(No Model.) 2 Sheets—Sheet 1.

C. H. BINGHAM.

AUTOMATIC VENDER FOR TICKETS, CARDS, &c.

No. 412,591. Patented Oct. 8, 1889.

FIG. 1.

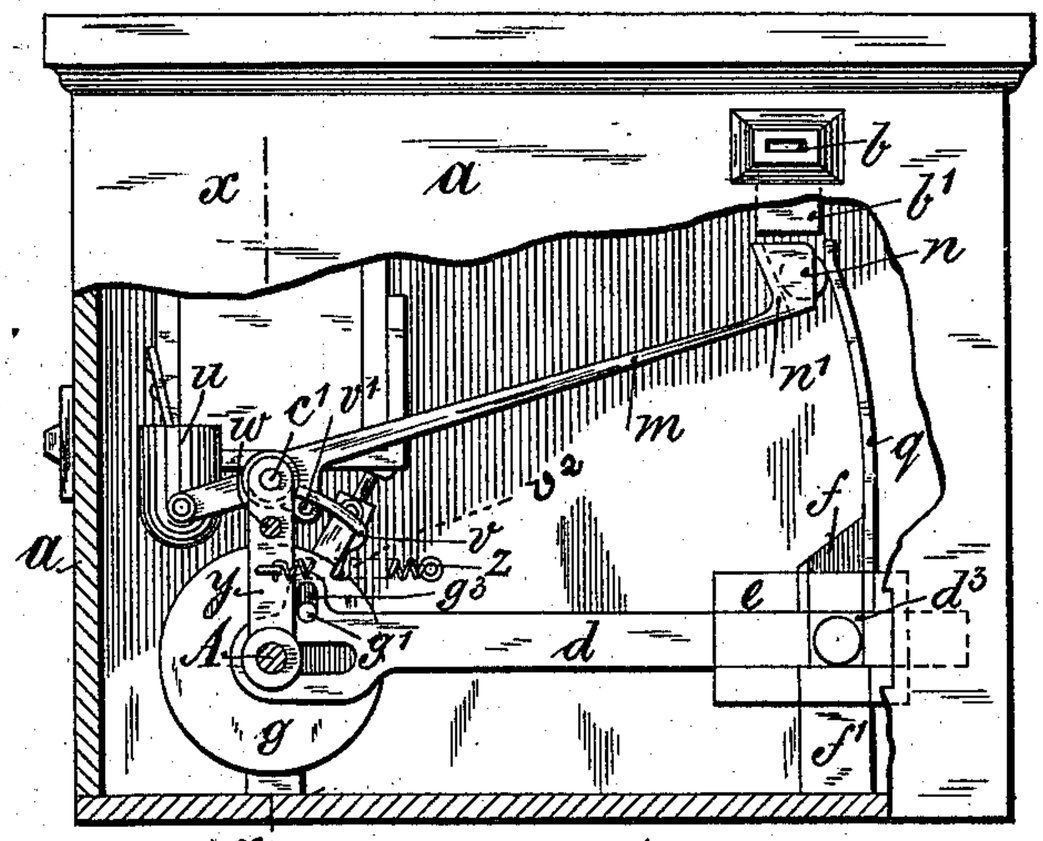


FIG. 2.

