

W. DUKE, SR. & W. DUKE, JR.

PRINTING GAGE.

APPLICATION FILED OCT. 10, 1907. RENEWED JUNE 19, 1908.

912,945.

Patented Feb. 16, 1909.

Fig. 1.

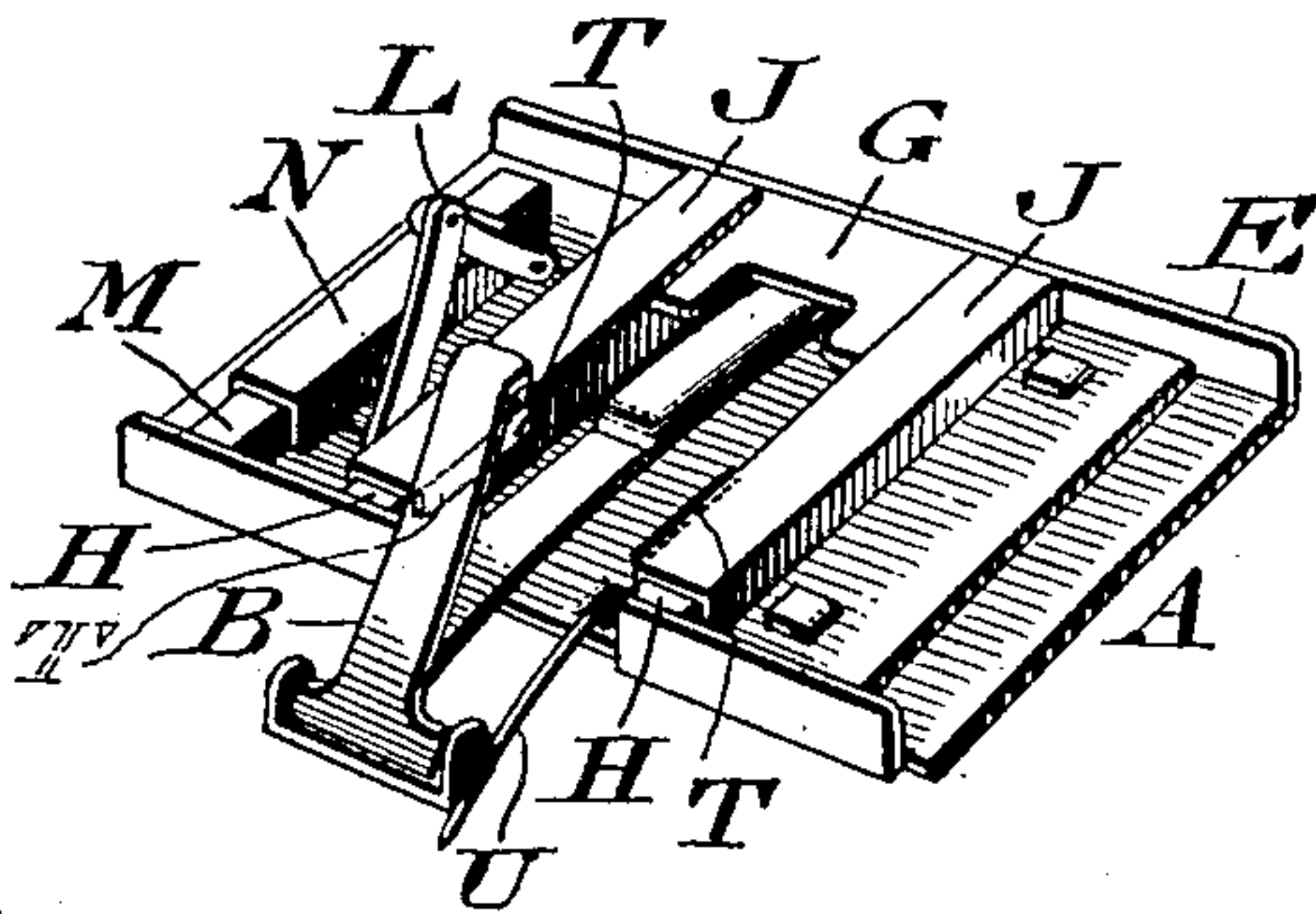


Fig. 2.a

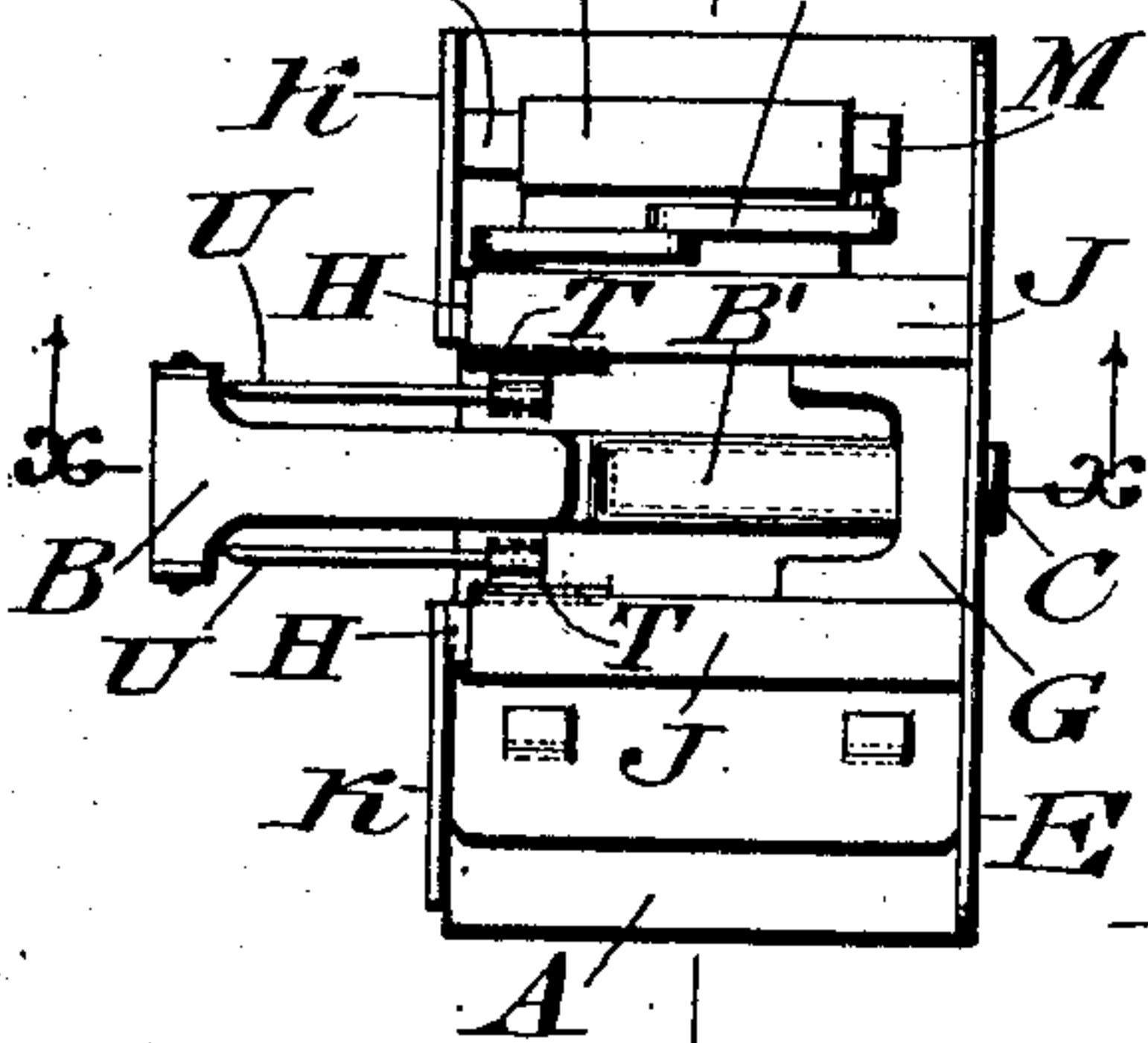


Fig. 10.

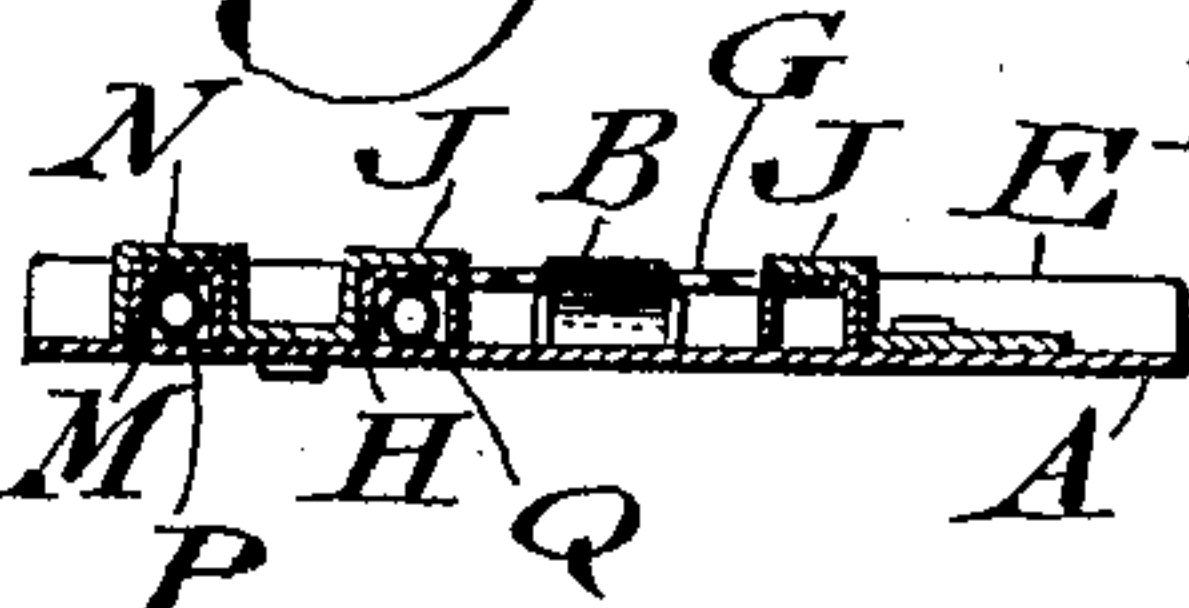


Fig. 3.

