

No. 710,140.

Patented Sept. 30, 1902.

J. J. CHATTAWAY.
NUMBERING MACHINE.

(Application filed Oct. 20, 1900.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

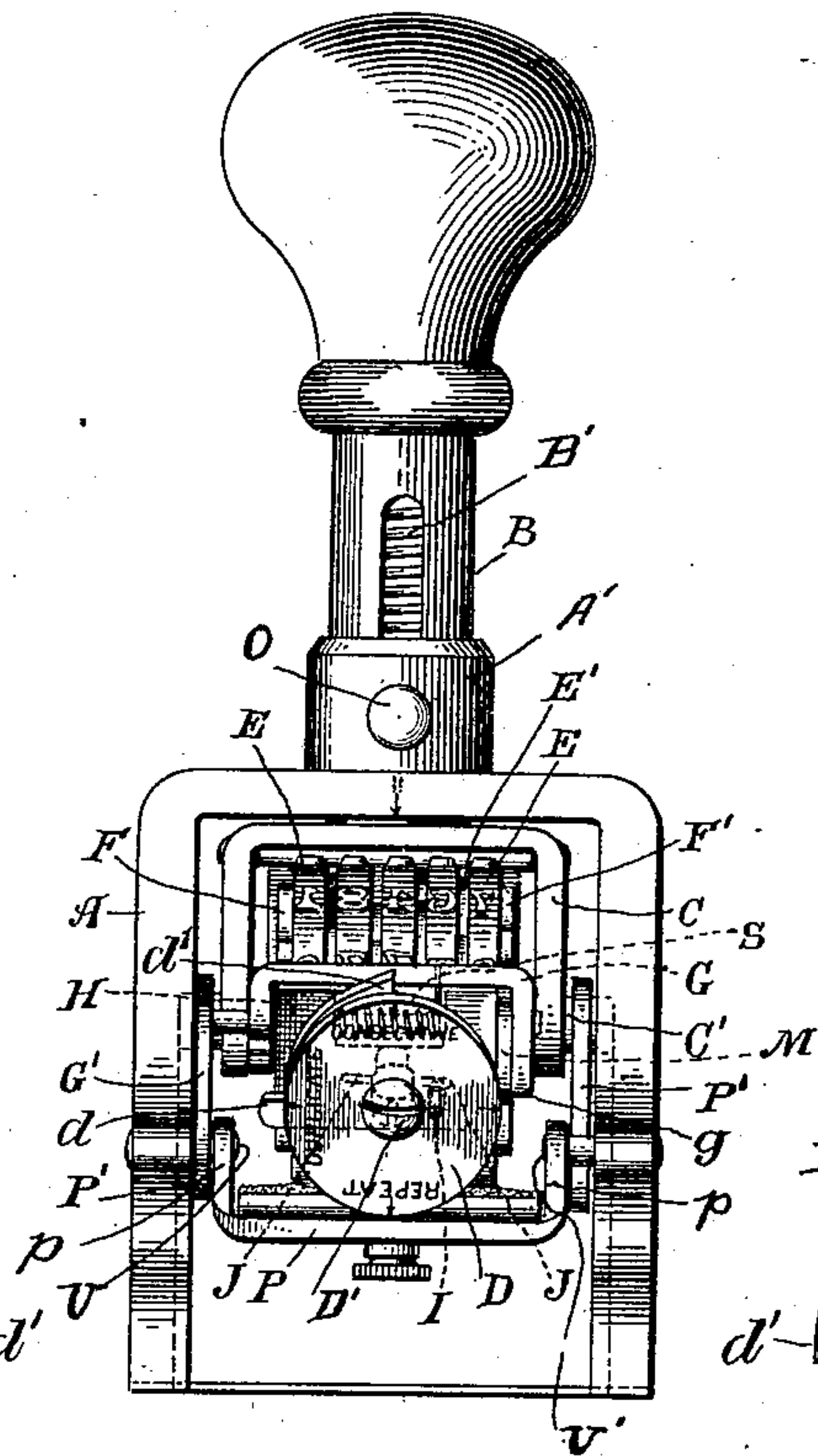


Fig. 2.

