No. 705,477. Patented July 22, 1902.

D. K. STONE & W. W. HEALY.

COIN CONTROLLED VENDING MACHINE.

(Application filed Mar. 21, 1902.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

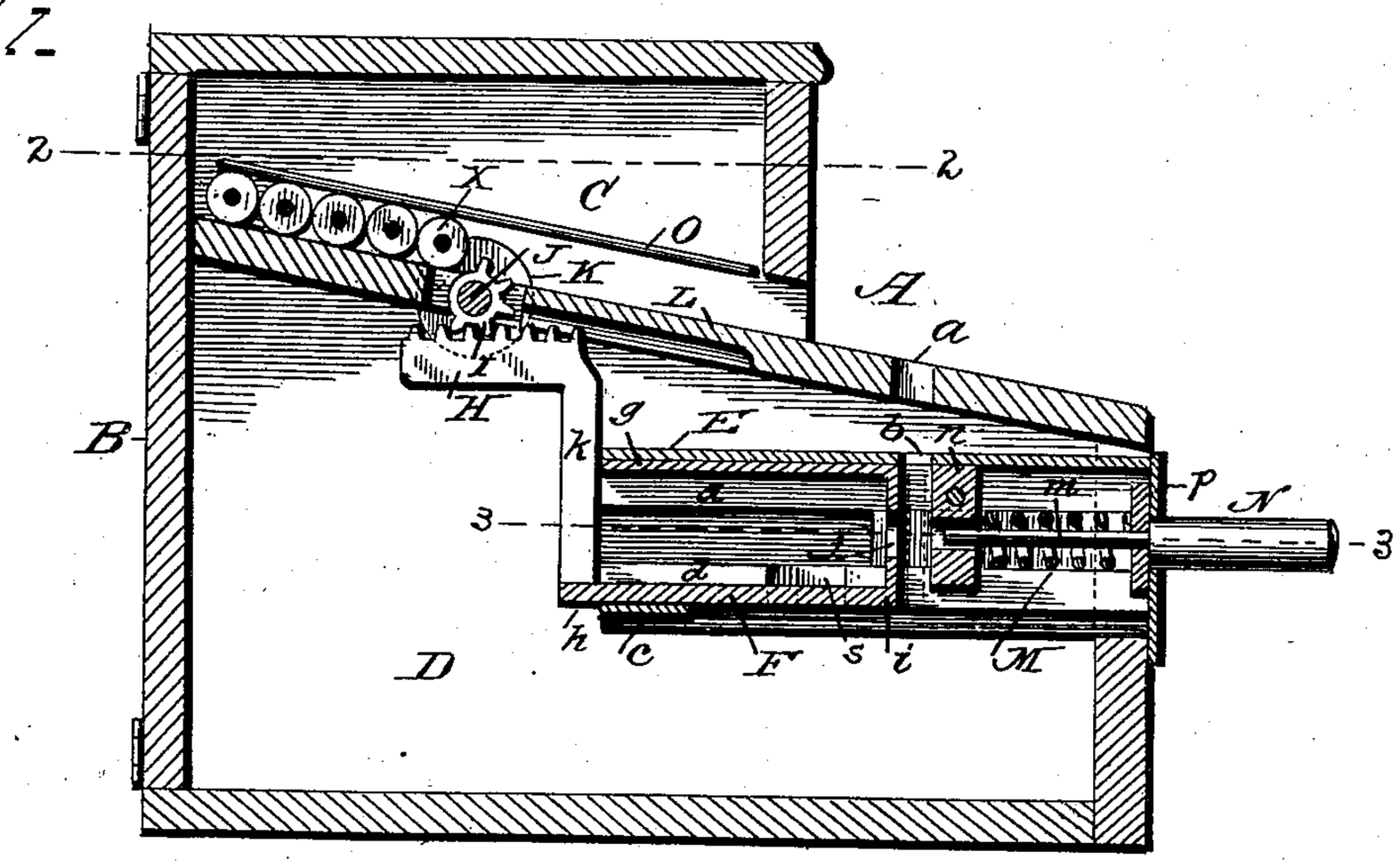
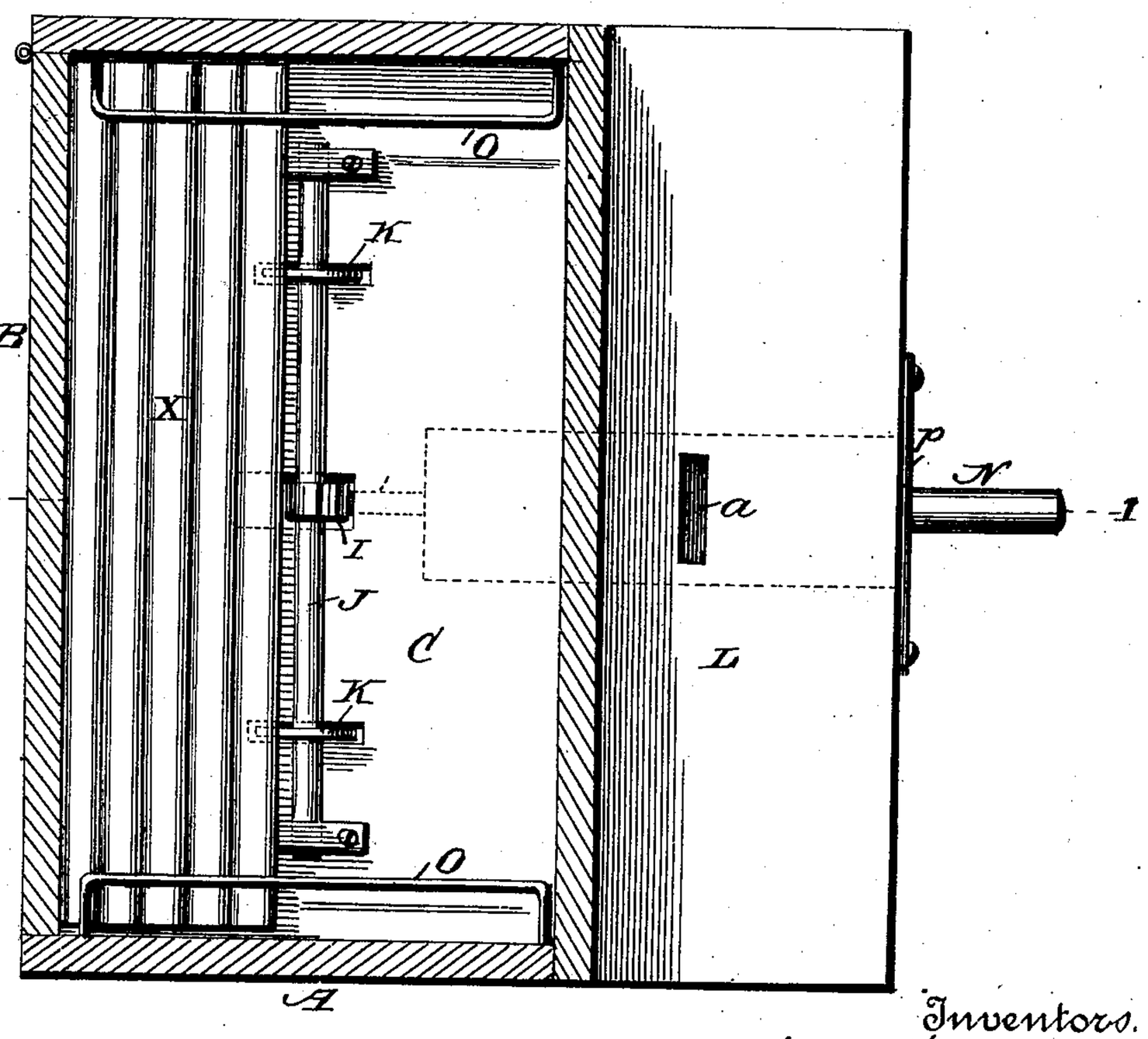


