

No. 893,166.

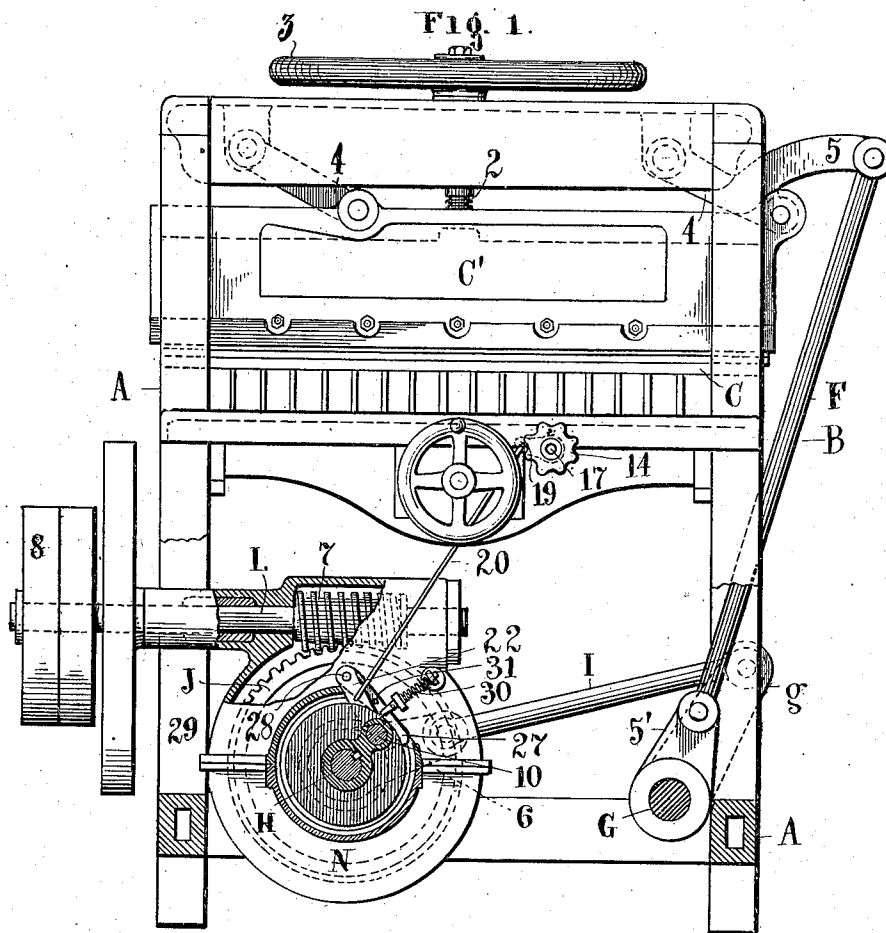
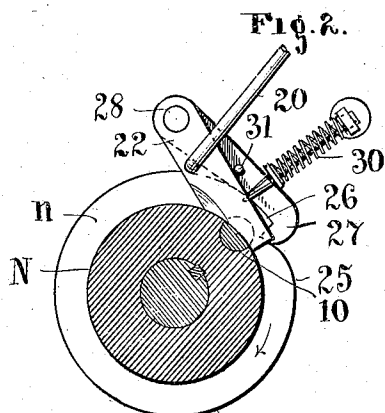
PATENTED JULY 14, 1908.

S. A. HAND.

POWER ACTUATED PAPER CUTTING MACHINE.

APPLICATION FILED FEB. 20, 1907.

3 SHEETS—SHEET 1.



WITNESSES:
C. M. Fisher.
J. C. Mueser.