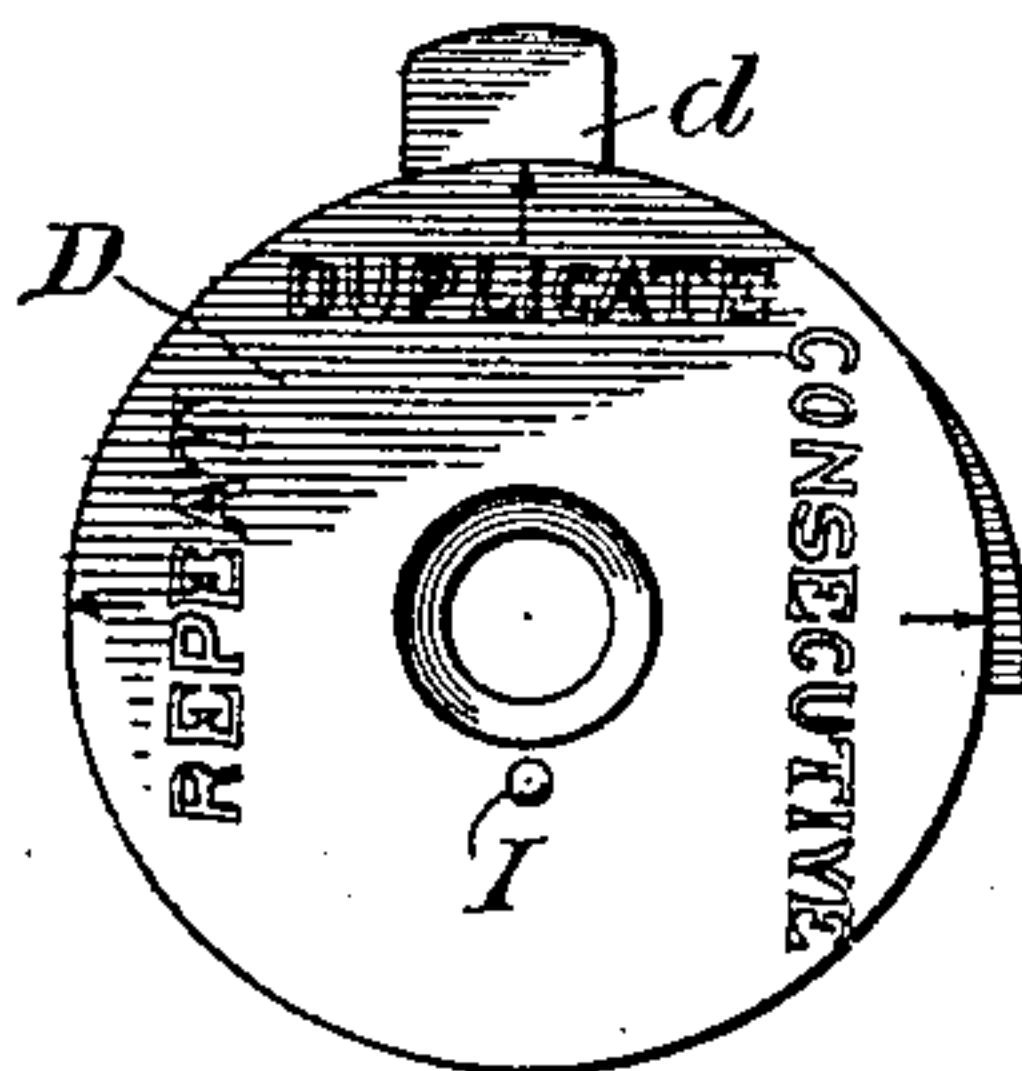


Fig. 4.