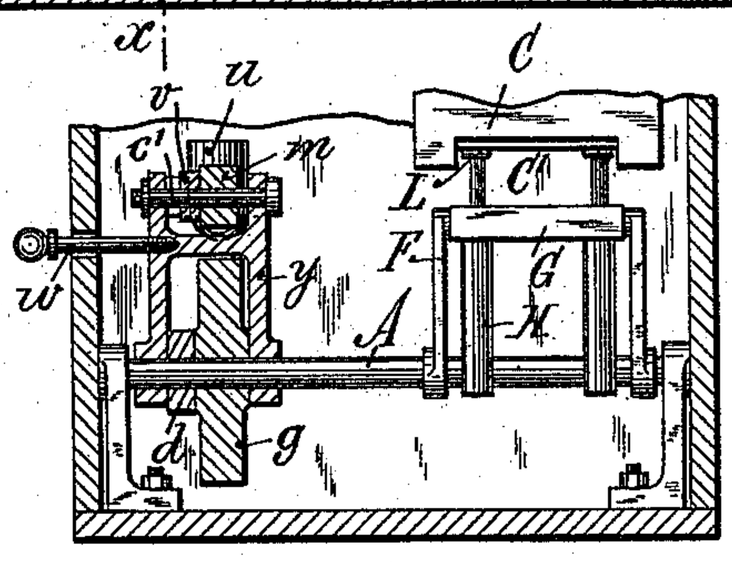
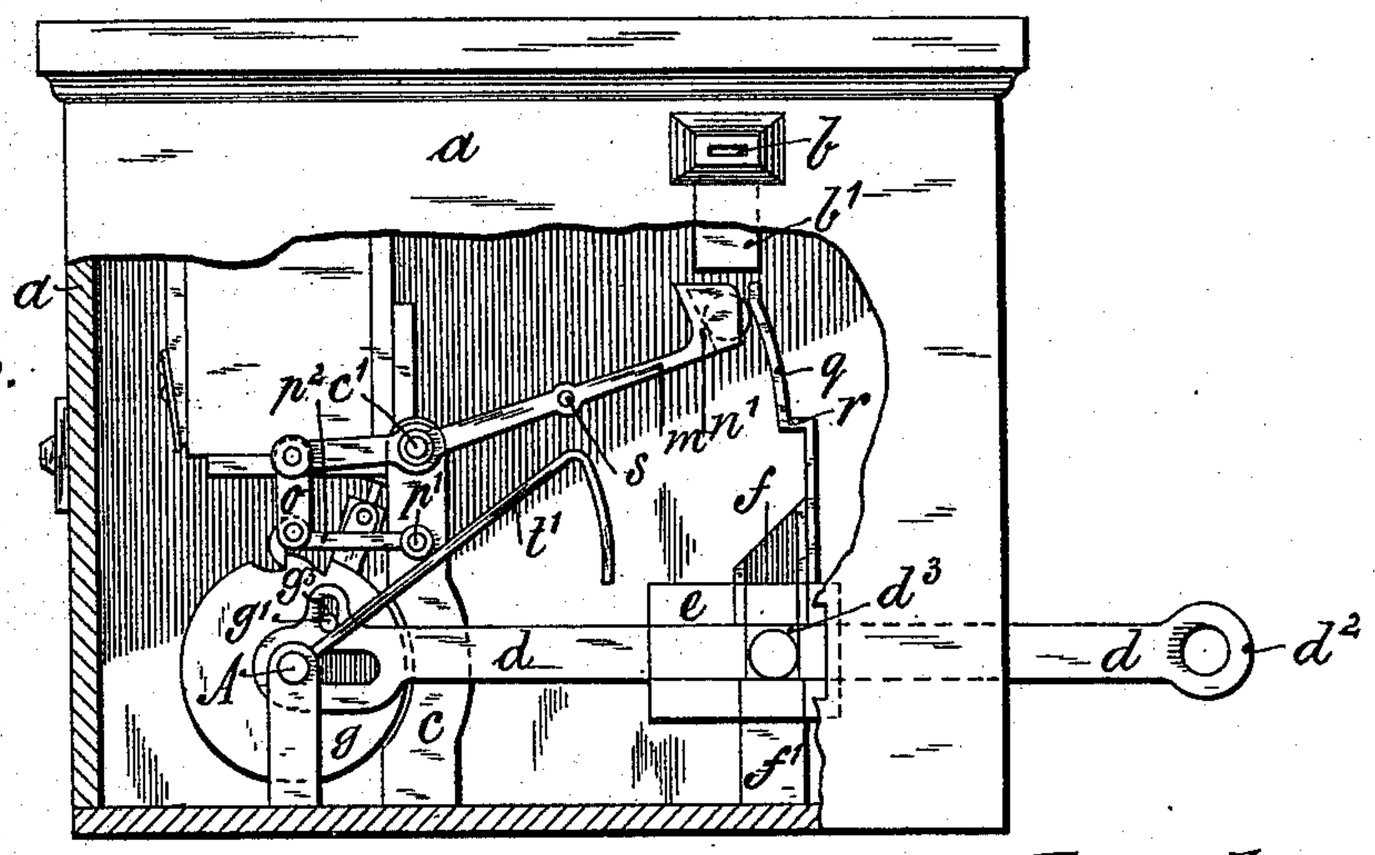


FIG. 3.



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(No Model.) 2 Sheets—Sheet 2.

