

(No Model.)

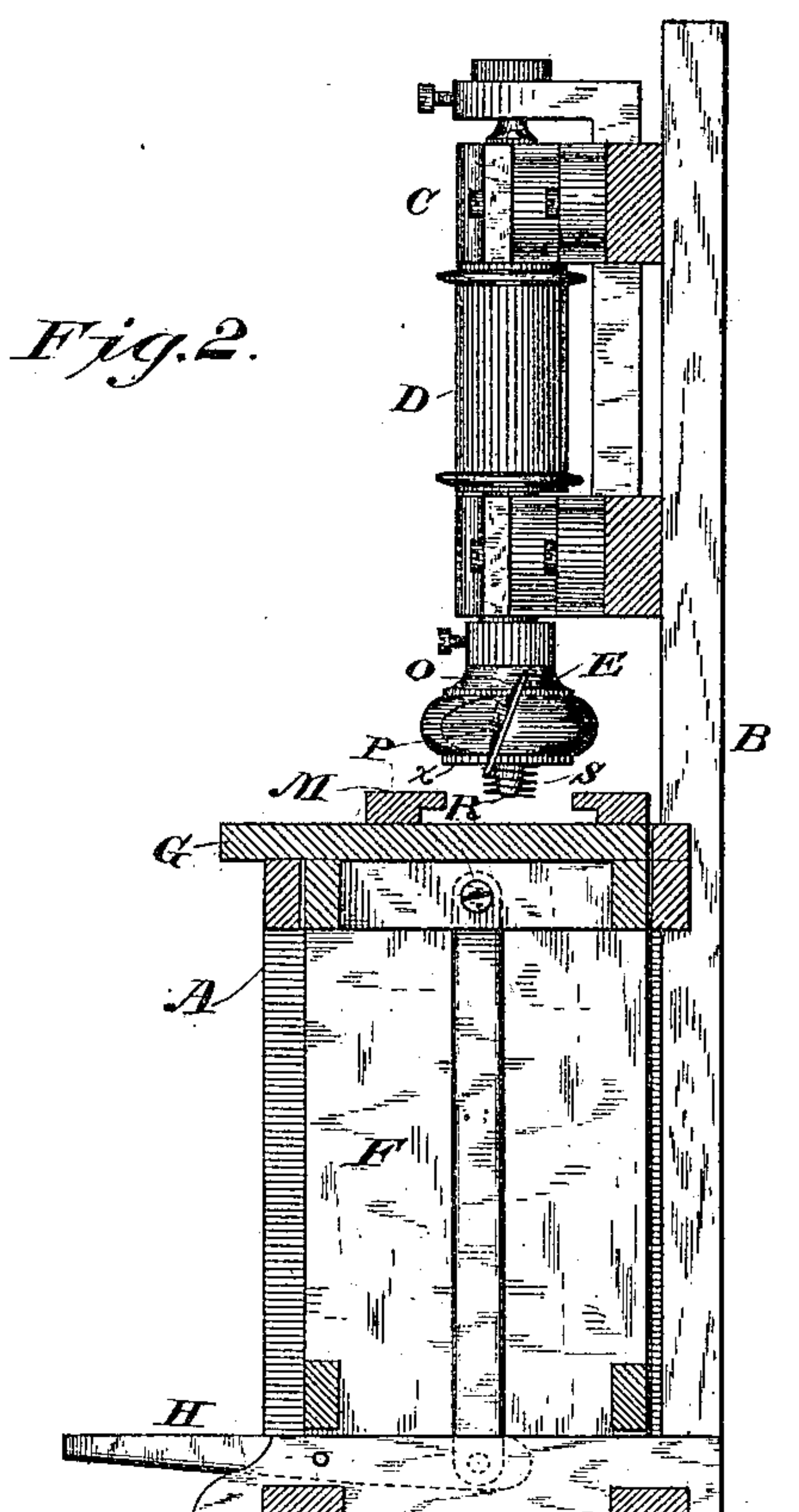
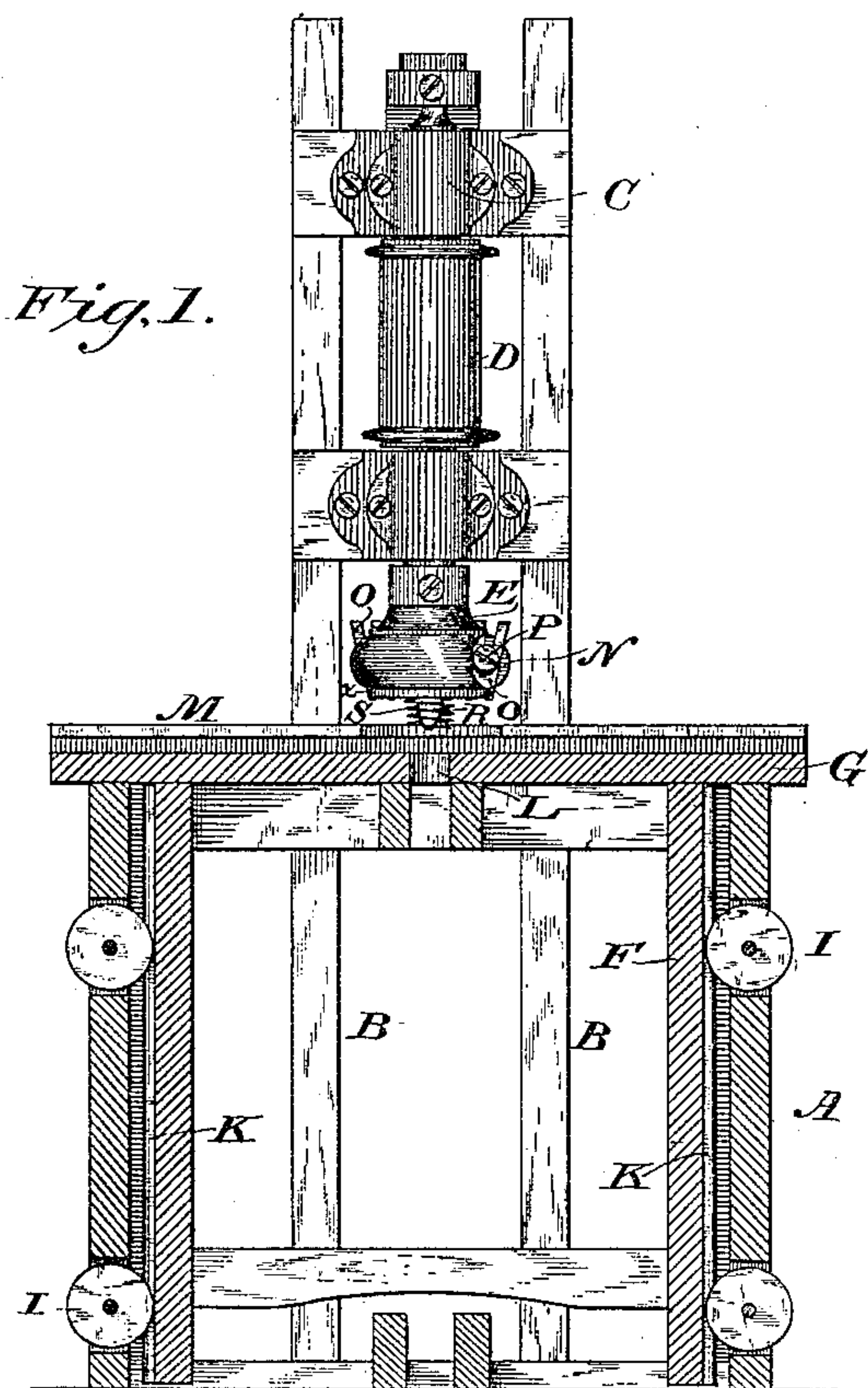
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R. V. BOICE.

