask. The knife A' is set vertical, as shown in Fig. 4, which leaves the hoop cut by this knife thicker at the top or beveled to correspond to the bilge of the other end of the cask.

As the bolt is fed forward, the hoops being cut therefrom are turned and guided by the

spiral guides C' D' E' into such a position that they will pass beneath the roller V, by which they are forced through the concave guide F'. This guide F' is made of metal, and must be of sufficient strength to resist the strain of bending the hoops. Its curve should also correspond with the curve of the feed-wheel V, as shown in Fig. 1.

In using the machine the bolts are first steamed in the ordinary manner, and then fed through the machine in the manner hereinbefore described.

I claim as new, and desire to secure by Letters Patent—

The machine for the purpose described, the same consisting of the grooved feed-rollers L M N O, yielding platform P, grooved roller V, guide X, inclined knife B', vertical knife A', spiral guides C' D' E', and concave guide F', arranged and operating substantially as and for the purpose specified.

JACOB DOBBINS.

Witnesses:

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WM. KEILMAN.