

No. 772,544.

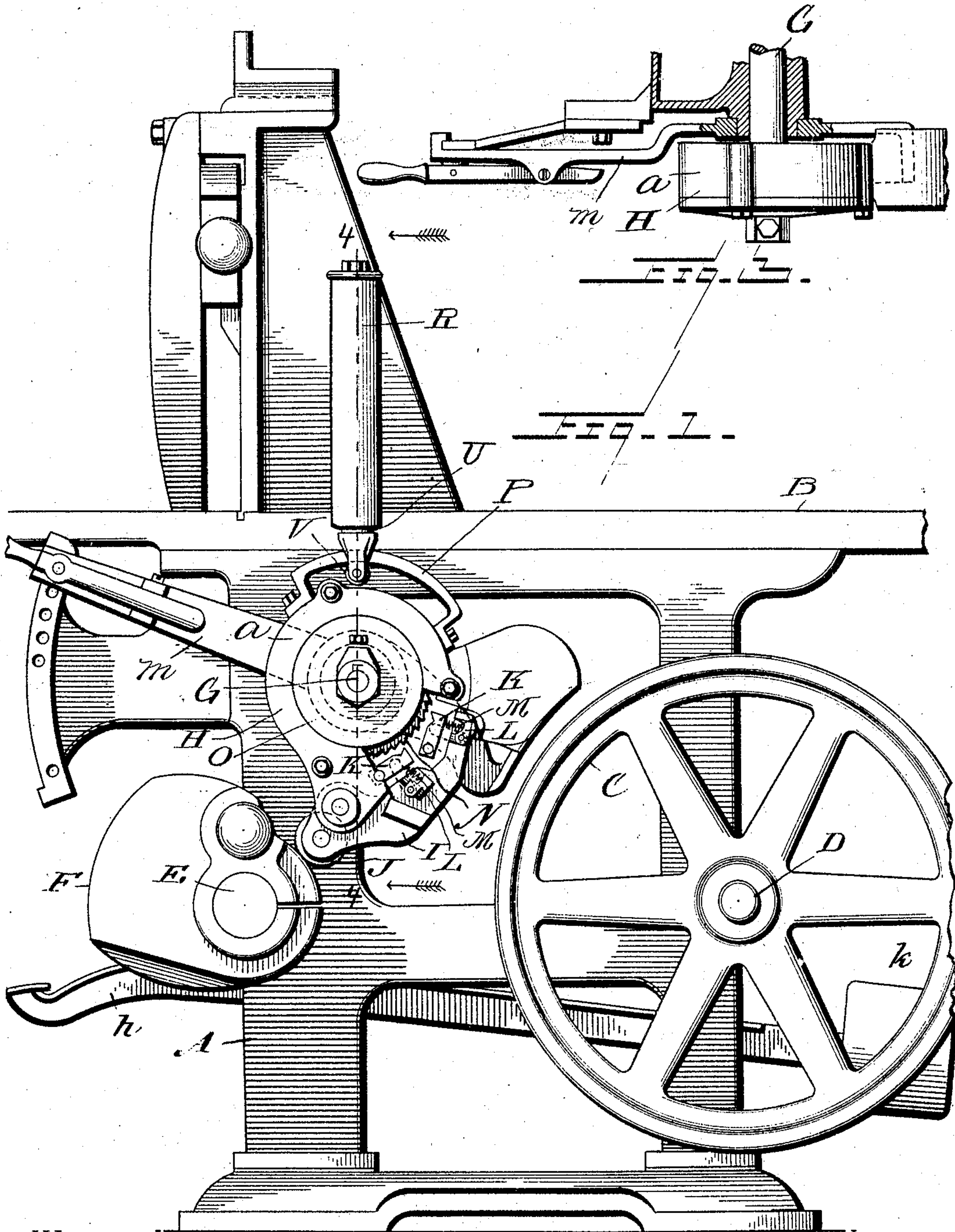
PATENTED OCT. 18, 1904.

