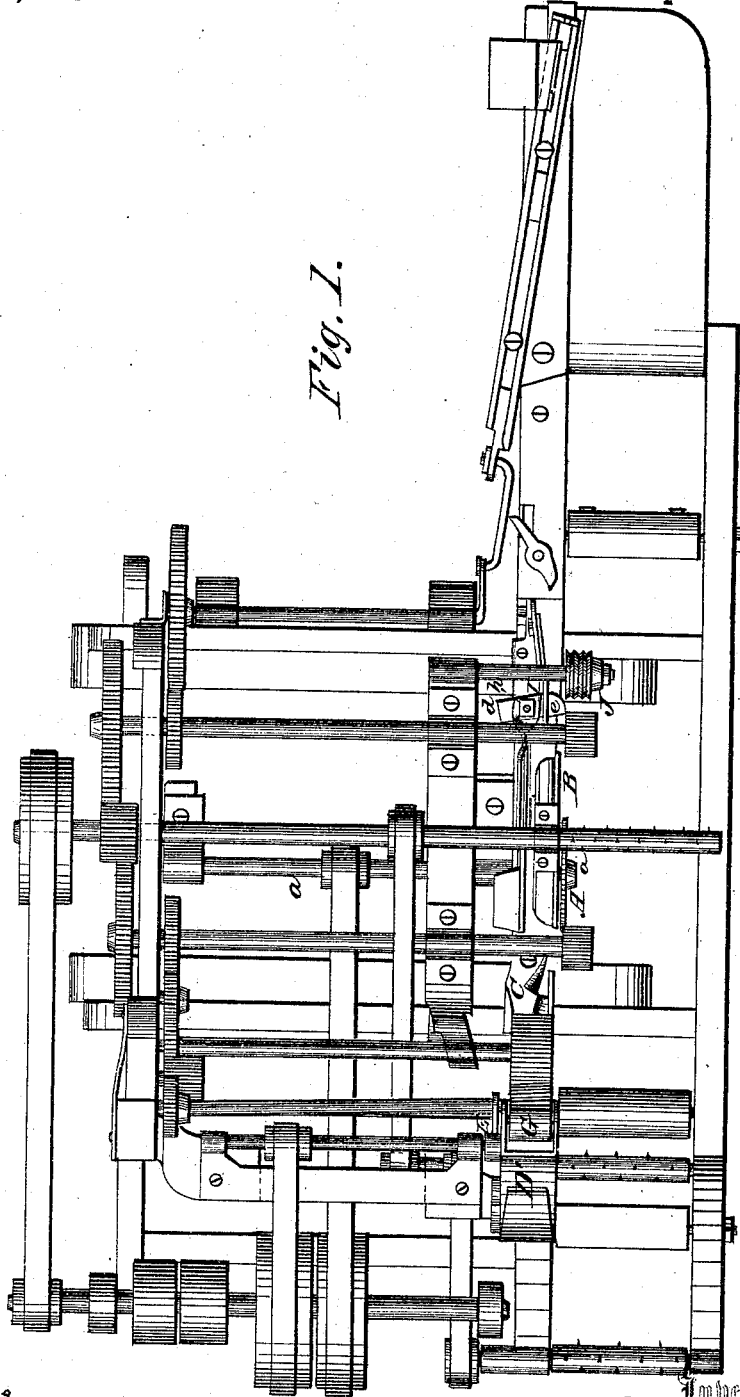


J. DOBBINS.
HOOP-MACHINES.

No. 182,308.

Patented Sept. 19, 1876.

Fig. 1.



Witnesses:

P. C. Dieterich.

F. H. Duffy.

Inventor:

