

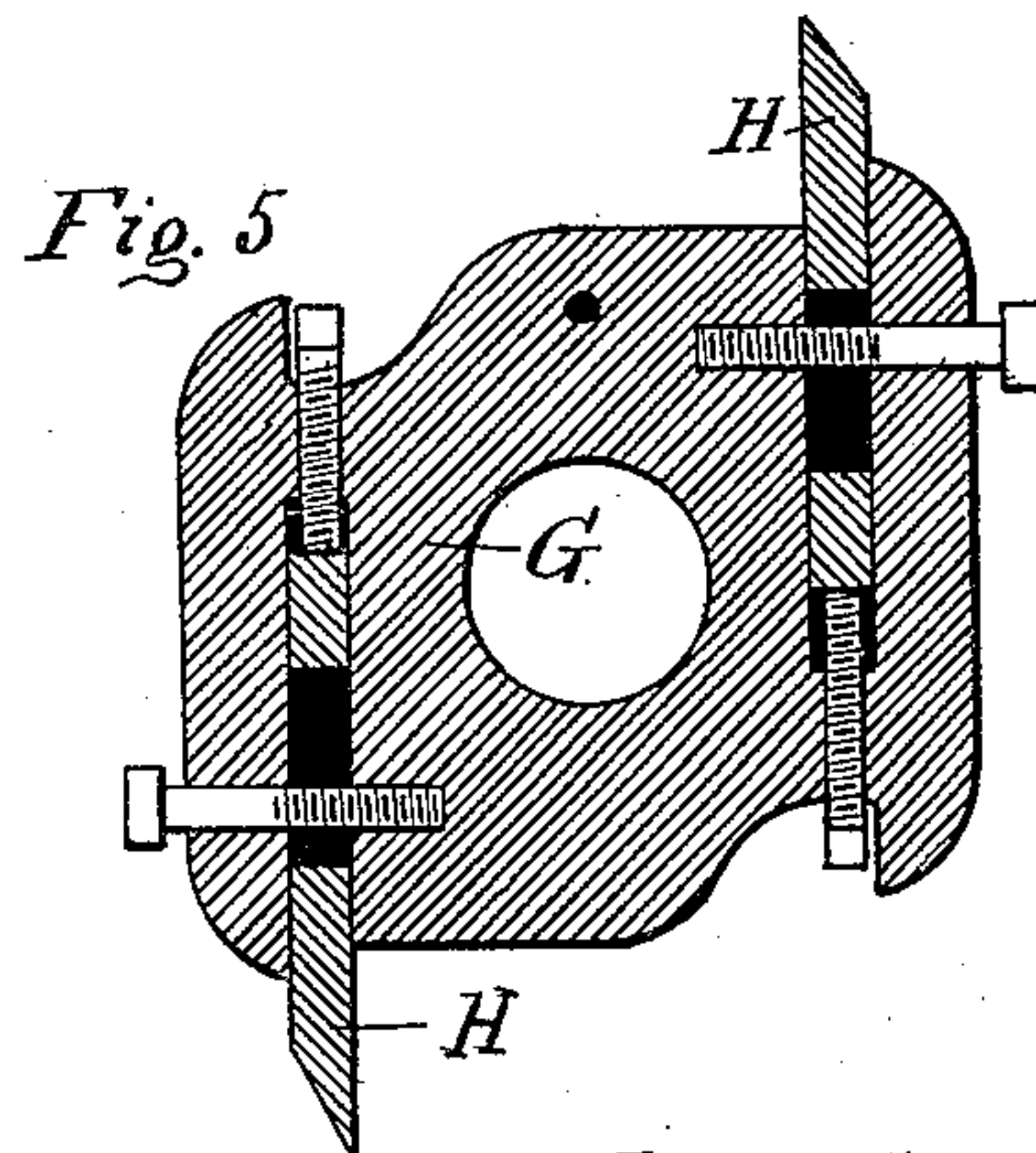
