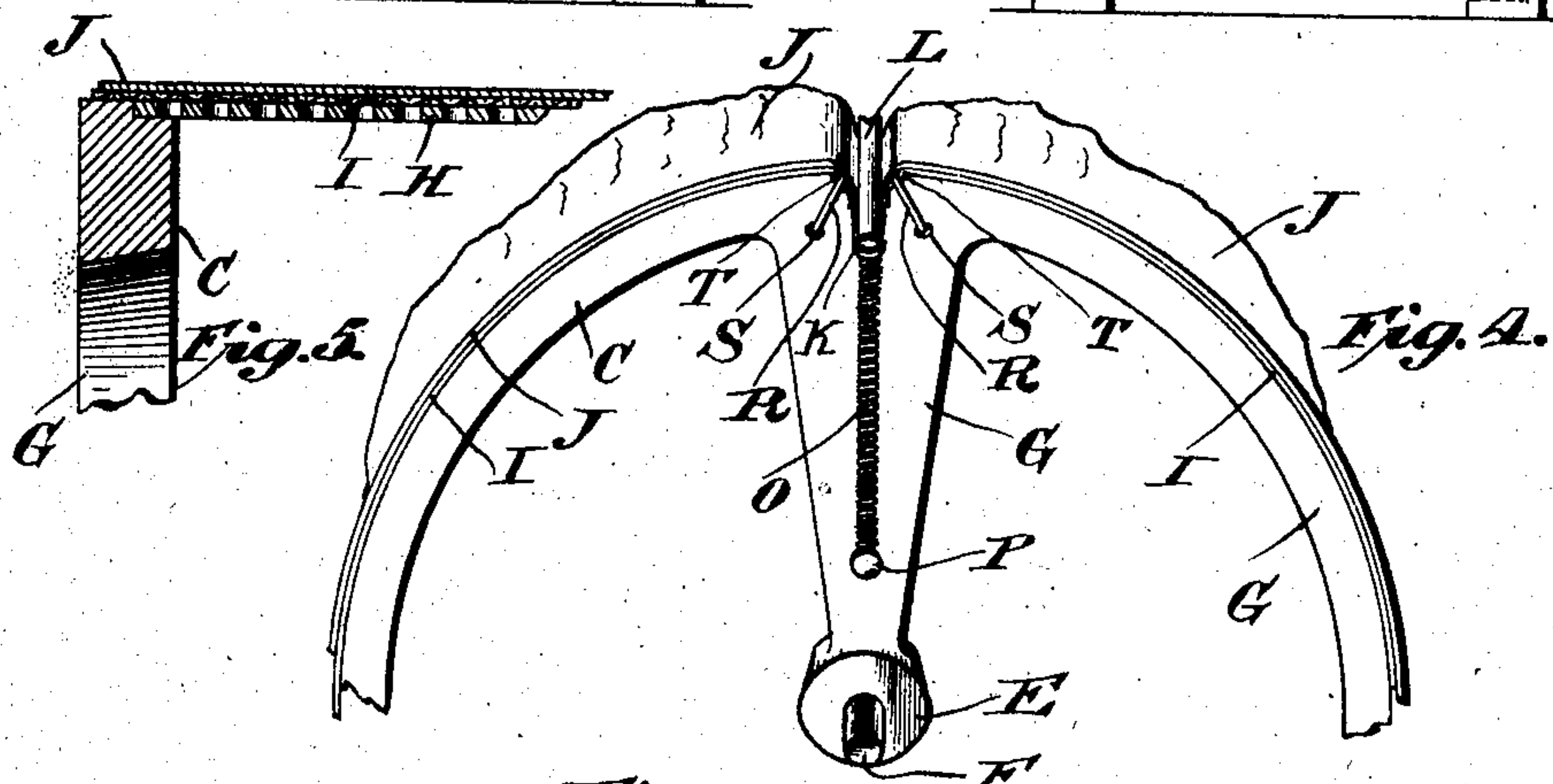
