

E. & B. HOLMES.  
Machine for Bending Hoops.

No. 197,972.

Patented Dec. 11, 1877

Figure 1.

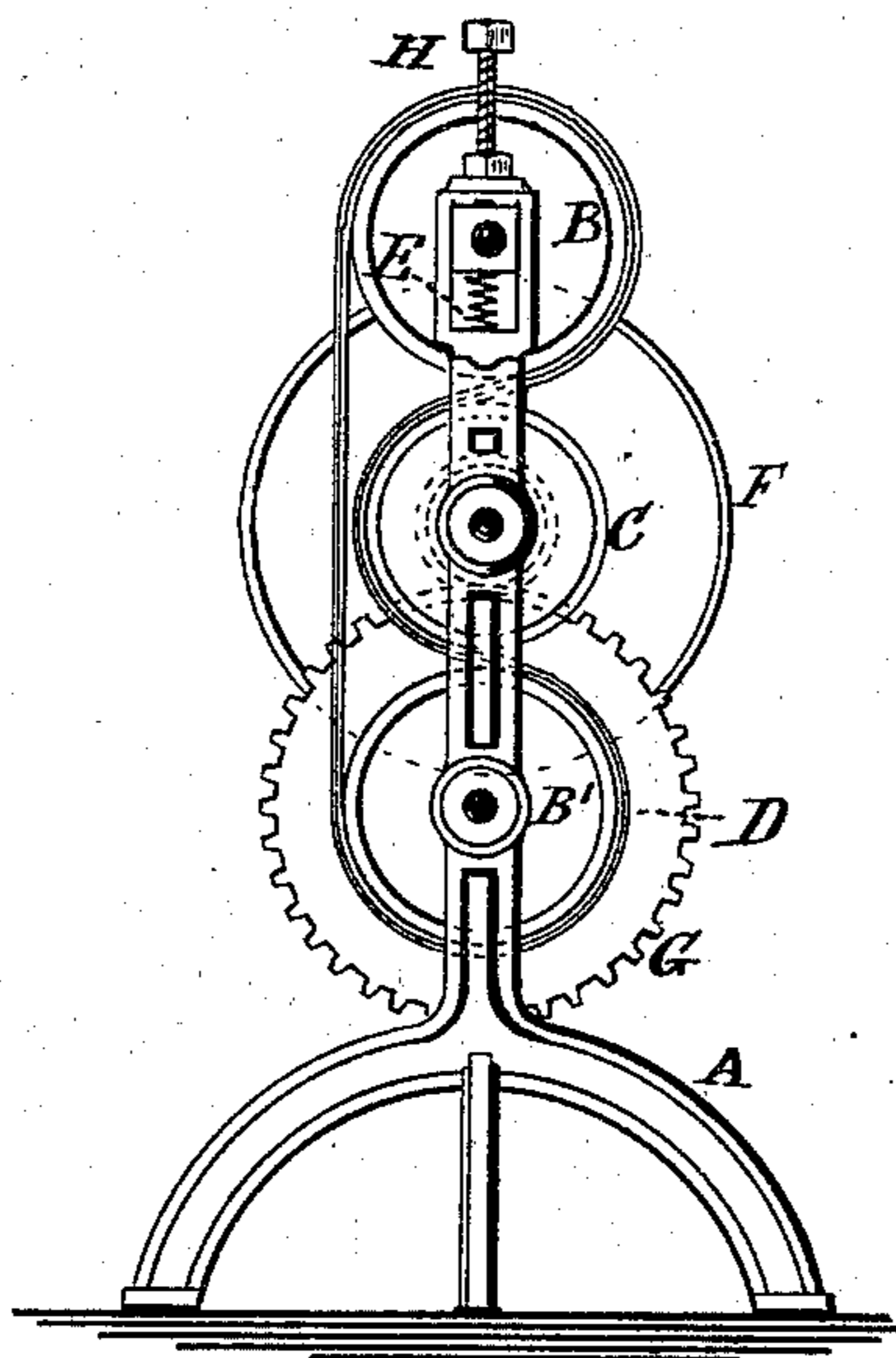
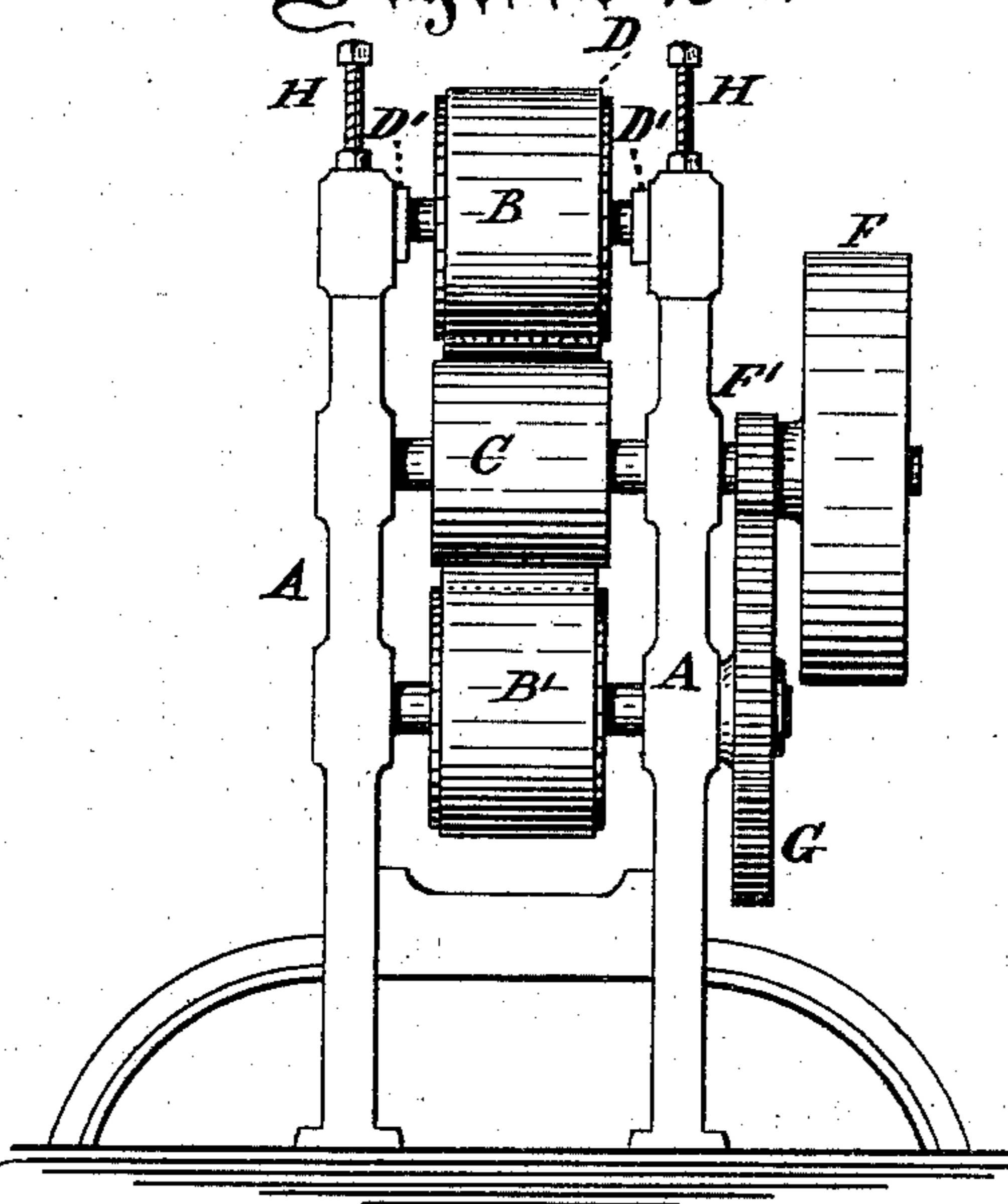