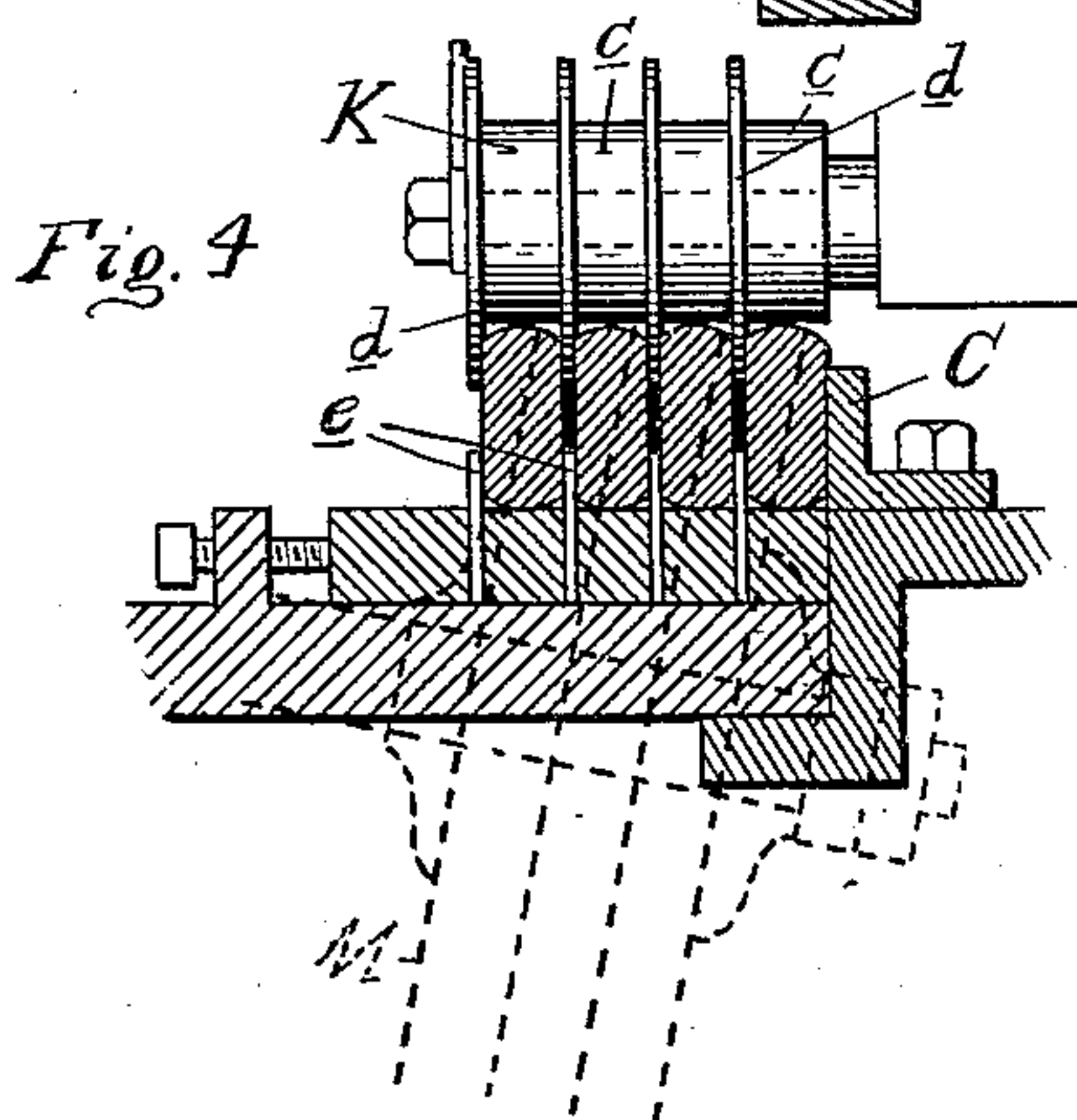
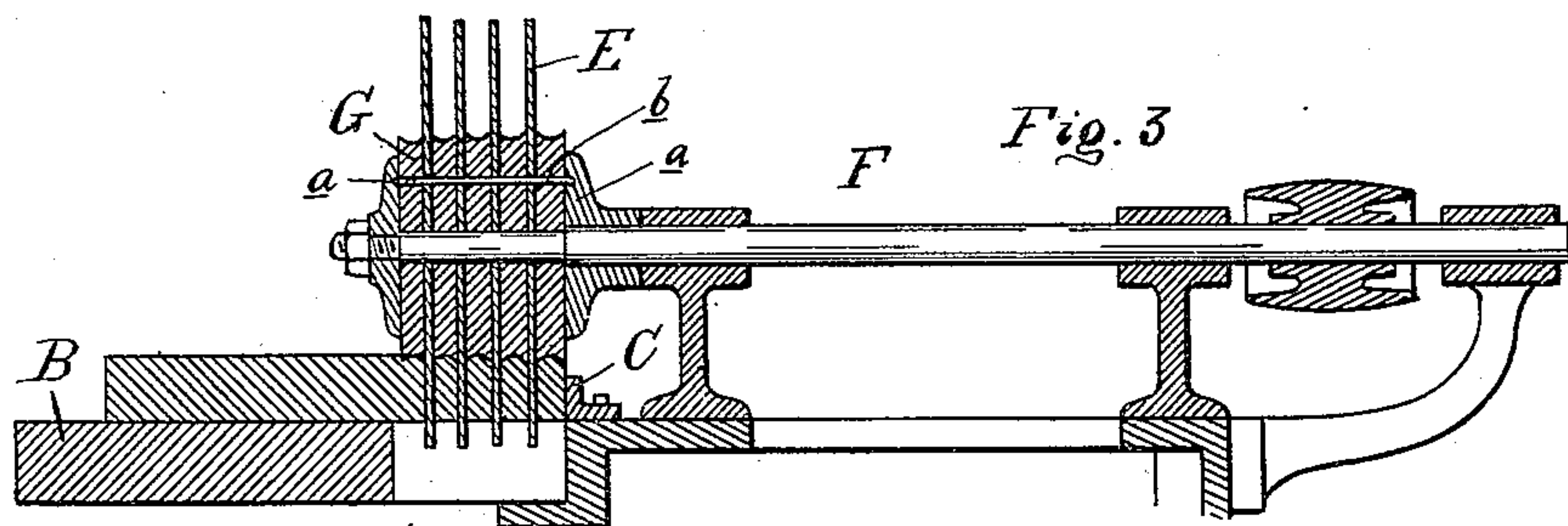
