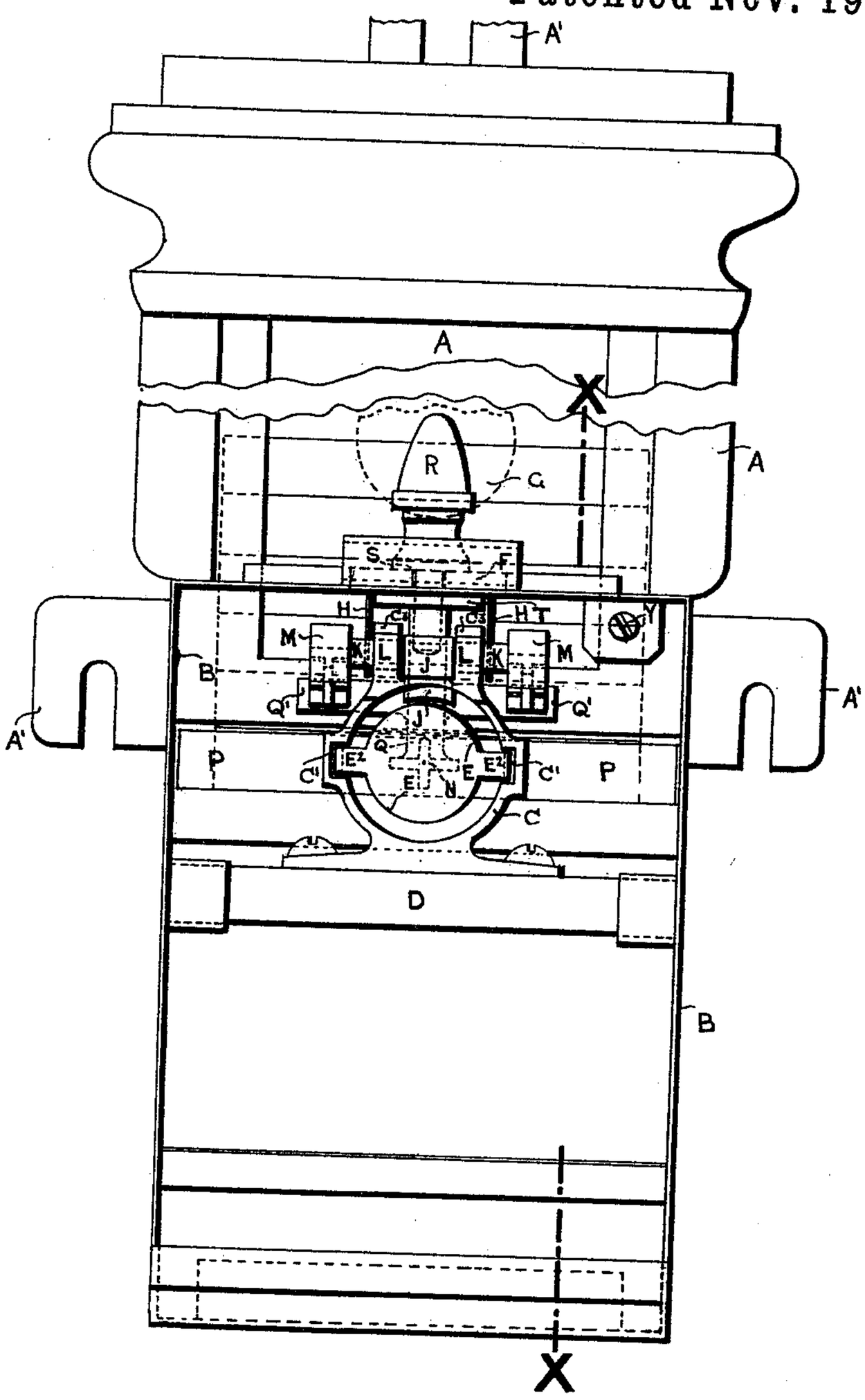
(No Model.)

3 Sheets—Sheet 1.

H. S. HEATH.

DELIVERY MACHINE.

No. 415,341. Patented Nov. 19, 1889.



— FIG. 1 —

Witnesses—

Stephen Edward Gunyon.

William Anderson Smith.

Hubert Samuel Heath

Inventor

(No Model.) 3 Sheets—Sheet 2.