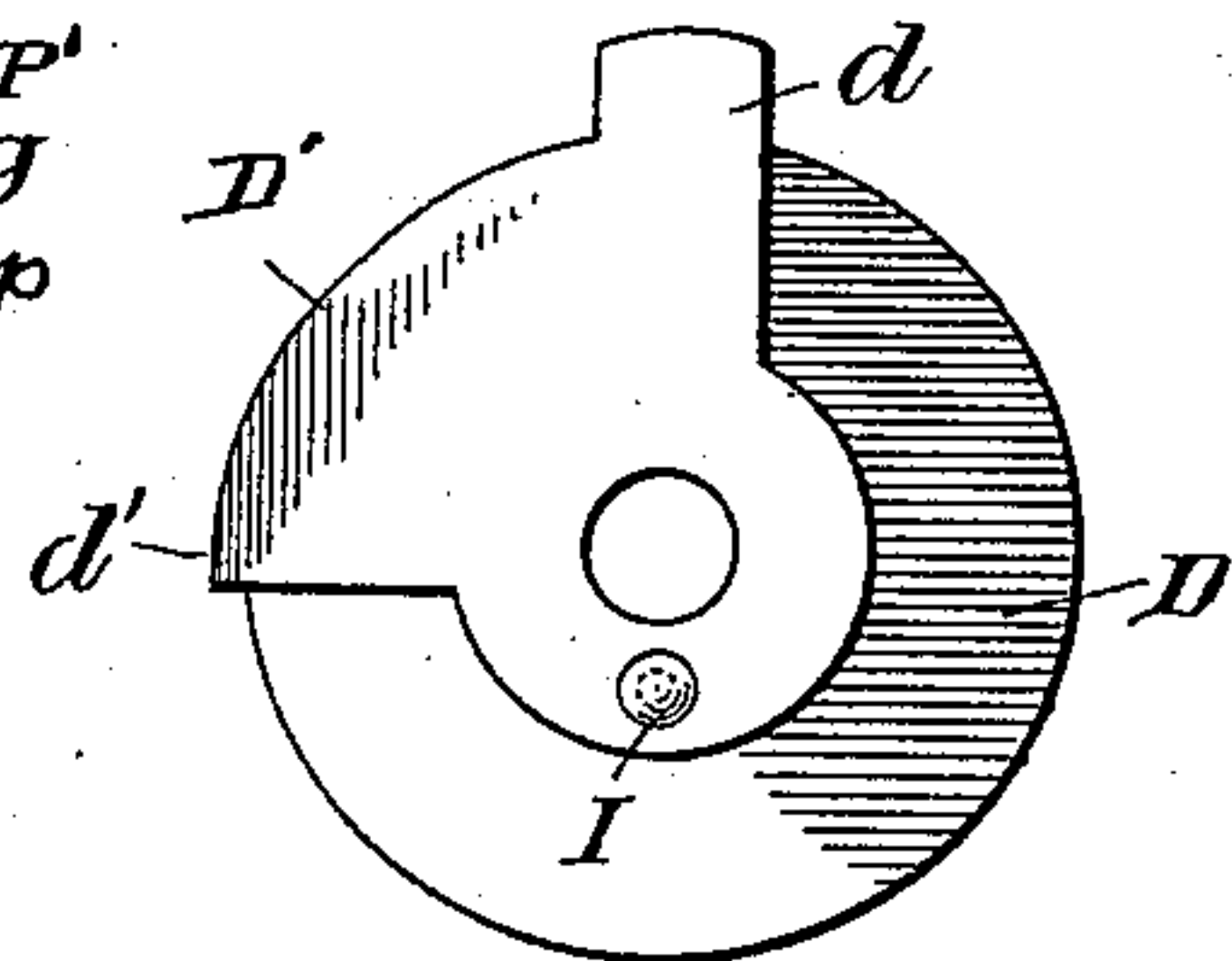


Fig. 2.

