(No Model.) 3 Sheets—Sheet 1.

J. H. PATTERSON.

CASH REGISTER AND INDICATOR.

No. 452,982. Patented May 26, 1891.

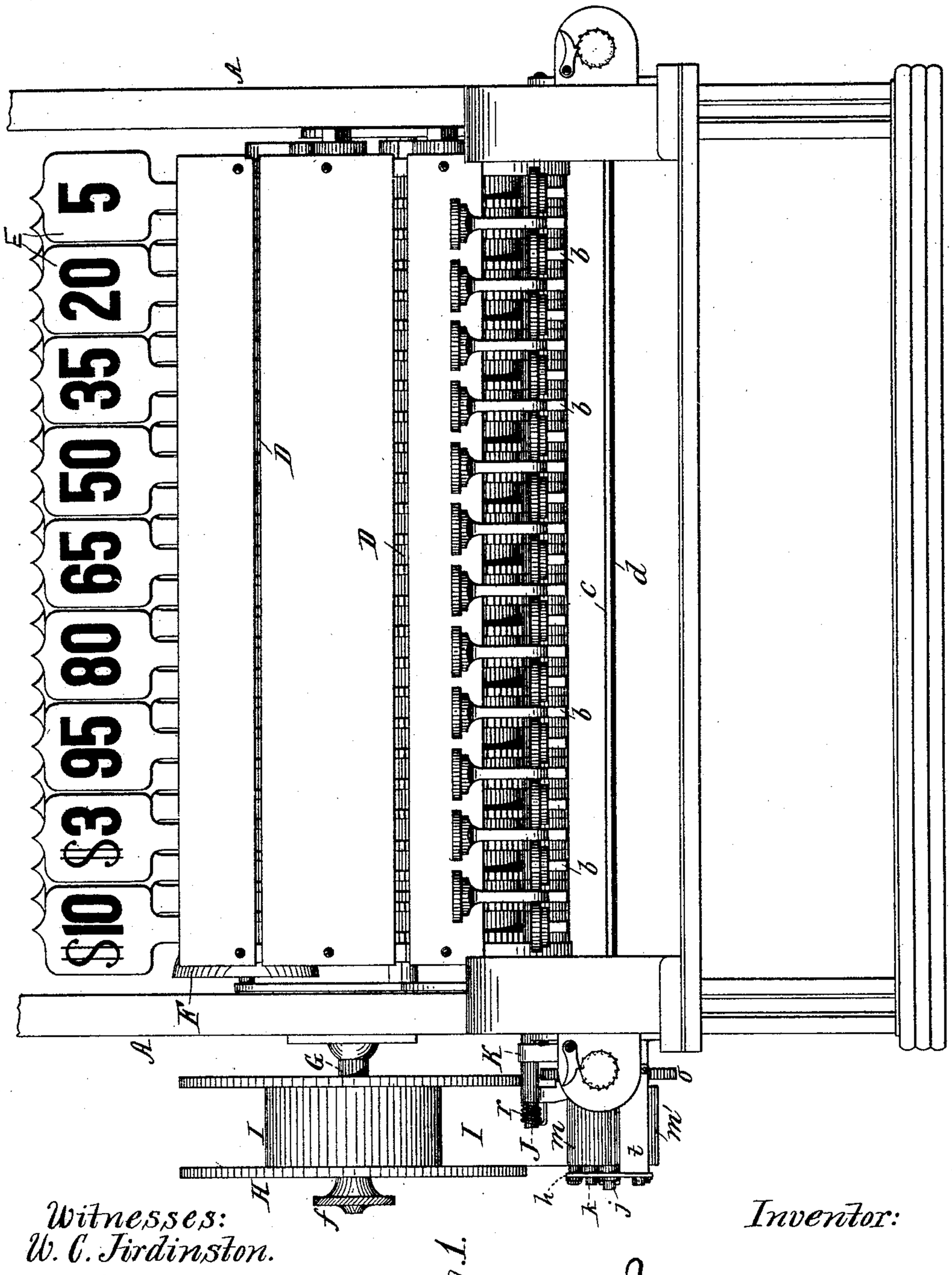

Fig. 1.

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Inventor:
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(No Model.) 3 Sheets—Sheet 2.