D. T. WADHAMS.
PAPER CUTTING MACHINE.

APPLICATION FILED OCT. 21, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



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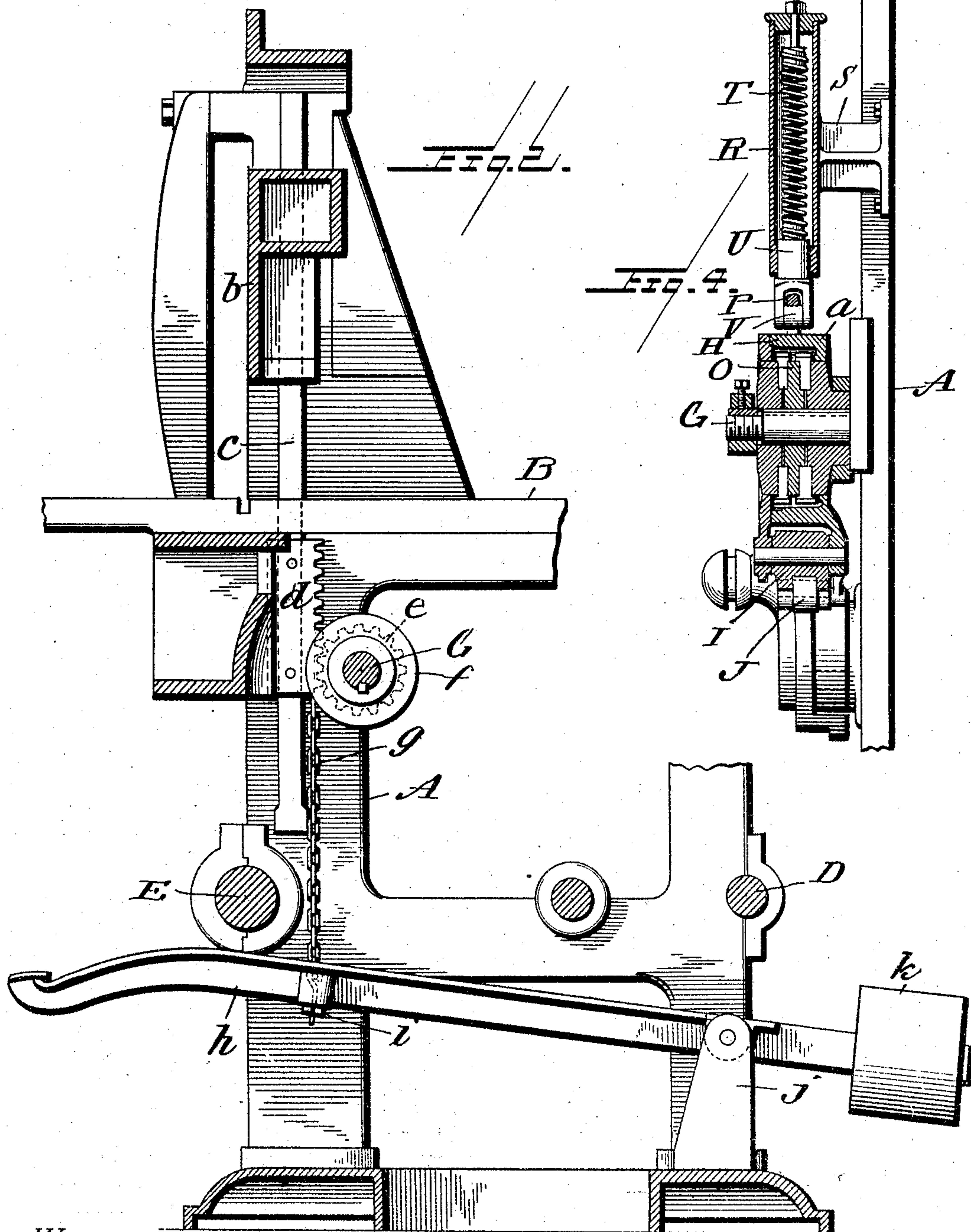
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UNITED STATES PATENT OFFICE.

DARIUS T. WADHAMS, OF OSWEGO, NEW YORK, ASSIGNOR TO OSWEGO MACHINE WORKS, OF OSWEGO, NEW YORK.

PAPER-CUTTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 772,544, dated October 18, 1904.

Application filed October 21, 1903. Serial No. 177,937. (No model.)

To all whom it may concern:

Be it known that I, DARIUS T. WADHAMS, a citizen of the United States, residing at Oswego, in the county of Oswego and State of New York, have invented certain new and useful Improvements in Paper-Cutting Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates generally to paper-cutting machines, and particularly to the pressure-producing mechanism for such machines of the type shown in United States Letters Patent No. 623,089, dated April 11, 1899.

The object of the invention is to provide means whereby a heavy, strong, one-piece clamp may be used and the same operated by a treadle without undue exertion on the part of the operator.

The invention consists in the parts and combinations of parts hereinafter fully described, and pointed out in the claims.

In the accompanying drawings, forming a part of this specification, Figure 1 is a side elevation of the pressure mechanism of a paper-cutting machine shown in position on the frame of the machine; Fig. 2, a vertical sectional view through the frame of paper-cutting machine; Fig. 3, a detail plan view of the pressure mechanism, and Fig. 4 a detail vertical sectional view on the line 4 4, Fig. 1.

