

(No Model.)

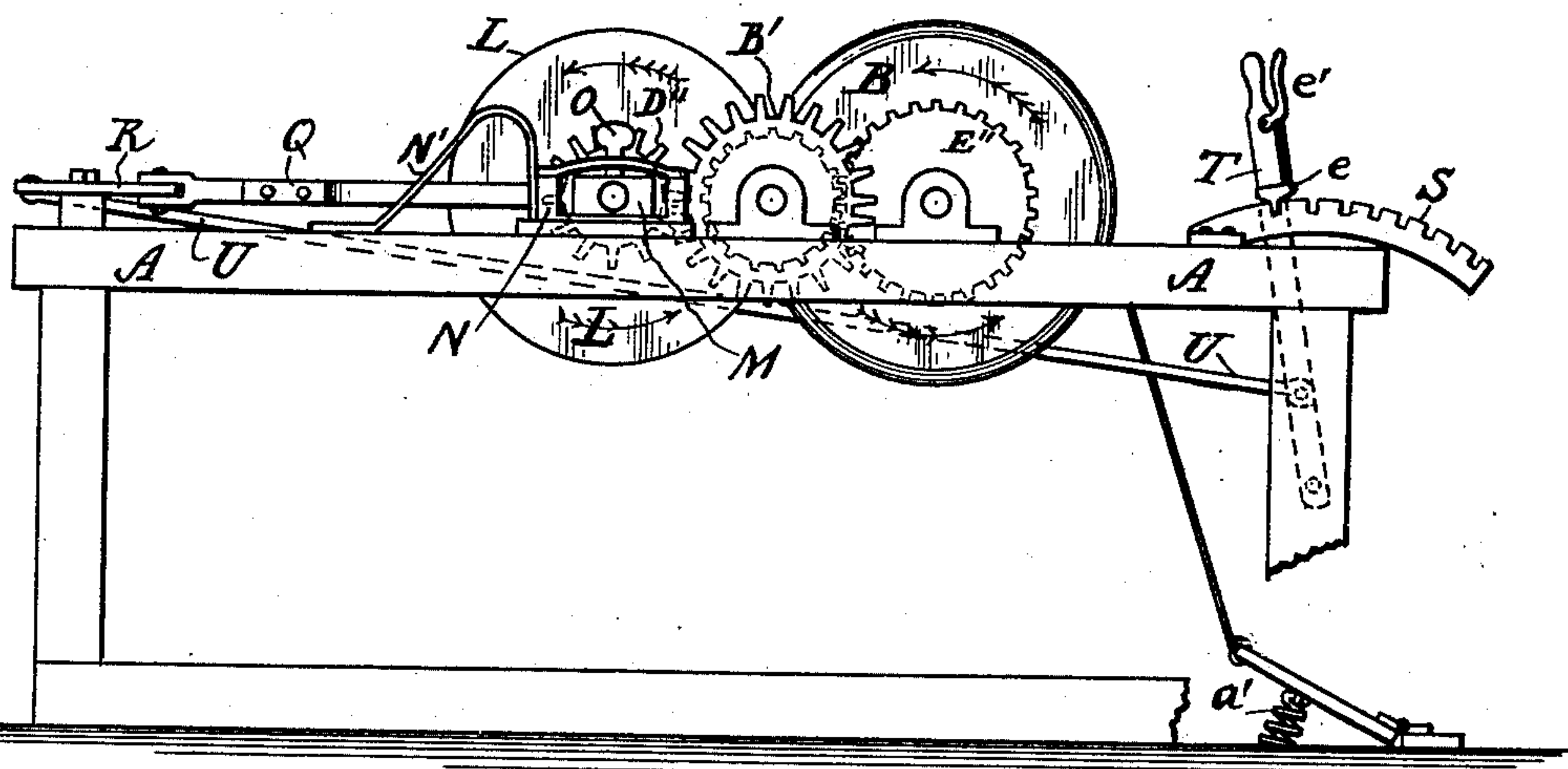
