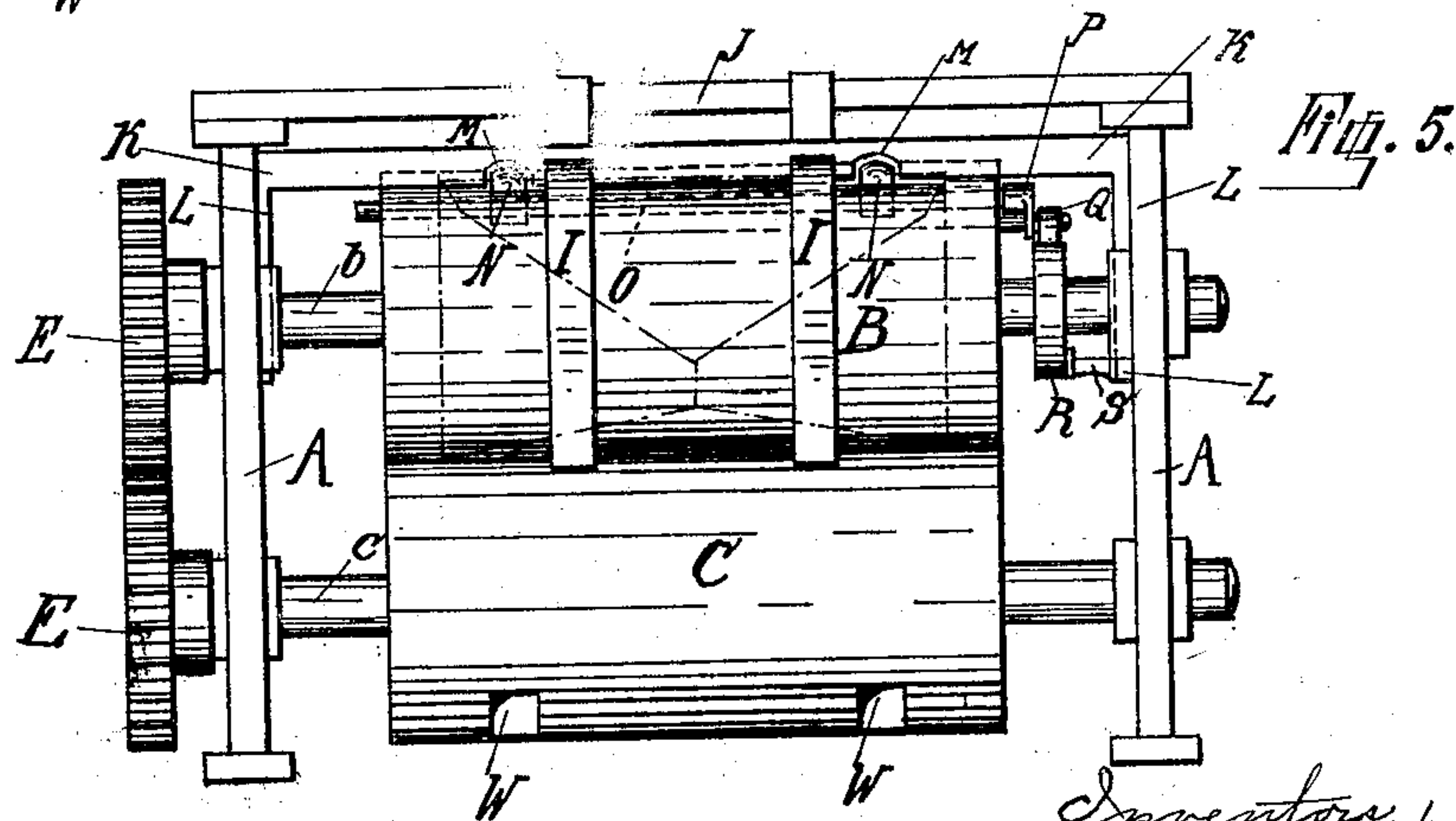