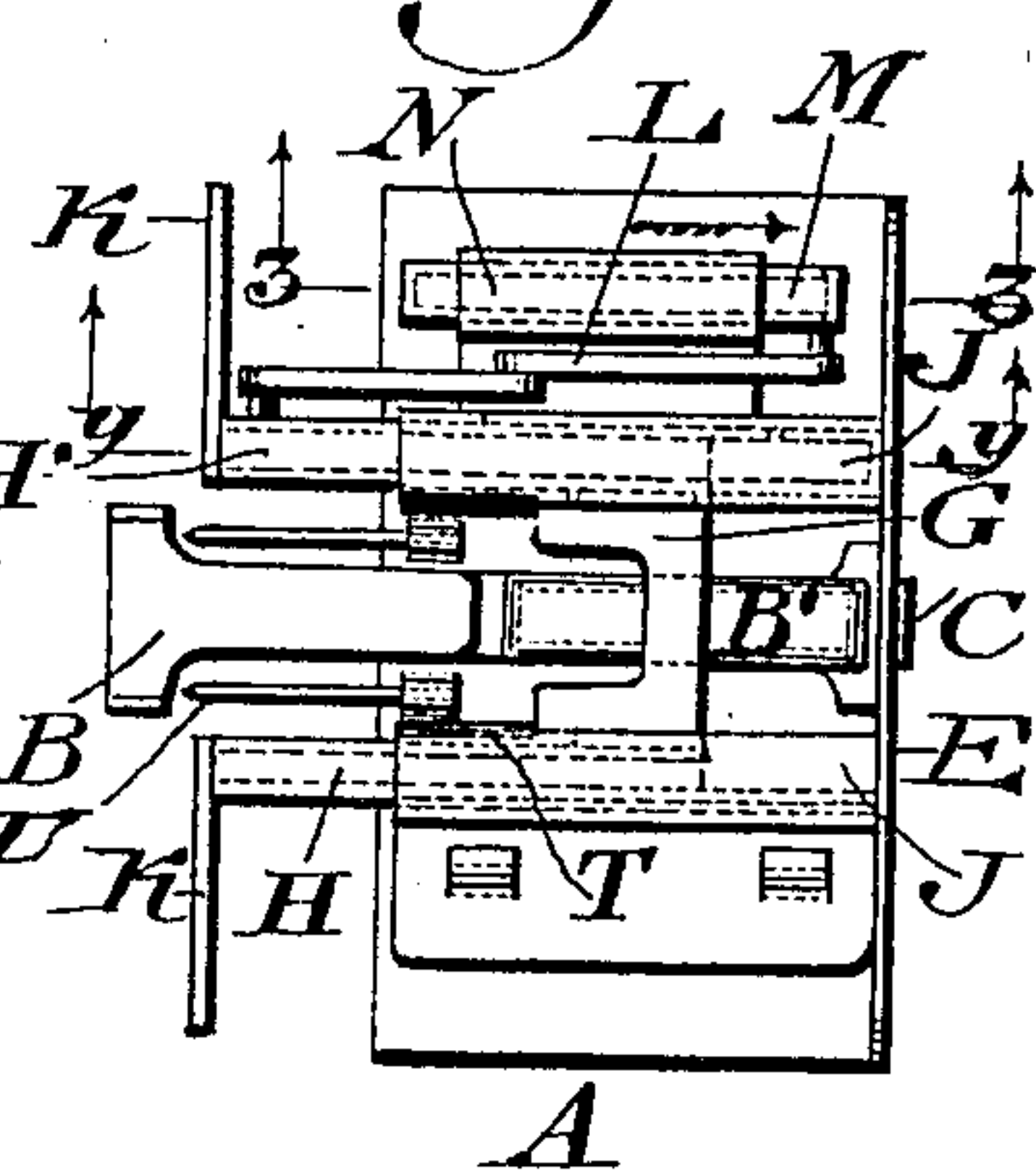


Fig. 4.a

