

(No Model.)

4 Sheets—Sheet 1.

W. P. BONSTALL.
ADDRESSING MACHINE.

No. 449,032.

Patented Mar. 24, 1891.

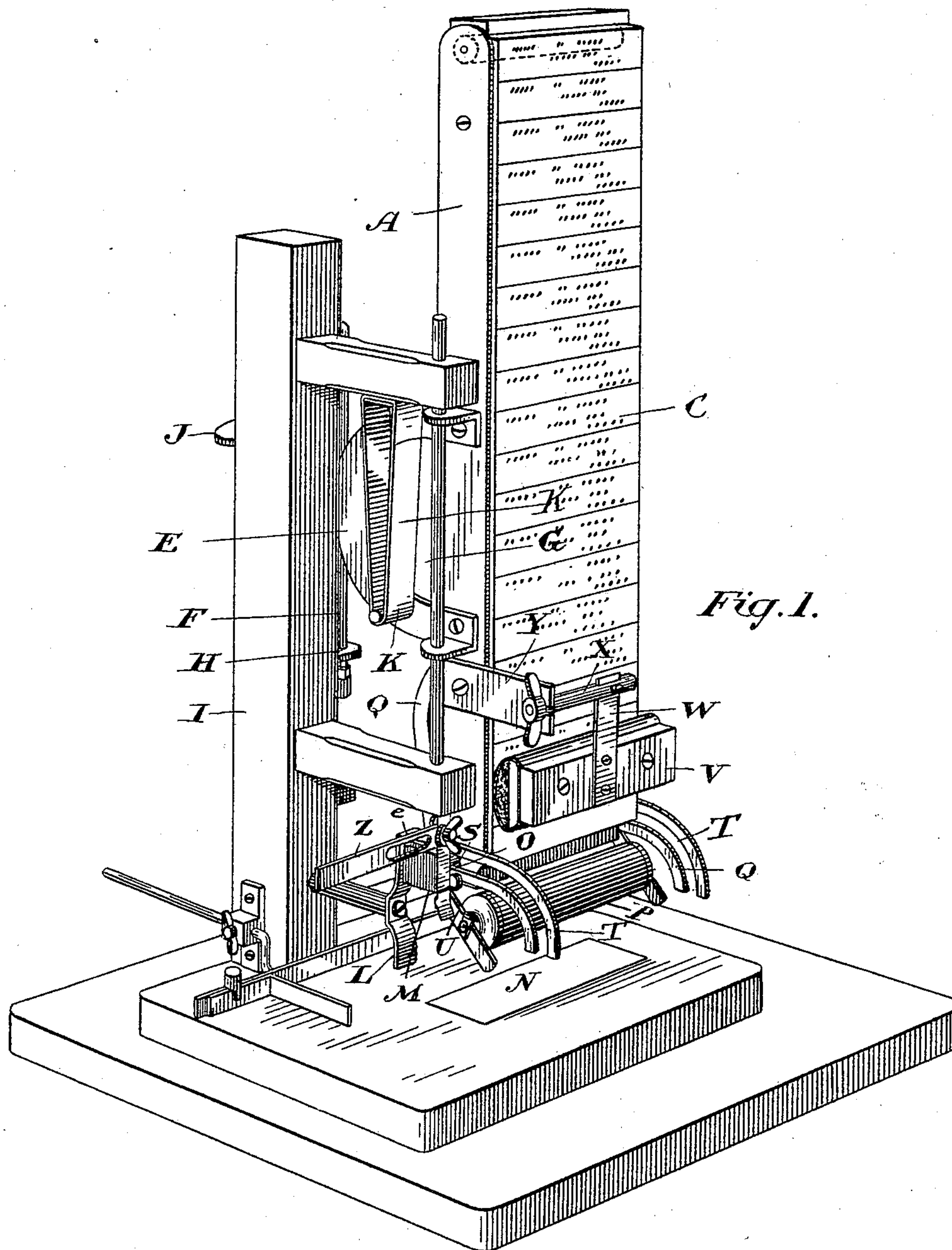


Fig. 1.

Witnesses.

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Inventor.

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By Donald C. Ridout & Co
Attys