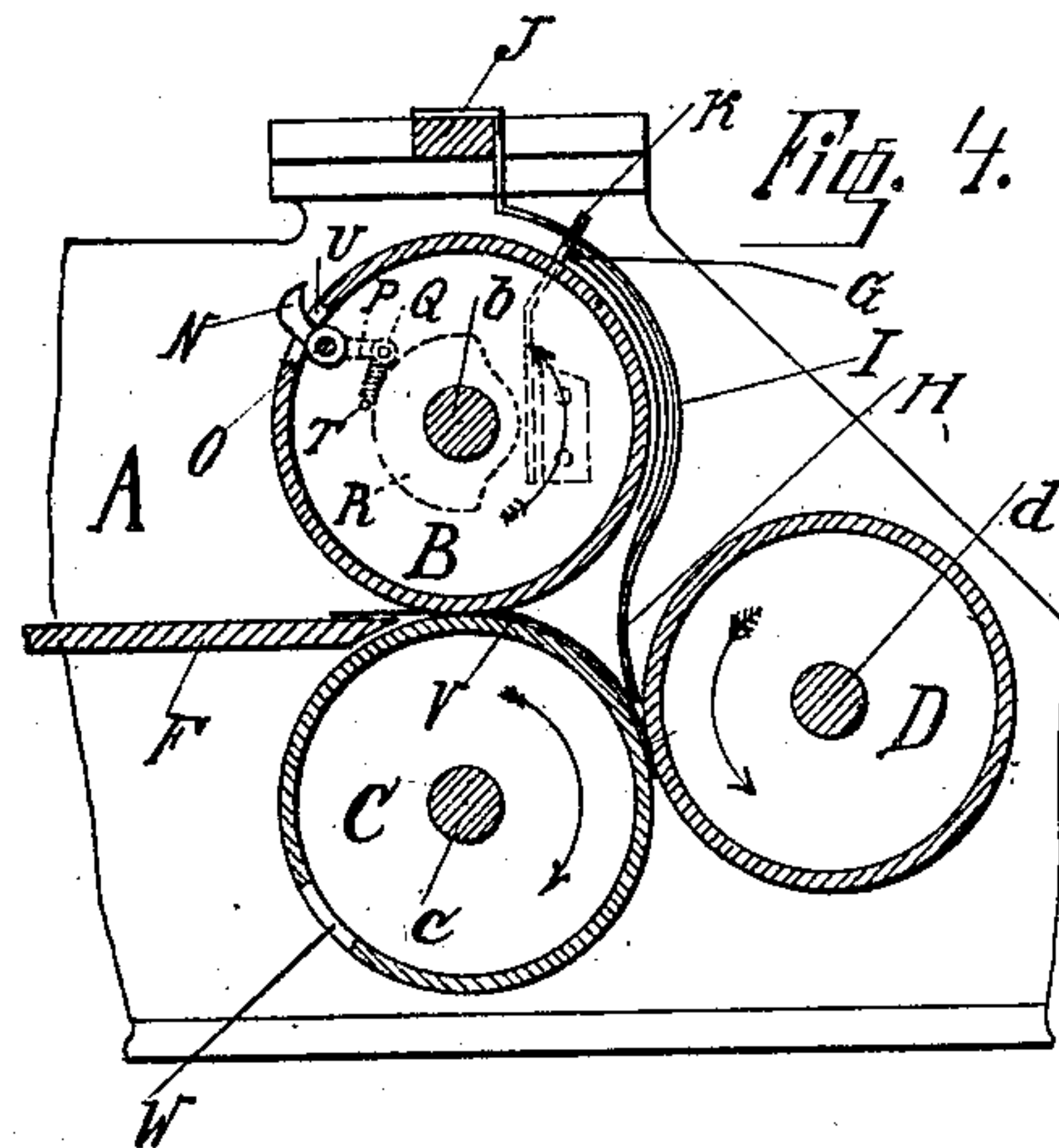