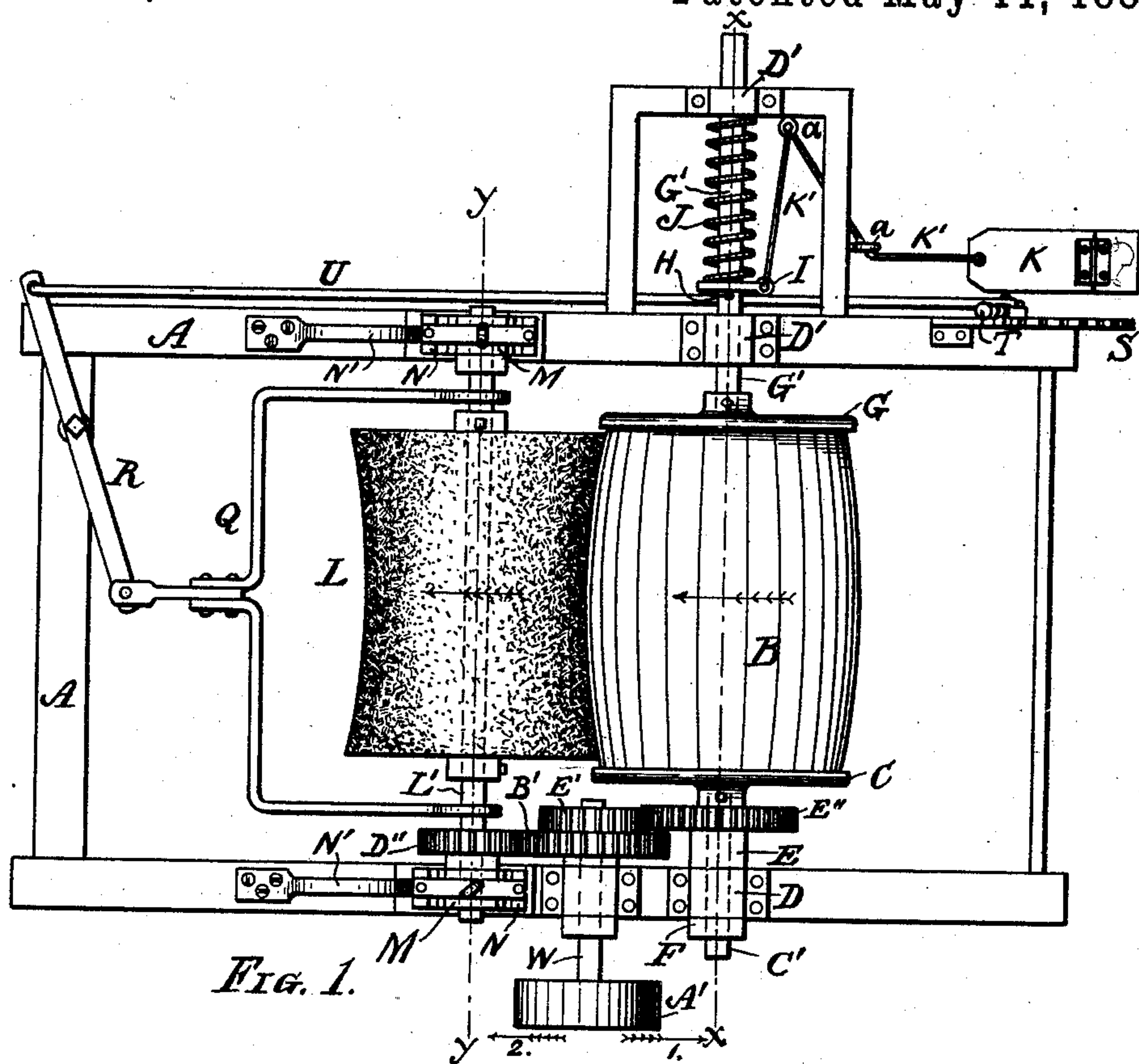
2 Sheets—Sheet 1.

