

C. W. ELLSWORTH & W. W. EATON.

Perforating-Stamps.

No. 153,059.

Patented July 14, 1874.

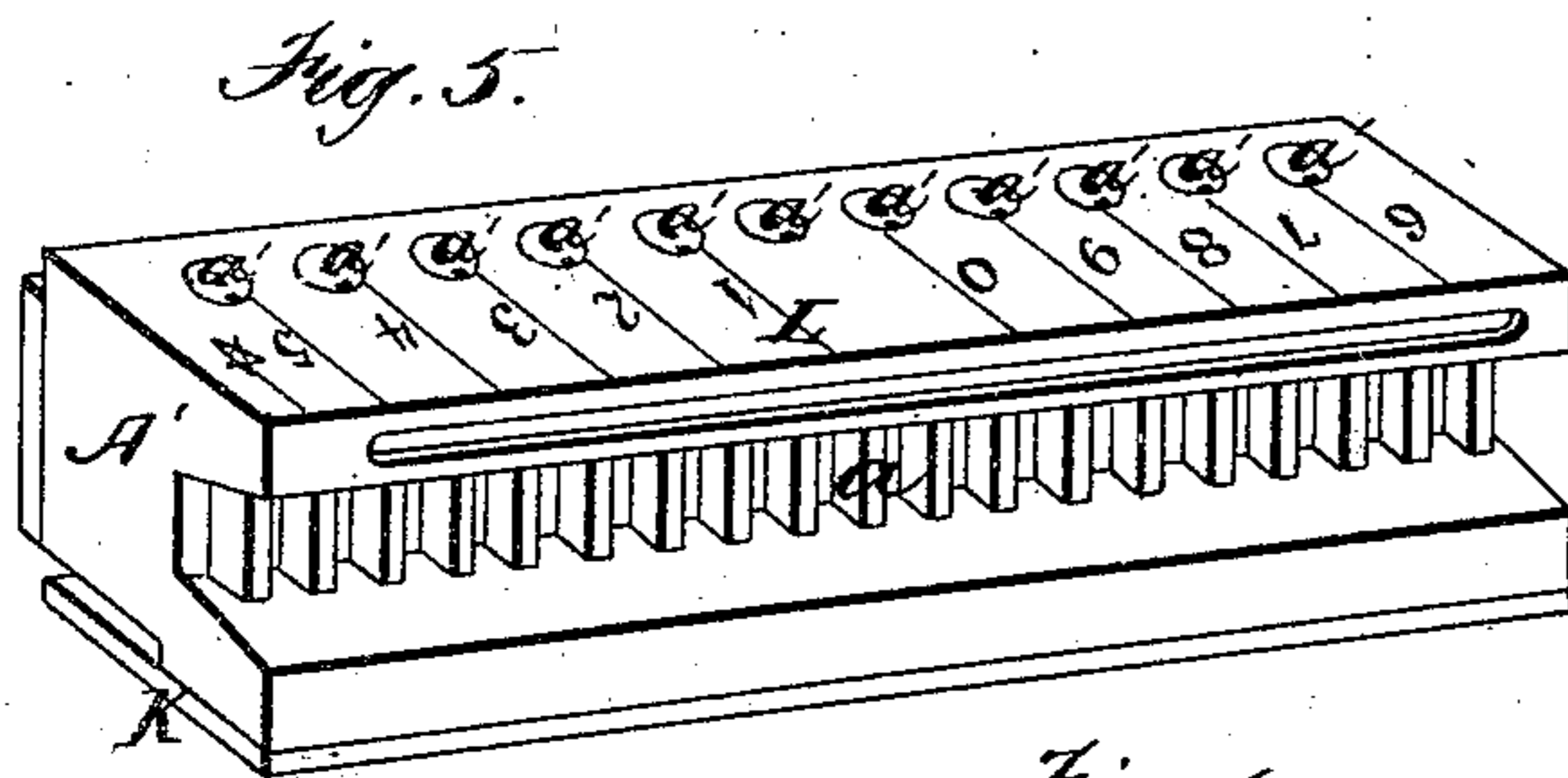