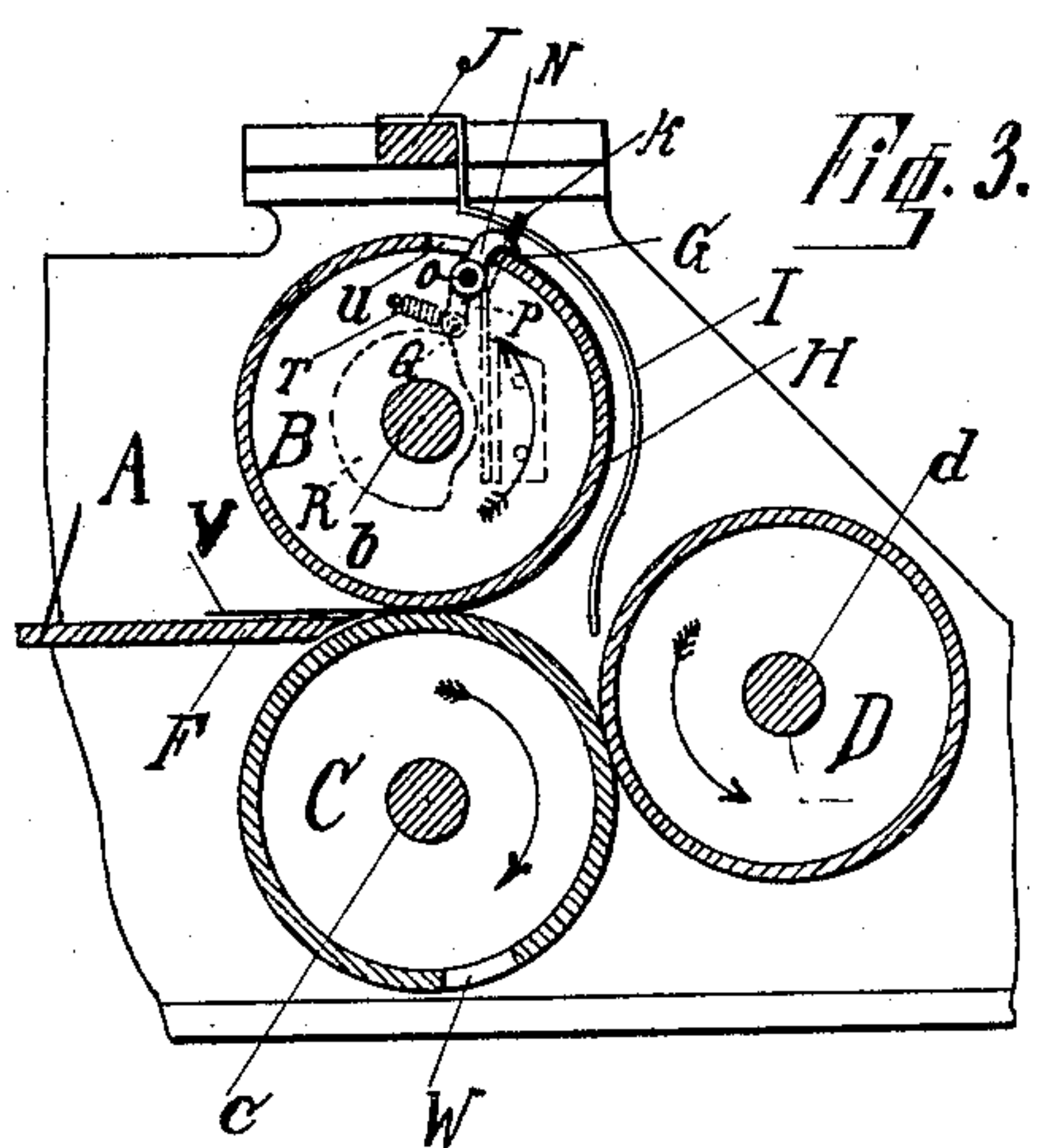