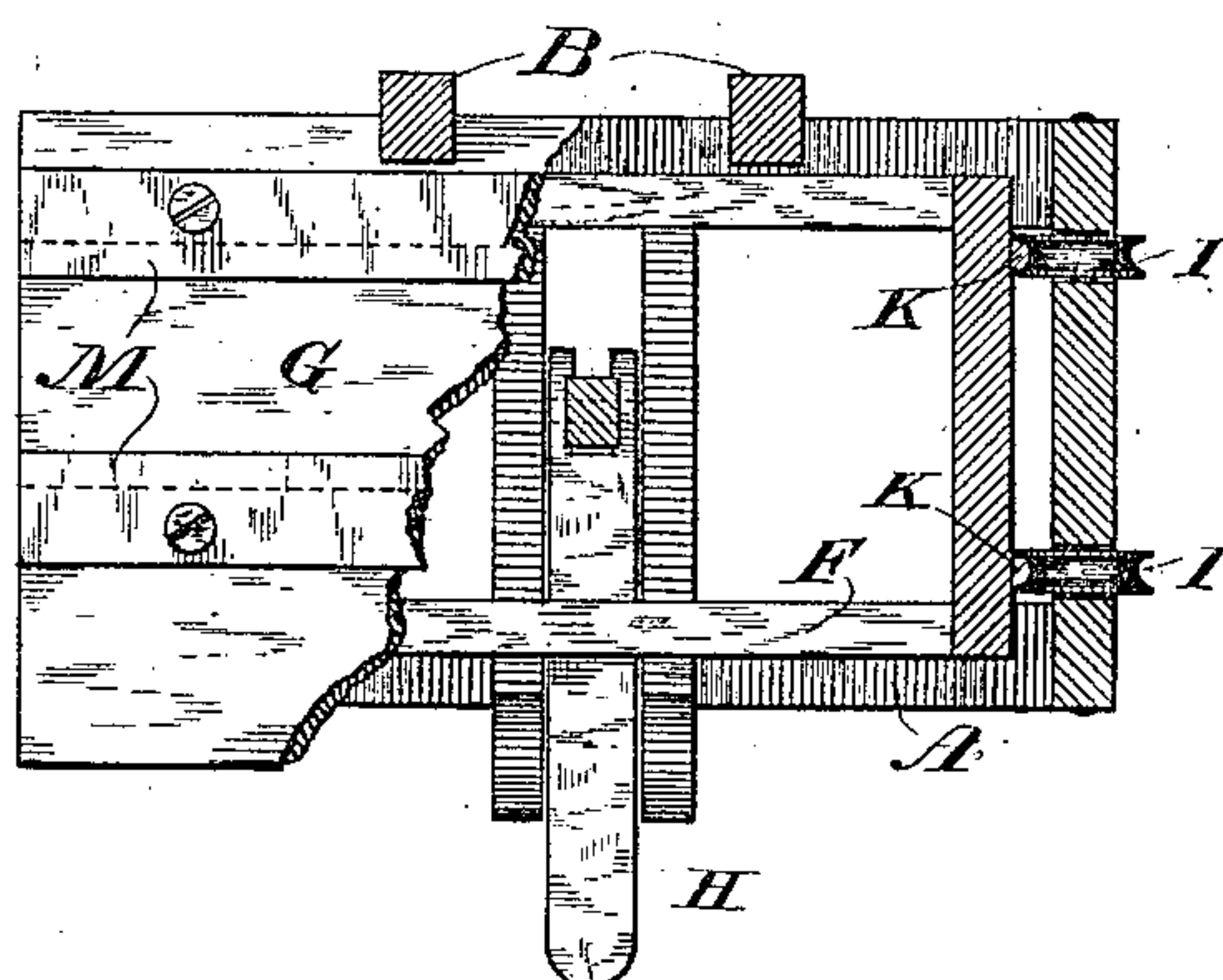
MACHINE FOR MAKING WOODEN RINGS.