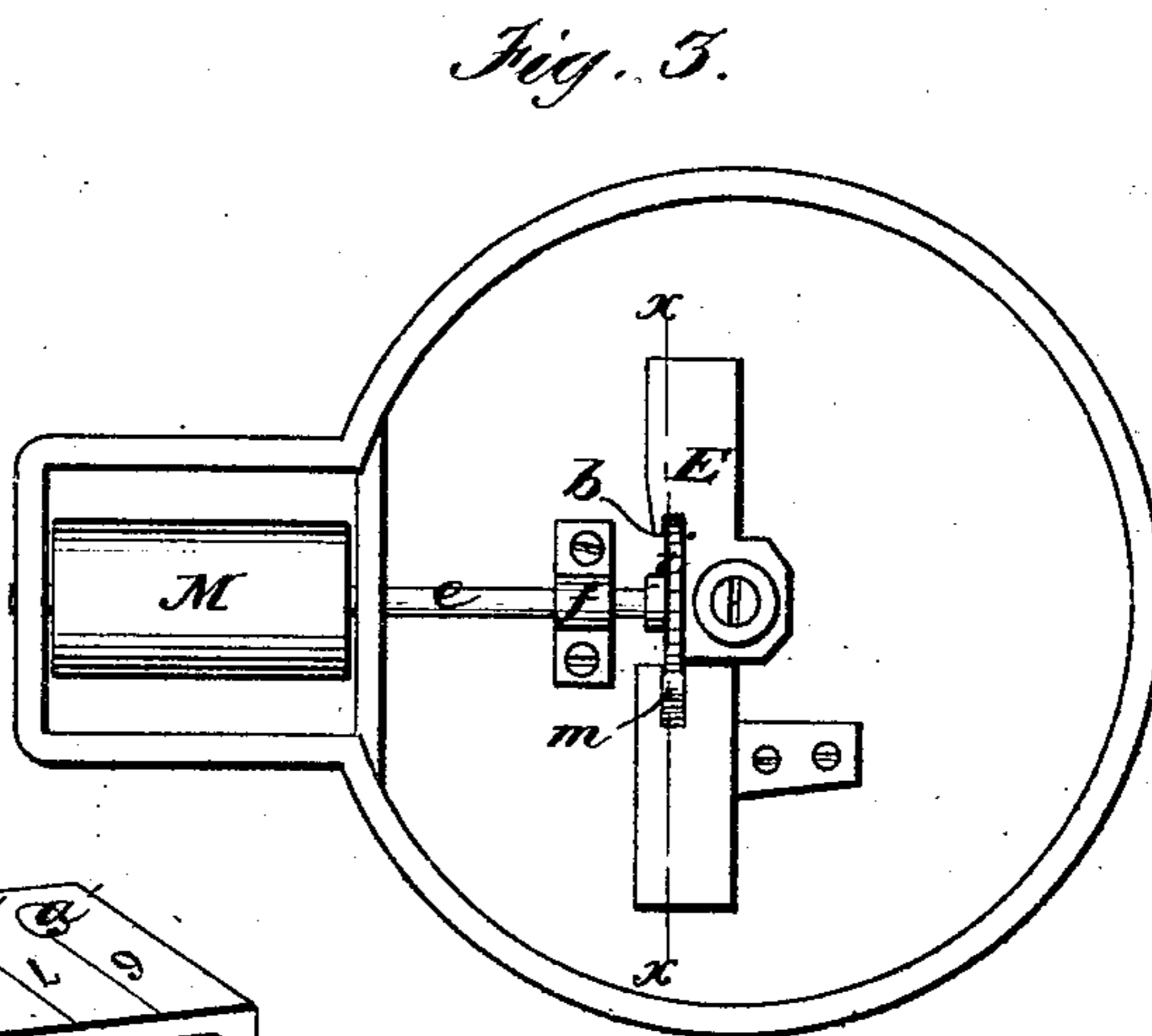