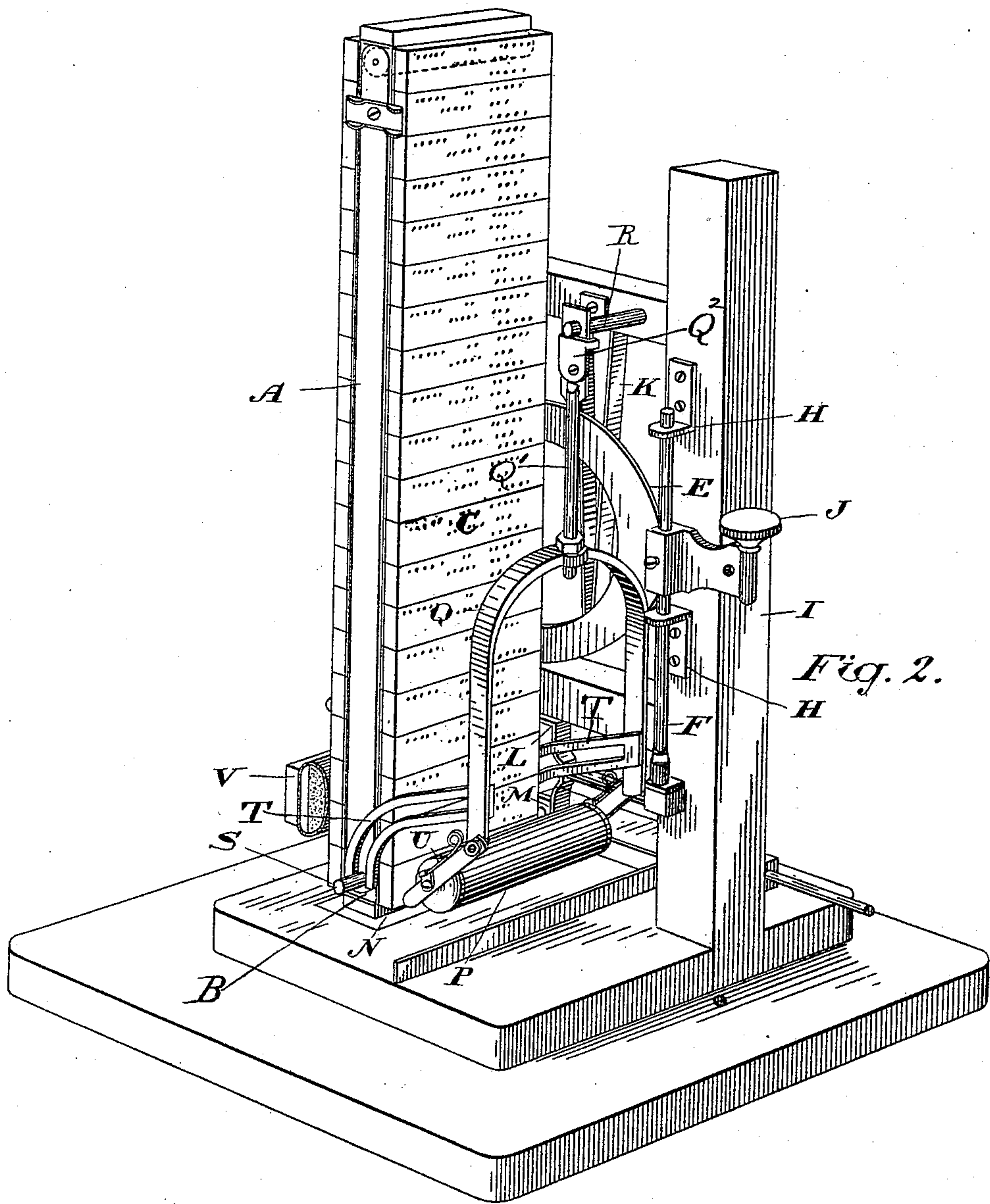
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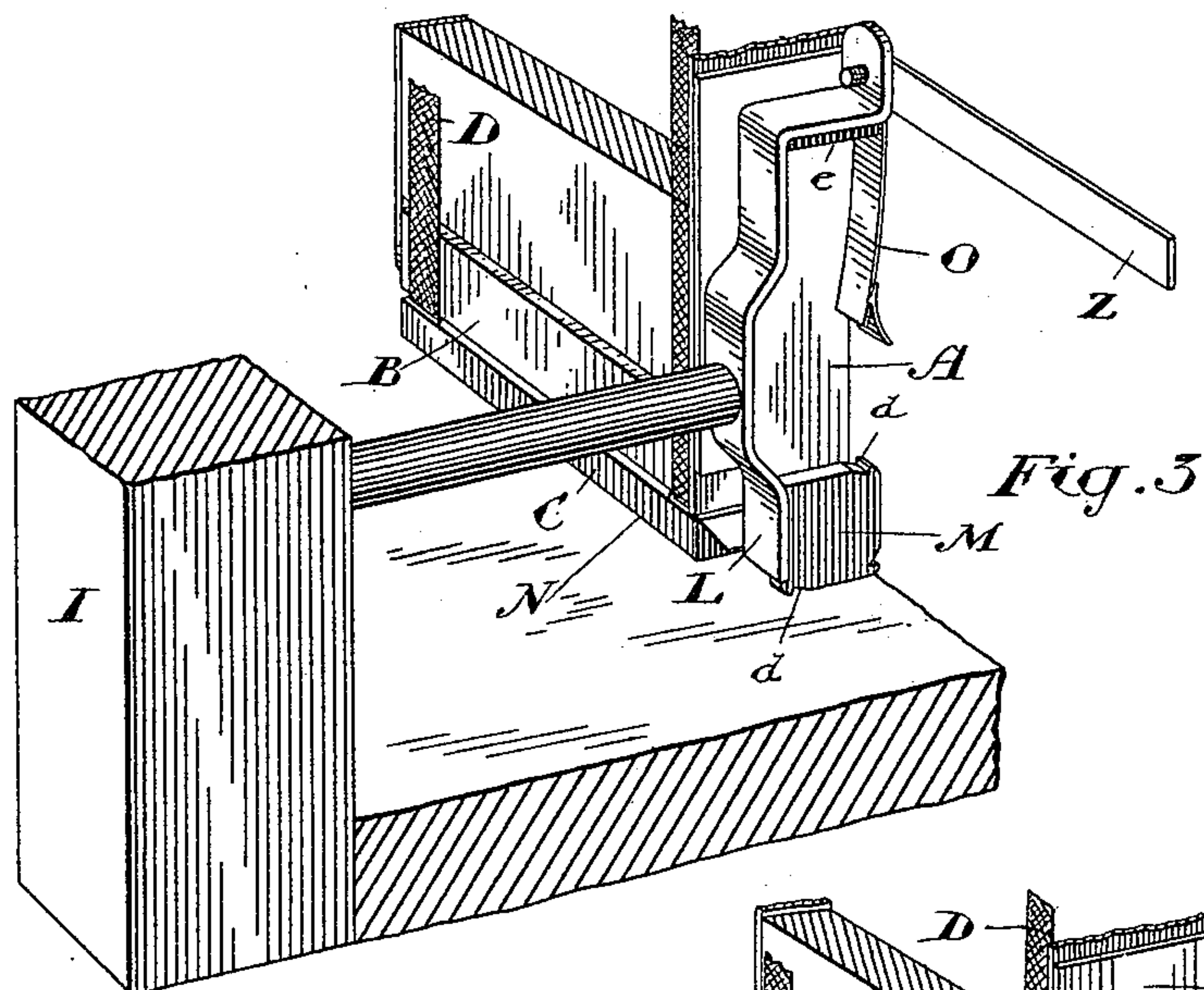