A. KIRCHNER.

BARREL TRIMMING MACHINE.

No. 341,581.

Patented May 11, 1886.



Witnesses:

J. B. Halpenny.
Adair Hough.

Fig. 2.

Inventor:
Adolph Kirchner
By F. F. Warner.
his atty.

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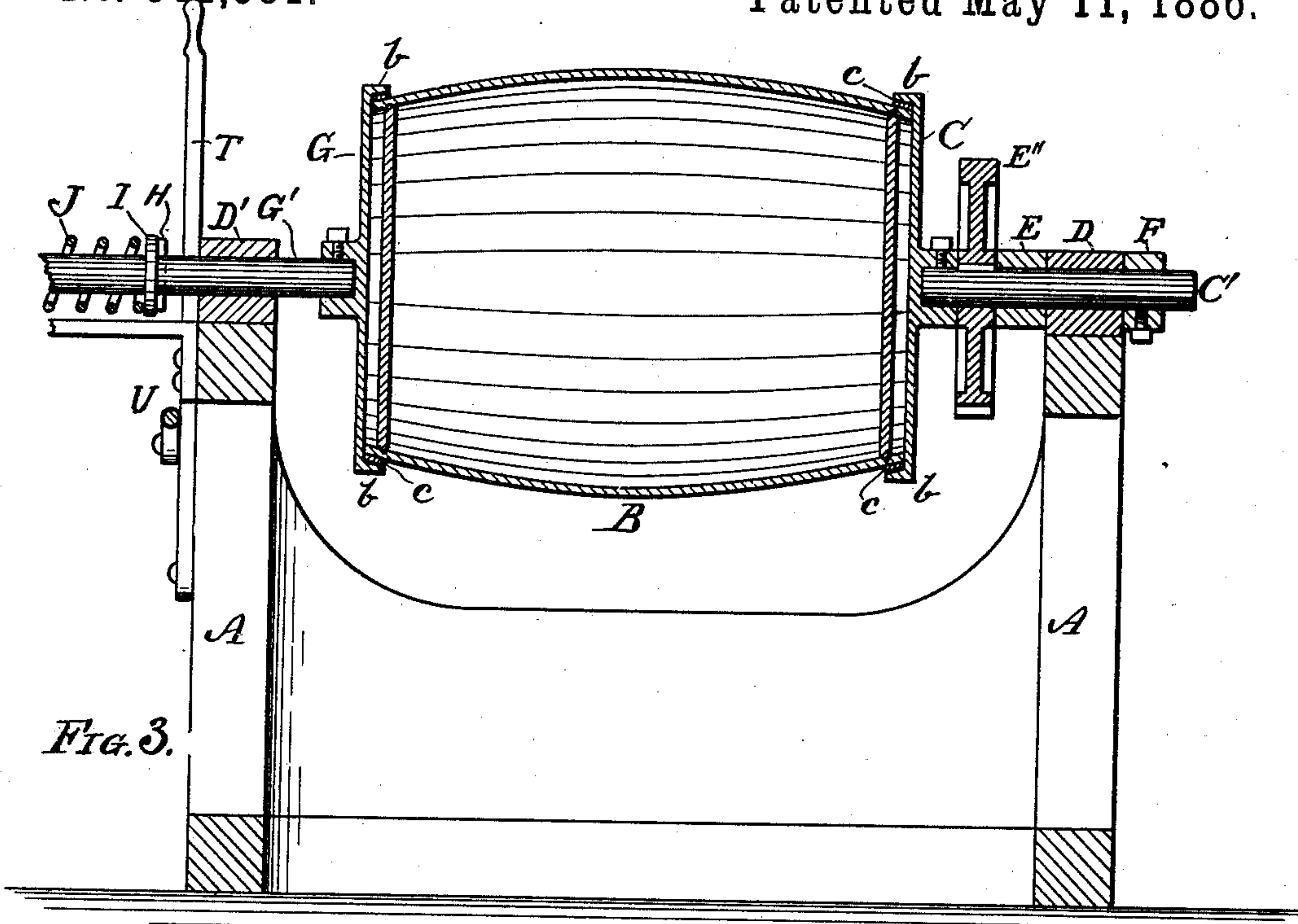


Fig. 3.