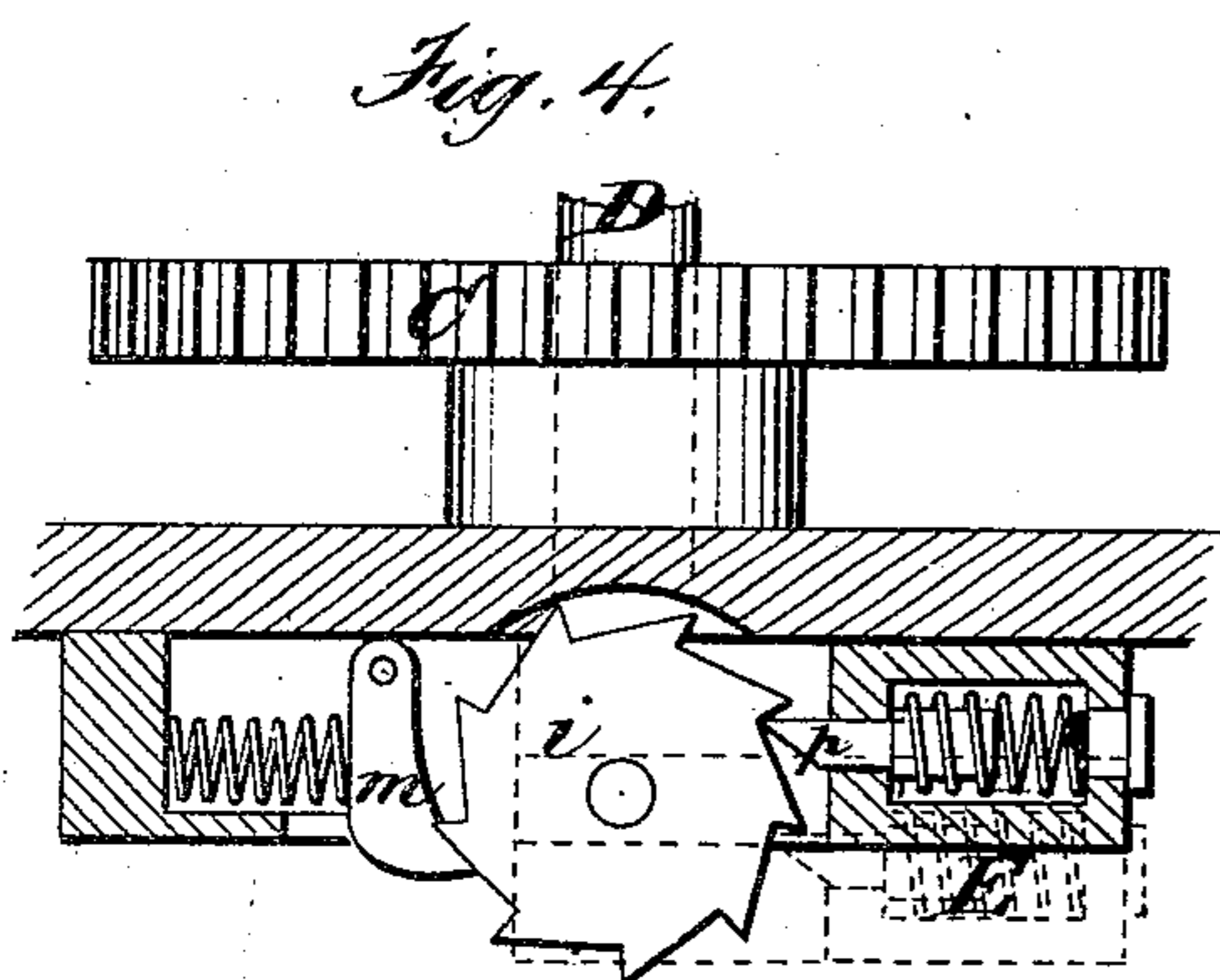
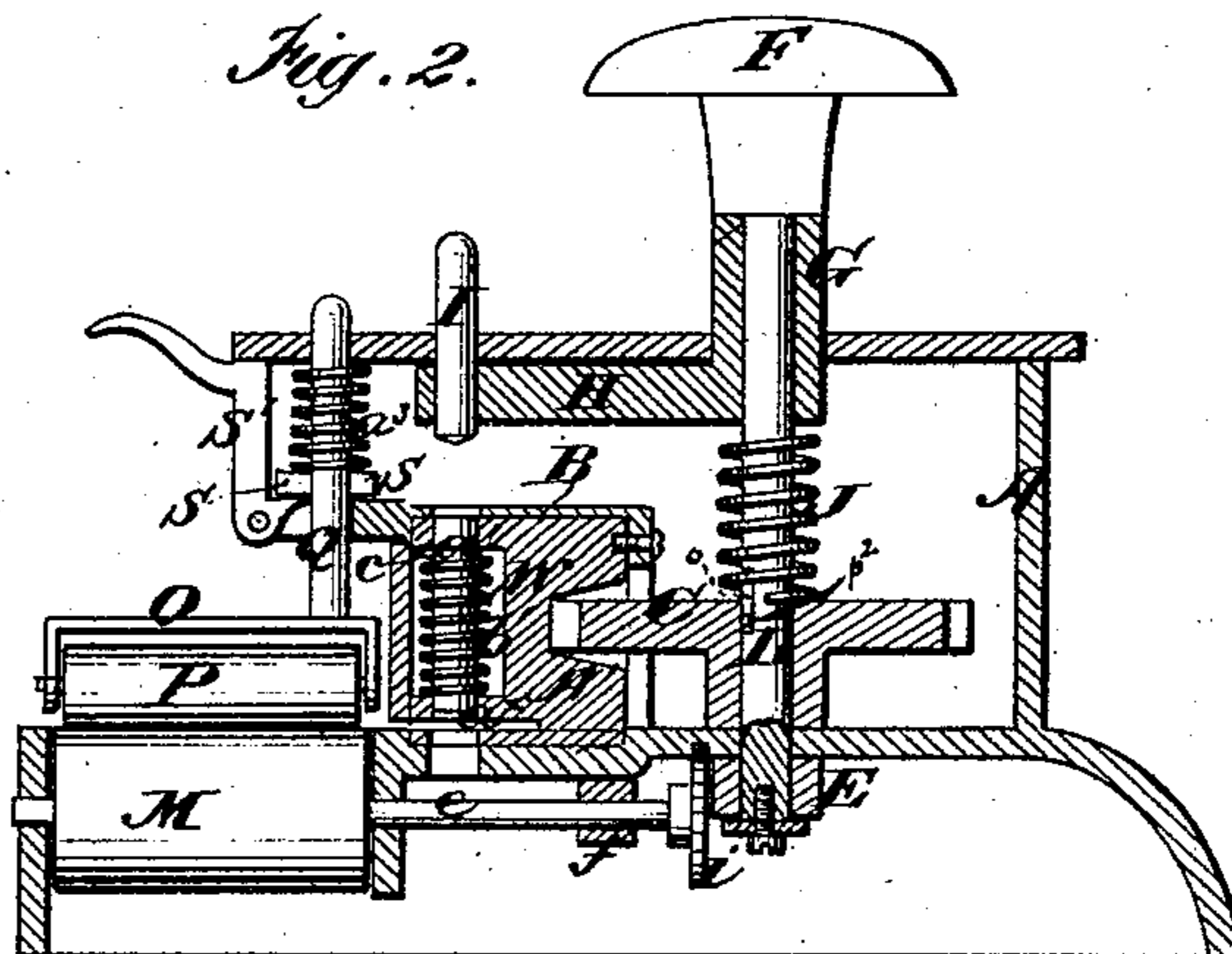
