

T. A. MATTHEWS.
DELIVERY CABINET.
APPLICATION FILED JULY 6, 1912.

Patented Apr. 29, 1913.

2 SHEETS—SHEET 1.

1,060,007.

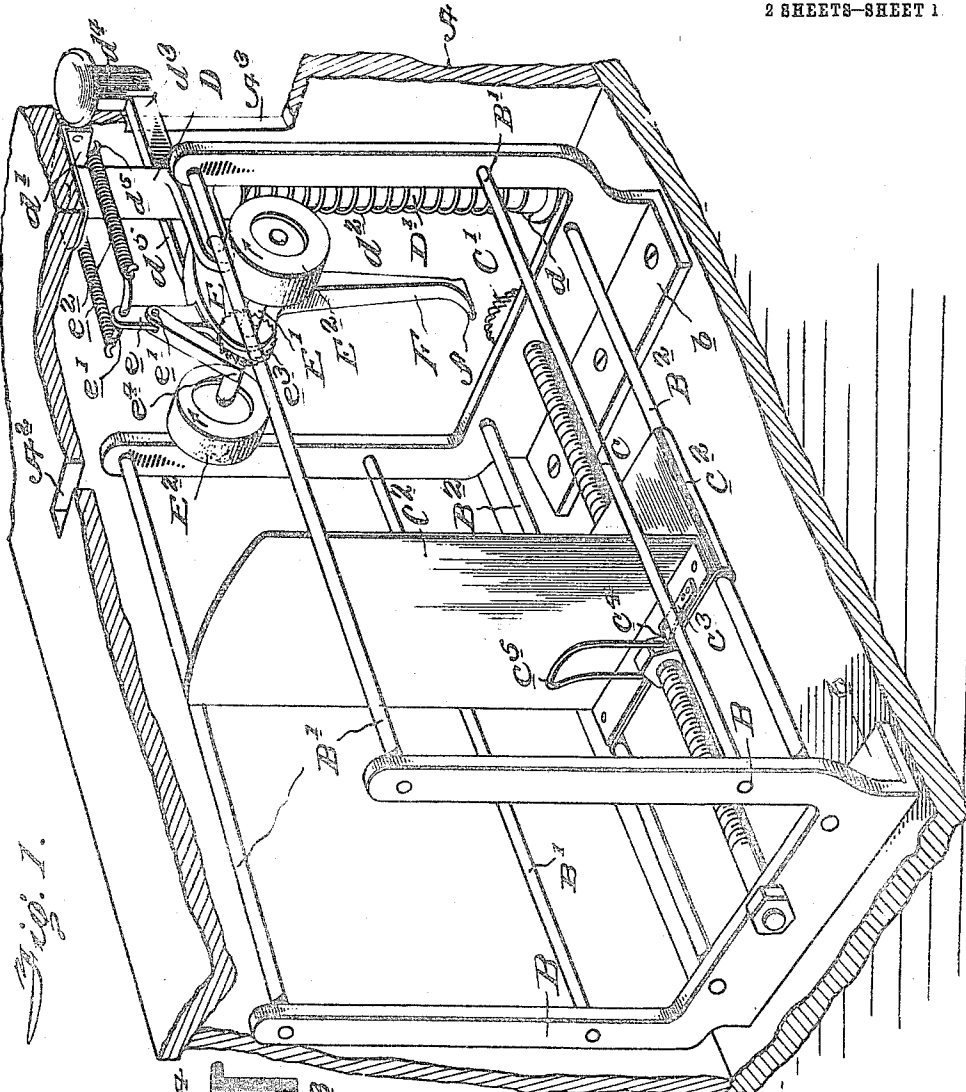


Fig. 1.