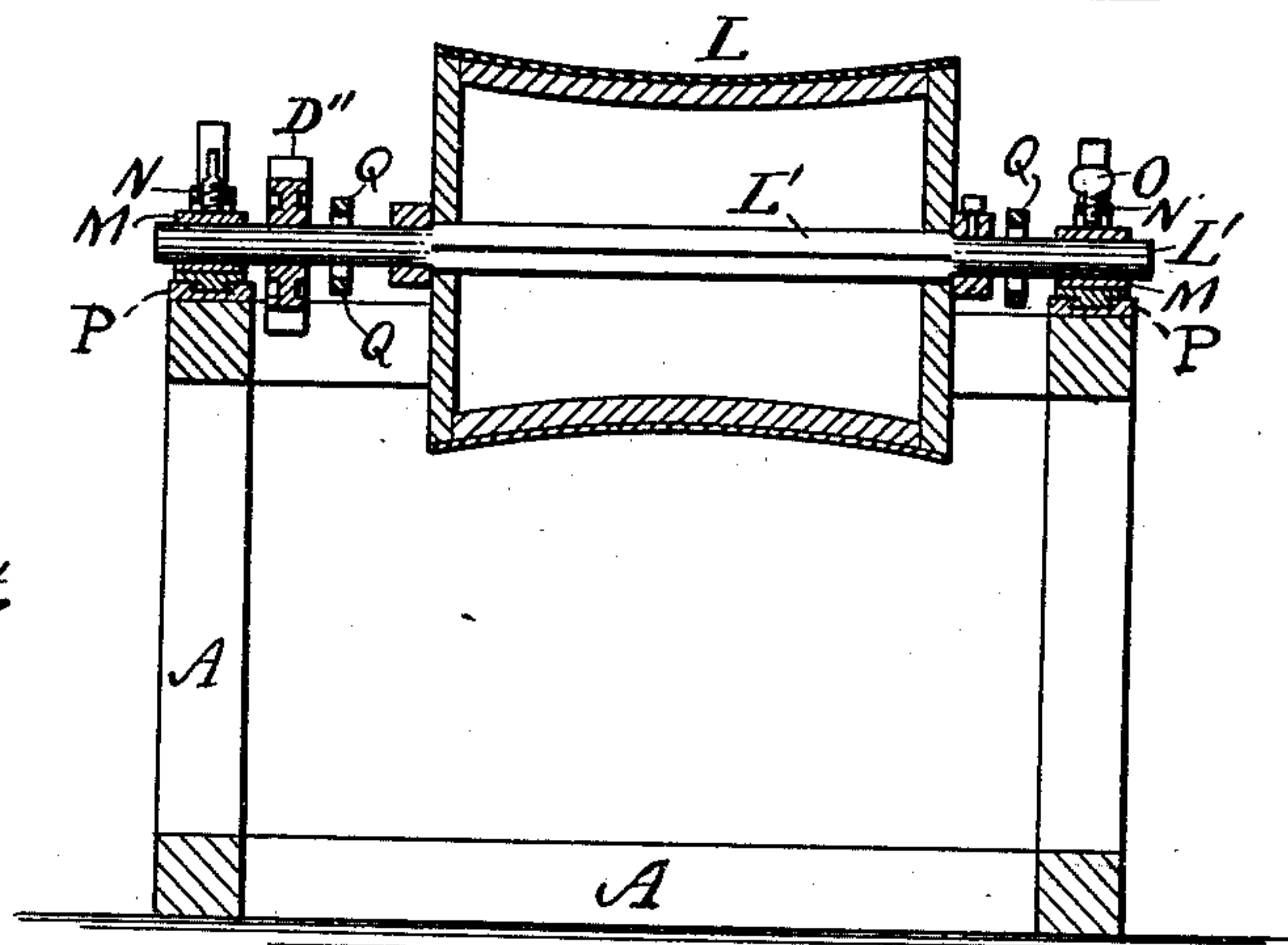


Fig. 4.