H. S. HEATH.

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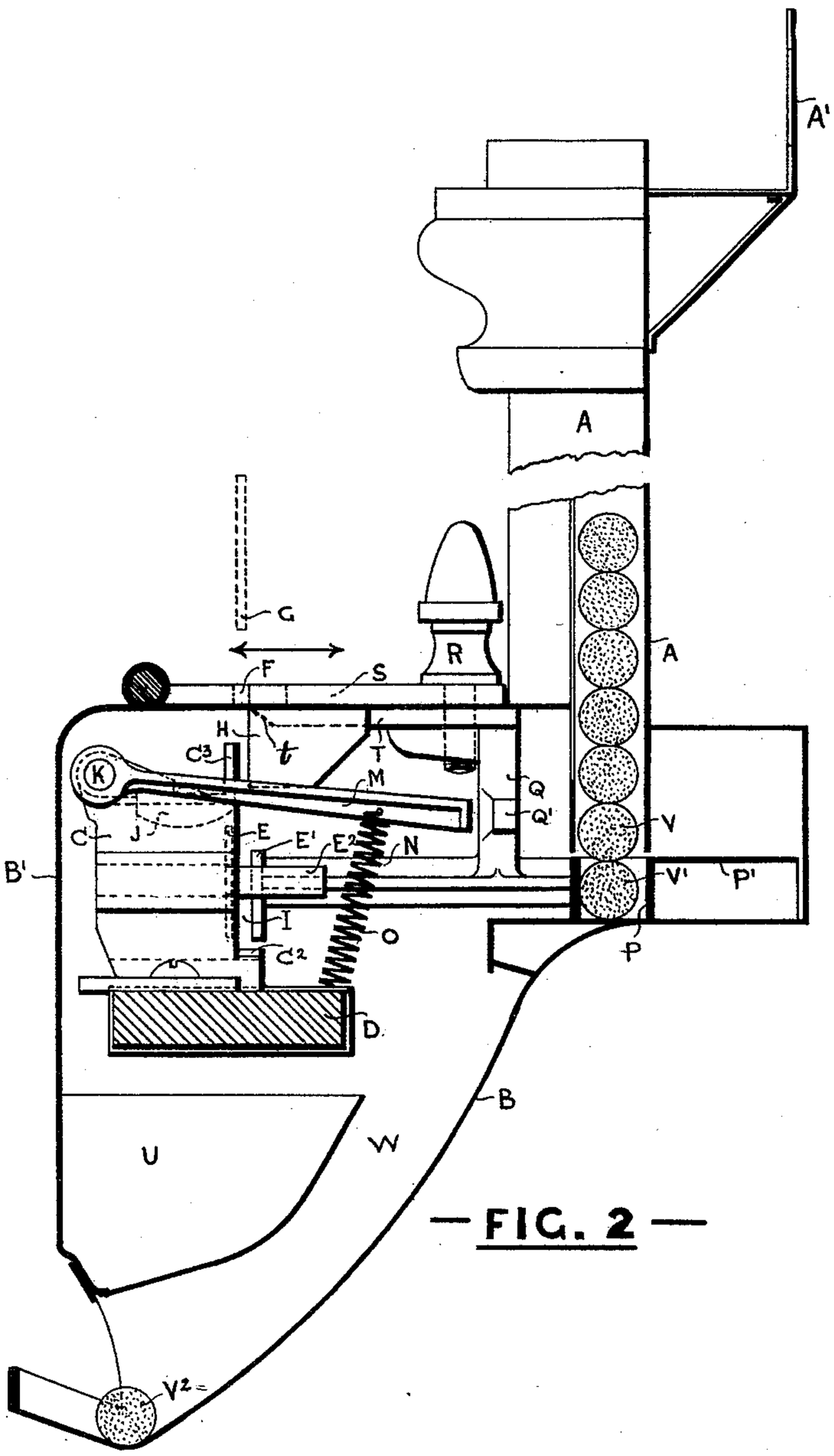

— FIG. 2 —

Witnesses.
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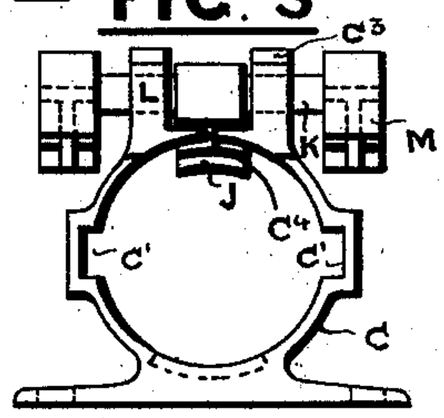
(No Model.) 3 Sheets—Sheet 3.