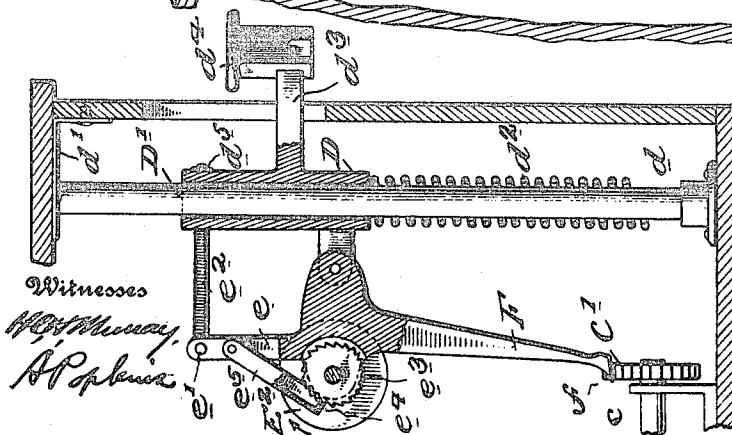


Fig. 2.

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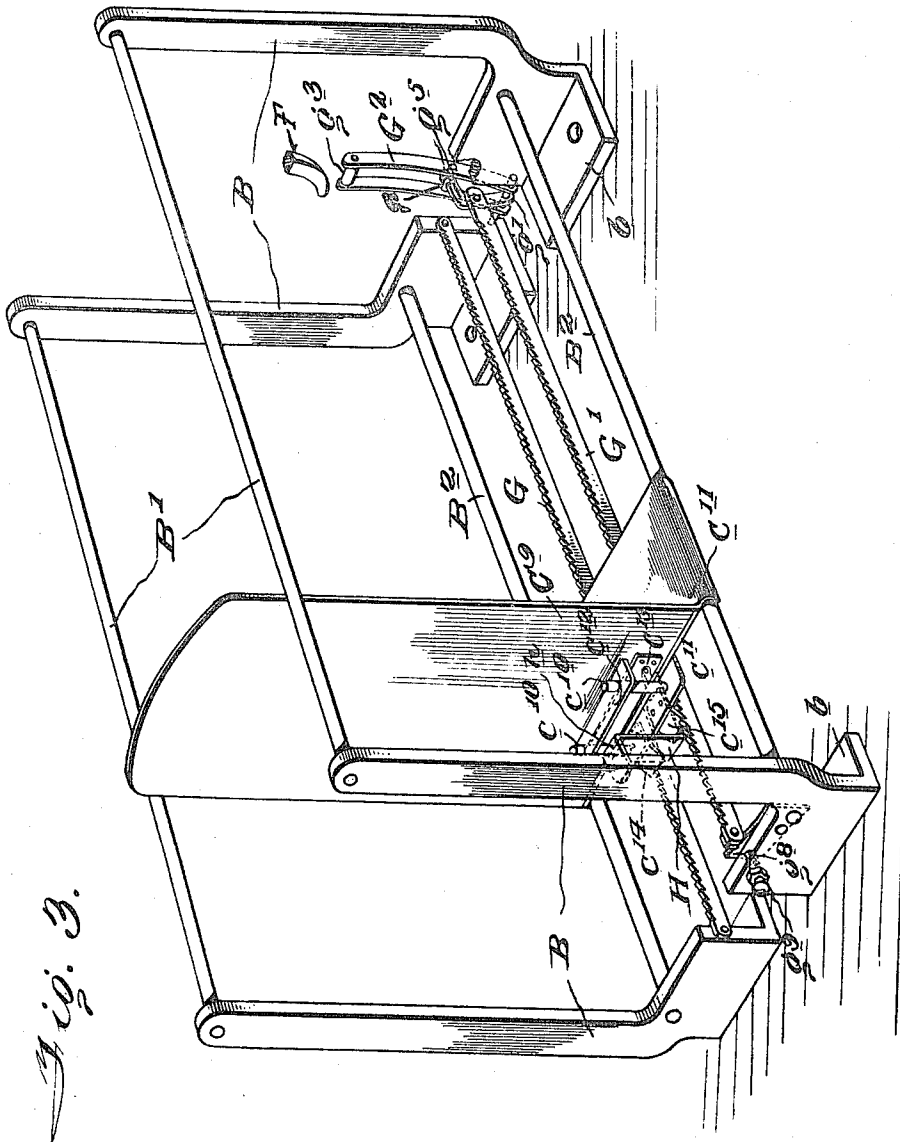


Fig. 3.

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UNITED STATES PATENT OFFICE.

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DELIVERY-CABINET.