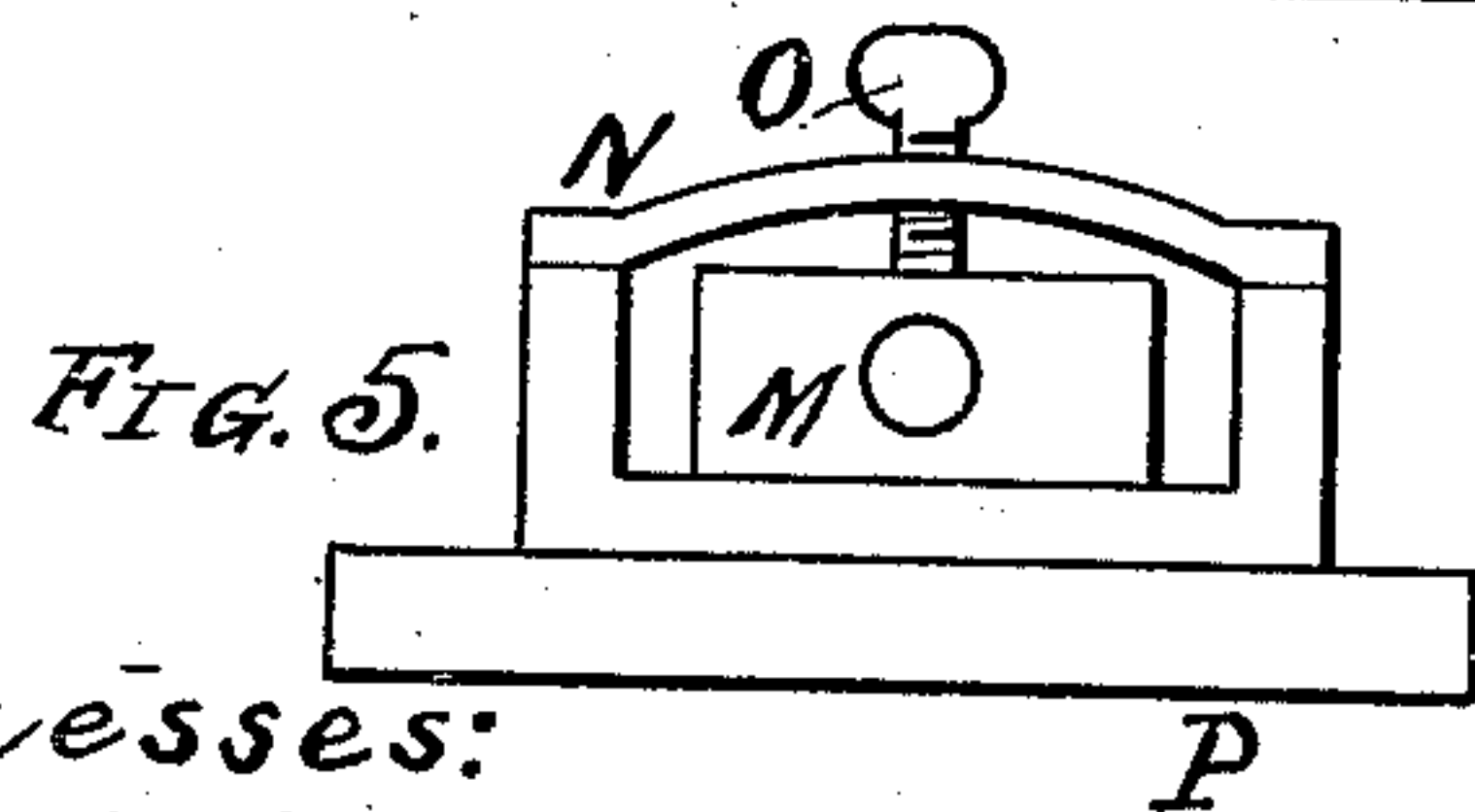


Fig. 5.