Fig. 2.



Witnesses
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Inventors.
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Fig. 3.

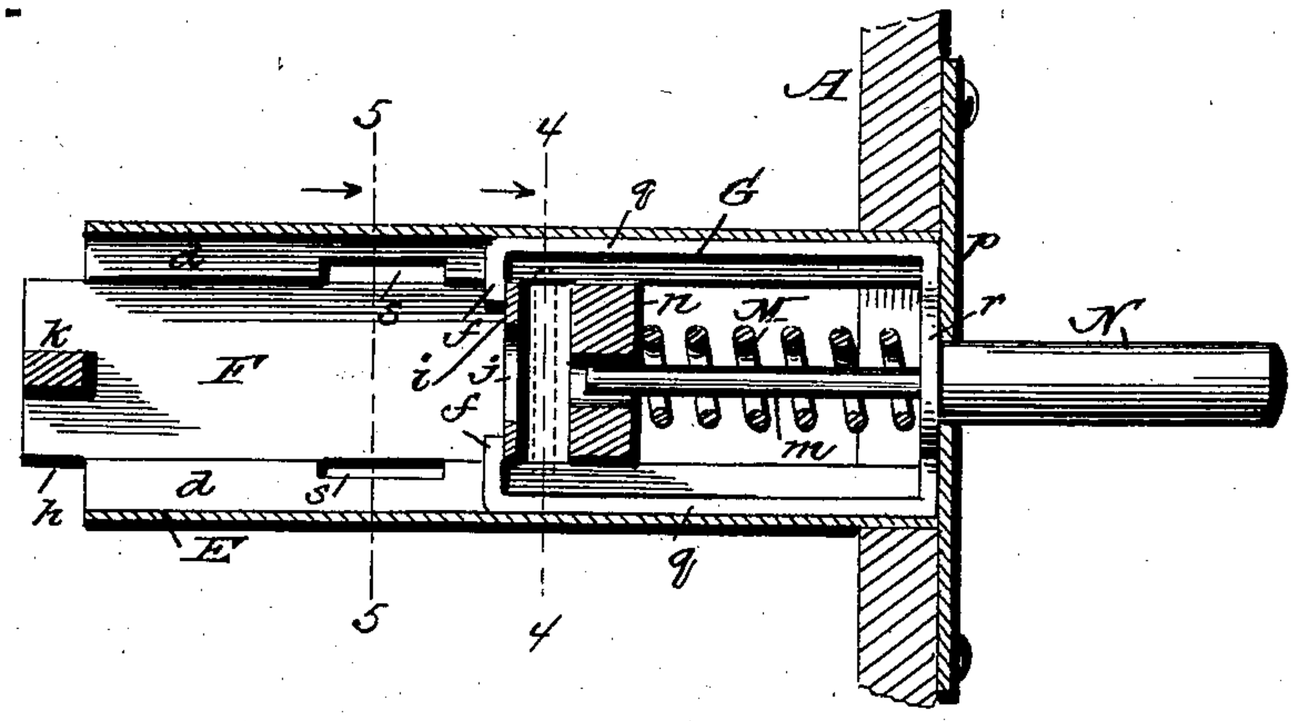


Fig. 4.

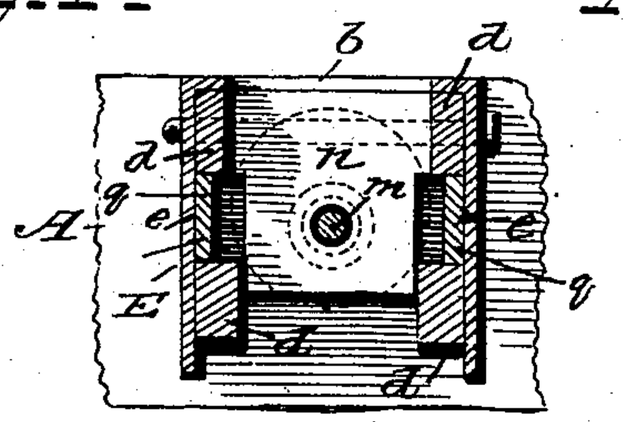


Fig. 5.

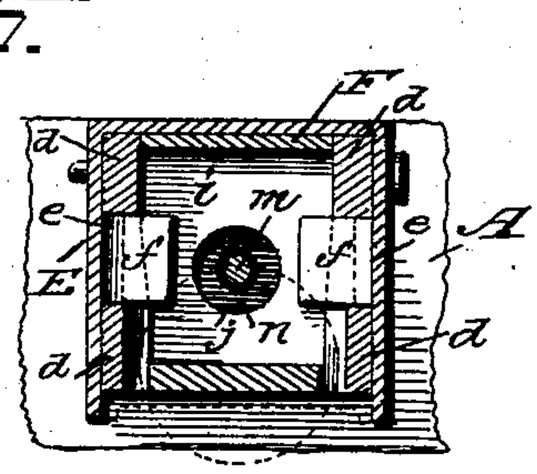


Fig. 6.