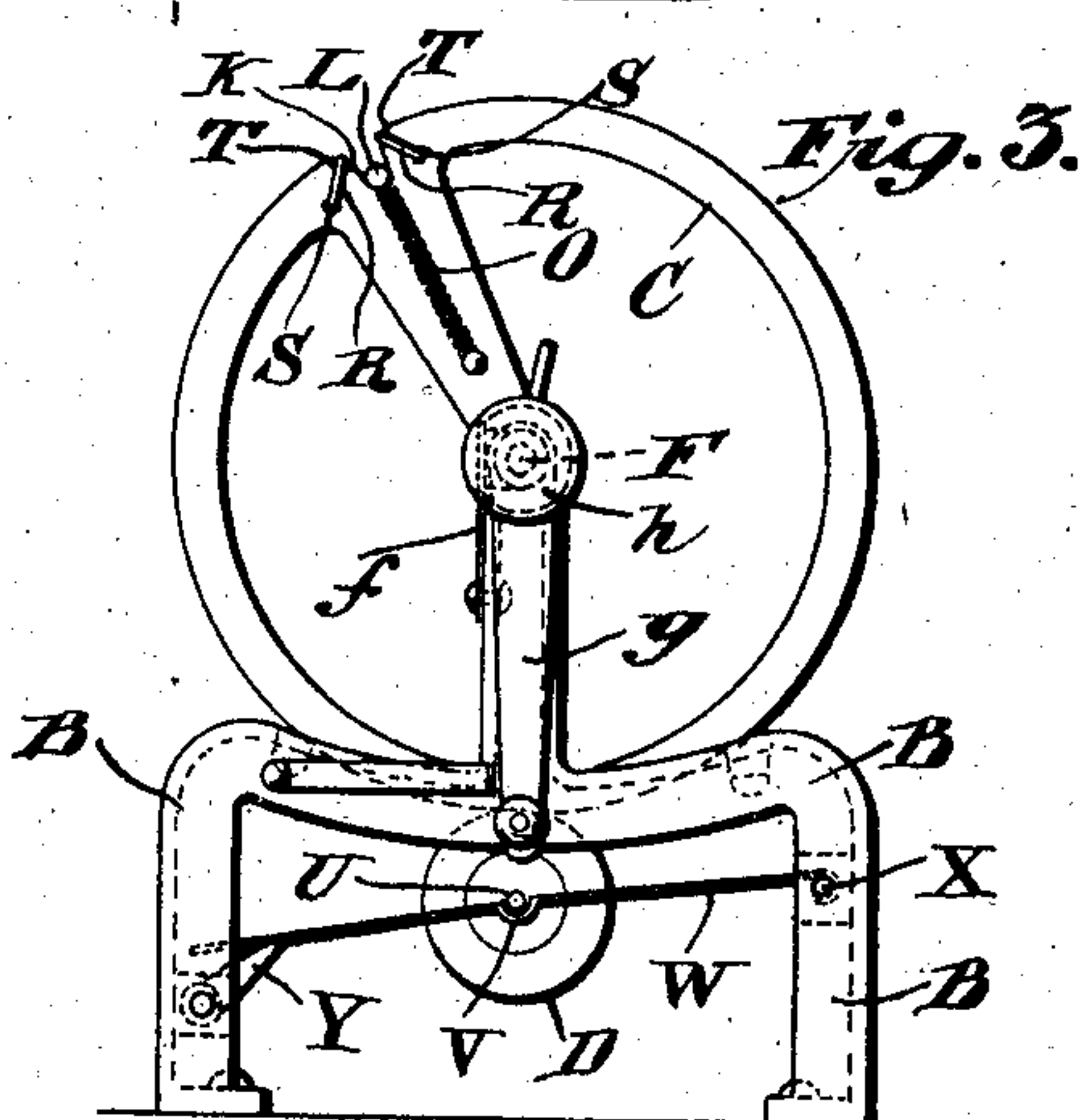
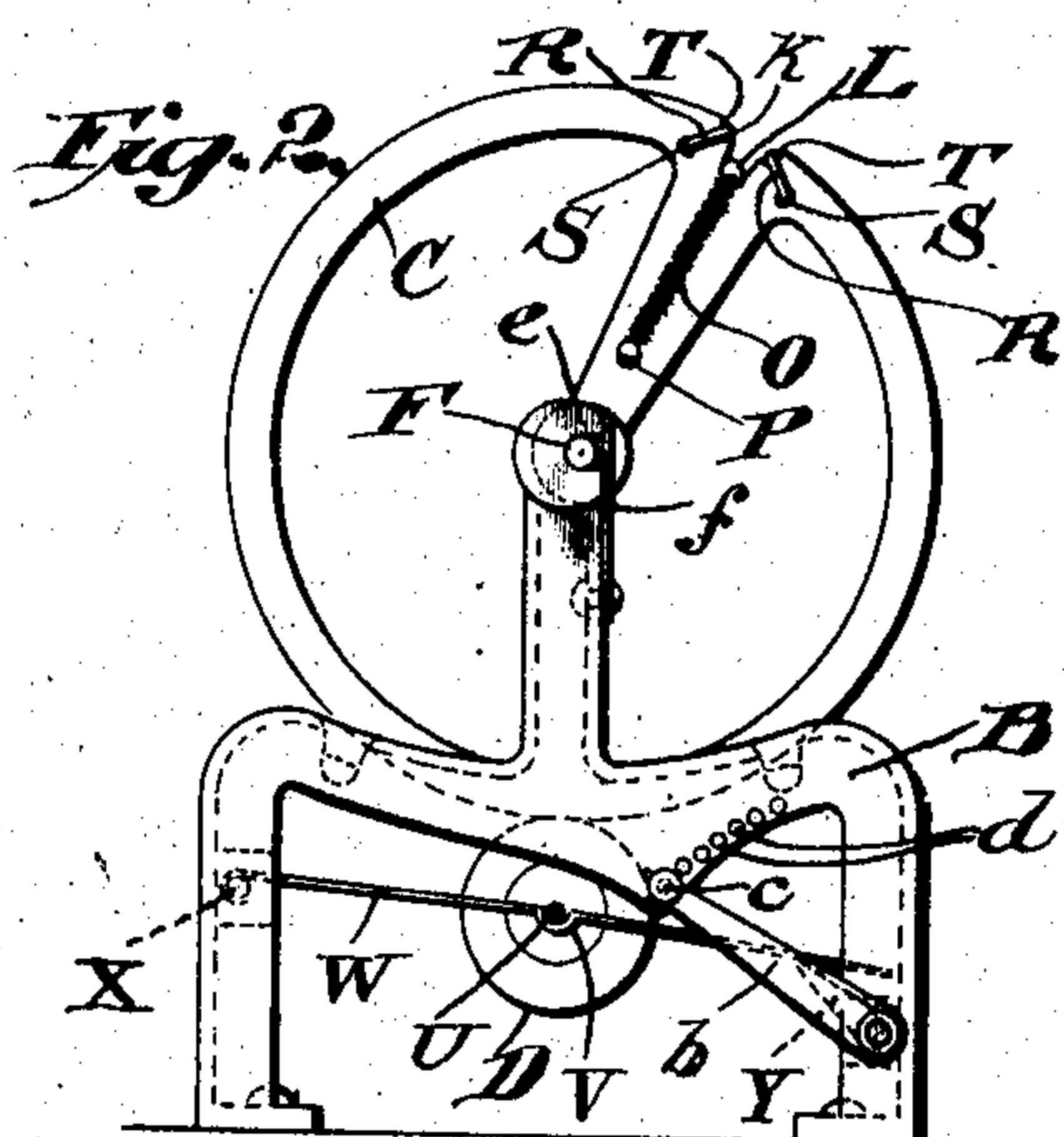