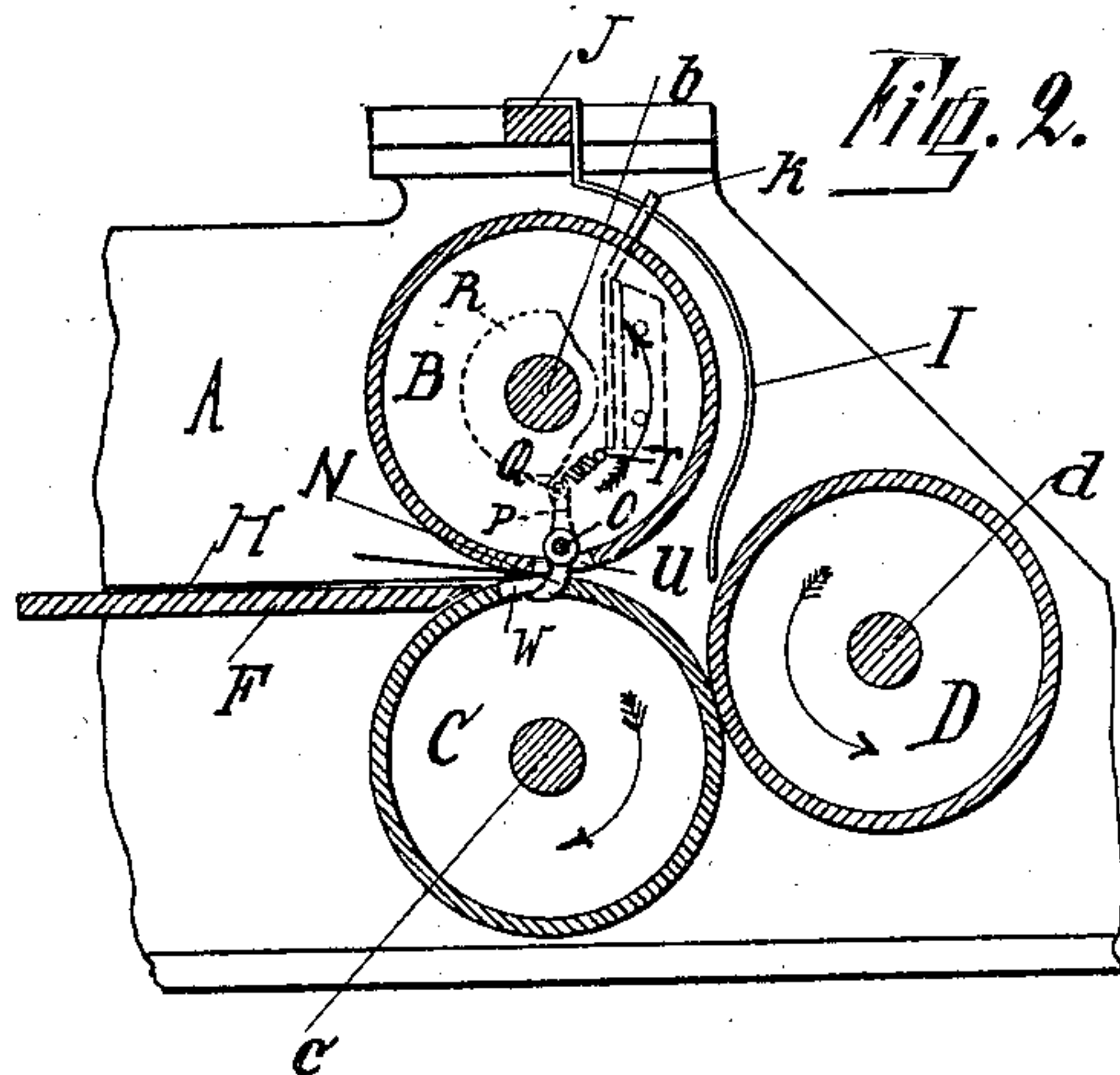