No. 273,806.

Patented Mar. 13, 1883.



*Fig. 3.*



WITNESSES

*Wm A. Sinkler*  
*Geo. W. Young*

INVENTOR

*Reed V. Boice.*

By *his Attorneys*

*Baldwin, Hopkins, & Peyton.*

(No Model.)

2 Sheets—Sheet 2.

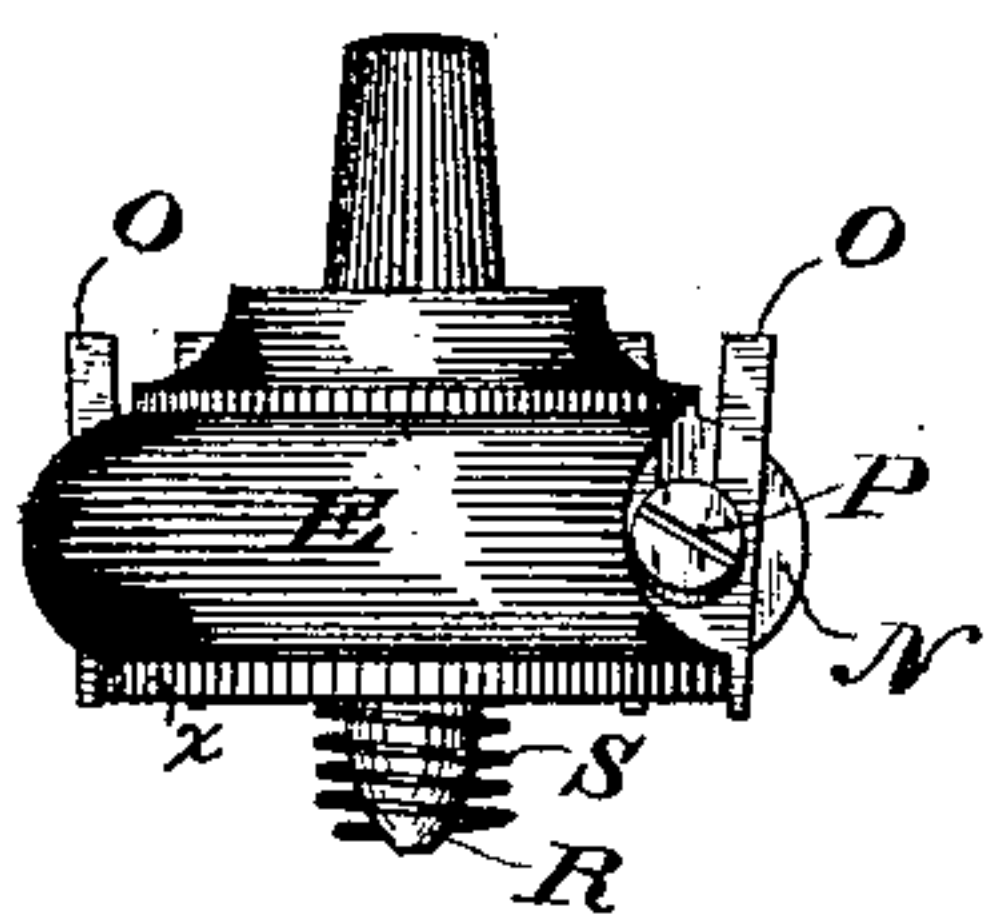
R. V. BOICE.

MACHINE FOR MAKING WOODEN RINGS.