INVENTOR
Samuel A. Hand.
BY
Fisher & Moser
ATTORNEYS

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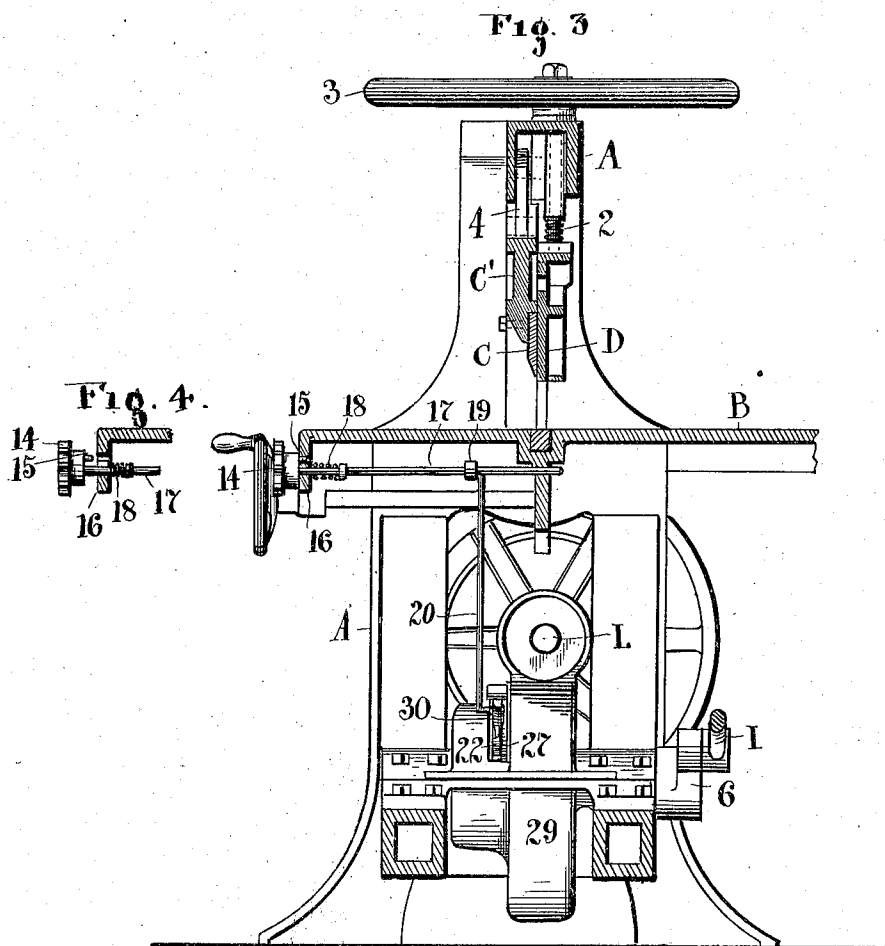
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3 SHEETS—SHEET 2.



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E. M. Fisher
J. C. Muesum

INVENTOR.
Samuel A. Hand
BY
Fisher & Moser
ATTORNEYS.

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3 SHEETS—SHEET 3.

Fig. 5.

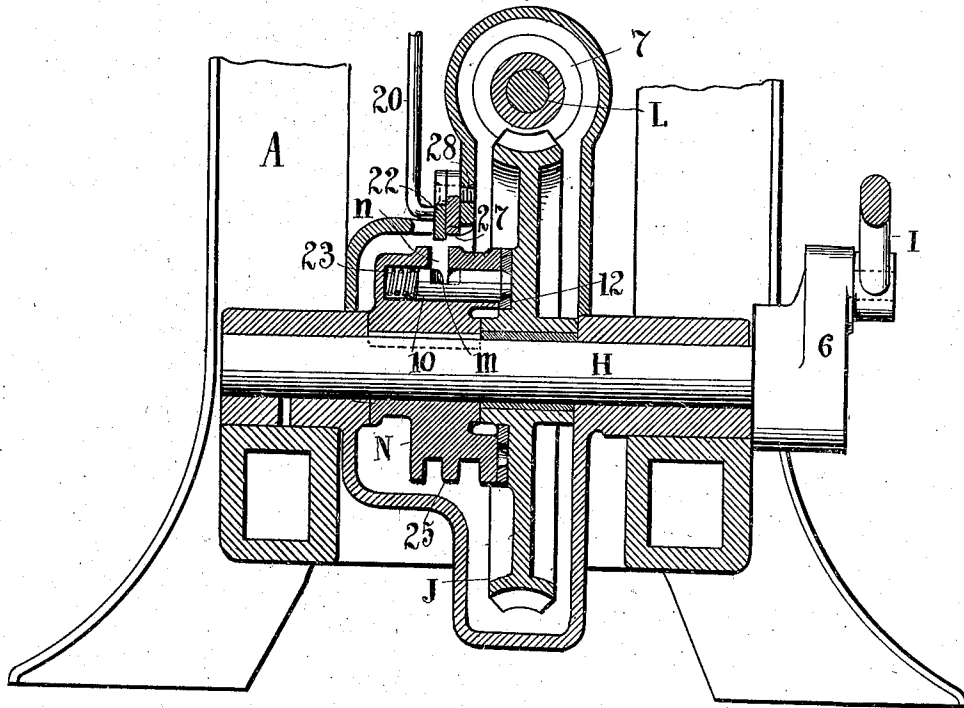
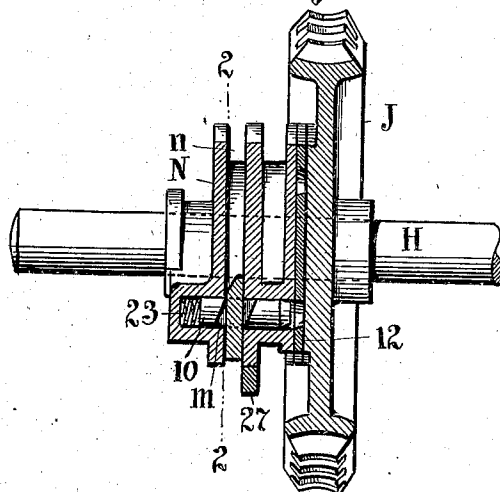