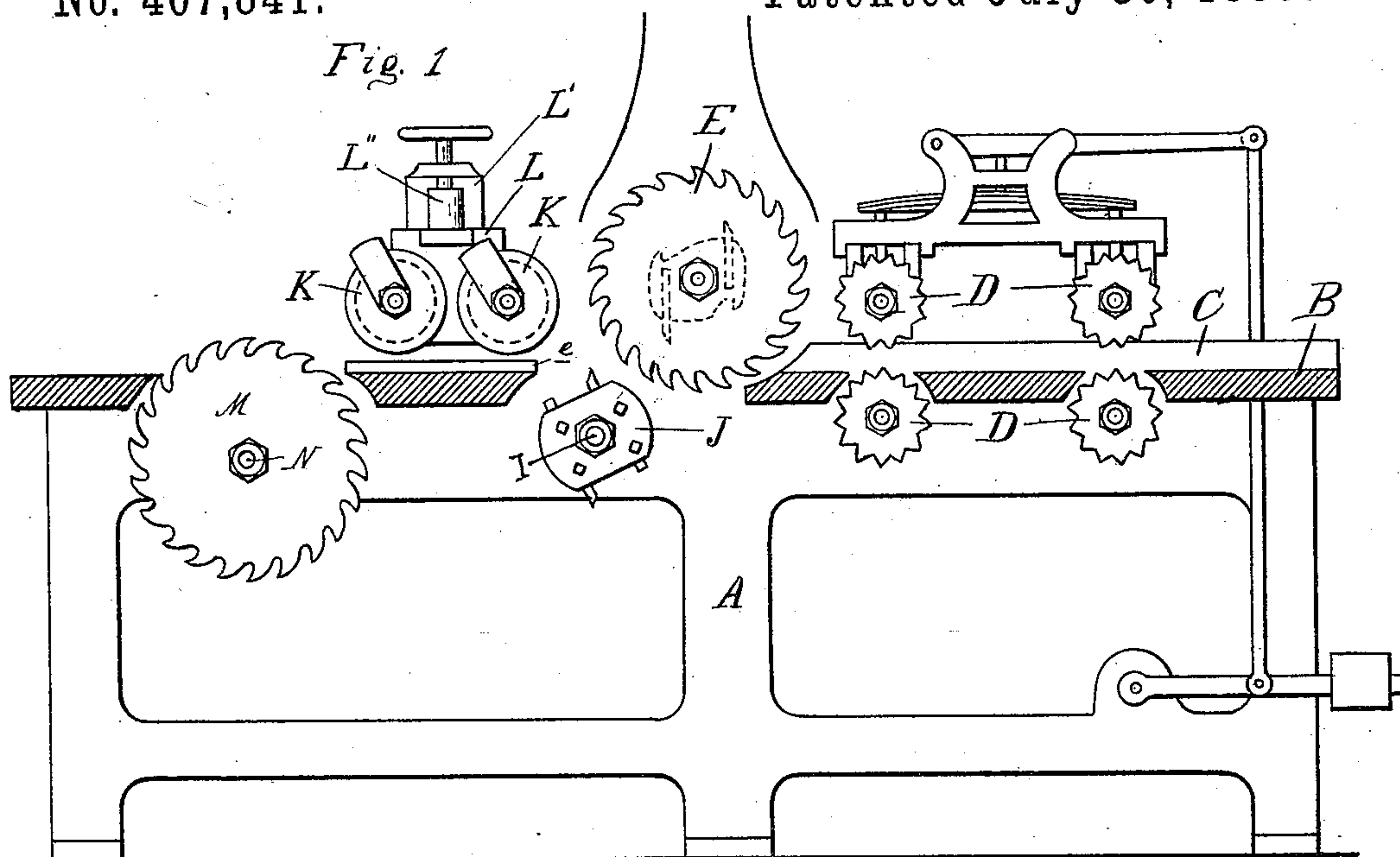
(No Model.)