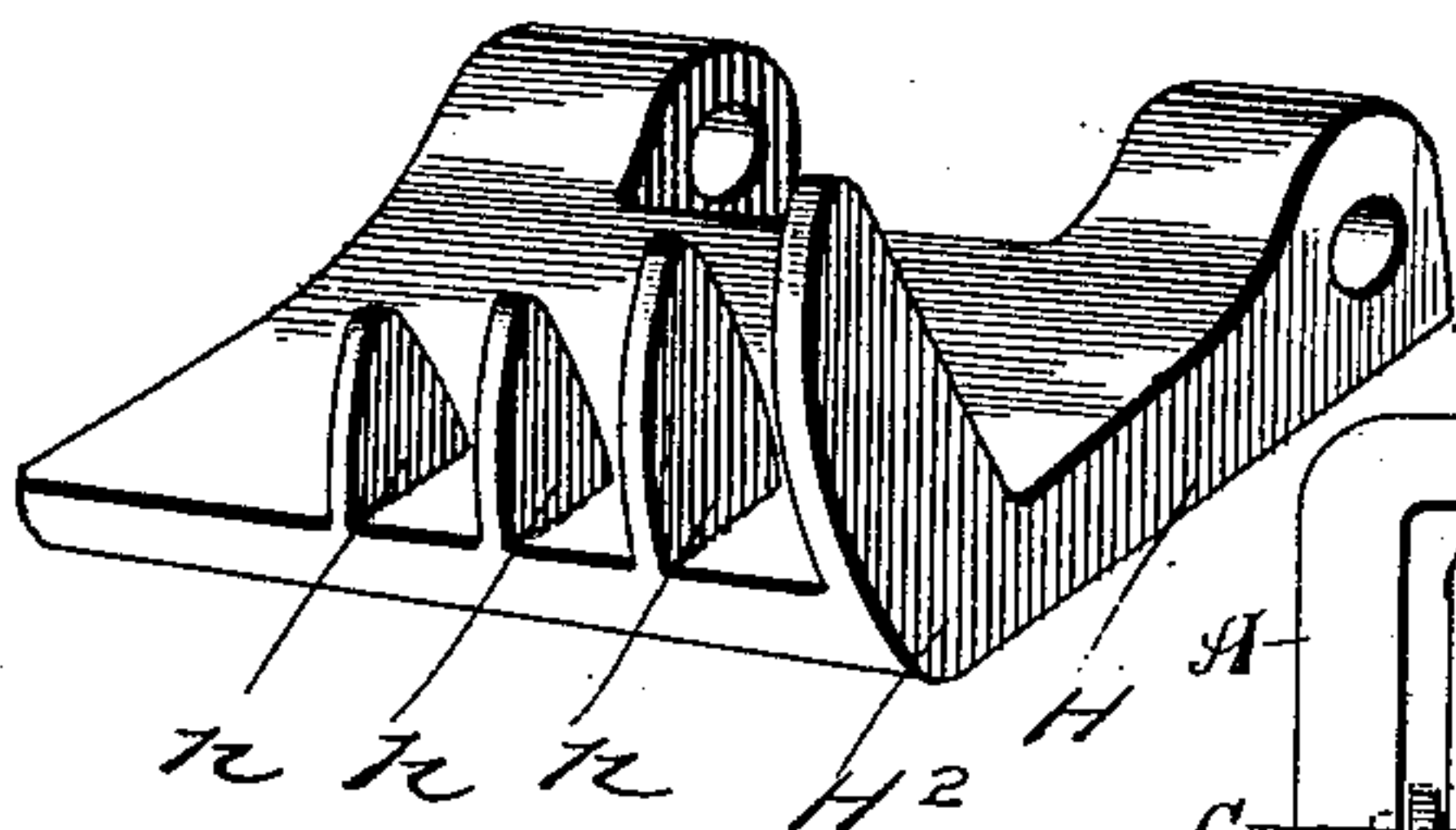


Fig. 12.