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FIG: 4.

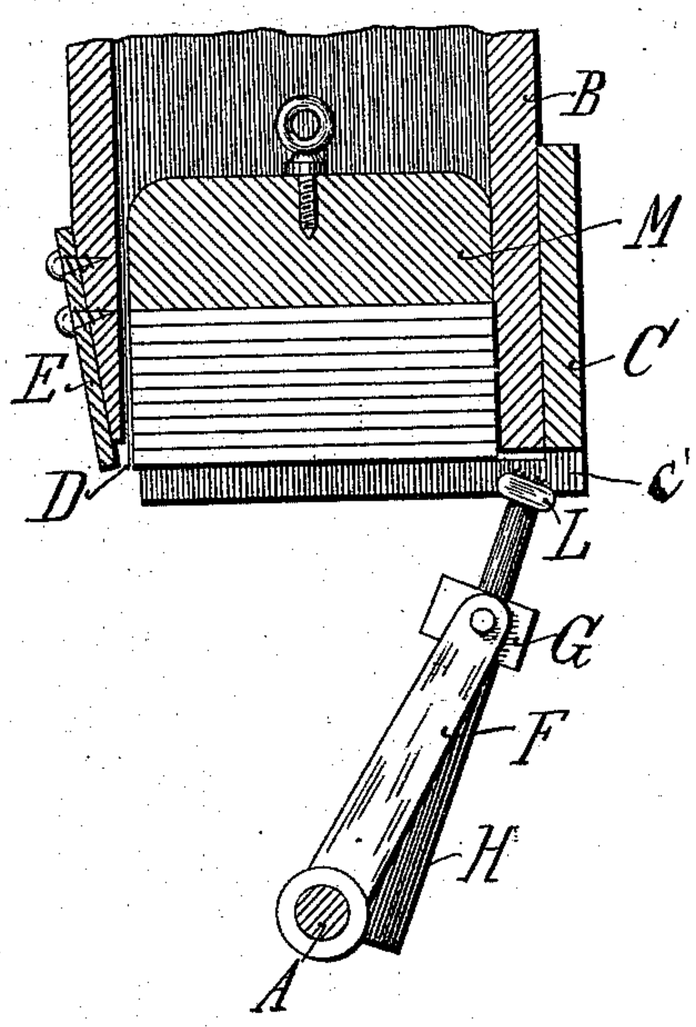


FIG: 5.