2 Sheets—Sheet 1.

O. SCHIMANSKY.
MACHINE FOR CUTTING HOOPS.

No. 407,841.

Patented July 30, 1889.



Witnesses:

P. M. Hulbert
N. J. Sprague

Inventor:

Otto Schimansky
By Thos. I. Sprague & Son
Att'y.

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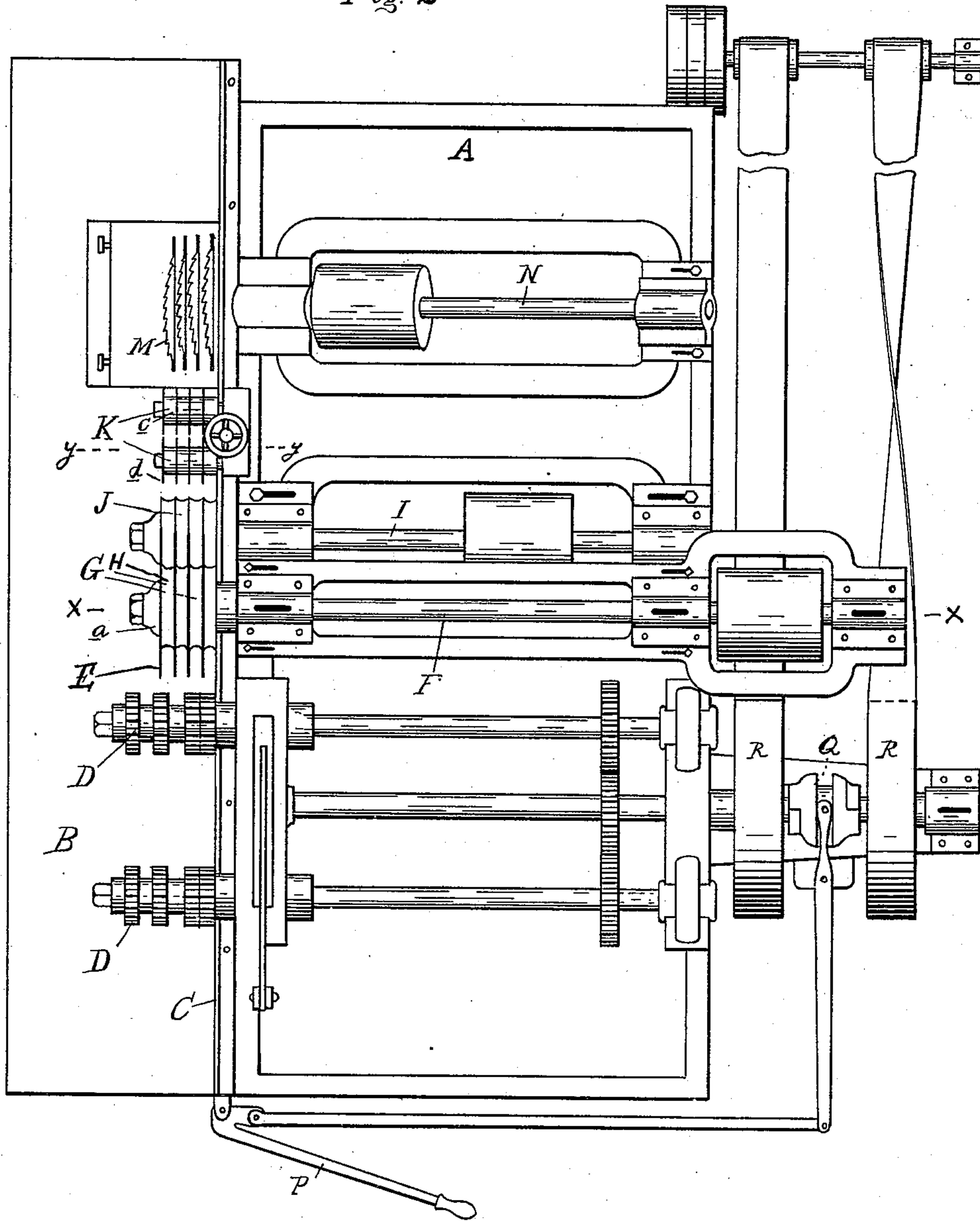
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Fig. 2