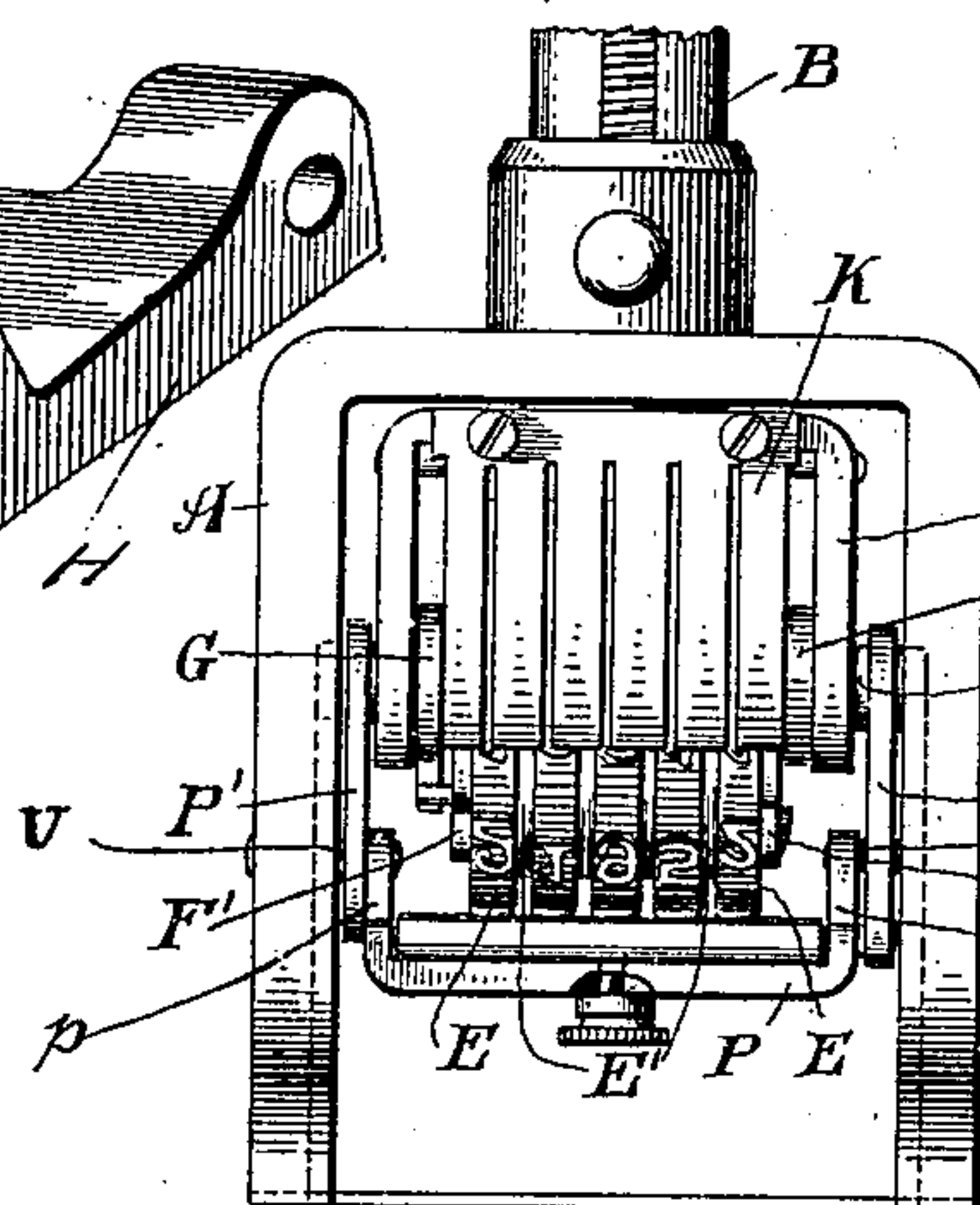
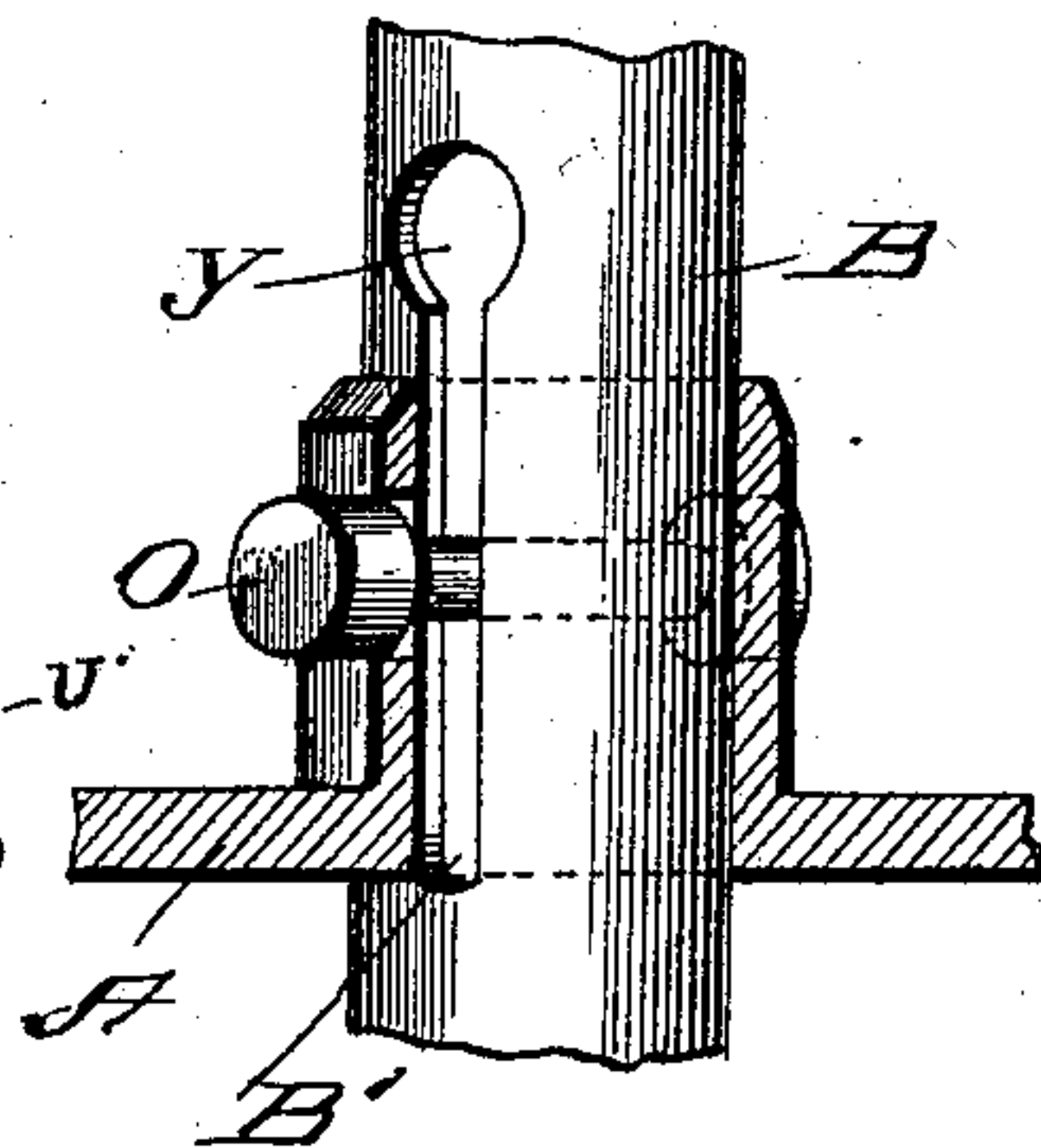