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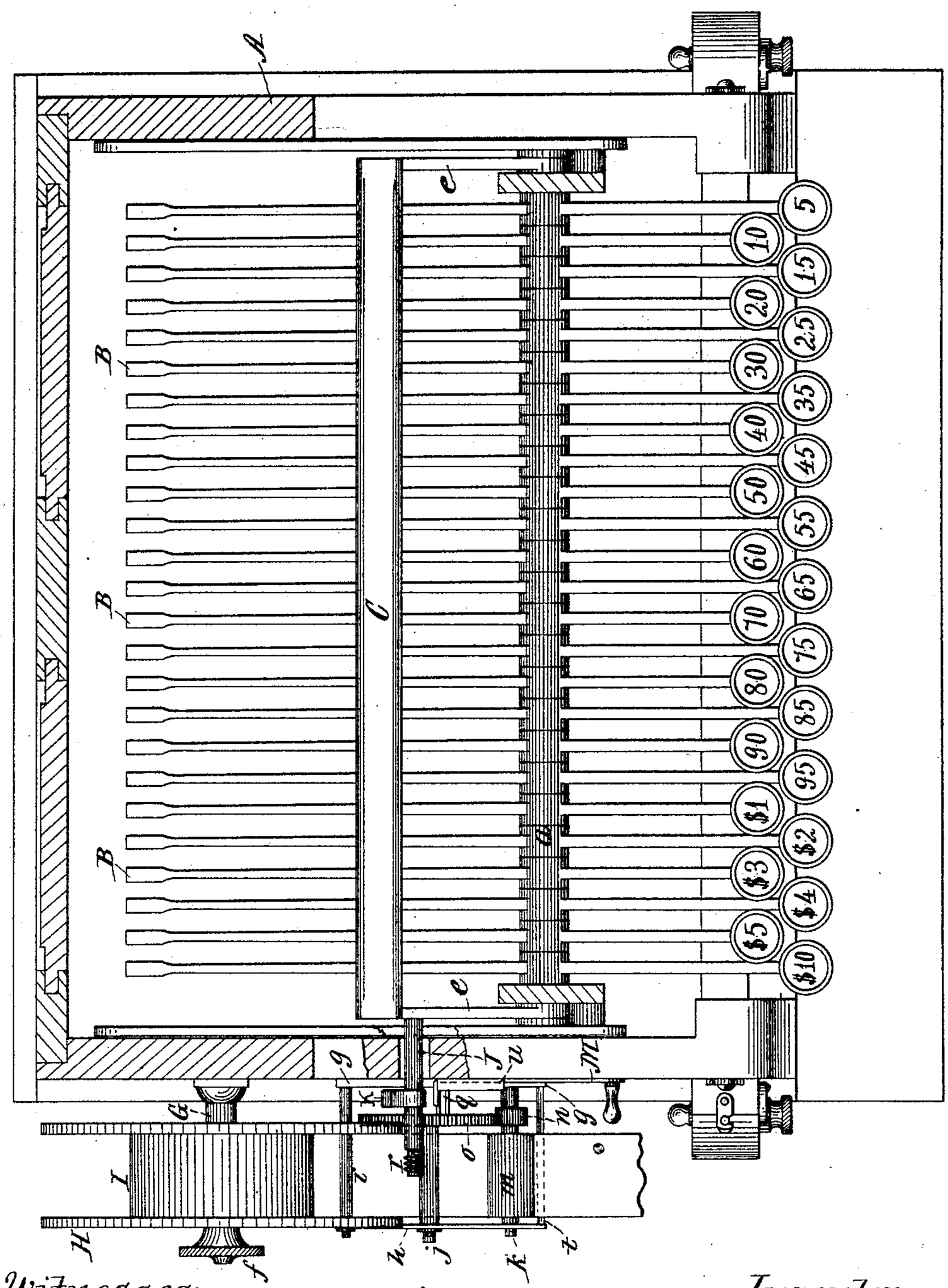

Fig. 2.

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(No Model.) 3 Sheets—Sheet 3.

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Fig. 3.