1,060,007.

Specification of Letters Patent.

Patented Apr. 29, 1913.

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To all whom it may concern:

Be it known that I, THOMAS A. MATTHEWS, a citizen of the United States, residing at Nashville, in the county of Davidson and State of Tennessee, have invented certain new and useful Improvements in Delivery-Cabinets, of which the following is a specification.

My invention relates to serving apparatus for use in serving paper drinking cups, envelops, cards, tags and other articles of flat form, and it may be made for separate use or as a component part of stationery cabinets such as shown in my Patents 748,967 and 1,028,091.

The objects of the invention are to provide a simple and efficient mechanism for discharging the articles singly from the cabinet and at the same time actuate a follower behind the pack of articles to positively feed the articles to the discharge device; also to so construct the feed mechanism that the follower thereof will not be actuated from the delivery mechanism should it at times be forced a sufficient distance toward the delivery end of the cabinet. These objects I accomplish by the mechanism shown in the accompanying drawings, in which:

Figure 1 is a sectional perspective of my improved serving apparatus. Fig. 2 is a vertical longitudinal section through the discharge lever mechanism. Fig. 3 is a perspective of another form of feed or follower mechanism.

A designates the cabinet having a door, not shown, at its top or it may be its rear end, a transverse discharge slot A^2 at the forward end of its top and a vertical lever slot A^3 in its front. Within the cabinet at front and rear thereof are the brackets B, B'. Secured by base flanges b to the cabinet bottom and connected by longitudinal upper and lower side rods B^1 , B' and parallel bottom article-supporting rods B^2 , B^2 .

C is a longitudinal feed screw swiveled in the bracket bases and provided at its end next to the cabinet front with a ratchet wheel C' .

The vertical transverse follower C^2 has a base c^2 with its ends flanged over the rods B^2 , B^2 , on which it slides, and the follower has secured to its base by a spring c^3 a half nut c^4 provided with a handle c^5 , by means of which the nut may be lifted from the screw C, when the follower is to be slid back

to the rear end of the cabinet. The stack of articles will be inserted downwardly in position in front of the follower with their sides guided by rods B' and their lower ends resting on rods B^2 out of contact with screw C.

Within the front end of the cabinet is an upright guide post D' having a securing flange d at its lower end and a lateral securing bracket d' at its upper end; the former being secured to the bottom of the cabinet and the latter to the front wall thereof above the slot A^3 . Upon the post D' is mounted the discharge mechanism comprising a vertically reciprocating sleeve or carrier D forced upwardly by a spiral spring d^2 on the post D' , and provided with an actuating arm d^3 projecting outwardly through the slot A^3 and terminating in a finger piece d^4 . The sleeve or carrier D is provided on its rear side with spaced lugs d^5 , between which is pivoted a vertically rocking discharge lever E having an upwardly extending arm e provided at its upper end with a transverse pin e' , to the ends of which and to the ends of a similar arm d^5 on the upper end of sleeve D are connected the ends of two contractile springs e^2 exerting a forward pull on the arm e . The rear downwardly curved end of the discharge lever E is provided with a transverse shaft E' , carrying the fixed discharge rolls E^2 having rubber or like friction surfaces. The shaft E' also has secured thereto a ratchet wheel e^3 with its teeth at its rear engaged by a cross piece or inturned edge e^4 at the lower end of a pawl e^5 pivoted at its upper end to the arm e of lever E. It follows, therefore, that when the sleeve or carrier D is depressed by finger piece d^4 against the action of its spring d^2 the lever E will be carried down also and as the rollers E^2 will then be forced by springs e^2 against the forward article to be discharged said rolls will revolve outwardly as shown by the arrows and run down along the article without moving it. As soon, however, as the finger piece d^4 is released the spring d^2 will quickly raise the sleeve or carrier D and the parts carried by it and the rolls E^2 will now be held stationary by the pawl e^5 and ratchet wheel e^3 and, owing to the pull of the springs e^2 , the rolls E^2 will engage the front article with sufficient frictional force to push it up through the slot A^2 in the top of the cabinet, where it

may be grasped and pulled entirely out. After this the rolls E² engage the next article, when the operation may be repeated.