Fig. 13.



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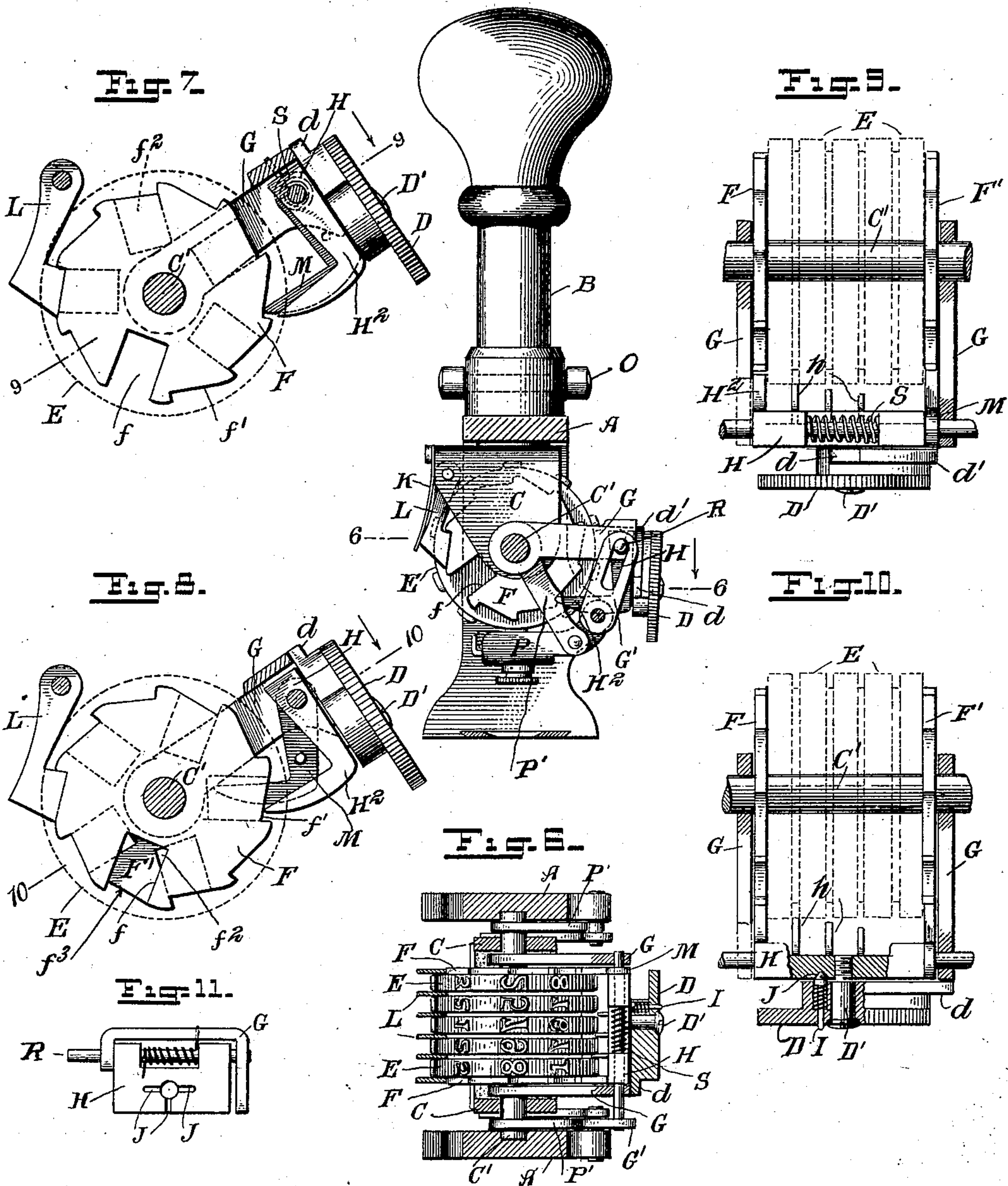
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(Application filed Oct. 20, 1900.)

(No Model.)

2 Sheets—Sheet 2.

Fig. 5.



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UNITED STATES PATENT OFFICE.

JOHN J. CHATTAWAY, OF BROOKLYN, NEW YORK.

NUMBERING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 710,140, dated September 30, 1902.

Application filed October 20, 1900. Serial No. 33,733. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. CHATTAWAY, a citizen of the United States, residing at Brooklyn, Kings county, State of New York, have invented a new and useful Improvement in Numbering-Machines, of which the following is a specification.

My invention relates to numbering-machines, and more particularly to that class of numbering-machines designed to be adjusted so as to print numbers consecutively or to duplicate each number or to repeat any given number indefinitely at the will of the operator.

The object of the invention is to provide a machine of this character which shall be simple in construction and operation, strong, durable, and capable of being manufactured at a minimum cost, and particularly is it designed to provide a machine in which the adjustments for consecutive, duplicate, and repeat numbering may be easily and effectively secured without soiling the fingers and without the introduction of complex mechanism and in which the adjustment when once secured will be maintained and be clearly indicated by a device in full view at all times of the operator.

With these objects in view the invention consists in the combination of elements and arrangement of parts defined in the claims.

The inventive idea involved is capable of a variety of mechanical expressions, one of which I have shown in the accompanying drawings, which are to be regarded as illustrative only and not as defining the limits of the invention.

In said drawings, Figure 1 is a front elevation of a hand numbering-machine embodying my invention, and Fig. 2 is a rear elevation thereof. Fig. 3 is a top plan, and Fig. 4 a bottom plan, of a disk employed to set the machine in the three positions for consecutive, duplicate, and repeat action. Fig. 5 is a side elevation of the machine with a portion of the main frame removed. Fig. 6 is a cross-section on the line 6-6, Fig. 5. Fig. 7 is a detail in end elevation, showing the controlling disk or dial in position for duplicate numbering; and Fig. 8 is a like detail with the disk in position for consecutive numbering. Fig. 9 is a broken plan showing the

parts in position for duplicate numbering. Fig. 10 is a broken plan, partly in section, of the parts in position for repeat numbering. Fig. 11 is a top plan of the pawl-block and yoke with the controlling and index disk or dial removed.