Witnesses:

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UNITED STATES PATENT OFFICE.

OTTO SCHIMANSKY, OF SANDUSKY, OHIO, ASSIGNOR TO BARNEY & KILBY AND
THE D. J. BROWN MANUFACTURING COMPANY, BOTH OF SAME PLACE.

MACHINE FOR CUTTING HOOPS.

SPECIFICATION forming part of Letters Patent No. 407,841, dated July 30, 1889.

Application filed December 19, 1887. Serial No. 258,269. (No model.)

To all whom it may concern:

Be it known that I, OTTO SCHIMANSKY, a citizen of the United States, residing at Sandusky, in the county of Erie and State of Ohio, have invented certain new and useful Improvements in Machines for Cutting Hoops, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to new and useful improvements in machines for cutting hoops, and the object of the invention is to construct a machine especially adapted for cutting barrel-hoops from boards or planks; and to this end the machine is provided with a feed-table, upon which the plank is fed by a suitable set of feed-rollers to a set of saws on a revolving arbor, which cut the plank into strips, and at the same time a series of cutters, held in cutter-heads, securely fastened upon the saw-arbor, plane the upper faces of the strips rounding. The lower edges of the strips are similarly rounded by a cutter-head revolving below the strips, and then a series of saws on an inclined arbor divide each strip into two hoops, while each strip is securely held by guides.

My invention consists in the peculiar construction and arrangement of the parts, all as more fully hereinafter described, and specifically pointed out in the claims.

In the drawings which accompany this specification, Figure 1 is a sectional side elevation of my improved machine. Fig. 2 is a plan thereof. Fig. 3 is a cross-section on line *x x*, Fig. 2. Fig. 4 is a cross-section on line *y y*, and Fig. 5 is a cross-section of one of the cutter-heads.

A is a frame of my machine, which supports the operating parts thereof, and this frame is provided with the feed-table B, to one edge of which is secured the longitudinal guide C.

D are feed-rollers arranged in pairs, of any suitable construction, adapted to feed planks. The upper roll of each pair is a live roll and is secured in vertically-sliding bearings, which are acted on by suitable springs or otherwise, to cause the rollers to press upon the plank

with sufficient force and cause the feed-rollers to feed the plank forward.