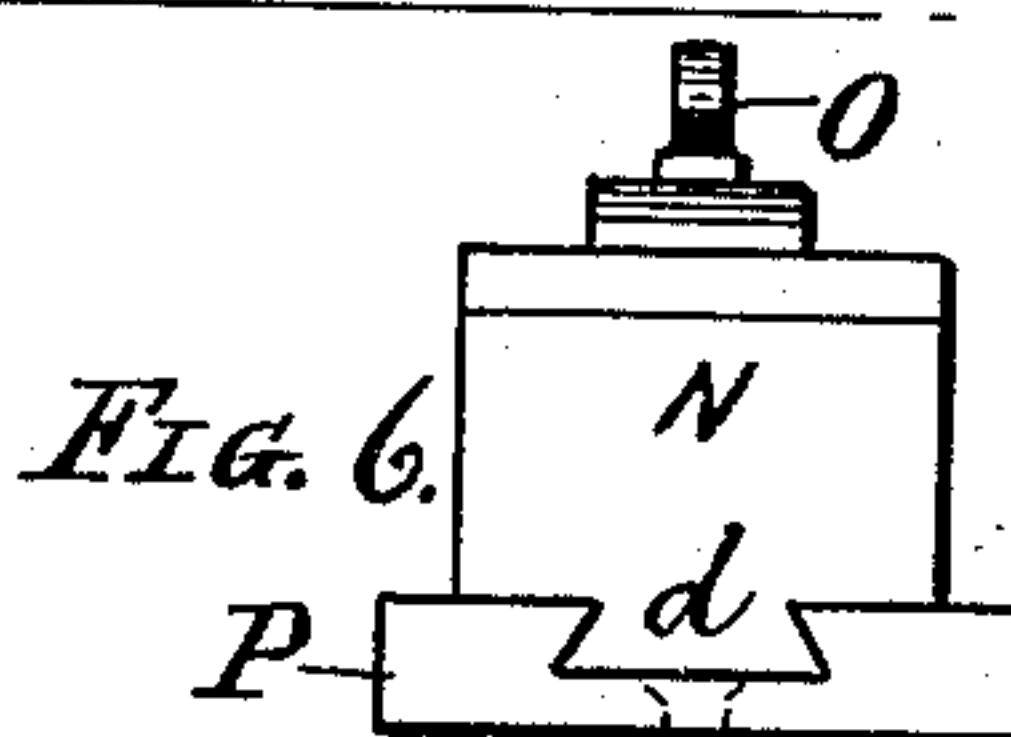


Fig. 6.

Witnesses:

J. B. Halpenny
Adair H. H. H. H.

Inventor:

A. Dolph Kirchner
By F. F. Warner
his atty.

UNITED STATES PATENT OFFICE.

ADOLPH KIRCHNER, OF CHICAGO, ILLINOIS.

BARREL-TRIMMING MACHINE.

SPECIFICATION forming part of Letters Patent No. 341,581, dated May 11, 1886.

Application filed April 24, 1885. Serial No. 163,482. (No model.)

To all whom it may concern:

Be it known that I, ADOLPH KIRCHNER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Barrel-Trimming Machines, of which the following, in connection with the accompanying drawings, is a specification.

In the drawings, Figure 1 is a top view of a barrel-trimming machine embodying my invention. Fig. 2 is a side elevation of the same. Fig. 3 is a section in the plane of the line $x x$ of Fig. 1, viewed in the direction indicated by the arrow 1 there shown. Fig. 4 is a section in the plane of the line $y y$ of Fig. 1, viewed in the direction indicated by the arrow 2 there shown. Fig. 5 is a detail, the same being a side view of the sliding box or bearing; and Fig. 6 is a detail, the same being an end view of the parts shown in Fig. 5.

Like letters of reference indicate like parts.

The meeting edges of the staves of barrels are not always even, and thus make a rough or irregular surface. This unevenness has heretofore been remedied by trimming down the projecting edges by means of hand-tools, so as to make the outer surface of the barrel present a neat and finished appearance.

The purpose of my invention is to attain the same result expeditiously by means of an organized machine. The manner in which I accomplish this will hereinafter be fully explained.

A represents the frame of the machine.

B is an unfinished or untrimmed barrel.

C is a clamping plate or disk, rigidly attached to one end of an axle or shaft, C' .

D is a box or bearing in which the axle or shaft C' turns.

E is a collar upon one side of the box D, and F is a collar on the other side thereof. These collars prevent this axle or shaft from moving laterally or endwise in its bearings.

G is a clamping plate or disk rigidly attached to one end of an axle or shaft, G' , turning in the boxes or bearings $D' D'$. The shaft or axle G' is laterally yielding or capable of moving endwise, but its movement in one direction is limited by means of a pin or stop, H, passing through the said shaft. This stop I would regard as equivalent to a fixed collar.

I is a laterally-movable collar on the shaft G' , and J is an open spiral spring surrounding the said shaft, and bearing on one end on collar I and at the other against the outer bearing, D' .

K is a treadle, and K' is a cord or rope passing through fixed eyes $a a$, and connected both to the said treadle and to the collar I. This treadle, as indicated in Fig. 2, rests upon a spring, a' .

The clamps or plates C and G are flanged, as is clearly indicated at $b b$, Fig. 2, to slightly overlap the ends of the barrel.

To arrange the barrel in place, I depress the treadle K, thus, through the instrumentality of the rope K' and collar I, compressing the spring J. By this means the clamp G may be pushed or moved laterally away from the clamp C, and it will remain where placed as long as the treadle is depressed. I then raise the barrel and place one end thereof in the clamp C. Then, by releasing the treadle K, the clamp G will move toward the other end of the barrel and clamp it, that end being held in proper position to admit of that result. It will be perceived that the barrel-clamps are thus adjustable to barrels varying somewhat from each other in height or length, and also that sufficient space or room may be made between the barrel-clamps to permit the barrel to be placed with facility between the clamps.

To prepare the barrel to be arranged temporarily in the clamps, I apply upon its ends hoops $c c$, which may be temporary or not, as may be desirable or expedient.