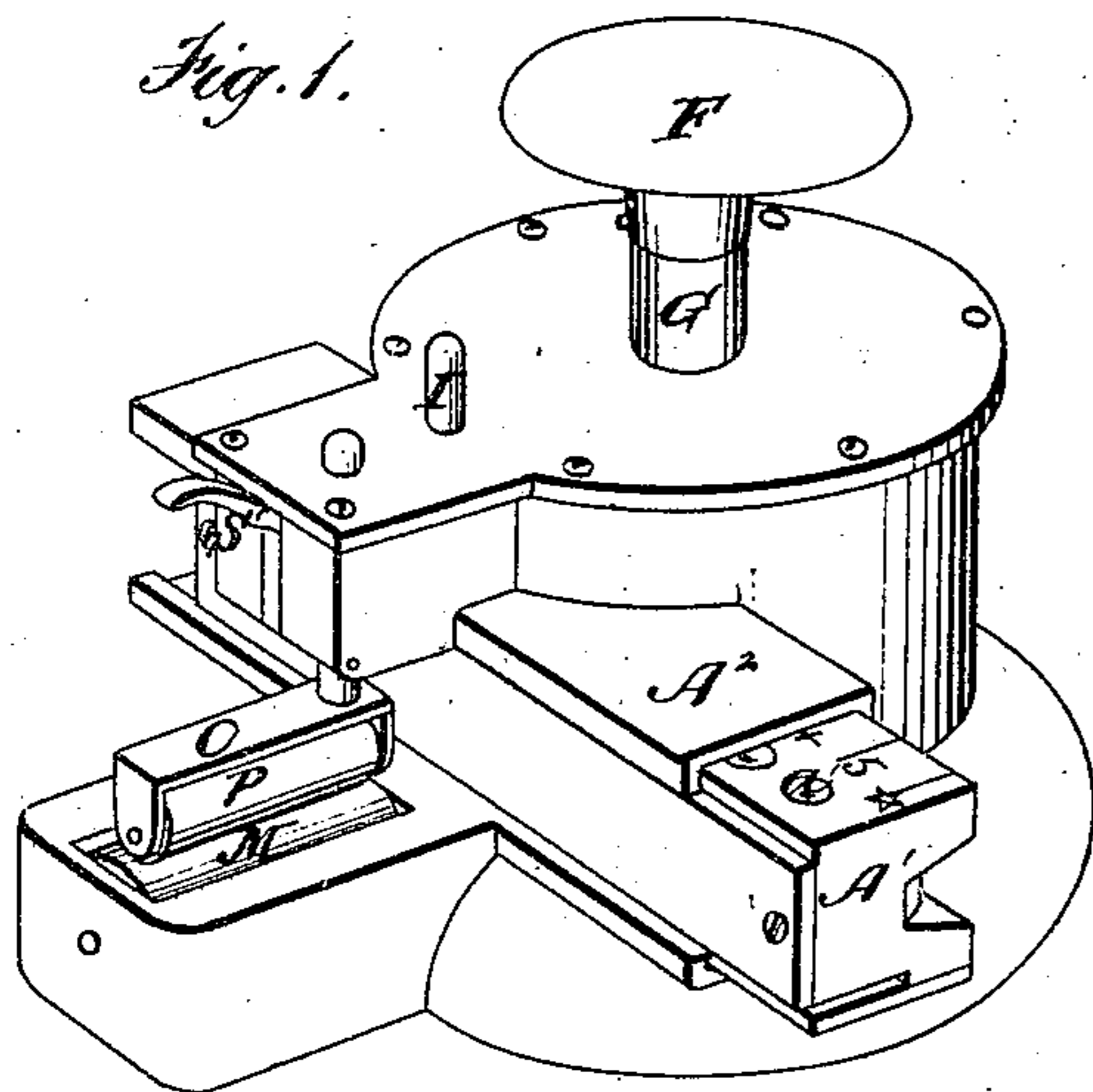