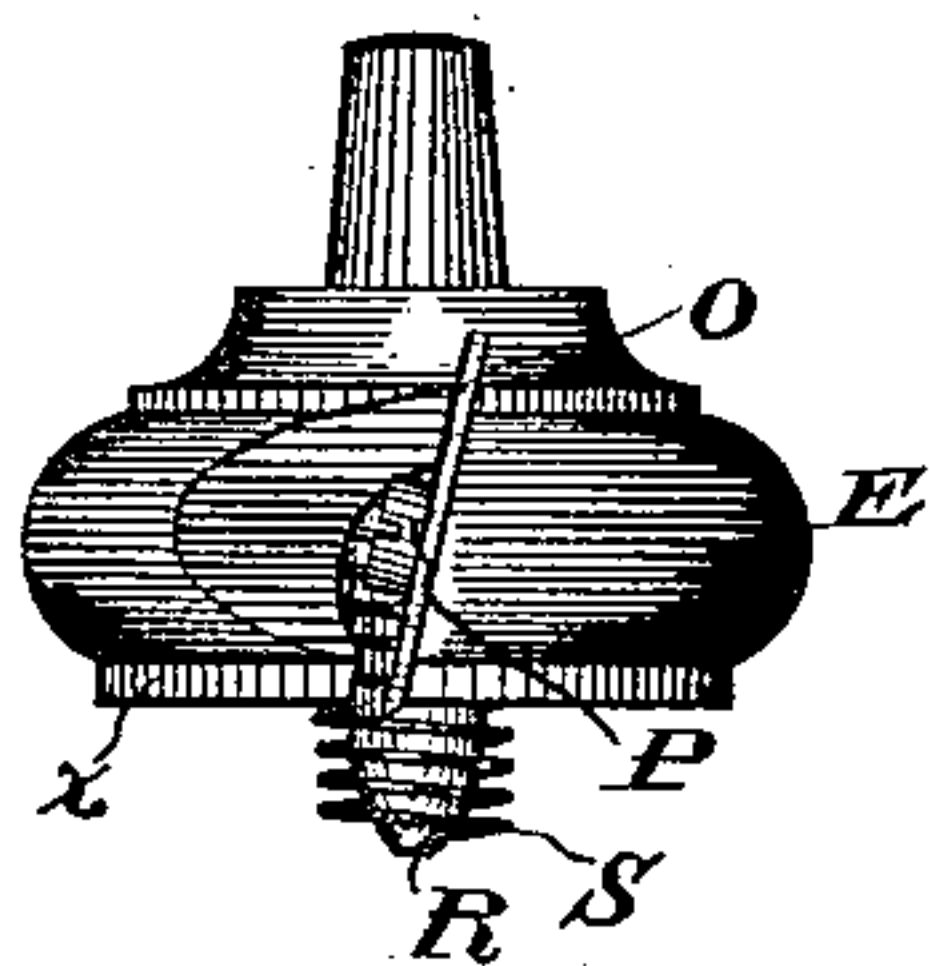
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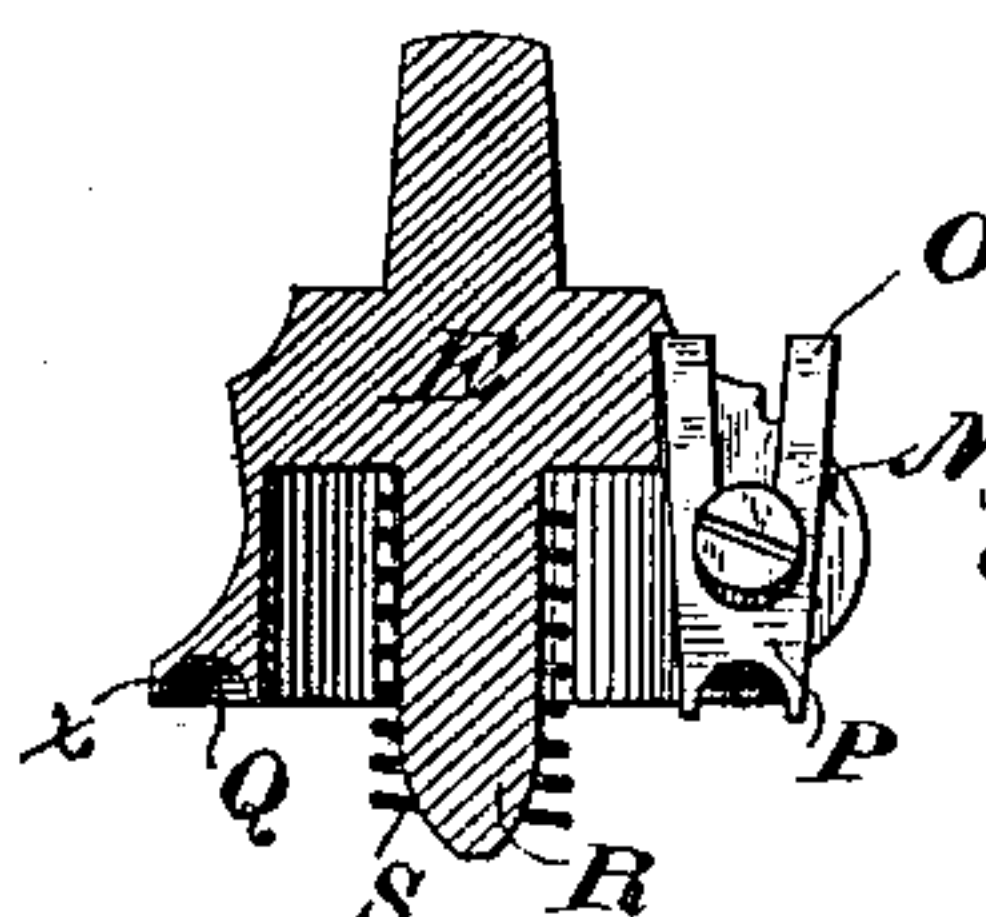
*Fig. 4.*