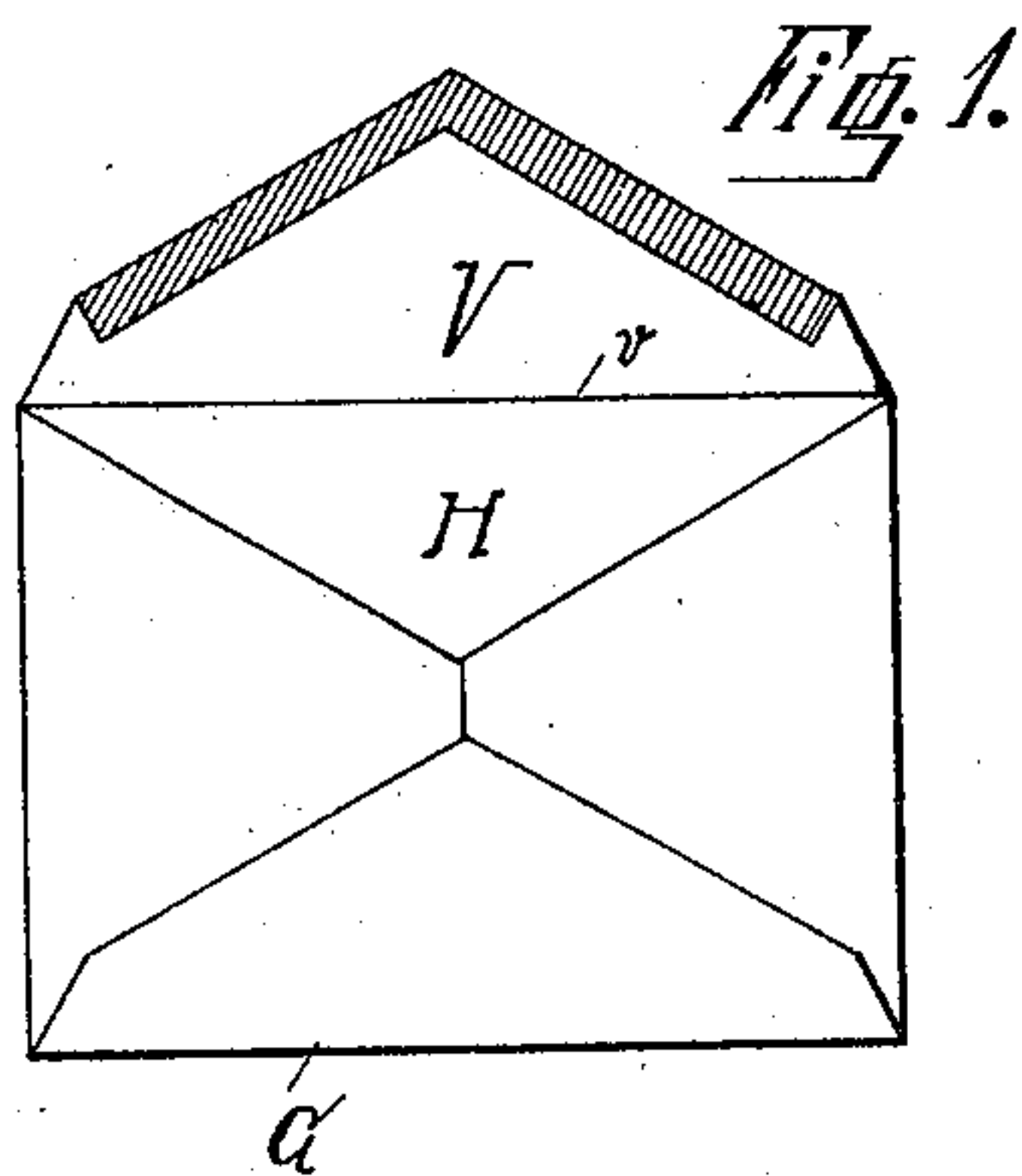