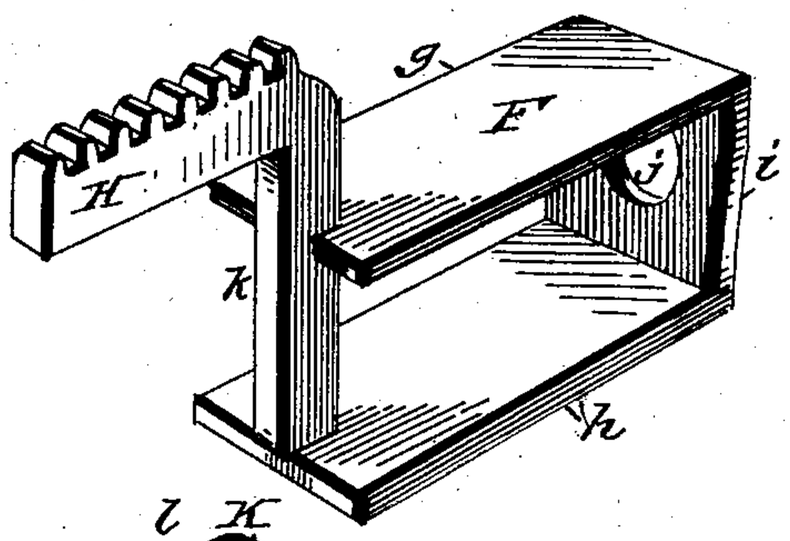


Fig. 7.

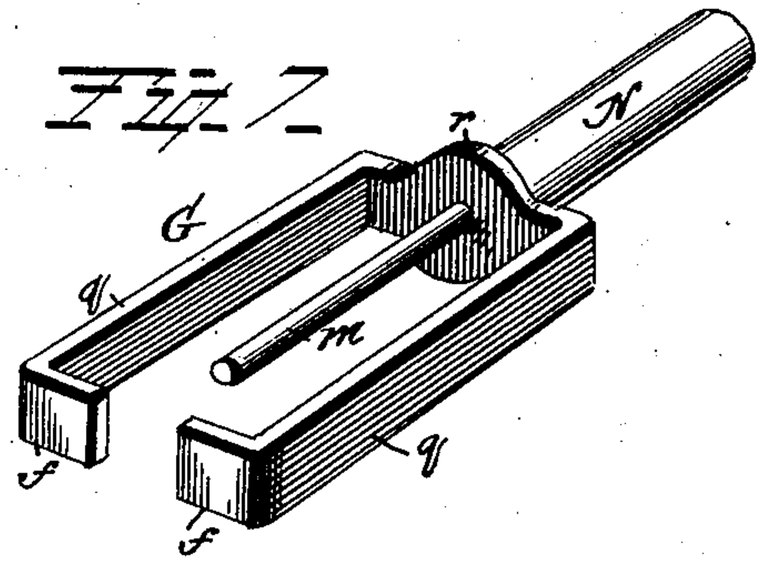
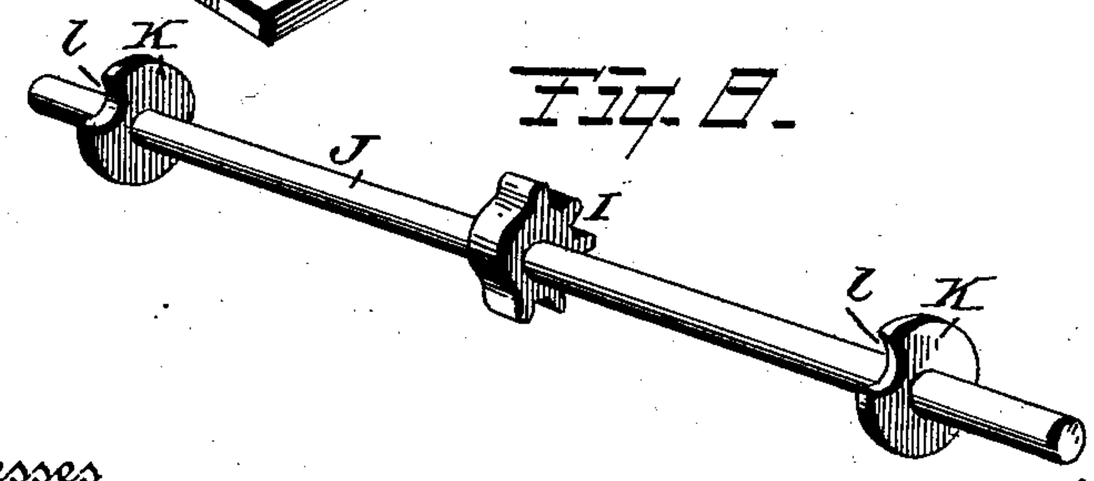