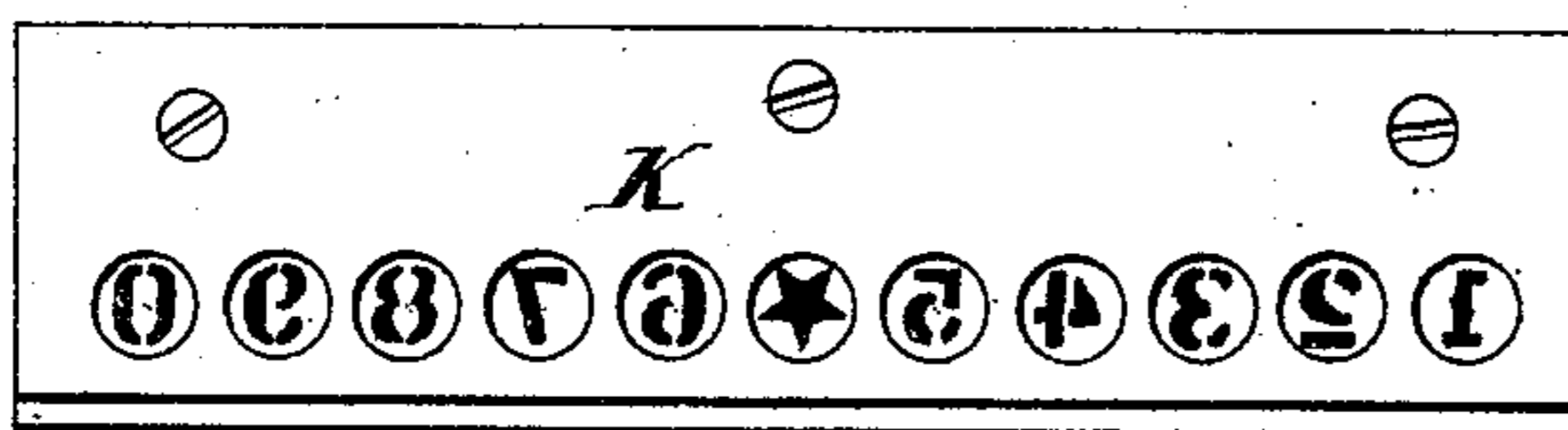
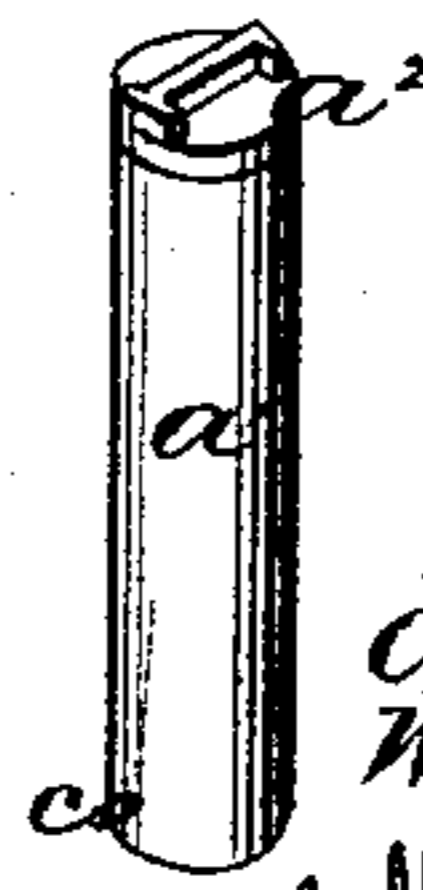