Fig. 3

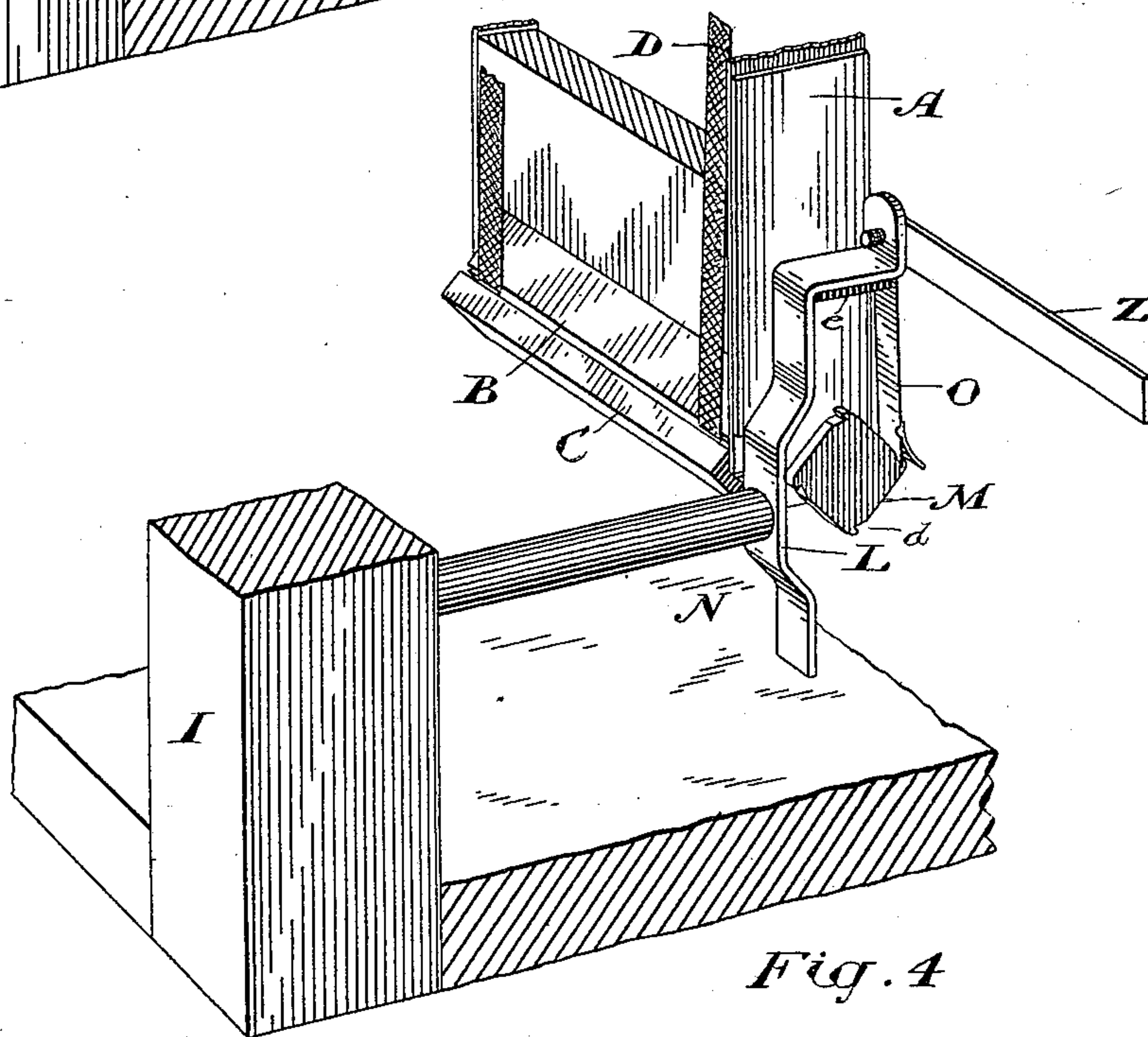


Fig. 4

Witnesses

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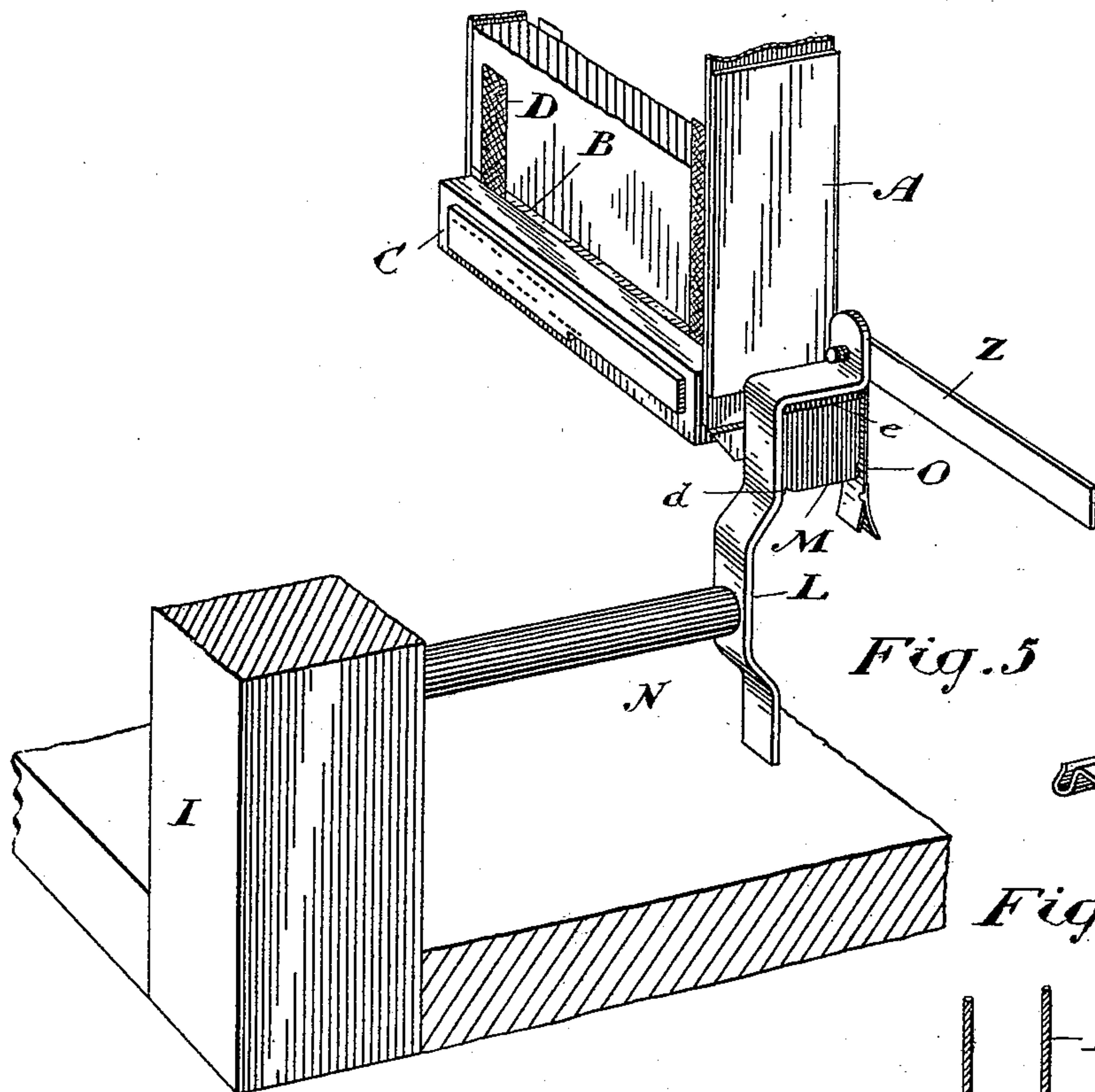