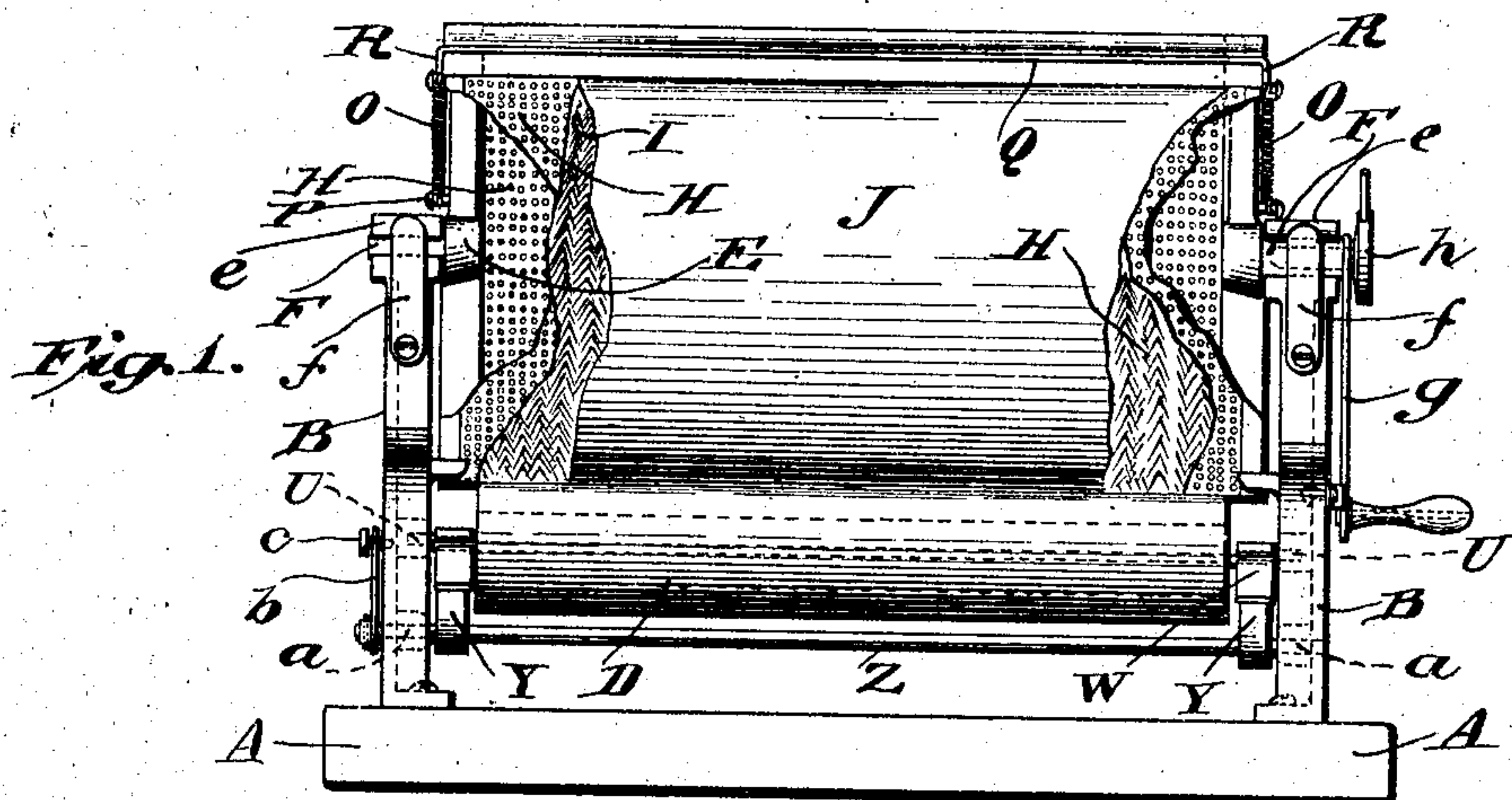