Fig. 6.



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Fig. 7.



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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN PERFORATING-STAMPS.

Specification forming part of Letters Patent No. **153,059**, dated July 14, 1874; application filed
April 30, 1874.

To all whom it may concern:

Be it known that we, CHARLES W. ELLSWORTH and WILLIAM W. EATON, both of Watertown, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Perforating-Stamps; and we do hereby declare the follow to be a full, clear, and exact description of the same, reference being had to the accompanying drawings forming part of this specification, in which—

Figure 1 is a perspective view; Fig. 2, a vertical central section; Fig. 3, a bottom plan view; Fig. 4, a section through line *xx*, Fig. 3; Fig. 5, a perspective view of the slide detached; Fig. 6, a bottom plan view of the slide; and Fig. 7, a perspective view of one of the plungers.

Similar letters of reference in the accompanying drawings denote the same parts.

Our invention relates to improvements in that class of check-punches and feeders, in which the figures representing the amount of the money-check are cut bodily from the paper to obviate the possibility of changing the face of the check to some different amount; and it consists, first, in the employment of a numerically-indexed reciprocating slide, operated by a rack and pinion, and carrying male dies or cutters with the numerals formed on their faces, which are forced, by means of a plunger connected with a vertical shaft actuated by the operator, through correspondingly-formed female dies and the face of the money-check, thus cutting from the latter the numerals desired, which correspond with the amount on the face of the check. Our invention further consists in the direct and positive application of the feed motion from the operating shaft to the roll-shaft, carrying the paper to be punched, by means of a ratchet and pawl, and an arm embracing the ratchet-wheel, as hereinafter more fully set forth.

In the accompanying drawings, A is the cylindrically-formed outer casing of the check-punch, provided with a recess, B, in the rectangular guide A², in which is situated and guided a slide, A¹, having a rack, *a*, on its rear face, which meshes with the teeth of a pinion or gear wheel, C, journaled on the vertical axis D, which passes through a perforation in the

base-plate of the casing of the check-punch, and thence through a perforation in an arm, E, provided with a slot, *b*, to which it is attached by a screw and washer, or other suitable connection. F is a knob, keyed to the vertical shaft D, by means of which a vertical and rotary motion may readily be imparted to the latter by the operator. G is a sleeve, surrounding the vertical axis D, and is provided at its lower end with a horizontal arm, H, having a plunger, I, attached to its outer end, which projects below the lower face of the horizontal arm H. J is a coiled spring surrounding the vertical shaft D, the upper end of which bears against the lower face of the sleeve G, the lower extremity of the said spring bearing against the upper face of the gear-wheel C. The tension of the spring is thus constantly exerted to move the vertical axis D, carrying the slotted arm E, attached to its lower extremity, vertically upward. The lower end of the axis D is grooved at *o*, to receive a projection, *p*², situated on the inside of the hub of the gear-wheel C, so that a rotary movement of the knob F on the axis D will impart a similar rotary motion to the gear-wheel C and the slide A, while a vertical motion can be imparted to the axis D without affecting the movement of the pinion, the projection on the inside of the hub of the latter sliding in the groove *o* in the axis.

The outer face of the slide A¹ is provided with a recess, W, in which are situated eleven plungers, *a*¹ *a*¹, sliding vertically in perforations made in the upper and lower faces of the slide, and made preferably of steel, to the lower ends of which are soldered male dies or cutters *a*², of the form of the nine numerals, zero, and the Roman letter X, or any other letter that may be desired. The upper ends of the plungers *a*¹ *a*¹ are indented to receive the rounded end of the plunger I on the outer end of the horizontal arm H, which is forced down upon the plungers carrying the male dies or cutters by a vertical movement given the axis or shaft D by the operator.

The plungers *a*¹ *a*¹ are provided on their inner sides with grooves, which receive projections in the inner circumferences of the perforations in which they move, to prevent any rotary motion of the plungers in their vertical move-

