

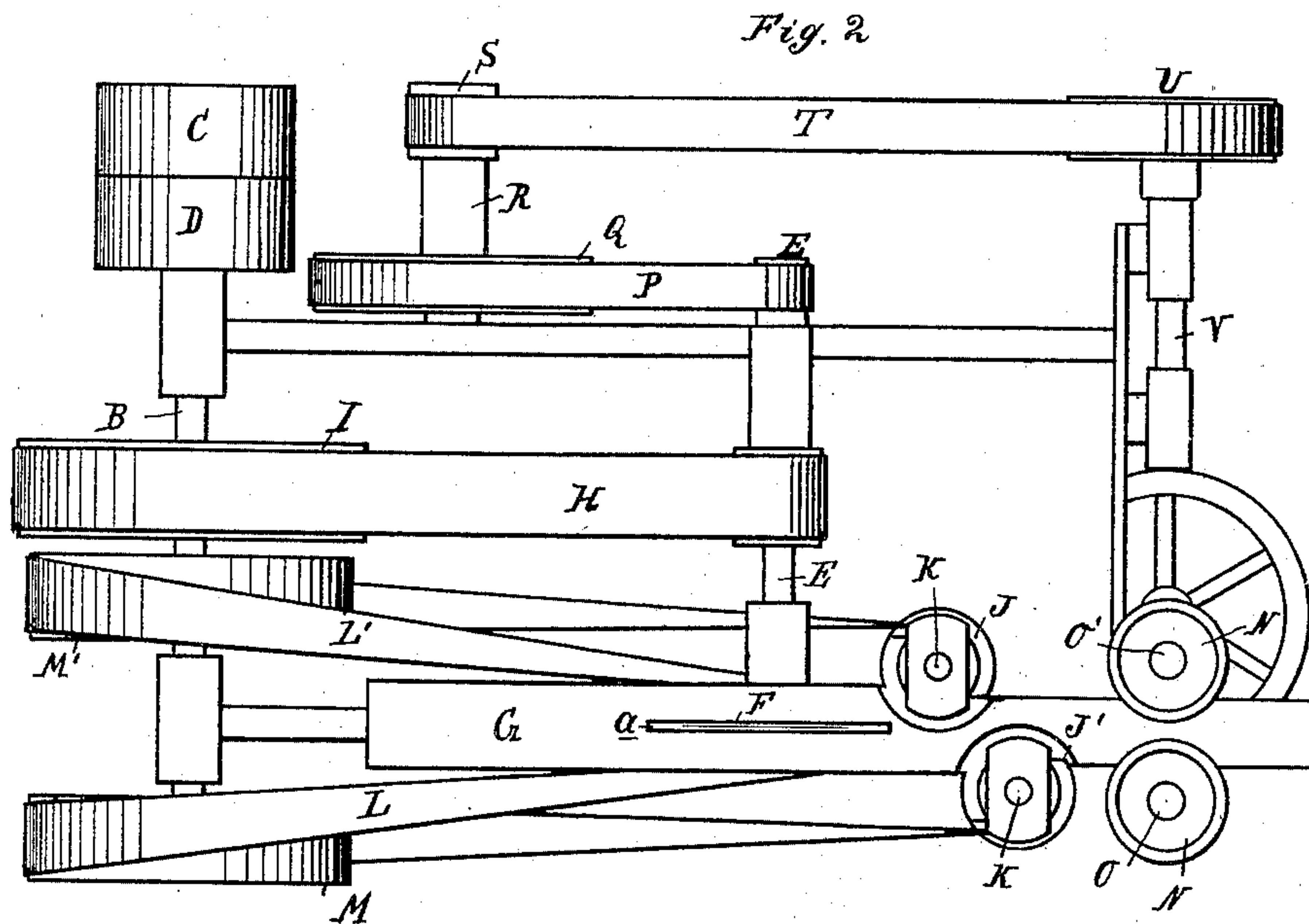