Referring to the drawings, A is the usual main frame, of inverted-U shape, having a hollow stem B, supporting a yoke C, with a shaft C', on which numbering-wheels E, each with a corresponding ratchet-wheel E', are mounted to turn, said numbering and ratchet wheels being yieldingly held in position by any suitable detent, here shown as pawls L and comb-spring K, though, if desired, radial detent-pins within the numbering-wheels E may be employed. The stem B is normally held in its elevated position by a spring within the stem, reaching between the knob or upper end of the stem, and a transverse pin O, extending through the boss A' and slots B' in the stem, so that the latter is free to reciprocate up and down past the pin O. The yoke C is guided in the main frame A by projections thereon engaging vertical grooves in the inner faces of the legs of the main frame. Such projections may be and preferably are the protruding ends of the shaft C', as shown; but they may be independent projections on the yoke C, if desired. Pivoted on the shaft C', inside of the yoke C, but embracing the numbering and ratchet wheels, is a yoke G, to which a pawl-block H is pivoted by rod R, a coiled spring S acting to press the pawl-block H toward the ratchet-wheels. Hung to turn on the shaft C' and on opposite sides of the numbering-wheels E are the ratchet-wheels F F', (see Figs. 7, 8, 9, and 10,) the wheel F having nine shallow ratchet notches or teeth f' and one deep notch f , while the ratchet-wheel F' has five shallow notches f^3 and five deep notches f^2 alternating between the shallow ones. The pawl-block H has pawls h , which engage the ratchet-wheels E' to actuate the numbering-wheels E, and a pawl H², which engages and turns the ratchet-wheel F, while a pawl M, freely pivoted on the rod R, engages and turns the idler ratchet-wheel F', said pawl being here shown as a gravity-pawl, though it is evident that a spring-pressed pawl would be the equivalent thereof. The office of the ratchet-wheel F and pawl H² is

to control the engagement of the pawls h with the ratchet-wheels E' of the numbering-wheels E in a way common and well understood in the art, and both ratchet-wheels F and F' are engaged by detents, as pawls L , to retain them in proper position.

Pivoted to the side of the main frame at U is a link G' , Fig. 5, having an upper slotted end engaging a pin projecting from the yoke G , which pin is here shown as the projecting end of the rod R , and when the yoke C and pawl-yoke G are pressed downward in the operation of the machine pin R first moves down, carrying the pawl-block H till said pin reaches the bottom of the slot in link G' , when the further downward movement of the pawl-yoke G is arrested and the link swings inward, carrying the pawl-yoke and its supported pawls h and H^2 inward with it around the periphery of the descending numbering and ratchet wheels, thereby advancing the pawls to engage the next tooth on the proper ratchet-wheel and turn the corresponding numbering-wheel one step as the yoke C is again elevated by the spring in the stem B .

The inking-pad normally rests in contact with the lower line of type on the numbering-wheels and preferably is removably secured to a plate P , Figs. 1 and 5, which plate has side arms $p p$, pivoted at $U U'$ to the main frame, links $P' P'$ being pivotally connected to said arms $p p$ between the pivots $U U'$ and the plate P , while the other ends of the links $P' P'$ are pivoted on the shaft C' . By this construction the inking-pad is removed from the numbering-wheels on their downward movement and returned thereto on their upward movement.

In the operation as thus far described the machine is only capable of printing numbers consecutively, the pawl H^2 , Fig. 8, which, it will be remembered, is rigid with the pawl-plate H and pawls h , acting in conjunction with the ratchet-wheel F to control the pawls h in the operation of the numbering-wheels in the way well known in the art for printing consecutive numbers. For the purpose of controlling the action of the machine so as to enable it to print duplicate numbers or repeat any desired number indefinitely means are provided for lifting the pawls h out of engagement with their ratchet-wheels and the pawl H^2 out of engagement with ratchet-wheel F at every other impression, so that the numbering-wheels will only be advanced one step for every two impressions, and hence will duplicate each number, or said means may be employed to hold the pawls h and H^2 continuously out of engagement with their respective ratchet-wheels, so that the numbering-wheels will not be advanced at all, and hence the same number will be repeated over and over. Such means consist of a disk or dial-plate D . (Shown *in situ* in Fig. 1, in top plan in Fig. 3, and bottom plan in Fig. 4.) This dial-plate or disk is pivotally mounted on the pawl-plate

H , Fig. 11, the general diameter of the disk being such that the pawl M is free to play past the periphery of the disk without engaging it, and this it does in the consecutive-printing action of the machine, neither the disk D nor the pawl M having any effect upon the action of the machine during such time. The disk D is provided with a projection d , extending beyond the periphery of the disk far enough so that when the disk is turned, with the projection pointing horizontally to the right, it will rest across pawl M and on the pawl-yoke G , and this engagement of the projection d with the yoke G acts to lift the pawl-plate H , to which disk D is attached, sufficiently to entirely prevent engagement of the pawls h and H^2 with their respective ratchet-wheels, and hence the numbering-wheels will not be moved, and the same number will be repeated over and over. A second projection d' is formed at another part of the periphery of the disk D , said projection being long enough to extend over the pawl M , but not onto the yoke G . As here shown, this projection is in the form of an eccentric with gradually-increasing radius; but such construction is not essential. When the projection d' is positioned over the idler-pawl M , said pawl acts to lift the disk D (and with it the pawl-plate H and pawls h and H^2) when said pawl M rests on a shallow notch f^3 of the idler ratchet-wheel F' ; but when idler-pawl M rests in a deep notch f^2 of said ratchet-wheel the pawl-plate is not lifted and pawls h and H^2 actuate their respective wheels, and as the shallow notches f^3 and deep notches f^2 alternate it follows that the numbering-wheels are moved only every other impression, and hence each number is printed in duplicate.