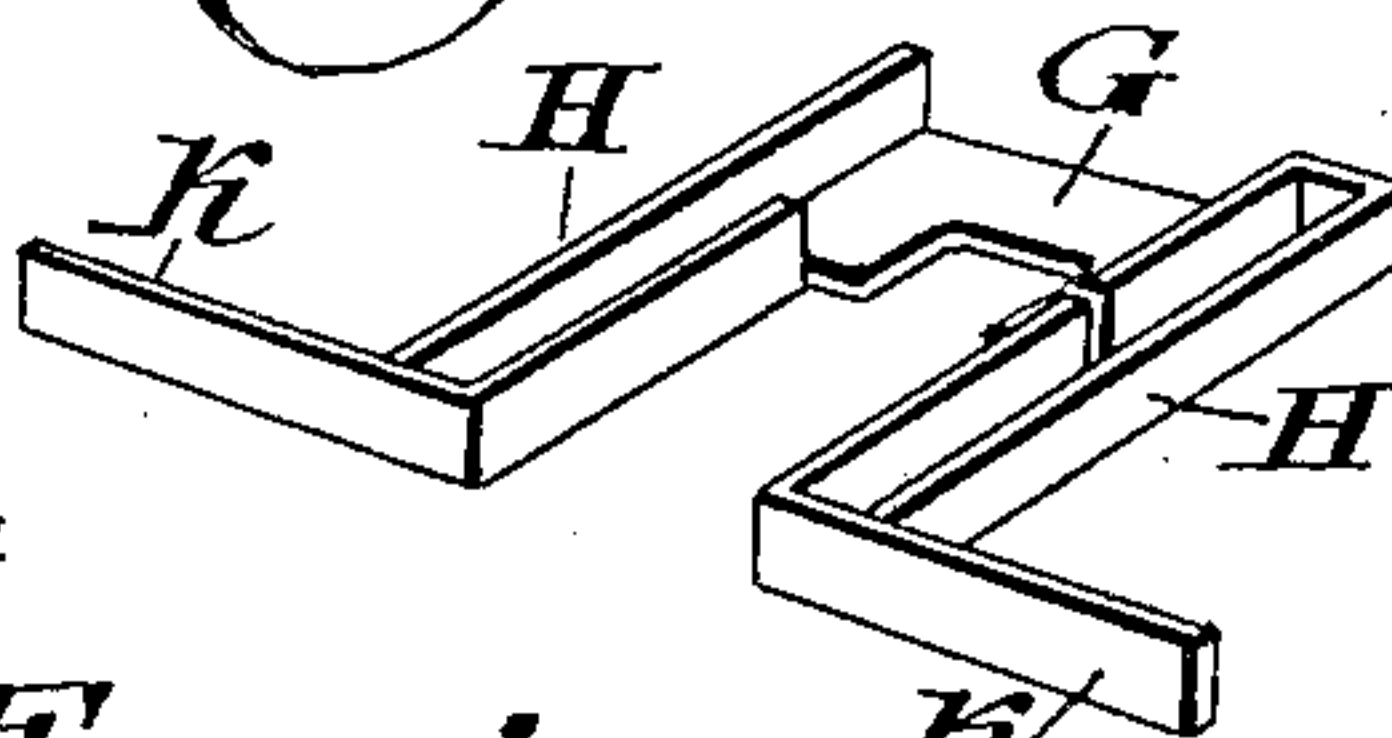
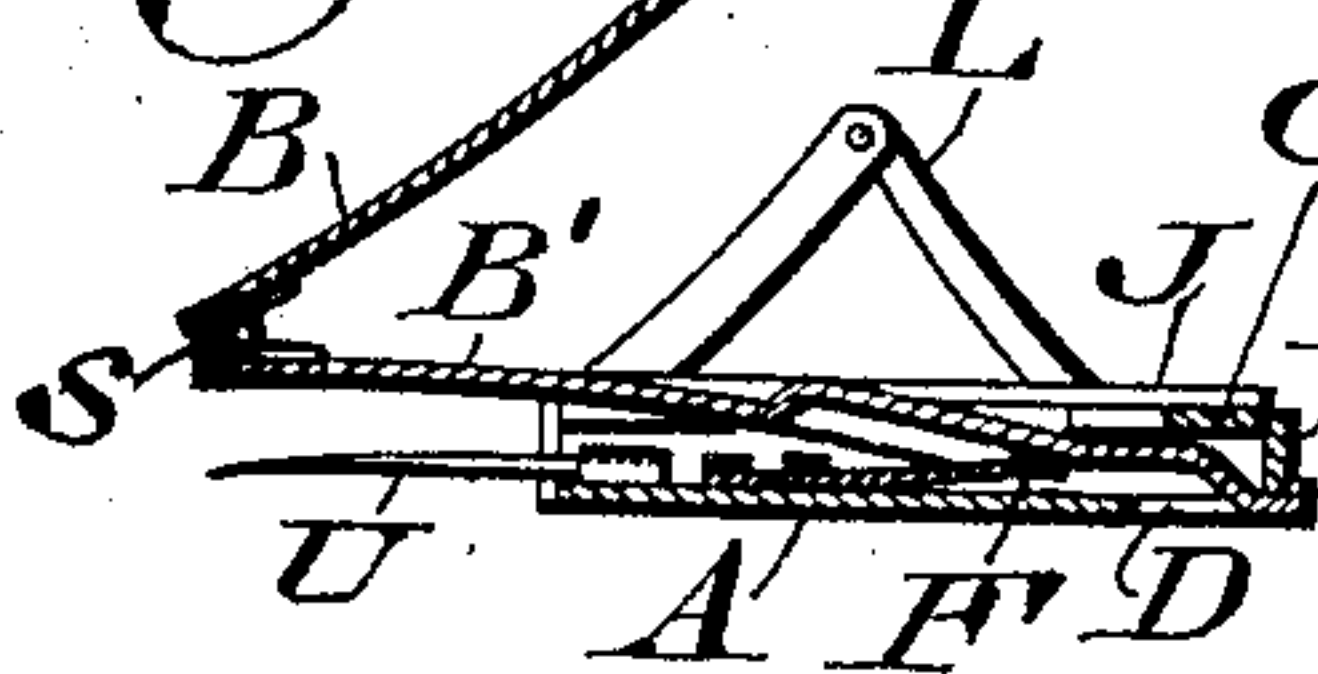