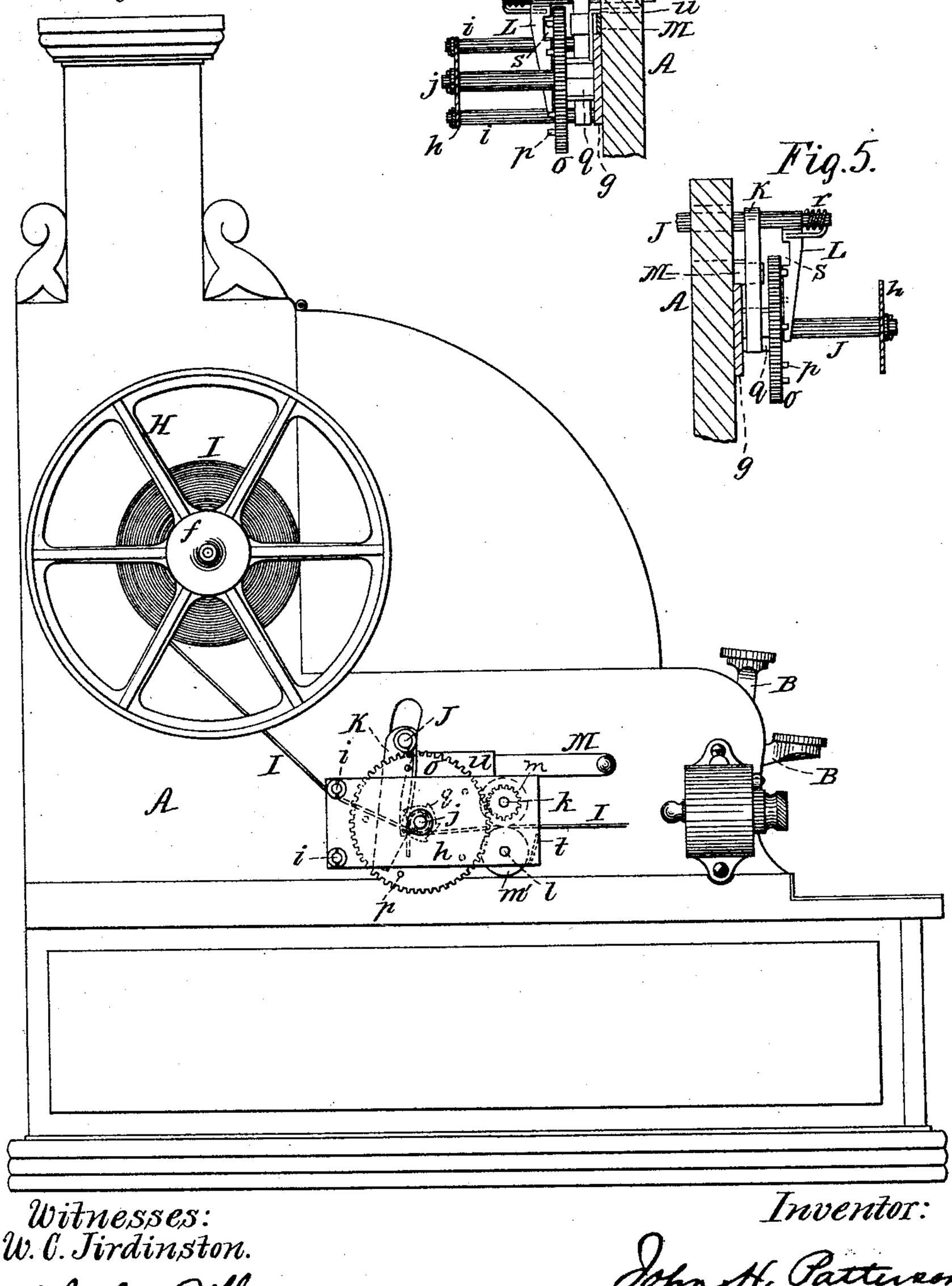

Fig. 4.

Fig. 5.

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UNITED STATES PATENT OFFICE.

JOHN H. PATTERSON, OF DAYTON, OHIO, ASSIGNOR TO THE NATIONAL CASH REGISTER COMPANY, OF SAME PLACE.

CASH REGISTER AND INDICATOR.

SPECIFICATION forming part of Letters Patent No. 452,982, dated May 26, 1891.

Application filed May 7, 1889. Serial No. 309,875. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. PATTERSON, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Cash Registers and Indicators, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates more particularly to that class of cash registers and indicators which are provided with printing attachments for printing the value of an operated key upon a ticket or check when such key is operated to register and indicate its value; and it consists in the combination, with such a machine, of a ticket or check feeding and carrying attachment which is automatically actuated by the operation of the keys to feed out the checks or tickets as desired. Its novelty will be herein set forth, and specifically pointed out in the claims.