Fig. 5

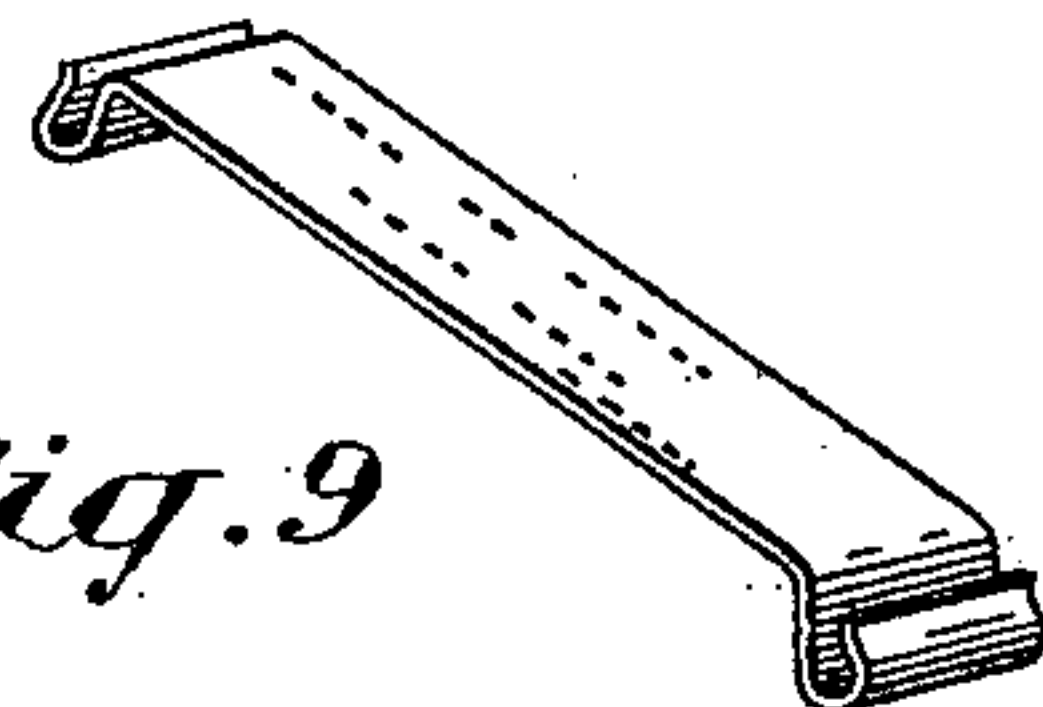


Fig. 9

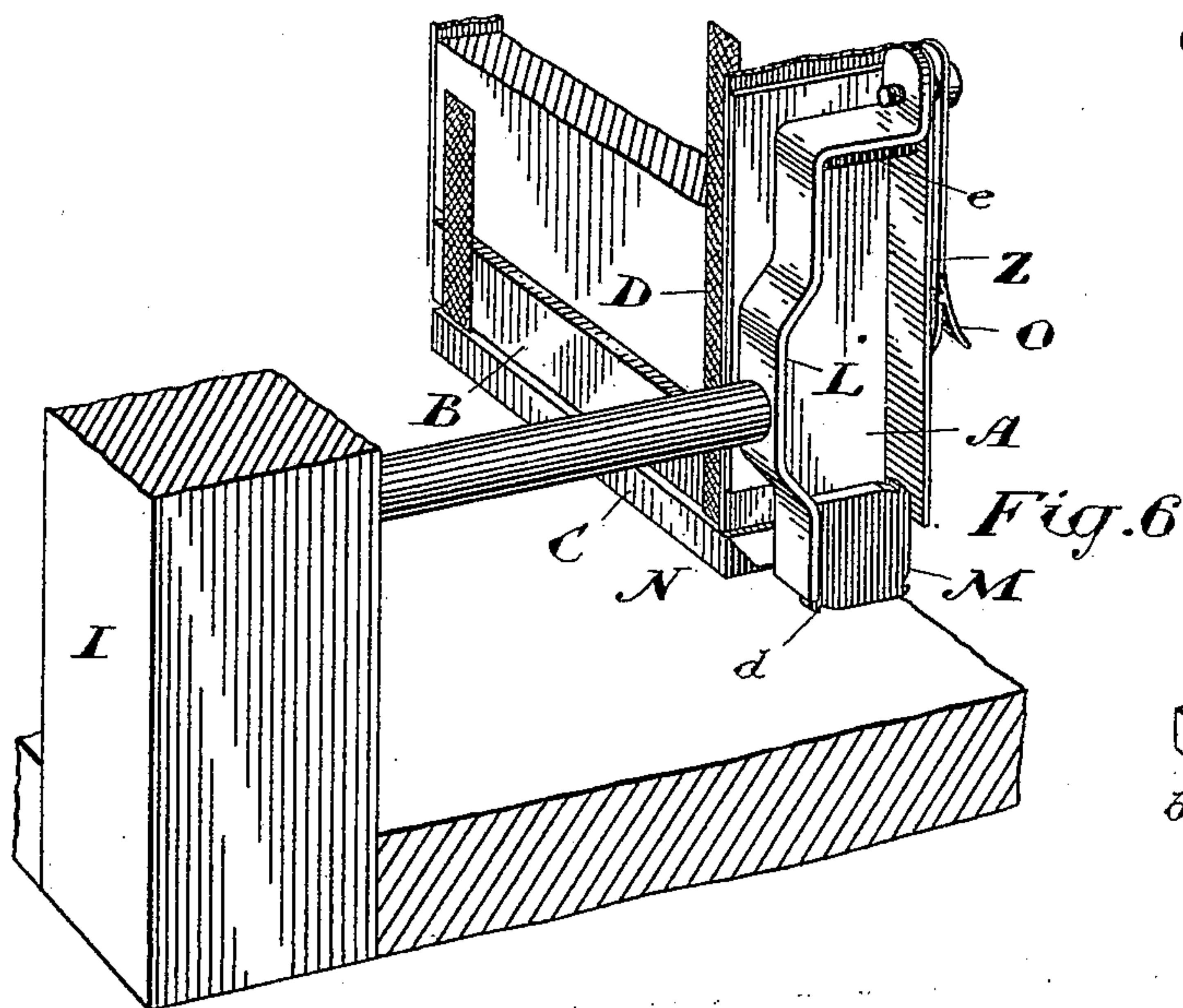