Fig. 5.

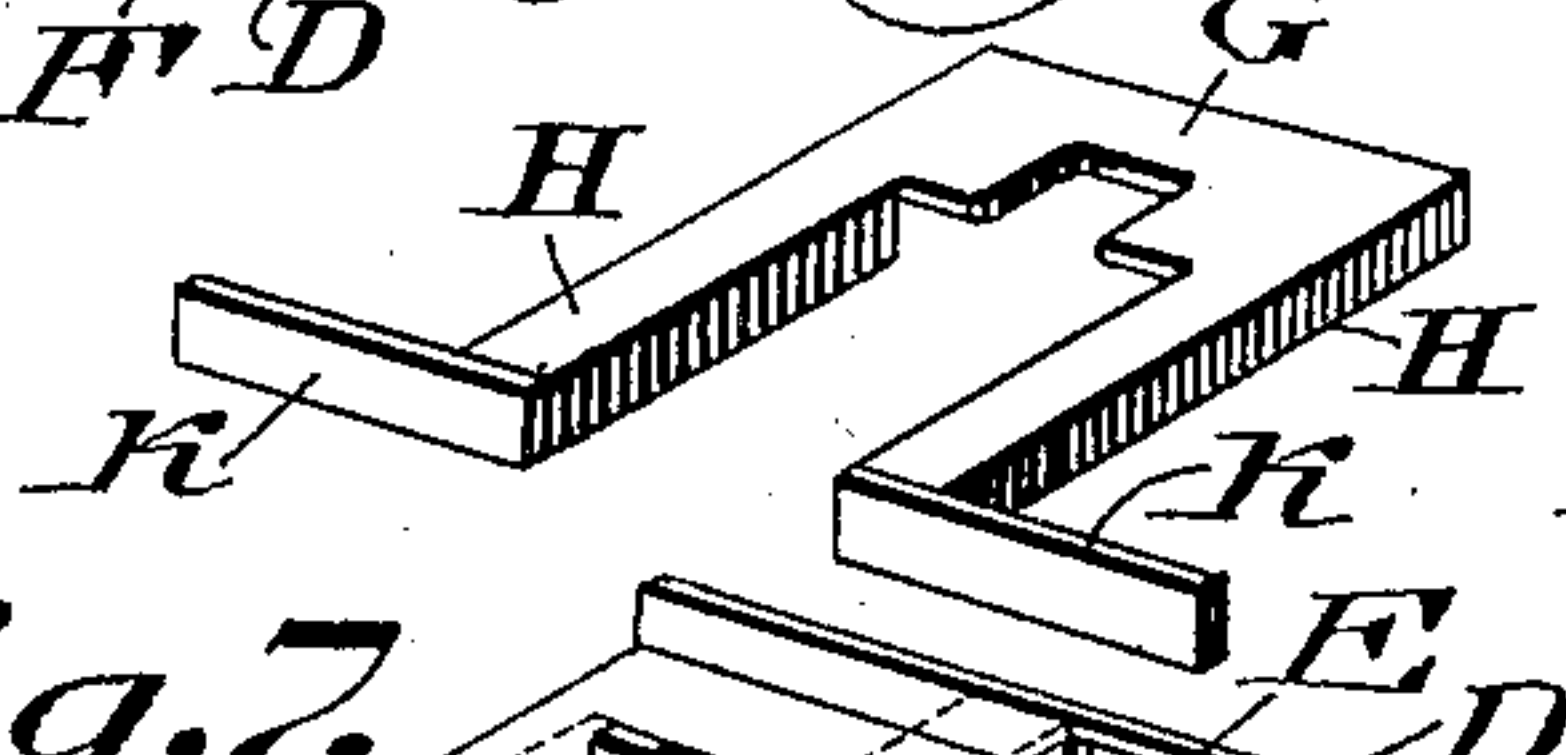


Fig. 7.