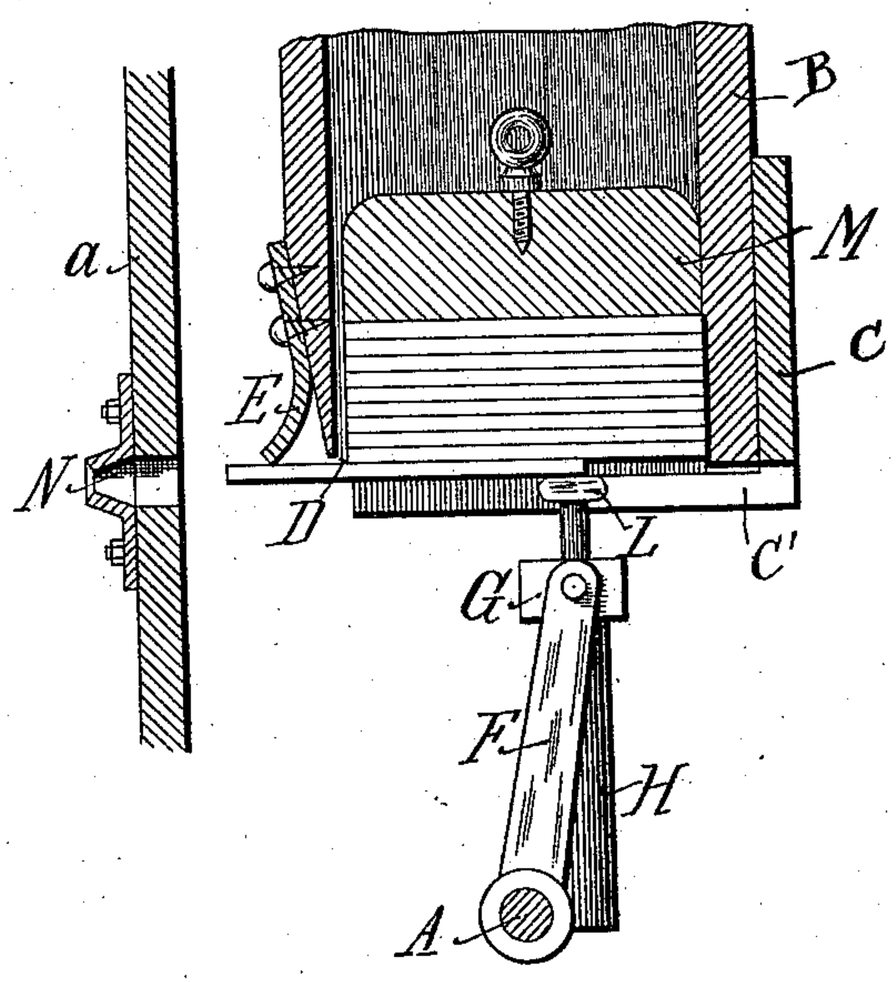


FIG: 7.

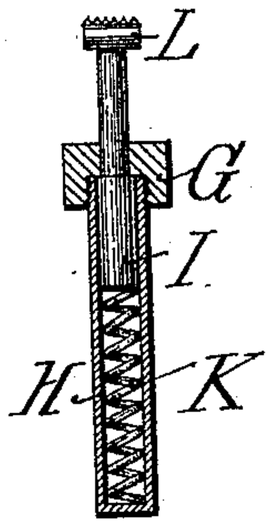
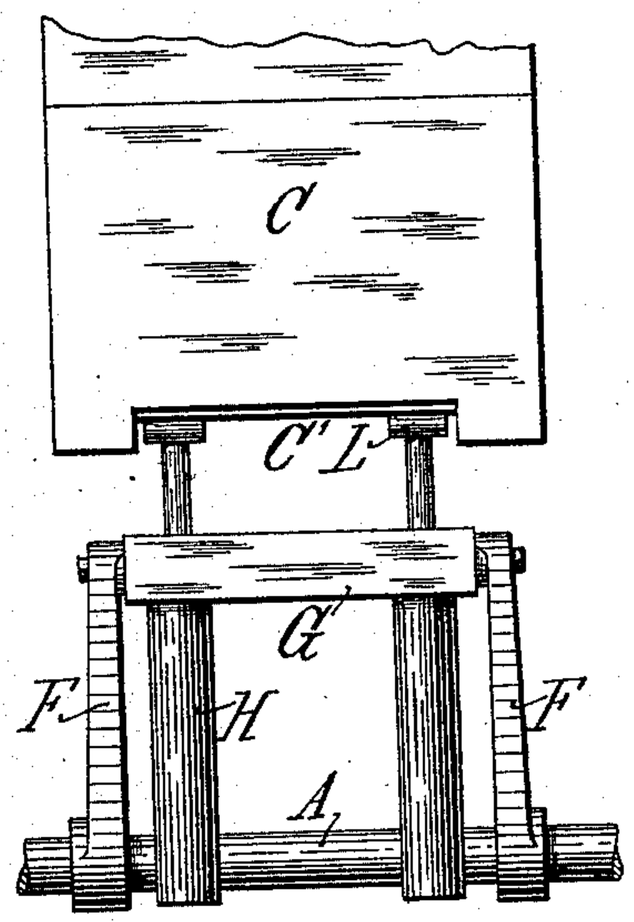


FIG: 6.



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UNITED STATES PATENT OFFICE.

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AUTOMATIC VENDER FOR TICKETS, CARDS, &c.

SPECIFICATION forming part of Letters Patent No. 412,591, dated October 8, 1889.

Application filed October 3, 1888. Serial No. 287,055. (No model.)

To all whom it may concern:

Be it known that I, CHARLES HENRY BINGHAM, of No. 28 Catharynesnigel, in the town of Utrecht, in the Kingdom of Holland, a subject of the Queen of Great Britain, have invented certain new and useful Improvements in Automatic Venders for Tickets, Cards, and other Similar Articles, of which I declare the following to be a full, clear, and exact description of the same.