In the accompanying drawings, Figure 1, Sheet 1, is a front elevation of a cash register and indicator embodying my invention, and with the upper and front portions of the case removed. Fig. 2, Sheet 2, is a sectional plan view of the same, with all the mechanism within the case and above the keys and vibrating frame removed. Fig. 3, Sheet 3, is a side elevation of the complete machine. Fig. 4, Sheet 3, is a detail front elevation of the ticket-feeding mechanism in rear of the feeding-rolls. Fig. 5, Sheet 3, is a detail rear elevation of the same.

The same letters of reference are used to indicate identical parts in all the figures.

A is the case or cabinet; B, the operating-keys, pivoted as at *a* upon a transverse shaft, and having at their front ends buttons bearing numbers representing the values of the respective keys, and on their forward under sides types *b*, Fig. 1, operating, in connection with an inking-ribbon *c* and rubber bed-plate *d*, to print the value of any key operated upon a check or ticket inserted beneath said key.

C, Fig. 2, is a vibrating bar extending across the tops of all the keys and hung by side arms *e* to the key-shaft.

D D are the two banks of registering-wheels, the wheels of the lower bank being operated by dogs upon their corresponding keys.

E are the tablets, carried upon vertical rods supported in guides and resting on the rear ends of the keys, and arranged to be exposed to view through glass-covered openings in the upper part of the case and to be held up by a supporting-bar actuated by the vibrating bar C and engaging shoulders on said rods; and F, the gong, whose hammer is actuated whenever any key is operated, all in the usual or any suitable manner, and as will be readily understood.

Secured to one end of the case A is a shaft G, extending at right angles to the side of the case and having removably journaled thereon, by means of a cap-screw *f*, a spool or reel H, containing the paper check or ticket-ribbon I. Likewise secured upon the same side of the case is a frame composed of two parallel plates *g h*, connected by tie-rods *i j*, and having journaled between them at the front end of the frame two shafts *k* and *l*, one directly over the other. Secured upon the shafts *k l* are rubber rollers *m m'* in frictional contact with each other. The shaft *k* has secured near its end next to the plate *g* a small pinion *n*, with which a larger pinion *o*, journaled loosely upon the tie-rod *j*, meshes. The outer face of the pinion *o* has projecting from it equidistant stop-pins *p*, of which there are in this instance five, and the inner hub of said pinion is a ratchet *q*.

Secured to or integral with the vibrating bar C or its side arm *e* is a rod J, extending out through a slot in the side of the case and projecting directly over the top of the pinion *o*. This arm has hung upon it a gravitating or spring-pressed dog K, extending down between the plate *g* and pinion *o* and engaging with the ratchet *q*. (See Figs. 3, 4, and 5.) Also hung upon the arm J, just outside of the pinion *o* is stop-plate L, whose lower end is constantly held against the rod *j* by a spring *r*, in this instance coiled upon the arm J and bearing against the rear side of the plate. The inner edge of the plate L is in close proximity to the outer face of the disk, except at its upper end, where it is cut out to form a recess *s*, Figs. 4 and 5, to permit the passage of the pins *p*, as hereinafter explained.

The paper ribbon I is conducted from the reel H under the rods *i j*, Fig. 3, between the rollers *m m'* and out over a cutter-bar or knife *t*, supported between the front edges of the plates *g h*.

It will be seen from this construction and arrangement that when any key is operated by depressing its forward end the bar C will be lifted, carrying up with it the arms J and dog K and causing the latter to engage the ratchet-hub *q* of the pinion *o* and turn the latter a given distance, thereby rotating the roller *m* and feeding out the ribbon I between said roller and the roller *m'*, and the adjustment of the parts is such that a full operation of a key will actuate the pinion *o* to rotate the roller *m* just far enough to feed out the ribbon I a distance corresponding to the desired length of the check or ticket to be torn therefrom.