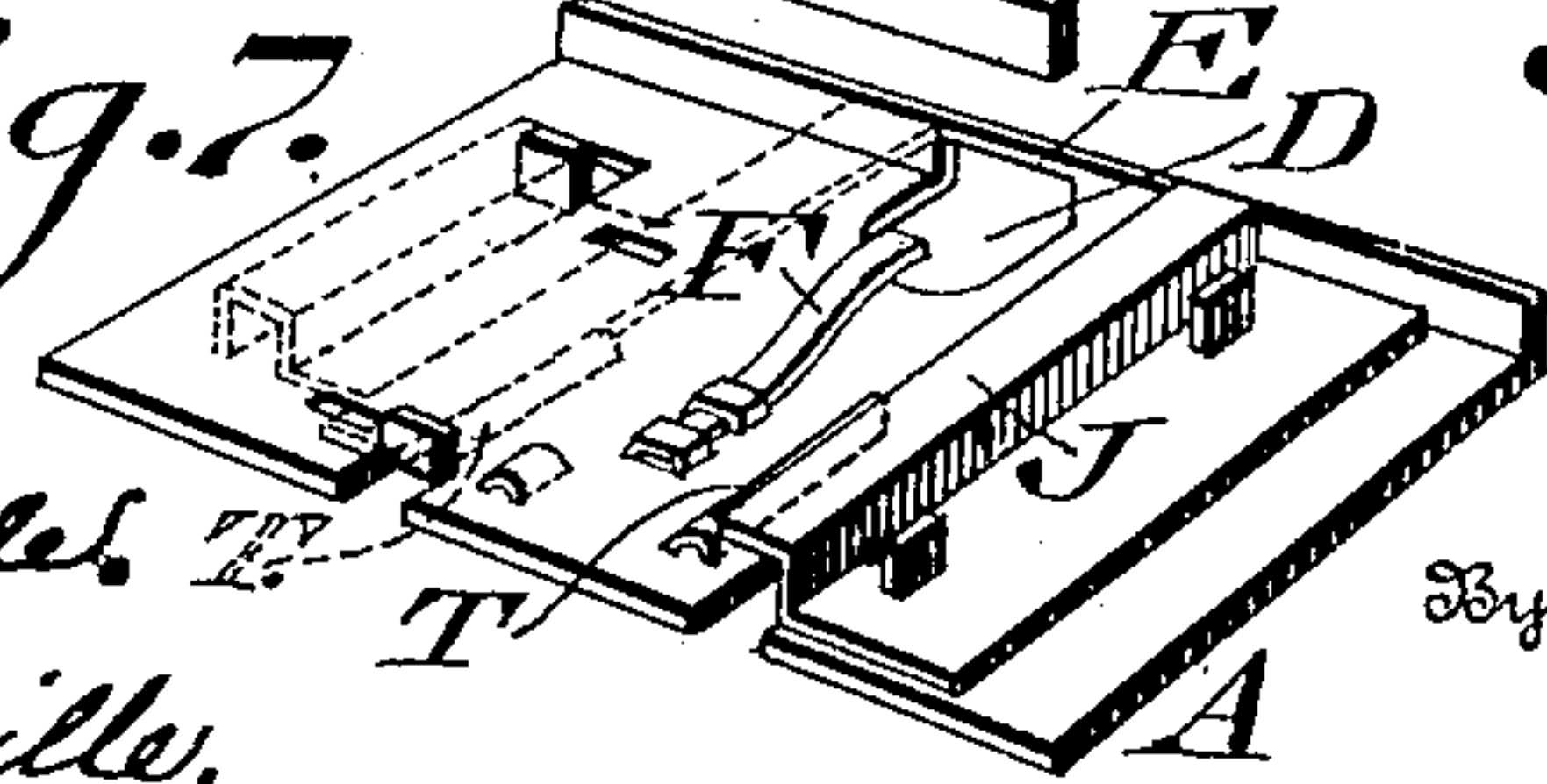


Fig. 8.