Fig. 8.



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UNITED STATES PATENT OFFICE.

DAVID K. STONE AND WILLIAM W. HEALY, OF BLOOMINGDALE, MICHIGAN.

COIN-CONTROLLED VENDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 705,477, dated July 22, 1902.

Application filed March 21, 1902. Serial No. 99,256. (No model.)

To all whom it may concern:

Be it known that we, DAVID K. STONE and WILLIAM W. HEALY, citizens of the United States, residing at Bloomingdale, in the county of Van Buren and State of Michigan, have invented certain new and useful Improvements in Coin-Controlled Vending-Machines; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters of reference marked thereon.

The present invention has relation to coin-controlled vending apparatus; and the object thereof is to materially simplify and improve the operating mechanism, whereby the action of the operating parts will be perfect upon depositing a coin of the proper denomination and the article delivered to the purchaser; and it consists in an apparatus constructed substantially as shown in the drawings and hereinafter described and claimed.

Figure 1 of the drawings is a sectional elevation taken on line 1 1 of Fig. 2; Fig. 2, a horizontal section taken on line 2 2 of Fig. 1; Fig. 3, a horizontal section of the coin-controlled mechanism, taken on line 3 3 of Fig. 1; Fig. 4, a cross-section thereof, taken on line 4 4 of Fig. 3 looking in the direction of the arrow; Fig. 5, a similar view taken on line 5 5 of Fig. 3 looking in the direction of the arrow; Fig. 6, a detail perspective view of the slidable carrier-frame with rack-bar for engaging a pinion on the rod which delivers the article to the purchaser; Fig. 7, a similar view of the push-rod and yoke connected thereto which operates the slidable carrier-frame; Fig. 8, a perspective view of the rod with notched disks thereon for delivering the article to the purchaser, and also pinion with which engages the rack-bar on the slidable carrier-frame by which the rod is operated.

In describing the construction of the apparatus it is shown as applicable to and intended for the automatic delivery of lead-pencils upon the deposit of a coin of the required denomination; but the apparatus may be used for the delivery of any article to the purchaser—such as cigars, sticks of candy, or any other article that the apparatus is capable of delivering—upon the coin of the required denomination being deposited by the purchaser.

In the accompanying drawings, A represents a casing of any suitable size and shape and preferably constructed of wood, or, if preferred, may be made of metal, said casing being provided with a hinged door B at its rear, which is secured closed by a suitable lock or other fastenings. The casing is divided into two compartments C D. The upper one of the compartments, as represented at C, is to contain the lead-pencils, as indicated at X, and may be of any suitable size to accommodate any number of lead-pencils. The lower compartment D contains the coin-controlled mechanism, which also connects with the means used for delivery of the lead-pencil when the coin is deposited in the slot *a*. This coin-controlled mechanism comprises in part a stationary supporting-frame E, which is rectangular in longitudinal section and is provided with a slot *b* on line with the slot *a*. The frame E is bottomless, but has a cross bar or plate *c* at its rear extremity, as shown in Fig. 1 of the drawings, which plate supports the slidable carrier-frame F. (Shown in Fig. 6 of the drawings.)

The supporting-frame E has longitudinal bars *d*, two of which are secured to each side of the frame and a sufficient distance apart to present guide-grooves *e* to receive the inwardly-extending arms *f* of the yoke G, as shown in Figs. 4, 5, and 7 of the drawings. The bars *d* also form guides for the slidable carrier-frame F to hold it in line and guard against any lateral displacement while the frame is in motion.