Figure 2.



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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN MACHINES FOR BENDING HOOPS.

Specification forming part of Letters Patent No. **197,972**, dated December 11, 1877; application filed June 12, 1877.

*To all whom it may concern:*

Be it known that we, EDWARD HOLMES and BRITAIN HOLMES, of the city of Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Machines for Bending Hoops, which improvements are fully set forth in the following specification and accompanying drawing, in which—

Figure 1 represents a side elevation, and Fig. 2 a front view, of the machine complete.

The object of this invention is to render wooden hoops more flexible, so that they will be more pliable and easily bent to the shape by the hands of the workman when required for use, and to allow different thicknesses of hoop material to pass through the machine without the necessity of adjusting it every time a different thickness of such material, or one or more hoops together, are passed through it; and it consists of three rollers combined with an endless belt, one or both of the two outer rollers being kept apart by means of springs, or their equivalents in the form of weights, so as to allow various thicknesses of hoop material to pass through, and so as to produce the necessary strain on the belt and center roller, which is made enough smaller than the others to allow the necessary clearance for the belt, the arrangement of the rollers being such that the belt on one side of the two outside rollers will pass in a straight line from one to the other, while on the other side it is bent out of its natural course by the center roller, so as to be forced close to it and partly around its periphery, thereby providing the means for rolling or bending the hoops by passing them between the center roller and belt, as will be more clearly hereinafter shown by reference to the drawing, in which the frame-work for supporting the rollers is represented by the letters A. B B' are the two outer rollers, C

being the center one, which is made smaller, as shown, for the purposes hereinbefore mentioned. D represents the endless belt, which may be of leather, or any other equivalent material sufficiently strong for the purpose.

The upper roller B is fitted so as to run in boxes D', which are placed in the frame so as to slide therein. A strong spiral, rubber, or other equivalent spring, E, sufficiently strong for the purpose, is arranged under each of said boxes for the purpose of producing the necessary strain or pressure on the center roller C. Either one of the rollers B B', or both, may be provided with said boxes or springs.

F represents the driving-pulley. It may be combined, in the usual way, with a loose pulley when necessary.

The two rollers C and B' are connected by gearing F' G, which may be dispensed with when the machine is adapted to operate by hand.

In operating our invention the hoops are started in between the belt and one side of the face of the roller C, the motion of the rollers and belt carrying it through and out at the other side.

H H represent set-screws for counteracting the force of the springs when required.

We claim as our invention—

The combination of the rollers B C B' and endless belt D, one of the rollers being set in boxes D', and provided with springs E, or their equivalents, to produce the necessary strain upon the belt, and to allow different thicknesses of hoop material to pass through, substantially as described.

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