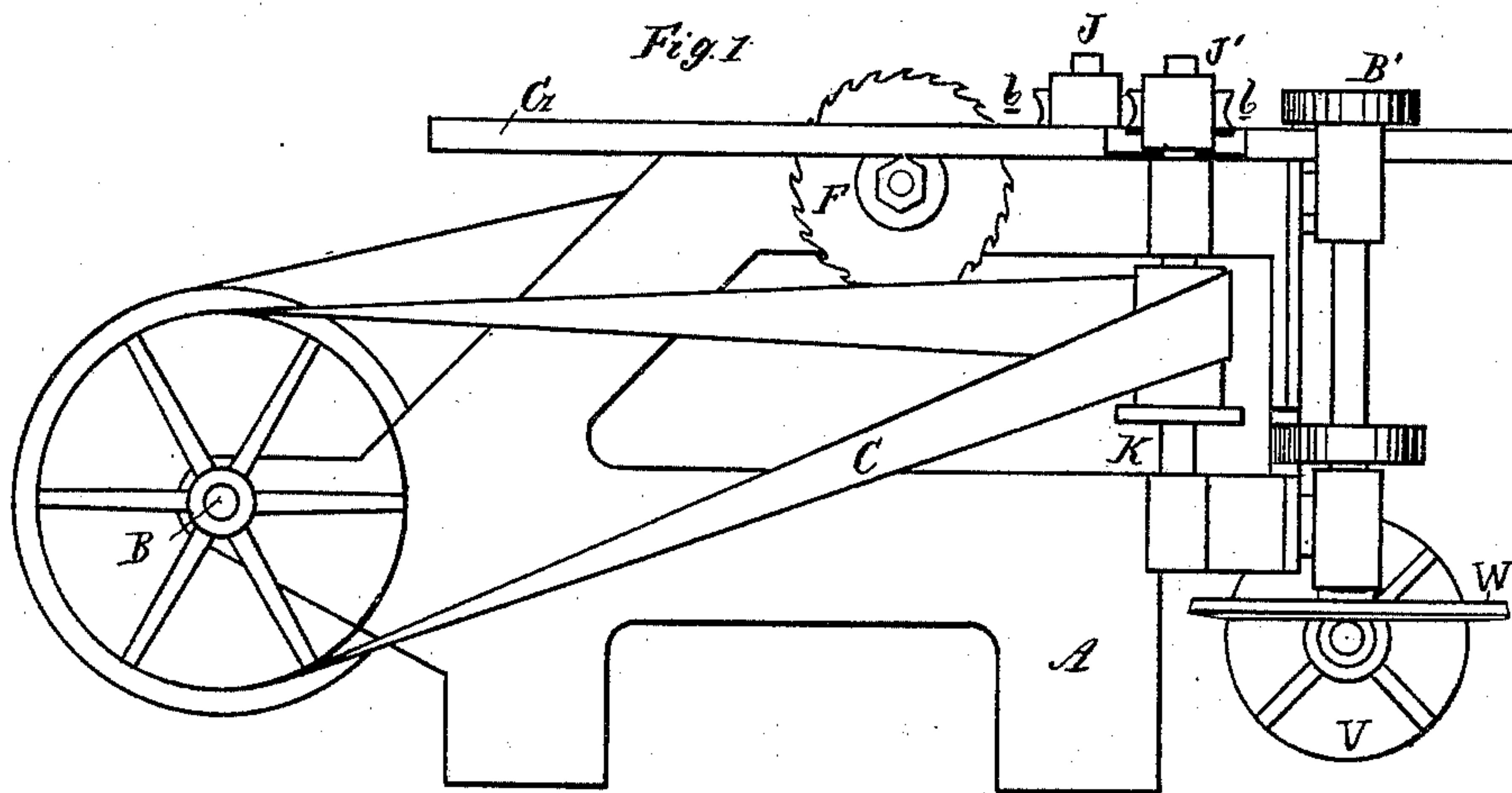
(No Model.)