Similar letters refer to similar parts throughout all the views.

Referring to the drawings, A represents the frame of a paper-cutting machine; B, the table thereof; C, a fly-wheel mounted on a shaft D; E, the main crank-shaft, and F a cam mounted on shaft E and adapted to engage and operate the friction device arranged on the clamp-shaft G. The friction device consists of a casing H and a jaw or lever I, which is pivotally secured between the extended ears of the casing and carries a roller J for the cam F to engage. Two pawls K are pivotally hung to the casing and are also connected to

the jaw or lever I by links L, and said pawls are held properly extended from the jaw or lever by springs M. The pawls engage a ratchet ring or wheel N between friction-disks O.

A full description of the parts mentioned above may be found in the patent to Edward M. Lockwood, numbered 623,089, dated April 11, 1899, for a paper-cutting machine, and they form no part of my present invention. A lever *m* for regulating the position of the friction device relative to the cam is also provided, as described in said patent.

Upon reference to the drawings it will be seen that the jaw or lever I is shown open—that is, with the pawls K disengaged from the ratchet N, which is the normal position of the parts, so that the clamp-shaft with the ratchet and disks are free to rotate in the pressure-lever casing. When in this position, it is evident that almost the whole weight of the casing is carried by the friction-disks, which are keyed to the clamp-shaft, thereby rendering it necessary to overcome the friction between the lever-casing and the friction-disks in order to permit of the rotation of the clamp-shaft.

Now it is the main object of my invention to remove the weight of the casing from the disks and transfer it to the frame of the machine, and this I accomplish by means of a track or way P, bolted to the upper part of the casing and following approximately the curvature of said casing and providing a cylindrical case R, which is bolted to the main frame of the machine by a bracket S, within which a coiled spring T is suspended, the lower end of said spring being connected to a sliding block U, which carries a roller V in its forked end. The forked end of the block is of a size to receive the track or way between it and the roller V, and thus afford a support for the casing.

The clamp *b* is provided with the straps *c*, having the rack-blocks *d* at their lower ends, which mesh with the pinions *e* on the clamp-shaft G. A wheel *f* is secured to the clamp-shaft G, and to this wheel is secured one end

of a chain *g*, the other end of which passes through an opening in a treadle *h* and being secured against withdrawal therefrom by a washer *i*, fastened thereto. The treadle is piv-
 5 oted in uprights *j* at the rear of the machine and carries a counterbalancing - weight *k*, adapted to normally hold the treadle at its highest point until depressed by the operator. The clamp is supported by springs, (not shown,) as
 10 described in Patent No. 680,655, dated August 13, 1901, which act to return it to its raised position. The depression of the treadle serves to rotate the clamp-shaft and through the pin-
 15 ions *e* and rack - blocks *d* brings the clamp down to its work. Thus it will be observed that the weight of the casing being removed from the disks and the clamp-shaft by the
 20 spring *T* the clamp-shaft can be more readily rotated to bring the clamp down, since the friction between the disks and the casing is removed, and the operator has only to over-
 25 come the tension of the springs which support the clamp and the friction between the clamp-shaft and its bearings. Also by rea-
 30 son of the removal of the weight of the casing from the clamp-shaft and the consequent obviation of friction the tension required on the springs to return the clamp to its top po-
 sition can be proportionately diminished, which renders it still easier to depress the
 foot-treadle to bring down the clamp to its work.

Having thus described my invention, what

I claim as new, and desire to secure by Letters Patent, is—

1. A clamping mechanism for paper-cutting machine, comprising a clamp, a clamp-shaft, a friction device for increasing and maintain-
 35 ing the pressure on the clamp, and means for removing the weight of the friction-device cas- 40
 ing from the clamp-shaft.

2. A clamping mechanism for paper-cutting machine, comprising a clamp, a clamp-shaft, a friction device arranged on the clamp-shaft, means for suspending the friction-device cas- 45
 ing from the frame of the machine, and a treadle connected to the clamp-shaft for rotat-
 ing the same.

3. A clamping mechanism for paper-cutting machine, comprising a clamp, a clamp-shaft, 50
 a friction device arranged to operate the clamp-shaft, and a spring for sustaining the weight of the friction-device casing.

4. A clamping mechanism for paper-cutting machine, comprising a clamp, a clamp-shaft, 55
 a friction device arranged on the clamp-shaft, a trackway connected to friction-device cas-
 ing, a roller arranged to travel on said track or way, and a spring carrying said roller and
 60 suspended from the frame of the machine.

In testimony whereof I affix my signature in presence of two witnesses.

DARIUS T. WADHAMS.

Witnesses:

F. K. BARNHART,
 P. J. CLANCY.