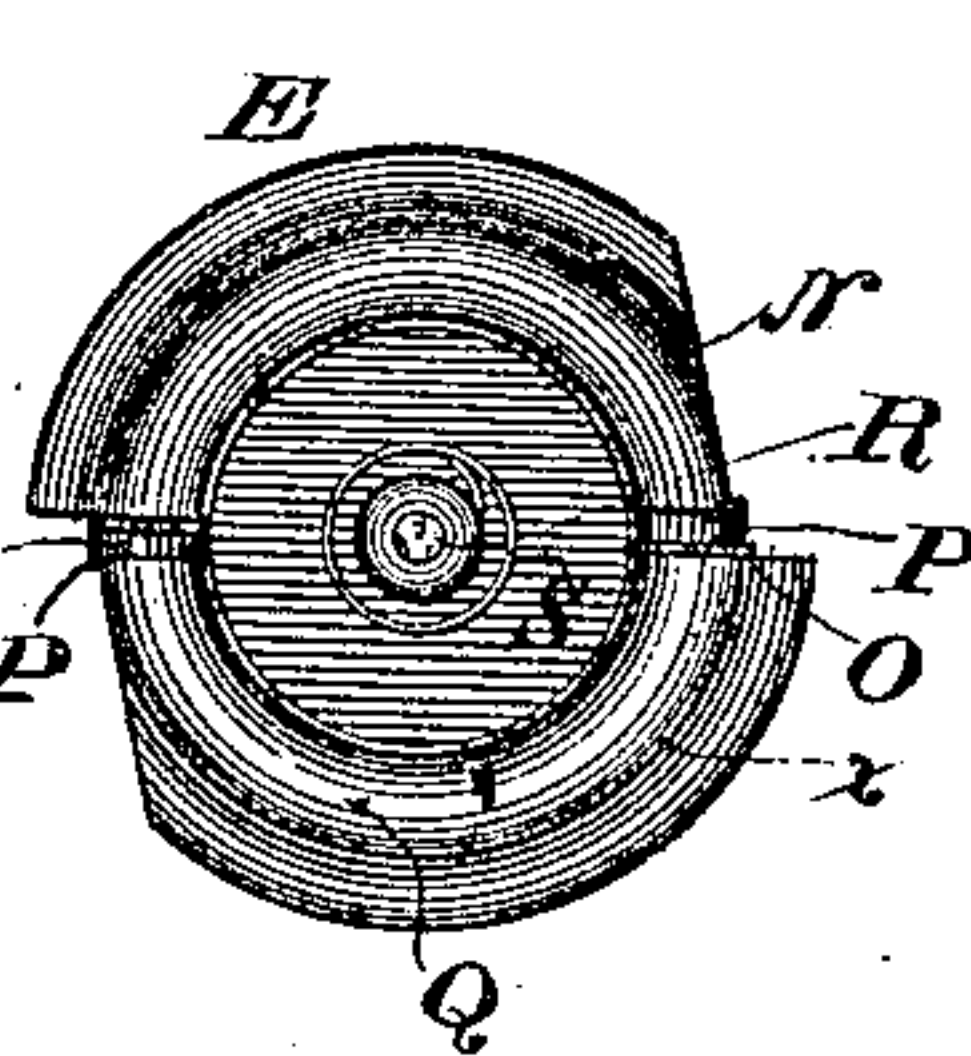
*Fig. 5.*



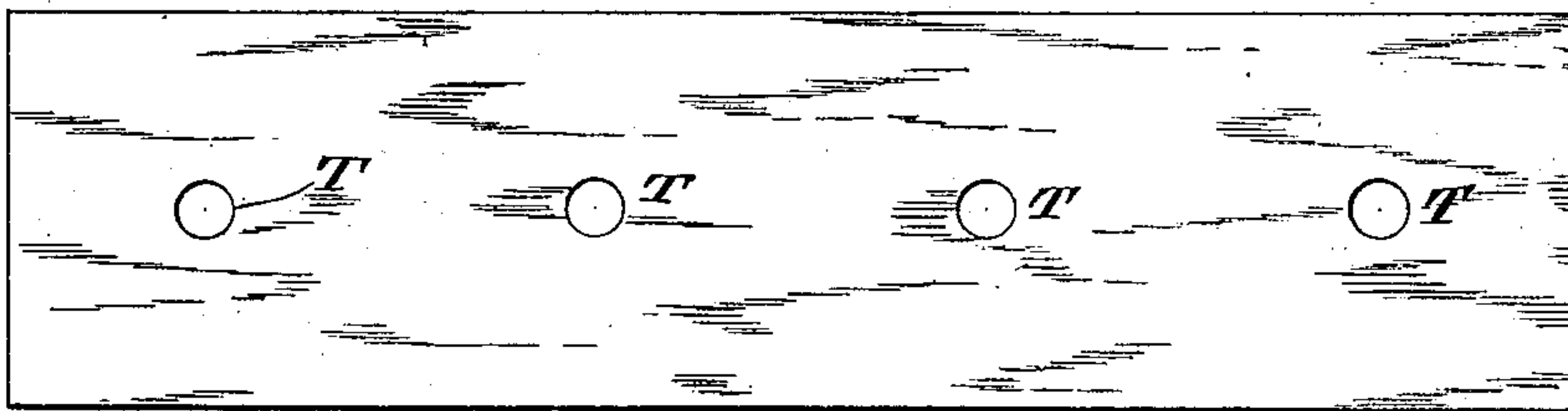
*Fig. 6.*



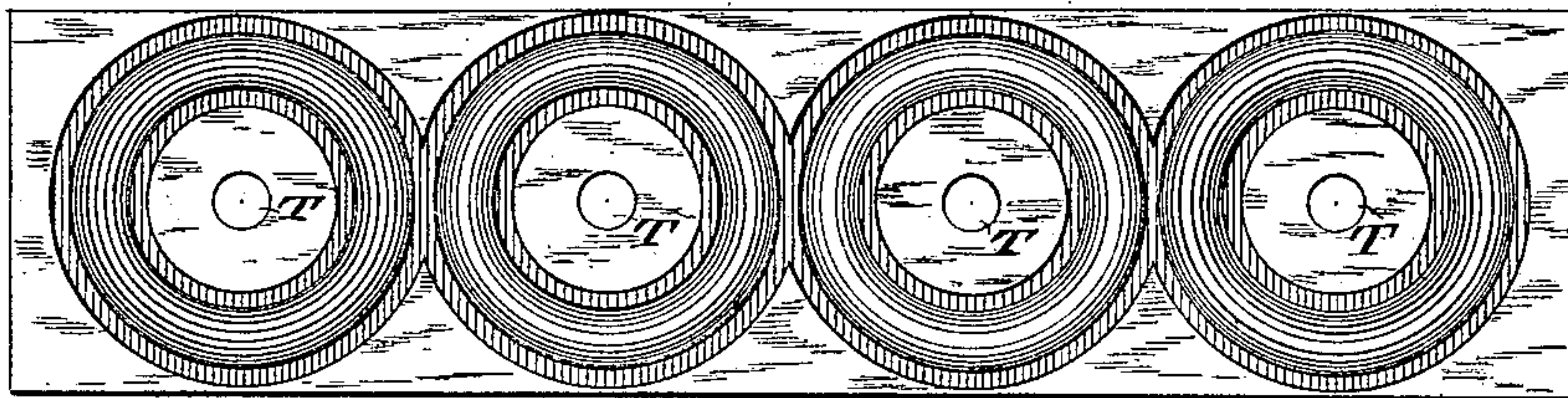
*Fig. 7.*



*Fig. 8.*



*Fig. 9.*



*Fig. 10.*



*Fig. 11.*



WITNESSES.

*Wm A. Skinkle.*  
*Geo. W. Young.*

INVENTOR

*Reed V Boice*

By *his Attorneys*

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# UNITED STATES PATENT OFFICE.

REED V. BOICE, OF TOLEDO, OHIO.

## MACHINE FOR MAKING WOODEN RINGS.

SPECIFICATION forming part of Letters Patent No. 273,806, dated March 13, 1883.

Application filed January 12, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, REED V. BOICE, of Toledo, in the county of Lucas and State of Ohio, have invented an Improved Machine for Making Wooden Curtain-Rings, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is a front elevation, partly in section. Fig. 2 is a side elevation, partly in section. Fig. 3 is a top view of the table partly broken away. Figs. 4, 5, 6, and 7 are different views of the cutter-head, showing its various parts. Fig. 8 shows a blank board or strip bored and ready for the operation of the machine. Fig. 9 shows the same after having passed through the machine. Fig. 10 is a cross-section through the blank after having been cut on one side, and Fig. 11 shows the same after having been cut on both sides.

The main object of my improved machine is to rapidly and economically cut curtain-rings, with as little waste as may be, from suitable strips of board.

Referring to the letters upon the drawings, A indicates a suitable main frame, to the back part of which are secured two posts, B, or other equivalent means for supporting the bearings of a vertical arbor, C, provided with a band-pulley, D, or other suitable means for revolving it, and carrying at its lower end a detachable cutter-head, E.