This invention relates to automatic venders or apparatus for effecting the sale of tickets, cards, and other similar articles; and it consists of devices by means of which tickets, cards, and other similar articles are delivered when a coin of certain value, size, and weight is inserted in an opening or slot in the casing of the machine or apparatus. The inserted coin brings the pawl, according to the one construction, into gear with a roller, so that the delivery device can be operated by means of a suitable knob, and according to the other construction the pawl is brought out of gear with the roller by the insertion of a coin, so that the roller or disk can be operated from the outside by means of a rod or slide and an article delivered.

The device by means of which the article is delivered is attached to a disk or roller, and is operated by turning the spindle to the same so as to deliver the ticket, card, or other flat object.

Figure 1 is an elevation of one of my improved venders with a part of the side wall broken away so as to show the inner operative parts of the same. Fig. 2 is a vertical section on the line *x x* in Fig. 1. Fig. 3 represents an elevation of a modification of the vender shown in Fig. 1, with a part of the side wall also broken away. Fig. 4 is a vertical section through the mechanism arranged on the spindle for delivering flat objects—such as cards, tickets, and the like—with the delivery-arms drawn back out of contact with the said article. Fig. 5 is a like section with the delivery-arms advanced and a ticket partially removed from the ticket-box. Fig. 6 is an elevation of the delivery device. Fig. 7 is a vertical section through the casing of one of the delivery-arms.

The insertion of a coin causes the pawl, Figs. 1 and 2, to gear into a recess in the disk or drum, the delivery of the ticket or other small article being effected by operating a knob extending beyond the casing. The insertion of a coin will, in the modification Fig. 3, release the pawl from its gear with the disk or drum, so that the slide or rod can be operated and the desired article be delivered.

a is the casing which incloses the entire mechanism, *b* the slot into which the coin is inserted, and *b'* the canal for guiding the coin.

The two-armed lever *m* has its fulcrum at *c'*, in the upper end of a doubly-forked part *y*, and the longer arm carries the coin-box *n*, while the smaller arm carries a counterweight *u* for balancing the long arm and coin-box. The latter, which is without bottom, is so formed that the inserted coin is held between the rear wall *n'* of the same and a strip of sheet metal *q*, which is made in curved form corresponding to the movement of the coin-box around the pivot *c'*. The pawl *v*, which is also mounted on the bolt *c'*, and which rests on the stud or pivot *v'* when the long arm of the lever *m* is raised and is thus held out of contact with the disk *g*, will, when the arm is depressed by the insertion of a coin, gear into the recess v^2 in the disk *g*, so that the movable part *y* is connected to the disk *g* and also to the spindle A. If now the knob *w*, which is attached to the part *y*, is moved to the left, the spindle A is rotated, and as the fulcrum of the lever *m* is hereby also moved to the left the distance between the coin-box and the sheet-metal or other guide *q* will be so increased that the coin can readily fall out of the coin-box *n* into the guide *f* above the slide *d*. This slide is located immediately behind a glass plate *e*, so that the recessed part d^3 of the said slide *d* will preferably always be visible through the same, the coin inserted in the apparatus being temporarily retained in the said recess d^3 by means of the block *f'*, the slide *d* being connected to the disk *g* by means of the pin *g'*, and slot g^3 is automatically operated when the knob *w* is moved to the left. As soon as the coin has left the coin-box *n* the lever *m* will rise to its original position, the pin or stud *v'* will release the pawl *v* from its gear with the disk, and when the knob or handle

w is released the spring z will return the part y and all the other parts connected to the same and to the disk g to their original position, as shown by Fig. 1. The delivery device is also mounted on or securely keyed to the spindle A, as is more particularly described later on in this specification and represented in Figs. 4, 5, and 6.

Fig. 3 is a modification of the apparatus shown in Figs. 1 and 2, in which the pawl is released from gear with the disk when the lever m is depressed by the insertion of a coin, and whereby the delivery device is operated by means of a slide or rod d, which extends outside the casing a and is provided with a handle d^2. The strip q is also made in a curved form corresponding to the movement of the coin-box around the pivot c' up to the point r, where the sheet metal recedes rectangularly, so that when the descending coin-box, which is bottomless, reaches this point the coin is able to escape into the coin-guide f. The pivot c' in this case is arranged in the end of a standard c, and the smaller arm of the lever m is provided with a link o, pivotally attached to the same. A pawl-lever p^2 is pivotally attached at p' to the standard c, below the lever m, and is provided with a hook-like end which gears into a recess of the disk or drum g. The pin or stud s in the lever m is arrested before the coin can fall out of the coin-box n and until the slide d is operated by means of an appropriate wire or small arm t', attached to the spindle A or the slide d, so that when the slide d is operated the wire will recede from the pin or stud s and release the lever m in order that the coin-box n may descend farther and allow the coin to drop from the coin-box n into the guide f. As soon as the coin leaves the coin-box n the lever m will return the coin-box to its original position, as shown in Fig. 3. The spindle A and the parts connected to the same can be returned to their former position by means of a suitable spring. (Not shown in Fig. 3.)