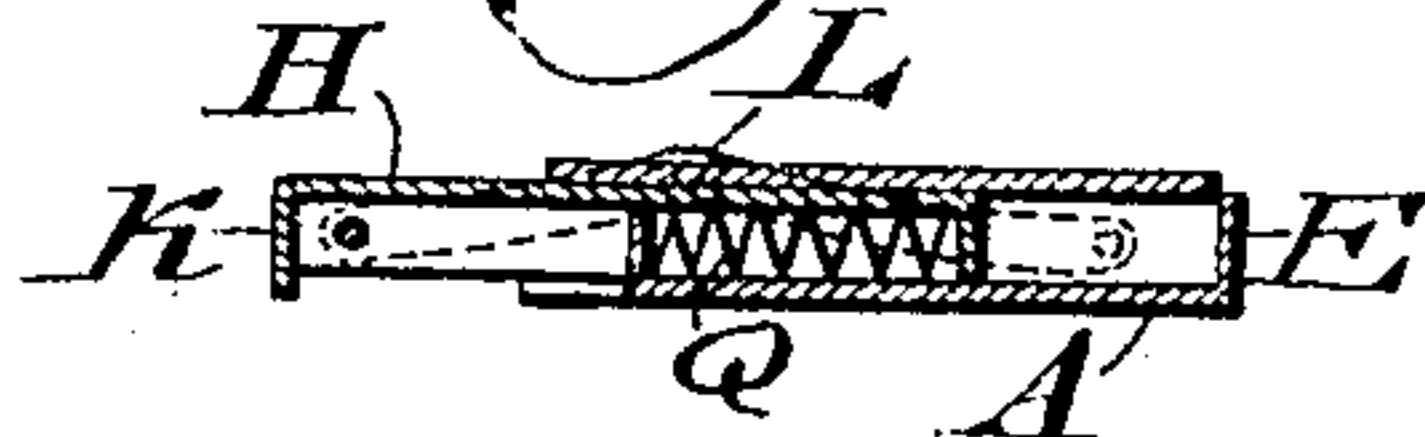
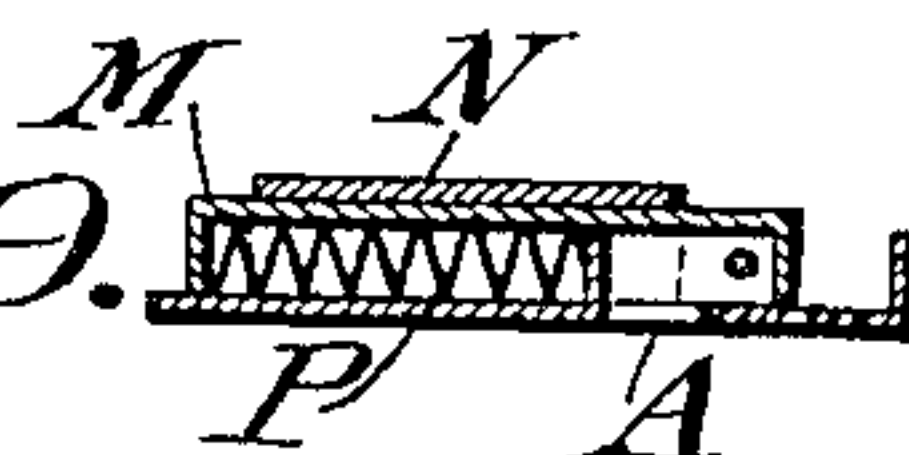


Fig. 9.



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UNITED STATES PATENT OFFICE.

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PRINTING-GAGE.

No. 912,945.

Specification of Letters Patent.

Patented Feb. 16, 1909.

Application filed October 10, 1907, Serial No. 396,799. Renewed June 19, 1908. Serial No. 439,455.

To all whom it may concern:

Be it known that we, WILLIAM DUKE, Sr., and WILLIAM DUKE, Jr., citizens of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Printing-Gage, of which the following is a specification.

Our invention consists of a gage for setting sheets to be printed true and uniform on the platen of a press, the construction of the same being hereinafter described and the novel features pointed out in the claims.

Figure 1 represents a perspective view of a printing gage embodying our invention. Figs. 2 and 3 represent top or plan views thereof, certain parts being in different positions in the two figures. Fig. 4 represents a vertical section on line $x-x$, Fig. 2. Figs. 5 and 6 represent perspective of a detached part respectively in reversed positions. Fig. 7 represents a perspective view of a portion of the device. Fig. 8 represents a section on line $y-y$, Fig. 3. Fig. 9 represents a section on line $z-z$, Fig. 3. Fig. 10 represents a section on line $a-a$, Fig. 2.

Similar letters of reference indicate corresponding parts in the figures.

Referring to the drawings:—A designates a base plate, and B designates an elbow lever, which is pivotally mounted thereon, it being noticed that the lower limb B' of said lever has on its pivotal end the head C, which rises angular from said end and being adapted to enter the opening D in said plate, and engage with the cross-bar or flange E on said plate at the rear of said opening, said head C thus being adapted to turn on said bar as a fulcrum. Connected with the plate A and bearing against the limb B' is the spring F, whose tendency is to elevate said lever to its normal position, and hold it engaged with said bar E.

G designates a slide, which is adapted to freely overhang the limb B' and to pass over the same in its advance motion, see Fig. 3, it being connected with the parallel followers H, which are fitted in the guides J, which are located on the upper face of the plate A and firmly secured thereto. The ends of the followers H opposite to the slide G, have connected with them the gage plates K, which when advanced are adapted to contact with the edge of the paper, and the latter is placed true on the tympan sheet similar to that shown in the Letters Patent of the United

States No. 841,948, granted to us on the 22d day of January, 1907.