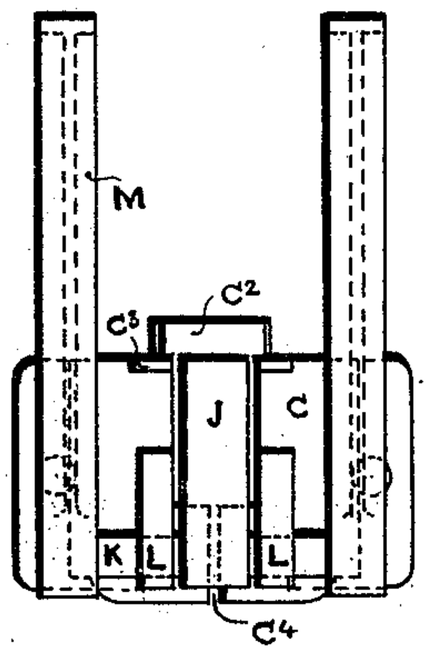
H. S. HEATH.

DELIVERY MACHINE.

No. 415,341. Patented Nov. 19, 1889.

— FIG. 3 —





— FIG 4 —

Witnesses:
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E. L. Richards

Inventor:
Hubert S. Heath.
By Richards & Co.
Attorneys.

UNITED STATES PATENT OFFICE.

HUBERT SAMUEL HEATH, OF ISLINGTON, COUNTY OF MIDDLESEX, ENGLAND.

DELIVERY-MACHINE.

SPECIFICATION forming part of Letters Patent No. 415,341, dated November 19, 1889.

Application filed January 26, 1889. Serial No. 297,640. (No model.)

To all whom it may concern:

Be it known that I, HUBERT SAMUEL HEATH, engineer, a subject of the Queen of Great Britain, residing at Excelsior Automatic Works, 50 Penton Street, Islington, in the county of Middlesex and Kingdom of Great Britain, have invented certain new and useful Improvements in Delivery-Machines, of which the following is a specification.

My invention relates to improvements in that class of delivery-machines in which the articles to be purchased and delivered are contained in a column down which they fall by gravity and are withdrawn or released at the lower end thereof, one by one, by means of mechanism which is actuated or released by the introduction of a coin of a certain value by the purchaser; and the objects of my improvements in such machines are to render the withdrawing or releasing mechanism more simple in construction, accurate in working, and more durable than the mechanism commonly employed for these purposes.

The accompanying drawings illustrate a machine of the kind above referred to with my improved withdrawing or releasing mechanism applied thereto and adapted for the delivery of cigarettes, for example.

Figure 1 is a front elevation with the front plate removed, and Fig. 2 is a vertical section on line X X of Fig. 1. Figs. 3 and 4 are respectively a front and plan view of the coin-guiding devices, showing a modification.

Similar letters of reference relate to like parts in each of the figures.

The machine is shown as a single-column machine (the column A being shown broken away in the middle to save space in the drawings) adapted to be fastened against a wall by the lugs A′. The column is provided with the necessary guides for keeping the cigarettes V in position, and may also be furnished with the usual movable transparent front for the purpose of ascertaining when the column is empty and for recharging the machine. The delivering apparatus is contained in a casing B, which forms the base of the column A.

C is a cylinder of an internal diameter approximately the same as the coin representing the price of the article to be withdrawn. This cylinder is fixed to the cross-support D and is provided with longitudinal grooves C′, in which slide the projections or fins E^2 of the double or slotted piston or plunger E E′, which latter is of less diameter than the cylinder, as shown in the drawings. The apparatus is shown in its normal position, the space, slot, or recess I between the front portion E, and the back portion E′ of the piston being approximately in the same vertical plane as the slit F, through which the coin G is to be introduced.