ment. b' are coiled springs surrounding the plungers, carrying the dies, the upper coils of which bear against pins $c c$ on the side faces of the plungers $a^1 a^1$, the lower ends of said springs bearing against the lower face of the recess in which the plungers $a^1 a^1$ operate, the tension of the springs thus raising the plungers flush with the lower face of the slide A^1 after they have been depressed to punch the paper or other material. The male dies or cutters $a^2 a^2$ are made of compressed composition metal, which are soldered to the lower ends of the plungers $a^1 a^1$, and can readily be removed, if injured, and replaced by others. K is a plate, provided with female dies of the form of the male dies, which pass through them. The female dies are made of composition metal, and the plate K is attached to the lower face of the slide A^1 by means of pins on the female-die plate entering corresponding perforations in the slide A^1 , or by any other suitable connection, so that the female dies are brought directly under their corresponding male dies, which pass through the former, and thence through the check placed over the female-die plate, thus cutting out the desired figures from the check. The upper face of the slide A^1 is provided with an index, L , on which is arranged the nine numerals, zero, and the Roman letter X . The first five numerals are arranged in regular succession on one end of the index, and the remaining four numerals and zero are similarly arranged on the opposite end of the index with a space between, in which is inserted the letter X , or any other letter desired. M is a feed-roller for the money-check or article to be punched, journaled in the sides of a recess on the under side of the casing. The inner end of the journal e of the feed-roll M is prolonged, and passes through a hanger or bracket, f , attached to the lower face of the base-plate of the casing, and is provided on its inner end with a ratchet-wheel, i , with which is connected a spring-pawl, m , to prevent backward movement of the ratchet. The ratchet-wheel i is situated in the slot b in the arm E , attached to the lower end of the vertical axis D , and the outer end of the slot b is provided with a projection or pawl, p , and spring s , which, in the upward movement of the vertical shaft D , by the tension of spring surrounding it, after a figure has been cut from the check engages with the ratchet-wheel and turns it a tooth, thus turning the feed-roll M , and with it the check, that distance for each upward vertical movement of the axis D , thus spacing the distance between the figures cut from the check and feeding it along. O is a bracket, in the ends of which are journaled the pressure-roller P , preferably made of rubber. To the upper face of the bracket O , near its inner end, and perpendicular thereto, is attached the rod Q , surrounded by a spiral spring, a^3 , which rod passes through a perforation in the lower face of a recess in the

casing, in which the rod Q can be raised or lowered, thus raising or lowering the bracket carrying the pressure-roller P . $S S$ are projections on the rod Q , against which the lower end of the spring a^3 bears, forcing the rod and pressure-roller downward, one of which projections engages with the projecting end of a bent lever, S' , journaled in the casing of the punch.

By this construction it will be seen that the pressure-roller may readily be raised for the introduction of the check to be punched.

The index is graduated as follows: Opposite each numeral and the zero of the scale horizontal transverse lines, perpendicular to the longitudinal edge of the slide, are made, and when one of said lines lies immediately opposite the end of the recess in which the slide is made to reciprocate it will indicate the figure which will be cut from the check by the depression of the knob. After the figures corresponding with the amount of the check have been punched from its face, the check is punched with the letter X immediately before and after the punched figures to prevent the punching and insertion of other figures in the money-check, and thus changing the amount of the check. Preferably, however, the letter X is first punched, then the amount of the check, and then another X , the whole being punched without removing the check from the rolls.

By this method of punching the check we obtain the same distance between the first X and the first figure as there is between the other figures.

We also design, preferably, to place the index on the front of the machine with a stationary finger or pointer, to indicate the figures, instead of the arrangement described.

We claim as our invention—

1. The slide A^1 , provided with a rack, a , plunger $a^1 a^1$ and male and female dies, in combination with the vertical axis D , grooved at its lower end, sleeve G , arm H , plunger I , and gear-wheel C , having a pin, p^2 , on the inside of the hub, substantially as described, and for the purposes set forth.

2. The vertical axis D , provided at its lower end with the slotted arm E , ratchet i , pawl m , and feed-roll M , in combination with the pressure-roll P , rod Q , having projections $S S$ and lever S' , substantially as described, and for the purpose set forth.

3. The vertical axis D , provided with a sleeve, G , plunger I , and slotted arm E , on its lower end, and gear-wheel C , in combination with the slide A^1 , having a rack and male and female dies, and plungers $a^1 a^1$, feed and pressure rolls $M P$, and ratchet i , the whole constructed and operated in the manner and for the purpose set forth.

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