No. 833,853.

PATENTED OCT. 23, 1906.

J. STEEL.
ROTARY DUPLICATOR.
APPLICATION FILED JULY 28, 1905.



Attest:
Comitche
A. L. O'Brien

Fig. 6.

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Attys.

UNITED STATES PATENT OFFICE

JAMES STEEL, OF LITTLE FALLS, NEW JERSEY.

ROTARY DUPLICATOR.

No. 833,853.

Specification of Letters Patent.

Patented Oct. 23, 1906.

Application filed July 28, 1905. Serial No. 271,620.

To all whom it may concern:

Be it known that I, JAMES STEEL, a citizen of the United States, and a resident of Little Falls, Passaic county, State of New Jersey, have invented certain new and useful Improvements in Rotary Duplicators, of which the following is a specification accompanied by drawings.

This invention relates to stencil-printing machines, more particularly to a machine in the form of a rotary duplicator; and the objects of the invention are to improve upon the construction of such machines, increase their efficiency, with simplicity of parts, which are not liable to get out of order, and enable the parts to be more readily adjusted than heretofore.

Another object of the invention is to improve upon the means for securing the pad or screen and the stencil-sheet upon the stencil-printing drum, so that one may be secured upon the drum or moved therefrom without interfering with the other.

According to this invention also the entire drum may be readily removed from its bearings and placed therein without interfering with the remaining parts of the machine.

Further objects of the invention will hereinafter appear; and to these ends the invention consists of a stencil-printing machine in the form of a rotary duplicator for carrying out the above objects, embodying the features of construction, combinations of elements, and arrangement of parts having the general mode of operation substantially as hereinafter fully described and claimed in this specification, and shown in the accompanying drawings, in which—

Figure 1 is a front elevation of a machine embodying the invention, partly broken away and partly in section. Fig. 2 is an elevation of one end of the machine, and Fig. 3 is an elevation of the other end. Fig. 4 is an enlarged detail end view, partly broken away, showing the means for securing the pad or screen and stencil-sheet to the drum. Fig. 5 is an enlarged sectional detail view of a portion of the drum, the pad, and stencil-sheet. Fig. 6 is an enlarged detail view of one of the spring-clips for holding the pad or screen upon the drum.