Fig. 6.



WITNESSES:
E. M. Fisher.
J. Q. Musgrave.

INVENTOR.
Samuel A. Hand.
BY
Fisher & Moser
ATTORNEYS.

UNITED STATES PATENT OFFICE.

SAMUEL A. HAND, OF CLEVELAND, OHIO, ASSIGNOR TO THE CHANDLER AND PRICE COMPANY,
OF CLEVELAND, OHIO, A CORPORATION.

POWER-ACTUATED PAPER-CUTTING MACHINE.

No. 893,166.

Specification of Letters Patent.

Patented July 14, 1908.

Application filed February 20, 1907. Serial No. 358,494.

To all whom it may concern:

Be it known that I, SAMUEL A. HAND, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Power-Actuated Paper-Cutting Machines, and do declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to a power actuated paper cutting machine, all substantially as shown and described and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is an elevation of the machine partially sectioned in its lower portion. Fig. 2 is a cross section of the mechanism shown in Fig. 6, on line 2 2, thereon. Fig. 3 is a sectional elevation of the machine at right angles to Fig. 1, showing especially the hand controlled parts, and Fig. 4 is a sectional detail of said parts adapted to throw the power mechanism into action. Fig. 5 is a cross section of the machine on line of power transmitting shaft, which is in full lines, and Fig. 6 is a cross section of the mechanism on this shaft, showing the power engaging parts in a different position from what is seen in Fig. 5, as hereinafter fully described.

The invention as thus plainly illustrated, consists essentially in the means whereby the motive power is applied to the cutter, and the machine is modified from a hand operated machine only so far as these adaptations require.

Referring now to the several parts, A represents the main frame of the machine. B the table or top thereof, C the cutter or knife, and D the clamping-bar. Said blade is carried by head C' and clamping-bar D is controlled by screw 2 and hand-wheel 3. Links 4 suspend cutter head C', and lever or arm 5 controls the operation thereof through connecting rod F and rock shaft G, said rod is engaged to arm 5' on said shaft. The new mechanism begins at this point. Heretofore a long hand-lever has been employed to rock shaft G and operate the cutting blade, but I apply power to said shaft through an arm g thereon from power transmitting shaft H by means of a connecting bar I and crank 6 on the end of said shaft. A worm wheel