H are two guides for guiding the coin G in a vertical plane and causing it to enter the space, slot, or recess I between the two parts E and E′ of the piston or plunger, the lower edge of the coin resting on the projecting part C^2 of the bottom of the cylinder C. The projecting flanges C^3 also assist in guiding the coin. Projecting through the top of the cylinder is a cam, tappet, or latch J, fixed on the axis K, which is free to turn or pivot in bearings L, and carries at each end a lever or arm M, which levers or arms may act as balance-weights to return the cam, tappet, or latch J into its normal position after having been raised, as hereinafter explained, and also as stops to prevent the wrongful withdrawal of a cigarette. Springs may be employed, as at O, for example, to return the levers or arms M into their normal position.

N is the piston-rod, connected at one end to the piston or plunger E E′, and at the other end to a slotted slide P, which, when the apparatus is in its normal position, is directly under the column A. The piston-rod also carries a standard or stem *q*, to the upper portion of which is connected the stem of the handle or knob R, which is free to move backward and forward (in the direction of the arrow) in the slot S in the top of the casing B, the slot being covered from the inside by the cover-plate T, which is attached to and moves with the handle or knob R, being guided by the guides H. The front end of this cover plate may be knife-edged, as shown at *t*, so as to cut or shear off any wire, thread, or other material which may be introduced for felonious purposes through the slit F. The standard or stem Q is provided with cross-projections Q′, which strike against the ends of the levers or arms M and prevent the wrongful withdrawal of a cigarette.

The action of the apparatus is as follows:

The apparatus being in its normal position, as shown in the drawings, a coin G is dropped into the slit F and falls into a position more or less central with the cylinder C, its lower edge resting, as before stated, on the projection C^2. If the handle or knob R is now drawn toward the front of the machine, the cover-plate T, standard or stem Q, cross-projections Q′, slotted slide P, piston rod N, and the piston or plunger E E′ will also be moved in the same direction, until the upper edge of the coin comes into contact with and raises the inwardly-projecting cam, tappet, or latch J. By raising the cam, tappet, or latch J the ends of the levers or arms M are likewise raised out of the path of the cross-projections Q′ on the standard or stem Q until the coin has passed the cam, tappet, or latch J, when the said ends of the levers or arms M are allowed to fall by gravity, or are forced by the spring O onto the top of the cross-projection Q′. The piston or plunger E E′ having arrived at the end of its stroke beyond the end of the cylinder C, the coin falls out of the recess or space I into the till U. It will be understood that during the forward movement of the handle or knob R the lowermost cigarette V′ in the column A is drawn forward in the slot of the slide P until the said slot arrives over the funnel or hopper W, when the cigarette falls and rolls into the position shown at V^2, Fig. 2, whence it can be withdrawn by the purchaser, who then returns the handle or knob R into its normal position, and thereby the cover-plate T, standard or stem Q, cross-projections Q′, slotted slide P, piston-rod N, and the piston or plunger E E′ into their respective normal positions. The ends of the levers or arms M also fall or are forced by the springs O into the position shown on the drawings as soon as the cross-projections Q′ retire, thereby preventing the further action of the apparatus until another coin is inserted in the slit F. The part P′ of the slotted slide P forms a temporary or false bottom to the column of cigarettes while the said slide P is being drawn forward.

In order to prevent the successful employment of a disk of card-board or other similar material instead of a coin, I prefer to cut away the upper portion of the back part E′ of the piston, and thus allow the cam, tappet, or latch J to crush or bend over the counterfeit disk rather than yield thereto. The front portion B′ of the casing B is made removable for the purpose of collecting the money from the till U, and may be provided with a padlock or other fastening. The usual movable transparent front of the column A may be locked in position by means of the screw-pin Y, Fig. 1, which is only exposed when the front portion B′ of casing B is removed.

In order to provide for the employment of a coin which may be to a certain extent out of shape or battered, I sometimes split the cylinder longitudinally, as shown at C^4, Figs. 3 and 4, in order to allow it to be sprung open to a small extent, and thus allow such a coin to be passed through by the employment of additional force on the handle or knob R, and to spring back to its original shape when such coin has passed through.

I claim—

In delivery-machines, the combination of the cylinder C, the piston or plunger having a recess or slot I therein to receive the coin, the stops or projections Q′, connected with the plunger, the actuating handle or knob R, the slotted slide P, connected to the said piston or plunger, the releasing-cam J, and the stop levers or arms M, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

HUBERT SAMUEL HEATH.

Witnesses:

STEPHEN EDWARD GUNYON,
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WILLIAM ANDERSON SMITH,
73 *Sydner Road, London, N.*