Fitting within the main frame is a vertically-reciprocating frame, F, carrying a table, G, and capable of being suitably elevated by means of an ordinary foot-lever, H.

I provide anti-friction wheels I within the sides of the main frame, grooved in their peripheries, and also provide the sides of the reciprocating frame with guideways or tracks K, fitting in the grooves of the anti-friction wheels and constituting the bearing-surfaces of the reciprocating frame, whereby friction is reduced to a minimum and the reciprocating frame is guided accurately in its movements.

The table is provided with a small hole, L, concentric with the axis of the arbor C, and with two parallel guideways, M. These guideways may be secured with screws or otherwise to the top of the table, so that they can be shifted laterally to bring them closer together or farther apart, according to the size of rings desired to be cut.

The cutter-head E is attached to the arbor C in any suitable manner so as to be readily detachable, but preferably, as illustrated in the drawings, by means of a shank fitting within a socket in the arbor concentric with its axis. The lower end of the cutter-head is dish-shaped or cup-shaped, and provided with one or more inclined seats, N, to which one or more cutters, O, are secured by means of set-screws P. These cutters preferably straddle the set-screws, as shown, and are adjustable up and down to regulate the depth of cut. Their cutting-edges are of course semicircular when they are designed for cutting curtain-rings; but when designed for cutting circular grooves of any kind or rings having small circular grooves or projections their cutting-edges may be varied accordingly. The bottom of the cutter-head is provided with a semicircular groove, Q, or with any other conformation, to correspond with the outlines of the cutting-edges of the cutters. The result will be that the cutting-edges will project at all points equally below the bottom of the cutter-head and operate as the blade of a plane operates with reference to the bottom of the plane, and the thickness of the shaving cut may be regulated by setting the cutters up or down as the blade of a plane is set by a carpenter. The cutter-head is also provided with a shoulder or stop, x, to limit the depth of cut, which it does by bearing against the stock outside of the cutters whenever a cut sufficiently deep is made.

Projecting from the center of the cup of the cutter-head is a pin, R, provided with a coiled spring, S, the pin being preferably pointed or conical at its lower end.

The blank shown in Fig. 8 is provided with holes T, of a size to admit the pin R, and of the proper distance apart to permit the rings to be cut without waste of the stock. Such a blank is placed upon the table between the guideways M, its first hole being about coincident with the hole L in the table, which will bring it substantially in line with the axis of the center-pin R.

The cutters being properly adjusted and the cutter-head being in rapid revolution through power applied to the arbor C, the operator places his foot upon the foot-lever H and raises the reciprocating frame and table, carrying up



the stock, and the center-pin passes through the first hole T, and the cutters rapidly do their work. Pressure of the foot upon the foot-lever serves to feed the stock upward against the cutters until the limit of their cut is reached. The pressure of the foot is then withdrawn, and the table carrying the stock drops down out of reach of the cutter-head, the coil-spring S aiding to release the pin from the hole through the stock. The blank is then slid forward until the next hole T is in position. Another cutting operation is then performed, and so on to the end of the blank. The blank is then turned over and cut upon the opposite side in the same manner, the depth of cuts being such as to substantially sever the rings from the board. The conical point of the center-pin serves to facilitate the centering of the stock, because as the stock is raised up the pin wedges or pushes it slightly endwise, as may be necessary to exactly center it.

I do not in this application claim the cutter-head herein described, but have reserved it for patent in a separate application.

Having thus described my invention, what I

claim to be new, and desire to secure by Letters Patent of the United States, is as follows, to wit:

1. The combination of the main frame A, the vertically-reciprocating frame F, the foot-lever H, the horizontal table provided with the parallel guideways M, the vertical arbor C, and the detachable cup-shaped cutter-head E, provided with a center-pin, R, these parts being constructed, organized, and operating together substantially as and for the purposes set forth.

2. The combination of the main frame A, the vertically-reciprocating frame F, the foot-lever H, the grooved anti-friction wheels I, and guideways K, the horizontal table provided with the parallel guideways M, the vertical arbor C, and the detachable cup-shaped cutter-head E, provided with a center-pin, R, these parts being constructed, organized, and operating together substantially as and for the purposes set forth.

In testimony whereof I have hereunto subscribed my name.

REED V. BOICE.

Witnesses:

H. E. KING,

FRANK B. SWAYNE.