2 Sheets—Sheet 1.

P. KETTENRING.  
BARREL HOOP MACHINE.

No. 324,707.

Patented Aug. 18, 1885.



*Attest:*

*John Schuman.*  
*Thos. Sprague*

*Inventor:*

*Peter Kettenring.*

*by his Atty*

*Thos. Sprague*

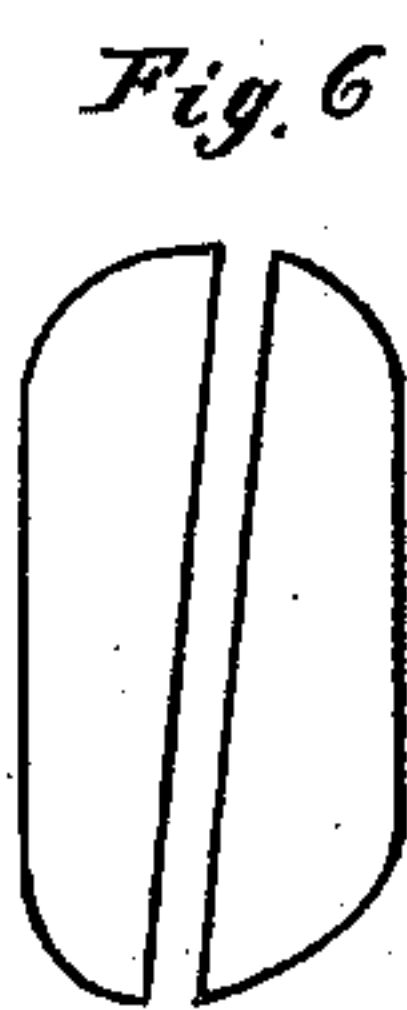
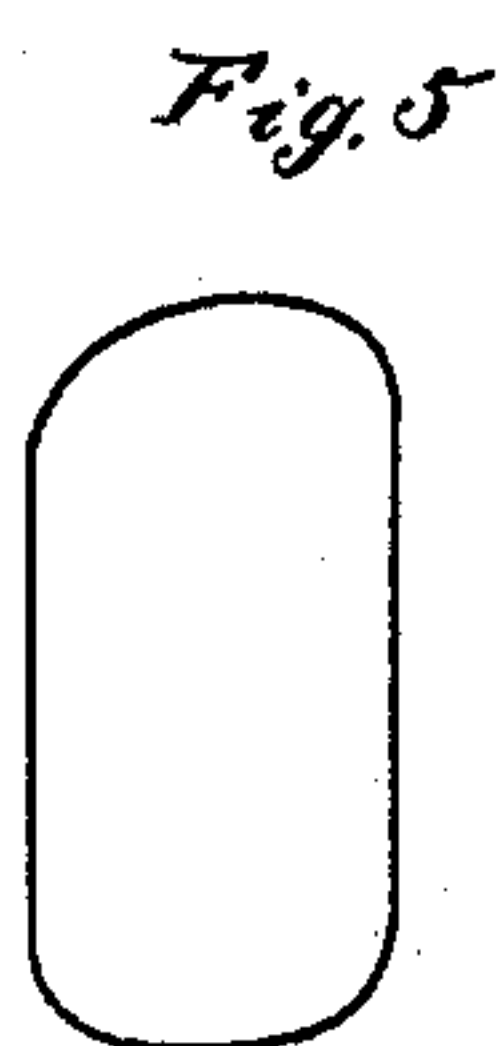
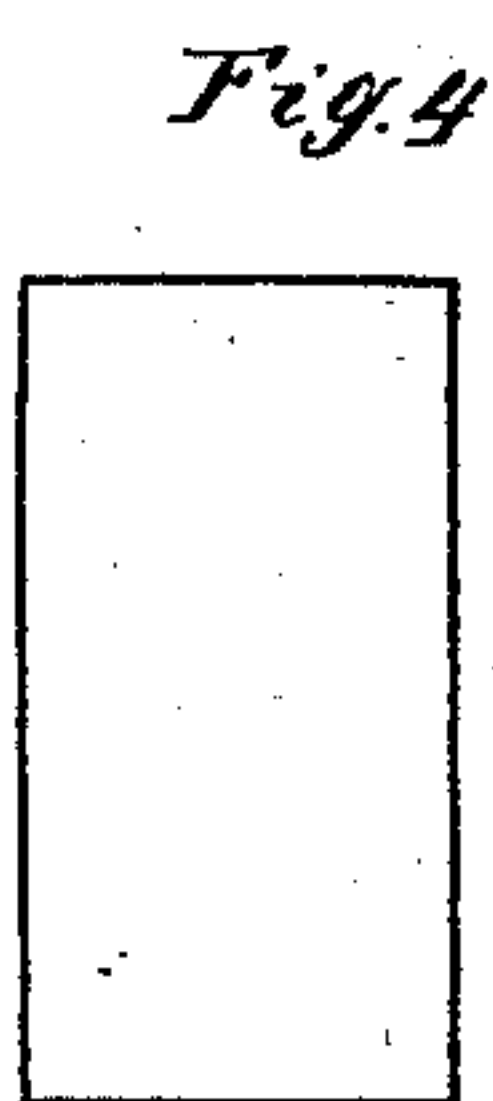
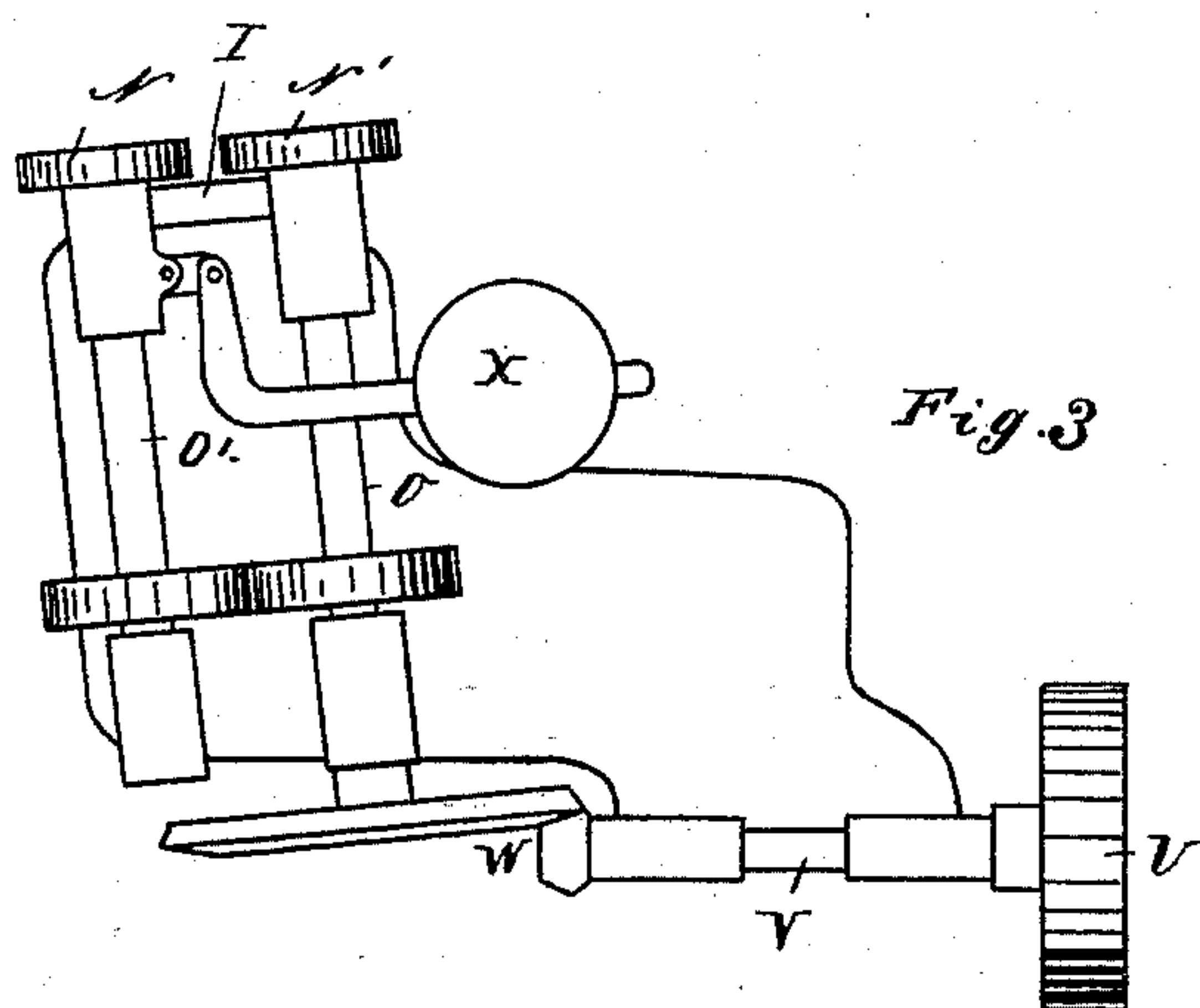
(No Model.)