Referring to the drawings, A represents the base of the machine, and B the frames or standards which support the stencil-printing drum C and the pressure-roller D, which co-

operates with the drum. In this instance the drum comprises the hubs E, having trunnions F and the heads or ends G connected by the perforated diaphragm or body portion H, upon which the pad or screen I and the stencil-sheet J are suitably secured, while the ink is applied to the interior of the drum in the usual manner.

As shown in the drawings, a slot K extends longitudinally of the drum, and a longitudinal rod L lies in said slot and is held therein by means of the springs O, connected to the pins P on the heads G of the drum. This rod L is for holding the stencil-sheet in position on the drum. In order to hold the screen or pad on the drum, spring-clips Q are provided, extending longitudinally of the face of the drum and suitably secured at each end to the heads G. According to this construction the means for securing the pad to the drum are independent of the stencil-sheet-securing means, so that one does not interfere with the other. As shown in Fig. 6, the spring-clips Q are slightly curved in their normal position and provided with hooked ends R, which enter the holes S on the heads of the drum, whereby the clips are held on the drum. Preferably the shoulders or corners of the slot K are hollowed, as at T, Fig. 4, in order to accommodate and hold the spring-clips Q.

According to the construction described the ends of the pad I are first inserted under the spring-clips Q and then the stencil-sheet J is placed upon the drum and the ends thereof secured under the longitudinal rod L.

The pressure-roller D, which coöperates with the drum, is suitably carried in an adjustable bearing, so that its distance to and from the drum may be varied and the pressure between the roller and the drum may be varied. As shown, the roller D is provided with trunnions U, which bear in sockets V on the rods W, pivoted at X on the frames B and bearing at their other ends upon the fingers Y, carried by the longitudinal rod Z, pivoted at each end at a in the frames B. At one end of the rod Z is secured an arm b, having a pin c at its outer end adapted to coöperate with the apertures d on one of the frames B, so that the angular position of the arm b may be adjusted vertically to press the roller D more or less strongly against the drum C.

The drum may be readily removed from its bearings. In this instance the trunnions

F of the drum are carried in slotted bearings *e* on the frames B, and pivoted flaps or arms *f* are adapted to swing into position to hold the trunnions F in their bearings *e*. A suitable cranked arm and handle *g* is connected to one of the trunnions F by means of the screw *h* in order to rotate the drum.

Obviously some features of this invention may be used without others and the invention may be embodied in widely-varying forms.

Therefore, without limiting the invention to the devices shown and described and without enumerating equivalents, I claim, and desire to obtain by Letters Patent, the following:

1. In a rotary duplicator, the combination with a drum, of spring-clips extending longitudinally thereof and pivoted at the ends to the heads of the drum for securing the ends of the pad or screen thereto, and means independent of said clips extending continuously across the drum for securing the ends of the stencil-sheet thereto.

2. In a rotary duplicator, the combination with a drum, of a longitudinal slot in the periphery thereof, spring-clips arranged at the corners of said slot for holding the pad or screen on the drum, and a spring-pressed rod lying in said slot for holding the ends of the

stencil-sheet to maintain the sheet on the drum.

3. In a rotary duplicator the combination with a drum, of longitudinally-extending elastic means pivoted at the ends to the heads of the drum for securing both ends of the pad or screen to the drum, and means independent of said pad-securing means for securing the stencil-sheet to the drum.

4. In a rotary duplicator, the combination with a drum, of separate longitudinally-extending elastic means pivoted at the ends to the heads of the drum for securing both ends of the pad or screen to the drum, and means independent of said pad-securing means for securing the stencil-sheet to the drum.

5. In a rotary duplicator, the combination with a drum, of a longitudinal slot in the periphery thereof, spring-clips arranged in said slot for holding the pad or screen on the drum, and a spring-pressed rod lying in said slot for holding the ends of the stencil-sheet to maintain the sheet on the drum.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

JAMES STEEL.

Witnesses:

JAMES C. SANDS,
MYRTLE B. STEEL.