J is loosely mounted on shaft H and is engaged by worm 7 on power driven shaft L carrying belt pulleys 8 in this instance, but which may have any suitable power source and connection. This power arrangement is designed for constant operation, so that worm wheel J runs continually and is adapted to have power taken therefrom for cutting purposes whenever required. To this end I spline or otherwise fix a hub N on transmitting shaft H by the side of wheel J and mount therein a clutch pin or bolt 10, adapted to engage in a series of holes or cavities in the side of said gear, or in a plate 12 fixed on the side thereof, so that when this engagement is made the hub and gear are operatively united and transmitting shaft H is rotated to communicate power to the cutter through the mechanism above described. The arm g on rock shaft G and crank 6 are so proportioned in length that while the crank makes a complete revolution the rock-shaft will be rotated only sufficiently to carry the cutter-blade to the bottom of its stroke, from which it is carried back again to starting place and allowed to rest there as said rock-shaft is reversely rotated by said mechanism. Now, in order to operate the said clutch pin 10 back and forth and make engagement thereby, two things are necessary, first, to throw it into action, and second, to disengage it from action. The first result is obtained through an initial hand movement by the operator of the machine, who, having placed the paper in position to be cut and made all other necessary preliminary adjustments, grips hand-wheel 14 and draws it outward far enough to release locking pin 15 thereon from hanger 16, which has a hole for the said pin and at the same time rotate said wheel. The said hand-wheel is mounted on the outer end of a rod 17, which carries a spiral spring 18 between hanger 16 and a collar on said rod and whereby the hand-wheel is kept normally in locked position, so that it cannot be accidentally set off.

Rod 17 carries a short arm 19 from which a link 20 of heavy wire or the like extends to a feather 22, adapted to ride or run in a circumferential channel n in hub N and to traverse a transverse groove m in shot-bolt 10 to disengage said bolt from wheel J. Said groove is inclined to the axis of said bolt sufficiently to release the bolt from said wheel and is of suf

5 sufficient width to permit feather 22 to enter the
 same at its beveled or entering end or edge,
 and, having entered said groove, to forcibly
 carry it back from its engagements against
 10 its own spring 23. This being done the ma-
 chine instantly comes to a stand still and is
 not set in operation again until more cutting
 is to be done and feather 22 is raised out of
 engagement with bolt 10 by hand through
 15 grip 14 as above described. Then the bolt
 is forced into engagement with wheel J by its
 own spring and feather 22 drops down in its
 groove and automatically takes the inclined
 recess in said bolt and retracts it from power
 20 engagement and all without further atten-
 tions from the operator.

Hub N has an annular flange 25 with a
 shoulder or tooth 26 adapted to be engaged
 by a dog 27 to stop the rotation of said hub
 25 definitely as the shot-bolt is or has been with-
 drawn by feather 22. Said bolt need be only
 momentarily released by the operator, as the
 moment that this occurs it is forced forward
 by its spring 23 and then feather 22 rides in
 30 its channel until it comes around to said bolt
 and enters its inclined slot *m* as above de-
 scribed. The said dog or catch 27 is pivot-
 ally supported on a pin —28— secured to the
 side of casing 29, and feather 22 is mounted
 35 at the side thereof on the same pin. A
 spring pressed bolt 30 holds feather 22 in
 working position and a pin 31 or other suit-
 able projection on dog 27 is adapted to be
 engaged by the feather to make them jointly
 40 operative in starting operation but which
 leaves said dog free to ride upon flange 25
 after the feather drops to the bottom of chan-
 nel *n*. This occurs the moment the operator
 releases his grip on hand-wheel 14, all the
 parts connected therewith being automatic-

ally restored to their original locking posi-
 tion by the action of spring bolt 30.

What I claim is:

1. A paper cutting machine comprising a
 rock-shaft having an arm and a cutter opera- 45
 tively connected with said shaft, and means
 to rock said shaft comprising a power trans-
 mitting shaft adapted to make complete
 revolutions and having an arm of less length
 than the said arm on said rock shaft in a rod 50
 connecting said arms, power connections to
 rotate said shaft, and means to throw said
 power connections out of engagement and
 stop the operation of said cutter.

2. A paper cutting machine having a cut- 55
 ting blade, a rockshaft and means opera-
 tively connecting said parts, in combination
 with a rotatable transmitting shaft adapted
 to rock said rock shaft, means to maintain
 the rotation of said transmitting shaft and 60
 means to disconnect the power to the said
 rock shaft.

3. A paper cutting machine comprising a
 cutter and power mechanism to operate the
 cutter, in combination with means to throw 65
 said mechanism into and out of operating
 connection comprising a hand controlled
 grip, and a rotatable spring pressed shaft car-
 rying said grip, a feather and a link from said
 shaft to said feather, in combination with a 70
 spring pressed bolt adapted to be engaged
 by said feather and means to automatically
 disengage said parts and release said bolt.

In testimony whereof I sign this specifica-
 tion in the presence of two witnesses.

SAMUEL A. HAND.

Witnesses:

R. B. MOSER,
 I. C. MUSSEM.