E are a series of revolving saws secured in the arbor F, and upon the same arbor are secured the cutter-heads G, each of which is provided with a set of knives H adjustably secured thereto, as shown in Fig. 5. The cutter-heads and saws alternate with each other, and they are firmly held together by means of the clamping-collars *a* and by means of the pin or bolt *b*, passing through all of the cutter-heads and saws and entering the sockets in the clamping-collars, all so arranged that the cutter-heads divide the plank into strips, and at the same time the individual cutter-heads between the saws plane the upper face of each strip rounding, as shown. A little to the rear of this cutter-head and below the table is secured the cutter-head J on the revolving arbor I, and this cutter-head consists of a series of sectional cutter-heads of the same kind as the cutter-head G, before described. The function of the cutter-head J is to plane the lower edges of the strips in the same way as the upper edges are planed. Slightly to the rear of this cutter-head, and above the table, are arranged guide-rollers K, which are carried by the vertically-sliding block L, which is sleeved upon the guide L' and acted on by the spring L², to press the rollers on top of the strips. These rollers consist of the individual rollers *c* and the disks *d* alternating therewith, all so arranged that the rollers *c* press upon the top of the strips, while the disks *d* guide the same in a longitudinal direction. Below these guide-rollers K and corresponding with the disks *d* thereof are placed the guide-strips *e* in the bed of the table, which, projecting upwardly therefrom, act in connection with the disks *d* to guide the strips. In the rear of these guide-rollers are arranged a set of saws M, secured upon an inclined saw-arbor N, and these saws project up through the table sufficiently to divide each strip into two hoops, as shown in dotted lines in Fig. 4.

In practice, it will be seen that the portion of the plank which rests against the longitudinal guide C is carried under the saws E,

which divide that portion of the plank into a number of strips, and at the same time plane each strip on the outer edge by means of the intermediate cutters. The cutter-head J then 5 similarly planes the strips on the under side, and then the guide-rollers, in connection with the guide-strips e in the bed, guide these strips to the inclined saws, which cut each strip into two hoops. It will be seen that if 10 a plank is fed upon the table which is of greater width than comes within the reach of the saws it is severed entirely and completely, and as soon as this portion is thus separated the attendant at the rear end of the machine 15 can immediately push it back to enable the operator at the front end to feed it again until the whole plank is cut up into strips. The operation of the machine thus enables the operators to use their time to the best ad- 20 vantage in the interval while the strips are being cut up into hoops.

It will further be observed that the combination of the saws and cutter-heads into one composite cutter-head gives additional 25 strength to both the saws and cutter-heads, and makes all irregular work impossible. By using saws to separate the plank into strips the strips have parallel sides, and they are therefore more easily guided to the second 30 set of saws than if the plank were separated into strips by cutters, where the sides naturally are of oval shape.

As it often happens that by imperfections in the planks disturbances are caused in the 35 machinery, I provide the feed-rollers with a reversing sliding clutch Q, as shown, which is acted on by the lever P in proximity of the operator at the front end of the machine, so that at an instant he may reverse the feed as 40 the loose pulleys R R run in opposite directions, and thereby prevent accident.

I am aware that it is not new to divide planks into strips, and then redivide each strip into two hoops; but

What I claim as my invention is—

1. In a hoop-cutting machine, a cutter-head consisting of a rotary arbor carrying rotary saws to divide the plank into strips, cutter-heads placed alternately between the saws and in the same relative position thereto and carrying cutters between the saws to plane and round the upper side of the strips, and clamping-collars to firmly clamp the saws and cutter-heads together upon the arbor, substantially as described. 55

2. The combination, with the frame and feeding devices, of a hoop-cutting machine wherein the hoops are manufactured from planks by sawing them into strips, a composite cutter-head consisting of an alternating 60 series of circular saws and planer-heads secured upon a common arbor and arranged to cut a plank into strips and plane the upper edges of said strips, and a lower planer-head provided with cutters arranged to plane the 65 lower edges of the strips, substantially as described.

3. In a machine for the purpose described, the combination of the main frame, feed-table, feed-rollers, combined saws and planer- 70 heads, the set of inclined saws, and the guide-strips in the planer-bed, all arranged for joint operation, as set forth.

In testimony whereof I affix my signature, in presence of two witnesses, this 13th day of 75 October, 1887.

OTTO SCHIMANSKY.

Witnesses:

J. PAUL MAYER,
H. S. SPRAGUE.