Fig. 6

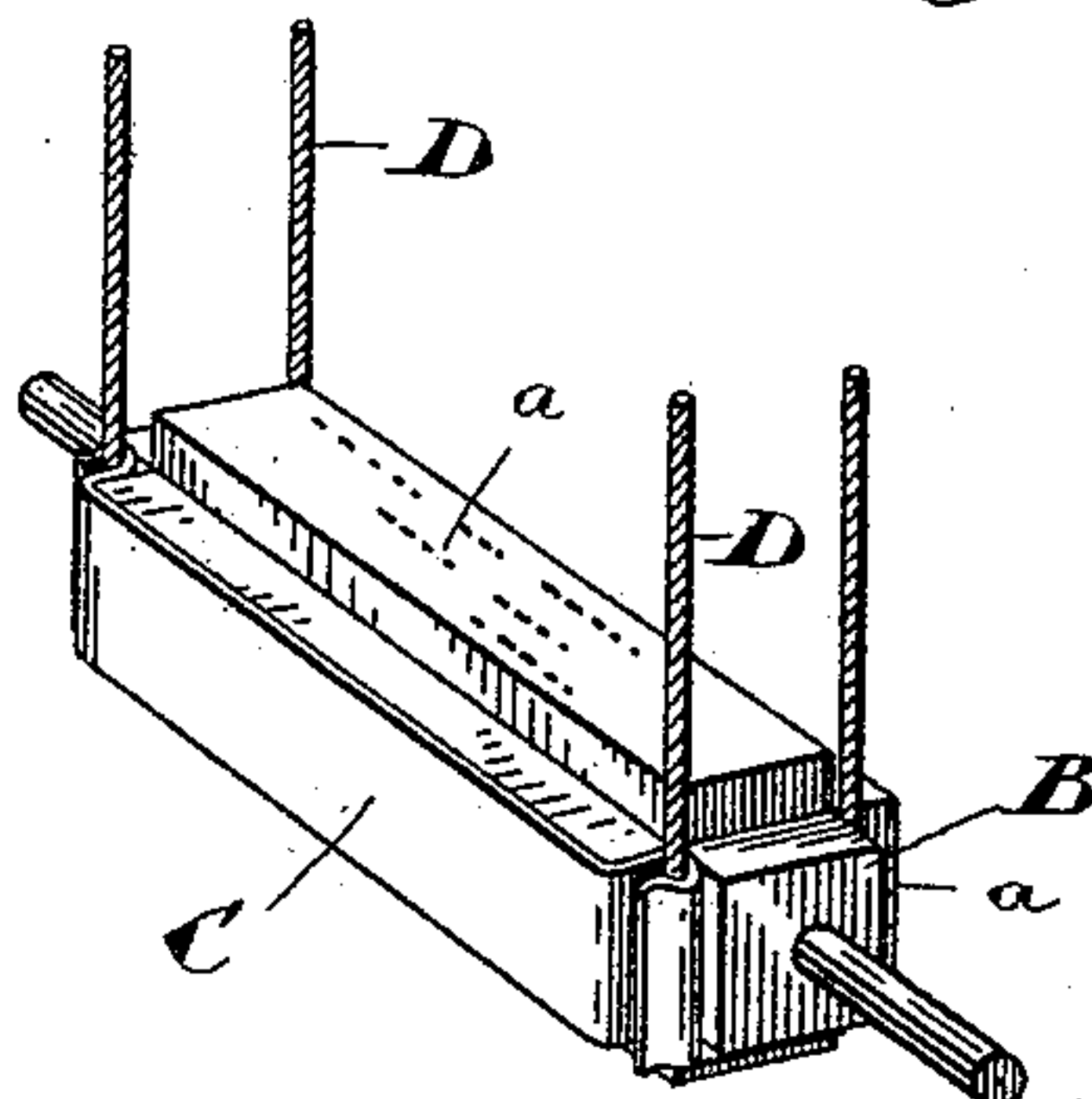


Fig. 7

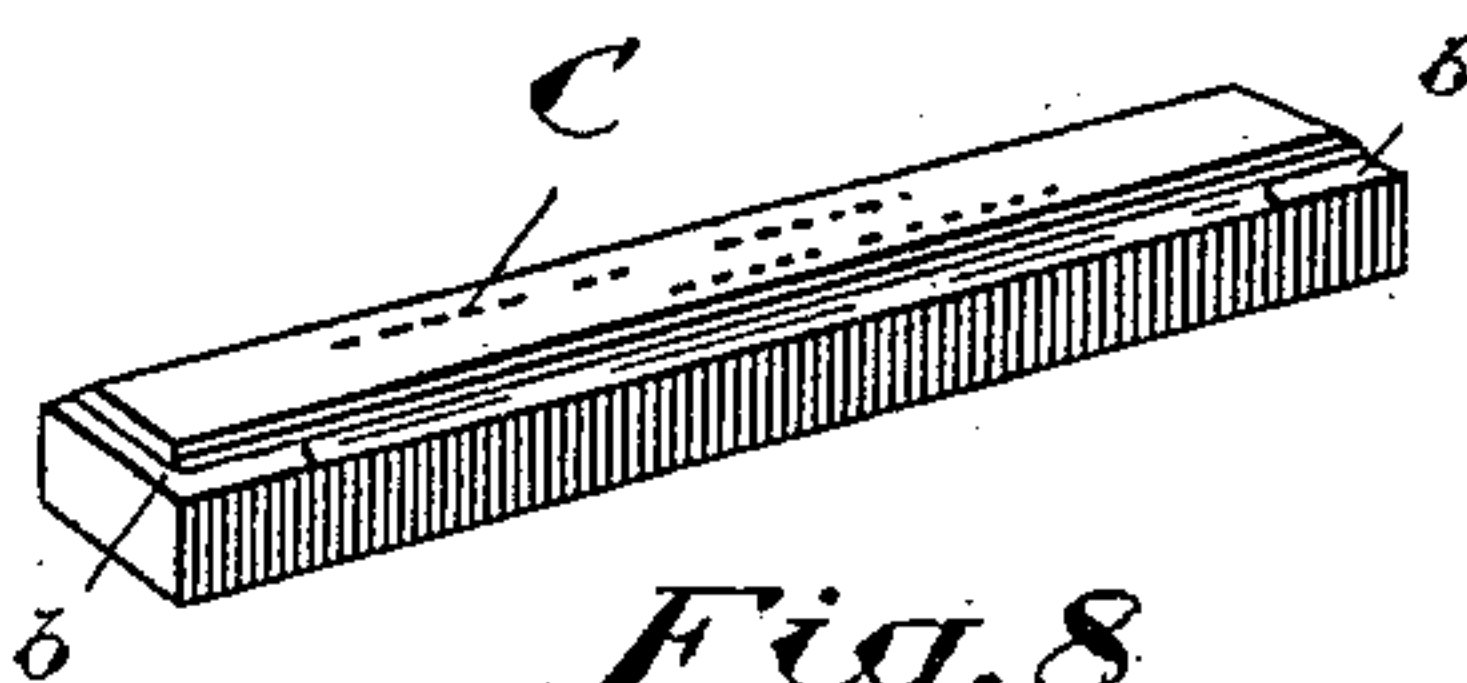


Fig. 8

Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM P. BONSALL, OF TORONTO, CANADA.