L is a drum or cylinder, mounted rigidly upon a shaft, L' . In length this drum is somewhat shorter than the barrel to be trimmed, and its face or perimeter is curved inwardly, as shown, to correspond to the outward curvature or bulge of the barrel.

To the perimeter of the drum or cylinder L I apply, by means of some glutinous substance, small pieces or particles of broken or pulverized glass, or fine sand or emery, or other well-known finishing or polishing substance or material.

M M are boxes or bearings, in which the shaft L' turns or bears. These boxes M M, I arrange in outer or supplemental boxes, N N,

and secure the former in the latter by means of set-screws O O.

P P are plates, on which the boxes N N rest, and these plates and boxes N N are connected by means of dovetail joints, as indicated at *d*, Fig. 1, so as to permit the boxes N N, (which bear the boxes M M and axle L,) to be capable of sliding in the plates P P. Any other form or joint or connection or way, however, which will permit of this sliding movement may be employed instead of dovetail joint.

Q is a forked or bifurcated arm, in the forked ends of which the shaft L' turns.

R is a lever pivoted to the frame and to the single arm or branch of the arm Q.

S is a curved serrated plate attached to the frame.

T is a lever pivoted to the frame, and provided with a sliding catch, *e*, in connection with a small lever, *e'*, pivoted to the lever T.

U is a connecting rod or arm connecting the levers R and T.

N' N' are springs bearing against the boxes N N.

W is a driving-shaft, and A' is a belt-wheel mounted rigidly thereon.

B' is a spur-wheel mounted rigidly on the shaft W, and D' is a spur-wheel mounted rigidly on the shaft L'. These spur-wheels engage each other, and their spurs or cogs are sufficiently long to permit the barrel or cylinder L to be moved back and forth to a limited extent in the direction of the barrel B without causing a disengagement of these wheels, as is indicated in Fig. 2. E' is a spur-wheel, also mounted rigidly on the shaft W, and E'' is a spur-wheel mounted on the axle F and engaging the wheel E'. By these means the drum or cylinder L will yield to uneven surfaces; and to barrels varying somewhat in diameter; also, the cylinder or drum L may be drawn away from the barrel by means of the lever T and the parts connecting it with the shaft of the said drum, so that the barrel may be released with facility when finished. To permit this yielding movement of the drum L while the work is being done, the catch *e* should be held out of engagement with the the plate S.

To remove the barrel, I depress the treadle K, as before, after having moved the cylinder L away from the barrel. The clamp G is now loose and may be moved laterally away from one end of the barrel, thus permitting the barrel to be taken from the clamps. I now finish hooping the barrel, or, if need be, remove the hoops *c c* and place other hoops thereon in

place thereof sufficiently broad to cover any untrimmed or unfinished part which may exist near the said hoops.

It will be perceived that the portions of the barrel and those portions of the drum or cylinder L which meet each other while both are rotated move in opposite directions, and hence that a great degree of speed and friction will be produced. The drum or cylinder L will trim the barrel, and the work will be done speedily and give the barrel a uniformly neat appearance.

I do not here intend to confine myself to all of the details of construction which I have shown and described, as it is obvious that many details of construction may be varied without a departure from the scope of my invention.

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

1. A barrel trimming or finishing machine in which are combined, substantially as specified, a rotative laterally-yielding holder or clamp and a rotative trimmer or finisher.

2. A barrel trimming or finishing machine in which rotative barrel-holders are combined with a yielding rotative trimmer or finisher, substantially as and for the purposes specified.

3. The combination, in a barrel trimming or finishing machine, of the rotative trimmer or finisher L, mounted in sliding and yielding bearings, and an adjusting-lever in operative connection with the said trimmer, substantially as and for the purposes specified.

4. The combination, in a barrel trimming or finishing machine, of a rotative trimmer or finisher mounted in sliding boxes or bearings, the bifurcated or forked arm Q, the lever R, the connecting-rod U, the lever T, having thereon a catch, *e*, and the serrated plate S, substantially as and for the purposes specified.

5. The combination, in a barrel trimming or finishing machine, of a yielding clamp for holding the barrel and a yielding drum or cylinder having adhesively attached to its face or perimeter pulverized glass or like attritive substance, and suitable mechanism for operating or revolving the said clamps and drum or cylinder, as described.

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

ADOLPH KIRCHNER.

Witnesses:

J. B. HALPENNY,
M. B. RICH.