Pivotally connected with one of the followers H is the toggle lever L, which is also pivotally connected with a follower M, the latter being fitted in the guide N, which extends parallel with the guides J and is connected with the base plate A. A spring P is located within the follower M, which is hollow or tubular, and is adapted to bear against the same and a fixed member. A spring Q is located within each follower H, which is hollow or tubular, and is adapted to bear against the same and a fixed member, said springs serving to restore the followers, and consequently the gage plates K, to their normal positions.

Connected with the joint of the limbs of the lever B, is the spring S, whereby the upper limb of said lever may be held in elevated position, as most plainly shown in Fig. 4.

The inner sides of the guides J are partly cut away to allow the ends of the slide G to travel therethrough, and partly occupied by the shoulders T, which are struck up from the adjacent sides of the said guides and so located as to cause said slide to abut thereagainst when the latter has completed its throw or advance motions, for a purpose to be hereinafter described.

It will be seen that when a reglet or other proper part of a press is lowered, it bears against the lever B, and gradually lowers the same to contact with the paper. As said reglet or part continues its descent, it bears against the toggle lever L, thus lowering and straightening the same and thereby advancing the connected follower H and the gage-plate K. As said follower is connected with the opposite follower, the other gage plate K is simultaneously advanced, and thus both plates contact with the edge of the paper, the latter then being placed true on the tympan sheet.

It will be noticed that the advance motion of the slide G is limited by coming in contact with the shoulders T, so that the plates K come to a dead stop against the paper before printing, but to prevent strain on the parts, the follower M under the pressure of the spring P remains comparatively at rest until the follower H has advanced to full extent, but when the advance motion of the plates K cease, the toggle lever L continues to descend, which it does to full extent. Then

the follower M receives motion in the opposite direction to the follower H, as indicated by the arrow, Fig. 3, thus relieving said lever L and connected members of the device of strain, and preventing breaking or fracture of the same. As the springs P, Q are compressed by the motion of the respective follower, as soon as the reglet rises, the levers B, L are released, whereby they return to their normal positions and with them the connected followers and gage plates.

Attention is directed to the fact that a single toggle lever is sufficient to advance the plurality of gage plates, and that only one of the followers H requires a spring to return the gage plates to their normal positions, while the spring which bears on the follower M is sufficient to cause the quick elevation of the toggle lever and its restoration to normal position. The plate A has prongs or fingers U projecting forwardly therefrom, the same being adapted to pierce and enter the tympan sheet, as in our patent hereinbefore referred to.

While we have specified certain means for carrying out our improvements, we do not wish to be limited exactly to the same, but desire to make such changes as may come within the scope of the novelty involved.

Having thus described our invention, what we claim as new and desire to secure by Letters Patent, is:—

1. In a gage of the character stated, a plurality of gage plates, carriers therefor, a common connection for said carriers, means for guiding said carriers, a single device adapted to be operated by a member of a press for advancing said plurality of carriers and plates, and resilient means for returning the same.

2. In a gage of the character stated, a plurality of gage plates, carriers therefor, a movable connection common to said carriers, means for guiding said carriers, a device adapted to be operated by a member of a press, a single lever having a limb pivotally connected with one of said carriers, and a supplemental follower with which the other limb of said lever is pivotally connected.

3. In a gage of the character stated, a plurality of gage plates, carriers therefor, a movable connection common to said carriers, means for guiding said carriers, a device adapted to be operated by a member of a press, a single lever having a limb pivotally

connected with one of said carriers, a supplemental follower with which the other limb of said lever is pivotally connected, and means on one of the first named carriers with which said connection is adapted to abut to form a dead stop for said gage plates.

4. In a gage of the character stated, a gage plate, a carrier therefor, a guide for said carrier, a shoulder on said guide, a sliding piece secured to said carrier, and means for advancing said carrier, said piece being adapted to abut against said shoulder forming a dead stop for said gage plate in operative position.

5. In a gage of the character stated, a gage plate, a carrier therefor, a guide for said carrier, a sliding piece connected with said carrier, a shoulder on said guide, and means for advancing said carrier, said piece being adapted to abut against said shoulder forming a dead stop for said gage plate in operative position.

6. In a gage of the character stated, a gage plate, a carrier therefor, a guide for said carrier, a sliding piece connected with said carrier, a shoulder on said guide, means for advancing said carrier, said piece being adapted to abut against said shoulder, forming a dead stop for said gage plate in operative position, and a resilient member connected with said advancing means having a motion in reverse direction to said carrier when said dead stop is occasioned.

7. In a gage of the character stated, a gage plate, means for advancing and returning the same, a base on which said means are mounted, and a lever adapted to primarily hold the paper to be gaged, said lever having a limb adapted to be freely connected with a portion of said base and turn thereon as a fulcrum and means bearing against the under side of said lever near its fulcrum.

8. In a gage of the character stated, a base, a lever adapted to primarily hold the paper to be gaged, said base having a cross-bar, and said lever having a head adapted to be fulcrumed on the under side of said cross-bar and means bearing upward on the under side of said lever to keep it engaged with said bar.

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Witnesses:

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