The mechanism for delivering flat articles—such as tickets, cards, and other objects—is represented in detail in Figs. 4, 5, 6, and 7.

The box B, Figs. 4 and 5, suitably fixed within the casing a, is represented as containing tickets, and is of corresponding form and size with the same. The bottom of the box B is preferably closed by an angularly-formed piece C, the lower part of which is provided with a slot C', through which the tips L of the delivery-arms pass so as to securely grip the lower card or ticket. The front wall of the box B is at its lower end tapered off and cut away at D for about the thickness of the cards or tickets to be delivered. An india-rubber strip E can be fixed to the tapered part, so as to partially cover the opening D, and thus prevent more than one card from leaving the box at a time.

The delivery mechanism is mounted on the spindle A, Figs. 4 to 6, the delivery-arms being arranged between two arms F, fixed to the spindle A, and are operated by a cross-bar G, which connects the upper ends of the arms F to each other.

The delivery-arms are constructed as follows: A tube H, closed at its lower end, contains the lower larger piston-like end I of the arm and also a helical spring K, and is provided at its upper end with screw-threads, and is screwed into the cross-bar G, the rod-like extension of the piston I passing through a corresponding boring in the cross-bar G, and being at its upper end provided with a suitable tip L, which comes into close contact with the card, ticket, or other article in the box B, so as to deliver the same outside of the casing a through the mouth-piece N or delivering-opening.

In Fig. 4 the parts are represented out of contact with the card or ticket, but come in gear with the same as soon as a coin is inserted in the apparatus and the knob w, Figs. 1 and 2, or slide d, Fig. 3, is operated.

By means of the helical springs K the heads or tips L of the delivery-arms can accommodate themselves to the position of the arms F during the rotary movement of the spindle A, so that the cards or tickets which are depressed by the weight M are not forced upward.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. In an automatic vending apparatus, the combination of the doubly-forked part y, arranged on the spindle A, and carrying at its upper end the bolt c', lever m, with its coin-receptacle and pin or stud v', and the pawl v, the latter being held out of engagement with the disk g by the pin v' until the lever m is depressed by the insertion of a coin, substantially as shown and described.

2. In an automatic vending apparatus, the lever m, provided at one end with the bottomless receptacle or coin-box n, adapted to move close to and parallel with a strip of sheet metal or other material formed so as to correspond with the curve described by the said lever and coin-box, in combination with said strip, the doubly-forked part y, the spindle A, carrying part y, the slide d, and guide f, as and for the purposes set forth.

3. In an automatic vending apparatus, the combination of the coin-box n, the doubly-forked part y, the double-armed lever m, carrying the coin-box n, and the strip of sheet metal q, which, when the parts are in normal position, will retain the coin in the coin-box, the slide d, guide f, and the knob w, whereby the lever m may be caused to recede with its coin-box n from the metallic strip q, so that the coin can fall into the guide f, substantially as shown and described.

4. In an automatic vending apparatus, the delivery device consisting of the receptacle B, having opening N, and elastic piece E, the

rectangular piece C, arranged beneath the receptacle B, and having a slot C′, and the delivery-arms mounted on the spindle A, said arms provided with tips L, adapted to move in the slot C′ and come in contact with the lowest flat object in the receptacle B to deliver the same, substantially as shown and described.

5. In an automatic vending apparatus, the device for ejecting the articles for sale, consisting of a cross-bar G, supported by the spindle A and two one-armed levers F, and carrying two tubes H, in which pistons I, having tips L and helical springs K, are arranged, so as to continuously press the tips L upward against the lower card or other object in the box B, which said object is pushed outward according to the movement communicated to the spindle A, substantially as and for the purpose set forth, and shown on the drawings.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

C. H. BINGHAM.

Witnesses:
A. S. DOCEN,
G. VANDERMEULER.