The disk D has the words "Consecutive," "Duplicate," and "Repeat" so arranged on its face that when the disk is in position for the machine to print any one of these ways the word indicating such action will read horizontally across the disk D . For the purpose of holding the disk in any adjusted position a spring-detent (here shown as a spring-pressed pin I , Fig. 10) on the disk engaging notches J , Fig. 11, in the pawl-plate H may be used. Since the disk or dial D does not affect the operation of the machine except when the projections d or d' rest in either the position shown in Fig. 9 for duplicate work or in the position shown in Fig. 10 for repeat work, it is apparent that the disk form is not essential and that this element might be shaped like the thickened segmental part D' , Fig. 4, the remaining portion of the disk D being omitted, the essential feature being that there shall be an element pivoted to the pawl-plate and having two arms or projections corresponding to the projections $d d'$, which are capable of being adjusted, the one so as to engage the pawl-yoke or other part and lift the pawl-plate, and thus throw all

the pawls h and H^2 out of operation, and the other so as to lie in the path of the idler-pawl M when it engages the shallow notches f^3 of idler ratchet-wheel F' , and thus lift the pawl-plate and its pawls out of operation only on every other stroke. These conditions would be fulfilled by a bell-crank lever pivoted at its angle to the pawl-plate and having one arm slightly longer than the other or by a three-armed or T-shaped piece pivoted to the pawl-plate at the angle and having one arm long enough to just miss the pawl M, a second arm long enough to just cover the pawl, and a third and longer arm reaching beyond the pawl M and engaging the pawl-yoke or other part of the machine. It is also apparent that instead of the two projections d d' only one projection, as d , might be employed, which projection in one position, as Fig. 9, would coact with idler-pawl M for duplicate numbering and in another position engage the yoke or other part of the machine to withdraw the pawl-plate H and its sustained pawls h and H^2 out of operative engagement with their respective ratchet-wheels for repeat numbering. These and other mechanical expressions of the inventive idea are regarded as the equivalents of the construction shown for the purposes of this invention and are intended to be included within the scope of the claims.

What is claimed is—

1. In a numbering-machine, the combination of the numbering-wheels and their ratchet-wheels, with a pawl-yoke, a pawl plate or block pivoted in said yoke, pawls secured to said plate and operatively engaging said ratchet-wheels when in normal position, and a part pivoted to the pawl plate or block and adjustable into position to engage a part of the framework of the machine and withdraw said pawls out of operative relation with said ratchet-wheels.

2. In a numbering-machine, the combination of the numbering-wheels, ratchet-wheels controlling the movements of said numbering-wheels, a pivoted pawl plate or block, and pawls secured to said plate or block and engaging said ratchet-wheels for consecutive numbering, with a part pivoted to said pawl plate or block and adjustable into relation with a part of the framework of the machine to turn said pawl plate or block in its pivot and thus withdraw said pawls from operative

engagement with said ratchet-wheels for repeat numbering.

3. In a numbering-machine, the combination of numbering-wheels, ratchet-wheels controlling the movements of said numbering-wheels, a pivoted pawl plate or block, and pawls secured thereto and normally engaging said ratchet-wheels, an idler ratchet-wheel having alternate deep and shallow notches, an idler-pawl engaging said notches and a part pivoted to said pawl plate or block and adjustable into engagement with a part of the machine to withdraw the pawl plate or block and its sustained pawls out of engagement with the ratchet-wheels for repeat numbering, and also adjustable over the idler-pawl, whereby it will be engaged by said idler-pawl when in the shallow notches of the idler ratchet-wheel, for duplicate numbering.

4. In a numbering-machine, the combination of numbering-wheels, ratchet-wheels controlling the movements of said numbering-wheels, a pawl-yoke, a pawl plate or block pivoted to said yoke, and pawls secured thereto, with a disk pivoted to said pawl-plate and having a part adjustable into engagement with said yoke to raise the pawl plate or block and its sustained pawls out of operative relation with their ratchet-wheels, for repeat numbering.

5. In a numbering-machine, the combination of numbering-wheels, ratchet-wheels controlling the movements of said numbering-wheels, a pawl-yoke, a pawl plate or block pivoted to said yoke, pawls secured thereto, an idler ratchet-wheel having alternate deep and shallow notches, and an idler-pawl engaging said notches, with a member pivoted to said pawl plate or block and having one part adjustable into the path of the idler-pawl when in the shallow notches of the idler ratchet-wheel, for duplicate numbering, and another part adjustable into engagement with said pawl-yoke whereby said pawl plate or block and its sustained pawls are withdrawn from their ratchet-wheels for repeat numbering.

In testimony whereof I have hereunto affixed my signature, in the presence of two witnesses, this 18th day of October, 1900.

JOHN J. CHATTAWAY.

Witnesses:

WM. E. WARLAND,
FRANCIS H. WARLAND.