2 Sheets—Sheet 2.

P. KETTENRING.  
BARREL HOOP MACHINE.

No. 324,707.

Patented Aug. 18, 1885.



Attest:  
John Schuman.  
*[Signature]*

Inventor:  
Peter Kettenring.  
by his Atty  
*[Signature]*



# UNITED STATES PATENT OFFICE.

PETER KETTENRING, OF DEFIANCE, OHIO.

## BARREL-HOOP MACHINE.

SPECIFICATION forming part of Letters Patent No. 324,707, dated August 18, 1885.

Application filed June 4, 1885. (No model.)

*To all whom it may concern:*

Be it known that I, PETER KETTENRING, of Defiance, in the county of Defiance and State of Ohio, having invented new and useful Improvements in Hoop-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to certain new and useful improvements in cutting-machines; and the invention consists in the peculiar construction, combination, and operation of the parts, as more fully hereinafter described.

Figure 1 is a side elevation of my improved machine. Fig. 2 is a top plan of the same. Fig. 3 is a detached elevation of the feed-rolls and their connections. Figure 4 is an end view of the cant or blank from which the hoops are cut. Fig. 5 shows the conformation of this stick after it has passed the rotary cutters; and Fig. 6 is an end view of the same after it has passed the rotary saw, by means of which it is divided into two beveled hoops with rounded edges.

In the accompanying drawings, A represents a suitable frame which supports the operating parts of the device.

B is the main driving-shaft suitably journaled at one end of the machine, and it is provided with fast and loose pulleys C and D, and receives motion from any convenient source of power by means of a suitable belt.

E is a saw-arbor journaled in suitable boxes at the top of the frame, and upon this arbor is secured at one end the circular saw F, which projects through a slot, *a*, in the table G of the machine. This arbor is driven by means of the belt H from the pulley I on the main shaft.

J and J' are cutter-heads carrying concave cutters *b*, secured to the upper ends of the vertical shafts K, and operate just above the top plane of the table G, and motion is communicated to these cutters by means of the quarter-twist belts L and L', running over the pulleys M and M', secured to the main shaft.

N and N' are feed-rolls suitably secured to the top ends of the shafts O and O', which are each set a little out of perpendicular to the plane of the saw. These feed-rolls are driven from

the saw-arbor E, through the medium of the belt P and pulley Q upon the shaft R, pinion S, belt T, pulley U upon the shaft V, and beveled gears W, one of which is secured upon the end of the shaft V, and the other at the lower end of the shaft O.

X is a weight attached to the feed-roll N for the purpose of compelling it to tightly hold the stick passing between it and its adjacent feed-roll.

In practice the cant or stick from which the two hoops are to be formed is rectangular in form, as shown in Fig. 4 in cross-section, and upon its narrower face is inserted between the feed-rolls, which present it to the cutter-heads, which cut its corners into the form shown in Fig. 5, wherein each two of the diagonal corners are cut upon a different radius, as shown in that figure. As the stick is cut into this form it is next presented by the feed-rolls to the saw F, which stands vertical, and which divides the stick into the two hoops, as shown in Fig. 6, the inclination which produces the diagonal cut, as shown in Fig. 5, being produced by canting the stick through the peculiar position of the feed-roll shafts, being a little out of perpendicular to the line of the saw.

I am aware that it is not new to use saws carried by an inclined shaft for the purpose of cutting a strip into two beveled hoop-strips, and also that it is not new to arrange such saws and cutters, carried on horizontal shafts, in the same machine, whereby the strips are cut diagonally and rounded at the corners by the same machine, and do not seek to cover such construction. I deem it important that the saw or saws be carried by a shaft running parallel with the main drive-shaft, for where the saw-arbor is inclined it is difficult to keep the belt from slipping, and ordinary pulleys cannot be used. The feed-rolls being driven by gearing can be run as well when inclined as when horizontal. I also deem it important that the cutters be carried by vertical shafts, because the entire outer surface of the hoop can thus be planed by the same cutter, and thus a smoother hoop can be made.

What I claim as my invention is—

1. In a hoop-machine, the combination, with a supporting-frame, a main drive-shaft jour-

naled therein, a saw secured to a shaft running parallel with the main drive-shaft, and the belt H, connecting the two shafts, of the feed - rolls N N', carried by shafts set at an inclination to the saw-shaft to cant the stick from which the hoops are formed, substantially as and for the purpose specified.

2. In a hoop-machine, the combination of a supporting-frame, the main drive-shaft supported thereby, the saw-arbor parallel with the said drive-shaft and driven by the belt from the main shaft, the feed-rolls carried by inclined shafts, weight X, attached to one of the feed-rolls, the beveled gear W, carried by the shaft of the other feed-roll, and intermediate connections between said gear and the main shaft, substantially as described.

3. In a hoop-machine, the combination of the main shaft supported upon a suitable frame, the saw-arbor parallel with said main shaft and driven by the belt H from the pulley I on the main shaft, the vertical shafts K, and cutters J J', carried thereby, quarter-twist belts L L', running over pulleys on the main shaft, the feed-rolls N N', carried by inclined shafts, bevel-gear W, shaft R, pulley Q thereon, shaft V, carrying pulley U, the pinion S, carried by the shaft R, and the belt P, all arranged and operating substantially as and for the purposes specified.

PETER KETTENRING.

Witnesses:

WILLIAM E. MOLL,  
F. G. BROWN.