Inasmuch as it is generally desired to have some printed matter on the checks or tickets, such as the number of each check, the name of the proprietor of the establishment, and often a direction such as "Please pay cashier," this matter is printed at equal distances apart along the face of the ribbon I, and it is therefore necessary in such case that the ribbon I should be fed out between the rollers *m m'* only the exact length of one check at each operation of a key. It is therefore desirable to provide means for positively stopping the pinion *o* at the completion of the stroke of a key, and locking it from turning the roller *m* any farther by its own momentum, and for this purpose I employ the plate L and the pins *p*, projecting from the face of the pinion *o*, which co-operate with each other to accomplish the desired result in the following manner: When the parts are at rest, as shown in Figs. 1, 3, and 4, the pin *p*, which is then uppermost on the pinion *o*, is immediately in rear of the recess *s* in the plate L, so that when a key is operated and the pinion *o* begins to turn this pin moves forward through said recess before the rod J has lifted the plate L high enough to obstruct its passage; but before the next pin reaches the plate L the latter has been lifted up directly in its path and the pinion *o* is positively stopped and locked from further movement by the engagement of this pin with the plate L. The adjustment of the parts and location of the pins are such that the dog K, engaging the ratchet of the pinion *o*, reaches its full limit of upward movement just at the moment, or slightly before, the pin engages the plate L, so that the latter serves to lock the pinion from further movement by its own momentum, but does not stop its positive movement given by the dog K and operating-key. When the operated key is released, the dropping back of the bar C and rod J resets the dog K and plate L, the former reengaging with the next lower tooth of the ratchet *q*, and the latter being again brought to the position shown in Figs. 3 and 4 to permit the next pin *p* to pass through its recess *s* upon the operation of another key.

At the beginning of operations, or after a fresh reel of checks has been applied to the machine, the ribbon I is first drawn out between the rollers *m m'* the length of one check. This check is torn off, placed beneath the first key operated and printed with the value of such key, while the operation of this first key actuates the feeding mechanism to feed out another check to be used with the next key operated, and so on. It will thus be seen that after the operation of the first key there is always a check projecting from between the rollers *m m'* ready to be torn off and printed. In this manner a constant supply of checks in convenient form is maintained and they are automatically fed out one at a time by the operation of the keys.

M is a push-bar supported in a guide *n* upon the plate *g* and arranged when slipped back to throw and hold the dog K out of engagement with the ratchet *q* when for any reason it is desired to stop the feeding of the checks or tickets.

I wish it understood that my invention is not limited to the construction and arrangement of the particular feeding mechanism illustrated and described, but contemplates the employment of any suitable or well-known form of such mechanism arranged to perform the same function in the combination set forth. Also, while I have described the tickets as supplied from a ticket-ribbon carried upon a reel, this being a convenient form for the ticket-supply, and the reel affording a suitable holder therefor, yet the supply of tickets may be maintained in any other convenient form and carried in any other suitable holder.

Having thus fully described my invention, I claim—

1. In a cash-register, the combination, with a series of independently-operating keys indicating different values pivoted on fixed centers individually, of a ticket-holder supported in a fixed position and a feeding mechanism for the tickets common to all the operating-keys for advancing the tickets successively into convenient position to be grasped, one ticket being advanced by each successive operation of any key of the series, irrespective of its value, substantially as described.

2. In a cash-register, the combination, with a series of independent operating-keys indicating different values pivoted on fixed centers individually, of a ticket-holder supported in a fixed position, a feeding mechanism for the tickets independent of the holder, and an operating-bar therefor extending into proximity to all the keys of the series, whereby a ticket is fed out upon the operation of any key, irrespective of its value, substantially as described.

3. In a cash register and indicator, the combination, with the series of operating-keys

aud ticket-supply holder, of the ticket-feeding mechanism consisting of the rollers, the wheel in gear with said rollers, the pivoted bar extending across the series of operating-keys, and a pawl-and-ratchet connection between the bar and the wheel in gear with the feed-rollers, substantially as described.

4. In a cash register and indicator, the combination, with the operating-keys B, pivoted on fixed centers, and vibrating bar C, extending in proximity to all the keys, of the pinion *o*, feeding-rollers *m m'*, and mechanism interposed between the pinion *o* and bar C for actuating the former by the movement of the latter, substantially as and for the purpose described.

5. In a cash register and indicator, the combination of the keys B, pivoted on fixed centers, vibrating bar C, extending in proximity to all the keys, arm J projecting from said bar, dog K, pinion *o*, having the ratchet-hub *q*, engaged by the dog K, and the rollers *m m'*, the former having a pinion meshing with the pinion *o*, substantially as and for the purpose described.

6. In a cash register and indicator, the combination of the keys B, vibrating bar C, arm J, dog K, pinion *o*, having the ratchet-hub *q*, and the pins *p*, projecting from its face, the stop-plate L, arranged to engage said pins, and the rollers *m m'*, the former having a pinion meshing with the pinion *o*, substantially as and for the purpose described.

7. In a cash register and indicator, the combination of the keys B, vibrating bar C, arm J, dog K, pinion *o*, having ratchet-hub *q*, push-bar M for holding the dog K out of engagement with said hub, and rollers *m m'*, the former having a pinion meshing with the pinion *o*, substantially as and for the purpose described.

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