ADDRESSING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 449,032, dated March 24, 1891.

Application filed June 7, 1889. Renewed July 5, 1890. Again renewed February 7, 1891. Serial No. 380,553. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM P. BONSALL, printer, of the city of Toronto, in the county of York, in the Province of Ontario, Canada, have invented a certain new and Improved Addressing-Machine, of which the following is a specification.

The object of the invention is to design a simply-constructed addressing-machine with positive inking mechanism and otherwise so arranged that the type-blocks may be readily changed and all other parts easily adjusted.

To obtain the desired object, the invention consists in certain peculiarities of construction and combination of parts, substantially as hereinafter described and specifically claimed.

Figure 1 is a perspective front view of my improved addressing-machine. Fig. 2 is a similar view from the opposite side of the machine. Figs. 3, 4, 5, and 6 are enlarged details of the mechanism by which the rectangular roller is held in position while the type is printing and caused to revolve for the purpose of changing the type blocks or plates. Fig. 7 is a detail of the rectangular or operating roller, showing a metal type-plate held in position on endless cords. Fig. 8 is a detail of a wooden type block or plate, showing its ends formed to fit onto endless belts. Fig. 9 is a detail of metal type-plate.

In the drawings, like letters of reference indicate corresponding parts in the different figures.

A represents a frame, on one end of which is journaled a round roller (shown in dotted lines) and at its opposite end a rectangular roller B. The type blocks or plates C are made either as shown in Figs. 7 or 8. When made as shown in Fig. 7, the type-blocks consist of a metal plate having its ends bent, as shown, to fit around the endless cords or belts D, which cords are carried around the rollers journaled at each end of the frame A. When the type blocks or plates, as shown in Fig. 7, are used, the rectangular roller B has a projection *a* formed on each side, on which the type blocks or plates C fit. When the said type blocks or plates are made as shown in Fig. 8, an incision *b* is made at each end of the blocks or plates, into which the endless belts D fit. When the blocks or plates shown

in Fig. 8 are used, it is not necessary to use the projection *a* on the roller B.

E is a quadrant-plate rigidly secured to the frame A and formed so as to journal upon and be guided by the rods F and G, the rod F being held by the arms H, which project from the post I, and the rod G is supported by suitable brackets fastened to the said post I. A handle J, connected to or forming part of the quadrant-plate E, projects beyond the rod F and is used to impart motion to the frame A. The spring K, preferably a rubber band, as here shown, which is fastened to the upper arm H and passes around a pin projecting from the quadrant-plate E, assists in imparting the necessary movement to the frame A.

L is a guide-plate located and shaped substantially as shown in the drawings, so that at the upper and lower portion of the stroke of the frame A the side of the block M shall rest against the said plate, while the center portion of the said plate is set in to permit the revolving of the said block.

On reference to Figs. 3, 4, and 5 the manner in which the rectangular roller B is caused to revolve will be understood.

In Fig. 3 the frame A is shown as pressed down, so that the type block or plate C is held against the printing-block N. It is of course necessary that the face of the type block or plate C shall rest perfectly flat upon the printing-block N, and to insure this end the guide-plate L is located and shaped so as to form a guide, against which the side of the block M must fit, as indicated in Fig. 3. When the frame A is permitted or caused to move from the printing-block N, the upper outer notch *d*, made in the block M, comes in contact with the end of the spring-plate O, which action causes the block M to revolve, as indicated in Fig. 4, carrying with it the rectangular roller B, which in its turn moves the string of type-blocks C the width of a single block, so as to bring the type-block next to the one which has just printed into position for the next stroke.

On reference to Fig. 5 it will be observed that when the frame A has reached the top of its stroke the block M is held between the guide-plate L and spring-plate O, thus insuring the perfectly-horizontal position of the

bottom type-block C on the downward stroke of the frame A.

In order to ease the blow against the upper end of the guide-plate L, I place a cushion e, of rubber or other compressible material, on the upper end of the said guide-plate, as shown.

With the view of inking the type-blocks C, I provide an inking-roller P, which I journal, as indicated, upon fingers pivoted in the end of the forked support Q, the upper end of which support is pivoted upon the pin R, extending from the frame H, as shown, and the forked support Q is supported or suspended from the pin R by a rod Q' and a plate Q², which is pivoted to the pin R.

On each side of the frame A a pin S projects for the purpose of fitting into curved slots formed in the curved arms T, which project from and are fixed to the forked support Q, as shown.

Owing to the connection described between the frame A and the forked support Q, which carries the inking-roller P, each upward stroke of the frame A causes the inking-roller P to pass below the frame A, as indicated in Fig. 1, where it acts against and applies ink to the bottom type-block, while upon the downward stroke of the frame A the said inking-roller is carried clear of the said frame, as indicated in Fig. 2.