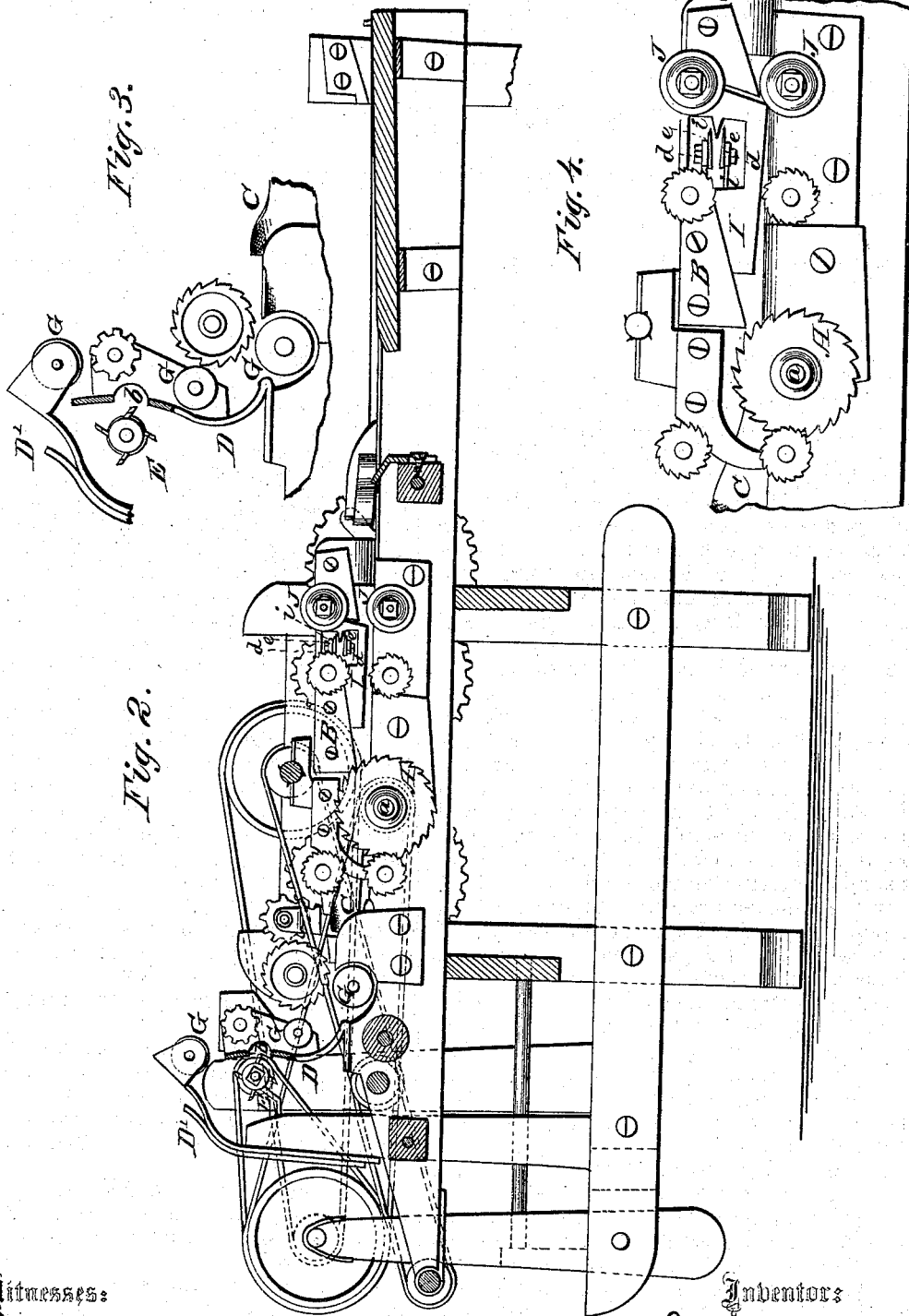
Jacob Dobbins

Per: *C. H. Watson* attorney at law.

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UNITED STATES PATENT OFFICE.

JACOB DOBBINS, OF LITCHFIELD, MICHIGAN.

IMPROVEMENT IN HOOP-MACHINES.

Specification forming part of Letters Patent No. 182,308, dated September 19, 1876; application filed May 2, 1876.

To all whom it may concern:

Be it known that I, JACOB DOBBINS, of Litchfield, in the county of Hillsdale and State of Michigan, have invented certain new and useful Improvements in Hoop-Machine; 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 which it appertains to make and use the same, reference being had to the accompanying drawings and to the letters of reference marked thereon, which form a part of this specification.

This invention is intended as an improvement upon the hoop-machine for which Letters Patent have been granted to me November 6, 1866, July 21, 1868, and February 9, 1873; and it consists in the employment of a circular saw, in combination with the stationary knife, in a set of vibrating arms with lances, and in the employment of rotary planers, in combination with the bending apparatus, all as hereinafter more fully set forth.

In the annexed drawings, Figure 1 is a top or plan view. Fig. 2 is a side elevation, partly in section; and Figs. 3 and 4 are enlarged detail views thereof.

The construction and operation of the machine having been fully described in my former patents above referred to, I will in this case only describe the present improvements, and indicate such parts of the old machine as are necessary to a proper understanding of said improvements.

A represents a circular saw, with its shaft *a* arranged in front of the stationary knife B, and operating in combination therewith, for the purpose of sawing one side of each hoop while the other is being cut. In connection with this part of my invention the form of the spiral guides C has been changed, so as to bring the sawed side of each hoop convex while being bent, thus avoiding the liability of splintering the outer or convex side of the hoops, as in cutting with a knife.

D D' represents the bending apparatus, with which I now combine a set of rotary planers, E, and feed-rollers G, so as to plane and round the edges of the hoops while being bent. For this purpose a slot, *b*, is made in the concave bender D, through which the cut-

ters operate upon the hoops. The feed-rollers G also receive the hoops and guide them in a proper position for the cutters E. These cutters are of concave shape where they operate upon the thick edges of the hoops, so as to round said thick edges. *d d* represent two vibrating arms, with lances *e e* attached to one end, for the purpose of pointing the ends of the hoops. These arms are attached to a pivot, *h*, upon which they vibrate, with the lance-heads *e* projecting toward the front end of the plank, just back of the metallic facing I, against which the plank slides. An opening, *i*, is made in this facing, through which these lances project sufficiently to cut into the end of the plank of the right depth and shape to form the point of one or more hoops, as desired. These arms are so arranged that their lance-heads naturally drop together. The upper one falls of its own weight, and the under one by a spring or weight on the opposite end. A point, *x*, in the opening *i* holds them apart, so as to give the right width to the point of the hoops. In connection with this, two rollers, J J, with circular grooves, are arranged so as to receive the end of the plank, and keep it in position while the lances are making the incision which forms the point of the hoop.

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

1. The circular saw in combination with the stationary knife, as and for the purpose set forth.

2. The circular saw and stationary knife in combination with the vibrating arms, with their lances, substantially as and for the purpose set forth.

3. The circular saw, stationary knife, and vibrating arms, with their lances, in combination with the rotary planers and the bending apparatus, substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

JACOB DOBBINS.

Witnesses:

ORION TAYLOR,
L. B. WOODARD.