The frame F comprises two longitudinal plates *g h*, which form the top and bottom of the frame, respectively, and are joined at one end by the end plate *i*, which is formed with a central opening *j*, as shown in Fig. 6 of the drawings. The opposite ends of the plates *g h* are joined by an upright brace *k*, which terminates at its upper end in a horizontal rack-bar H, which rack-bar is adapted to engage a pinion I on a rotatable rod J, which has its bearings in the frame of the apparatus. This rotatable rod J has disks K, which have notches *l* to receive a lead-pencil or other article, as shown in Fig. 8 of the drawings, and by the rotation of the rod to deliver it

upon the chute L in front of the rod, when it will roll down the chute in convenient reach of the purchaser.

The longitudinal bars *q* of the yoke G are joined by the guide-plate *r*, which forms a guide for the shank *m* of the push-rod N, a coiled spring M encircling the shank and having its ends bearing against the guide-plate *r* and the stationary guide-plate *n*, as shown in Figs. 1 and 3 of the drawings, thereby providing a spring-actuated push-rod that will be very easy of operation.

The lower ones of the guide-bars *d* are formed with cut-away portions *s*, so that the coin when being brought in line therewith will drop into the compartment D, and it is preferred to have a guide-plate *p* secured to the front of the frame A for supporting and guiding the push-rod N.

The lead-pencils or other articles are retained in position by the wire guides O, the ends of the articles extending under the same and ready for delivery when a coin of the proper denomination is deposited.

In the operation of the invention the coin is dropped through the slot *a* and passes down through the slot *b* and between the stationary guide *n* and the end plate *i* of the slidable carrier-frame F. The coin-controlled mechanism is now ready for operation, and by pushing in an inwardly direction the push-rod N the end of the shank *m* of the rod will abut against the coin, which coin is shown in dotted lines of Figs. 1 and 3 of the drawings. The end of the shank *m* being prevented from passing through the opening *j* in the end plate *i* of the carrier-frame F, said frame is forced along, carrying the coin with it until said coin is opposite the cut-away portions *s*, when the coin will drop down into the compartment D. The operating parts are returned to their former position by the coiled spring M, the arms *f* engaging the end plate *i* of the carrier-frame, and when the yoke G is forced back it will carry with it the frame F and bring the several parts again in position to be operated by the depositing of a coin, as heretofore described. When the coin is deposited and the push-rod operated, the carrier-frame F, as it is forced forward, will turn the rod J through the medium of the rack-bar H, engaging with the pinion I upon said rod. This motion of the rod will turn the disks K and deliver the lead-pencil or other articles resting in the notches *l* upon the chute L at a point beyond the rod, where it will roll down by gravity to a position convenient of reach by the purchaser.

In describing the construction of this apparatus it is evident that many changes may be made and still come within the principle of the invention, such as the spring-actuated push-rod, and any form of spring may be used so long as the push-rod is spring actuated, and in the construction of the frame of the apparatus the frame may be variously modified or changed to any suitable form, and any modifications or changes in the coin-controlled mechanism as would come within ordinary mechanical skill and judgment may be resorted to without departing from the principle of the invention. The compartment for the lead-pencils may be enlarged to hold any desirable number, that shown being sufficient to illustrate the operation of the invention in delivering the article to the purchaser after the coin has been deposited, and consequently, as the receptacle for the lead-pencils or other articles forms no part of what we claim as new, any changes or modifications therein may be made as circumstances may require.

Having now fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

In a coin-controlled vending-machine, a coin-controlled operating mechanism comprising a supporting-frame provided with guide-grooves upon its sides and an opening through which the coin may pass, a slidable yoke engaging the grooves and having inwardly-extending arms, a slidable carrier-frame consisting of two horizontal and parallel plates joined at one end by a vertical end plate having a central opening, the inwardly-extending arms of the yoke loosely engaging the end plate to return the carrier-frame to its normal position, and a spring-actuated push-rod for operating the yoke, and suitable vending mechanism connecting with the coin-controlled operating mechanism, substantially as and for the purpose set forth.

In testimony that we claim the above we have hereunto subscribed our names in the presence of two witnesses.

DAVID K. STONE.
WILLIAM W. HEALY.

Witnesses:
JESSIE M. BABCOCK,
S. W. VAUGHN.