By carrying the inking-roller P upon fingers pivoted on the end of the forked support Q the said inking-roller may be readily adjusted so as to properly act against the type-blocks, the spring U imparting to the said inking-roller a suitable spring tension.

In practice I have found that when the string of type-blocks is revolving the inking-roller P does not supply sufficient ink or distribute it over the type as evenly as desirable. I have therefore provided an inking-pad V, which I suspend in front of the frame A by a spring-plate W, attached to a spindle X, held by a plate Y, projecting from the frame A, as indicated. The spring-plate W holds the inking-pad V against the type with sufficient pressure without interfering with the free movement of the type-blocks, and as the type-blocks pass the said pad the ink is evenly distributed over the type.

As it is sometimes necessary to obtain a number of impressions from the same type-block, I provide a plate Z, which I pivot, as indicated, below the spring-plate O, and when I wish to thus use a single type-block I adjust the plate Z to the position in which it is shown in Fig. 6, thus separating the spring-plate O from the block M, which block will then slide up and down the plate Z without revolving.

It will be observed that while a type-block having notches formed in its ends, as in the form shown in Fig. 8, can be removed from the cords, yet it is necessary to partially pull the cords out of the other blocks before a block can be detached, and thus the entire belt of blocks will be disarranged. For this

reason I prefer the form of block or plate shown in Fig. 9, in which there are loops or cord-clasps opening from the face substantially at right angles thereto to receive the cords instead of opening from the ends, as in Fig. 9, because by this construction the type-block can be readily removed by simply pushing it backward off of the cords, and another one can as readily be set on the cords, as the resiliency of the metal loops will hold the cords with sufficient force to keep the blocks in position without holding the blocks so tight as to prevent their ready removal when desired.

I merely show a handle J for the purpose of operating the frame A; but it will of course be understood that a treadle-motion might easily be applied to the said frame for the purpose of operating it.

In Figs. 3, 4, 5, and 6 the endless belt D is in the form of a band and is attached to the flat surface of the type plates or blocks in any desired manner, and the action of the belt is the same as in the form shown in Fig. 7.

The operation of the machine will be readily understood from the foregoing description, taken in connection with the drawings, and, briefly stated, is as follows: The surface on which the impression is to be made is placed on the printing-block, the frame and type-blocks being in an elevated position and the inking-roller being against the type-plate, as shown in Fig. 2. The quadrant-plate is moved down, moving the frame and printing-block against the surface, distributing the ink over the type-plates, and forcing the forked support and inking-roller out of the way and effecting the printing. The quadrant-plate is then elevated, lifting the rectangular roller, causing it to contact with the spring-plate O to prevent a new plate drawing the inking-roller in to ink said plate, and the quadrant-plate is again moved down, and the operation being repeated, each upward movement of the frame presenting a new plate and inking the same and each downward movement causing the printing, as is evident.

Although I do not wish to confine myself to the use of any particular material in the construction of any part of my machine, I may mention that as now manufactured I make the letters on the type-blocks C of vulcanized rubber, as this form of type is more convenient for the purpose for which my invention is adapted.

What I claim as my invention is—

1. In an addressing-machine, a rectangular roller B, journaled on the end of the reciprocating moving frame A and having a string of type-blocks C carried around it, and the block M, fixed to the spindle of the roller B and having a notch d made near each of its corners, in combination with the guide-plate L and plate O, substantially as and for the purpose specified.

2. In an addressing-machine, a roller B, journaled on the end of the reciprocating

moving frame A and having a string of type-blocks C carried around it, and the block M, fixed to the spindle of the roller B, in combination with the guide-plates L and Z, substantially as and for the purpose specified.

3. A series of type blocks or plates C, carried on endless cords or belts D, supported by rollers journaled in the reciprocating moving frame A, in combination with the pivoted forked support Q, carrying the inking-roller P and connected to the frame A by the curved arm T, as specified.

4. In an addressing-machine, the combination of the frame and type-blocks, the quadrant-plate for elevating and lowering the frame, the forked support carrying the inking-roller, the arms connecting the forked support with the frame, and the spring-pressed distributing-pad, substantially as described.

5. In an addressing-machine, the combination of the frame having round and rectangular rollers, the type-blocks traveling on said rollers, the plates for guiding and turning the rectangular roller to present the type-plates, the pivoted support carrying the inking-roller and connected loosely with the frame, and the quadrant for moving the frame, substantially as described.

6. In an addressing-machine, the combination of the vertically-movable frame, the type-

blocks traveling around said frame, the pivoted support carrying the inking-roller, the arms connecting the support and frame, the ink-distributing pad, and the devices for guiding and revolving the type-blocks, substantially as described.

7. In an addressing-machine, the combination of a vertically-movable frame carrying the chain of type-blocks, the pivoted forked support, the spring-actuated arms carrying the inking-roller and connected to the forked support, the segment for moving the frame, the arms connected to the frame and the forked support, the guide for the type-blocks, and the plate for rotating the same, all constructed to operate for the purpose described.

8. In combination with endless belts or cords, as D, a series of type-blocks having openings near their ends, arranged substantially at right angles to the face of said blocks, substantially as described.

9. As a new article of manufacture, a type-block for addressing-machines, having a printing-face and a loop or cord-clasp at each end, running substantially at right angles to said face, as and for the purpose specified.

Toronto, June 1, 1889.

WILLIAM P. BONSALL.

In presence of—

CHARLES C. BALDWIN,
W. G. McMILLAN.