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MACHINE FOR MANUFACTURING ENVELOPS AND THE LIKE.
APPLICATION FILED APR. 8, 1908.

934,943.

Patented Sept. 21, 1909.



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UNITED STATES PATENT OFFICE.

WILHELM SPANNUTH AND MAX DÜNNEBIER, OF DRESDEN, AND MAX REINHOLD DÜNNEBIER, OF ELBERFELD, GERMANY, ASSIGNORS TO CARL HERZBERG, OF COLOGNE, GERMANY.

MACHINE FOR MANUFACTURING ENVELOPS AND THE LIKE.

934,943.

Specification of Letters Patent.

Patented Sept. 21, 1909.

Original application filed April 9, 1906, Serial No. 310,820. Divided and this application filed April 3, 1908. Serial No. 425,008.

To all whom it may concern:

Be it known that we, WILHELM SPANNUTH and MAX DÜNNEBIER, residing at Dresden, Germany, and MAX REINHOLD DÜNNEBIER, residing at Elberfeld, Germany, all subjects of the German Emperor, have invented new and useful Improvements in Machines for Manufacturing Envelops and the Like, of which the following is a specification.

Our invention relates to machines for manufacturing envelops and the like, in which the formation of blanks into envelops or bags is effected by passing them through a set of rollers.

More particularly the invention consists in a new and improved device for folding the upper or closing flap of the envelops or bags; and the object of the invention is to provide such device in which the rollers rotate continuously in the same direction that is to say in which no oscillating rollers are provided whereby the number of revolutions of the machine may be considerably increased. We attain this object by the mechanism illustrated in the accompanying drawing in which—

Figure 1 shows an envelop during process of being made; Figs. 2, 3 and 4 are transverse sections of the folding device in different working position of the same; Fig. 5 is a front view of this device after the removal of the last roller.

Similar letters refer to similar parts throughout the several views.

A are the side frames of the machine, B, C and D are rollers the shafts *b*, *c* and *d* of which are journaled in the frames A. The rollers are rotated in the direction of the arrows shown in Figs. 2, 3 and 4 by means of toothed wheels E situated upon the shafts of the rollers (as seen in Fig. 5.) F is a plate over which the article folded in the front part of the machine up to the shape shown in Fig. 1 is shifted the lower edge G ahead, between the rollers A and B. Behind the roll B two guide-rails I are arranged. The upper ends of the rails are secured to the cross-piece J and the curved main parts of the rails partially surround the circumference of the roll B at a suitable distance therefrom as seen in Figs. 2, 3 and 4. Extending transversely to the two guide-rails I is a

stop rail K which has arms L bent at right angles and secured to the side walls of the machine-frame. The rail K extends parallel to the roll B and is arranged in such a manner that there is only a small space between the lower edge of the rail and the surface of the roll B. At the location of the guide-rails I, the lower edge of the stop rail K is provided with notches M (Fig. 5). In the interior of the roll B are arranged grippers N which are carried by a shaft O, which is mounted eccentrically to the shaft *b*.

The shaft O projects with both ends beyond the ends of the roll B and on one of its ends is arranged a lever P having a roller Q pressing against the periphery of a cam disk R, which is loosely mounted on the shaft *b* and is held in position by the bracket S which is carried by the machine frame. The lever P is held in contact with the circumference of the cam disk by means of a spiral spring T. On each revolution of the roll B, the shaft O is consequently forced to swing once to the right or left, which causes the grippers to pass at intervals through slots U in the roll B and beyond the surface of the roll or to recede through the slots. In the position shown in Fig. 2, the grippers have passed over the surface of the roll B and they, therefore, grip the lower edge G of the envelop that passes between the rolls B and C. During the rotation of the roll B, the blank is held by the grippers against the surface of the roll until the blank hits the stop K as shown in Fig. 3. At that moment, the cam disk R causes the grippers N to release the blank. The upper closing flap V of the blank has at that time not quite left the rolls B and C, but the edge *v* of the closing flap V has already passed the rolls B and C. The blank which is released from the grippers, will therefore place itself with the closing flap V on the lower roll C in the manner shown in Fig. 4 and will pass between the rolls C and D with the edge *v* foremost. It may be added that recesses W are provided in the roll C which, in the position shown in Fig. 2, permit of the grippers passing out from the interior of roll B to grip the blank from beneath.

This application is a division of our application filed April 9, 1906, Serial No. 310,820.

We claim:

1. The combination with the lower roll C and the upper roll B having slots therein, of means for reversing the article passing between the rolls, said means comprising grippers arranged within the upper roll, means for oscillating said grippers to cause them to pass through said slots to grip the article and carry it upward and a stop rail stopping the upward movement of the article after being released by the grippers.
2. The combination with the lower roll C and the upper roll B of means for guiding the article passing between the rolls upward along the upper roll, means for stop-

ping the upward movement of the article and a third roll D situated at the side of the lower roll.

In testimony whereof we have signed our names to this specification in the presence of 20 subscribing witnesses.

WILHELM SPANNUTH.

MAX DÜNNEBIER.

MAX REINHOLD DÜNNEBIER.

Witnesses:

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