I will now explain how the feed screw is actuated from the foregoing delivery mechanism.

Depending from the lever E is a rigid pawl or arm F, the lower end of which is in the form of a tooth *f*, which will engage the ratchet wheel C' when the pack of articles has diminished sufficiently to allow the springs *c*² to throw the lever E and its rolls far enough to the rear to bring the pawl F in vertical alinement with the ratchet wheel C'. When this occurs, the depression of the sleeve D and lever E will cause the pawl F to actuate the ratchet C' and so feed the follower toward the front. When the pack has been moved far enough forward to cause the pressure on rolls E sufficient to overcome the action of springs *c*², the rolls will cause the pawl F to move forwardly out of the way of the ratchet C'. Thus the feed is automatically cut out whenever the pressure on the pack of articles is sufficient to overcome the force of springs *c*².

Referring now to Fig. 3, it will be seen that in lieu of the feed screw C I have provided a pawl and rack feed. In this figure the follower C⁹ is mounted removably on vertical posts *c*¹⁰ projecting up from base *c*¹¹ mounted as in Fig. 1 on the rods B², B². The follower C⁹ is connected removably to the posts *c*¹⁰ by a horizontal flange *c*¹² having apertures receiving said posts and a plate spring *c*¹³ on the follower below the flange *c*¹² and bearing frictionally on the posts *c*¹⁰. This follower is removable so that the pack of articles may be inserted from the rear instead of from the top. The base *c*¹¹ has two spring pawls *c*¹⁴, *c*¹⁵ which engage, respectively, a stationary longitudinal rack G and a reciprocating rack G' parallel with rack G. The pawl *c*¹⁴ prevents rearward movement of the follower and the pawl *c*¹⁵ will, when the feed rack G' is moved forwardly, move the follower toward the cabinet front. The rear end of the feed rack G' is secured to a plate spring *g*⁸, which retracts the said rack and its rearward throw may be regulated by a set-screw *g*⁹. The front end of the feed rack G' is connected to the upper end of an arm *g*⁵ mounted at its lower end on a pivot pin *g*⁷ and having its hooked upper end in engagement with a cross piece *g*² connecting the parallel arms of a lever G² pivoted at its lower end on pin *g*⁷. The upper end of the lever G² has a cross piece *g*³ in the downward path of the feed pawl F of the discharge lever mechanism shown in Figs. 1 and 2. When the pawl moves down it will move the upper end of lever G toward the front of the cabinet and so cause a forward pull on the feed rack G', which

through the spring pawl *c*¹⁵ causes a forward movement of the follower. When it is desired to slide the follower C⁹ rearwardly both pawls *c*¹⁴, *c*¹⁵ may be raised from engagement with the two racks by means of an underlying spring H having a finger piece *h*.

The operation of the mechanism will be fully understood from the foregoing and need not be further described.

What I claim is:

1. The combination in a delivery cabinet, with a vertically sliding carrier provided with an external operating arm, of a vertically rocking lever pivoted between its ends to the rear side of said carrier, a spring drawing the upper end of the lever toward the carrier, a shaft mounted on the lever, a pair of friction rolls fixedly mounted on the shaft, a ratchet between the rolls, and a pawl mounted on the lever with its lower end engaging said ratchet and permitting the rolls and shaft to turn in the downward movement of the carrier and lever and holding them stationary to lift an article in the return movement.
2. The combination in a delivery cabinet, with a vertical post, and a spiral expansion spring thereon, of a vertically movable carrier sleeve mounted on the post and having an external operating arm, a vertically rocking lever pivoted to the rear of the carrier sleeve and provided with an upwardly extending arm, a contractile spring connecting said arm with the upper end of the sleeve, a shaft mounted on said lever, a pair of friction rolls secured to the shaft, a ratchet wheel on the shaft between the rolls, and a pawl pivoted to the lever with its lower end engaging the ratchet to permit the rolls to run idly in the downward movement of the carrier sleeve and lever and hold the shaft and rolls from rotation in the upward movement.

3. The combination in a delivery cabinet, with a vertically sliding carrier having an external operating arm, a vertically rocking lever pivoted thereon and having a downwardly extending arm, a spring throwing the lower end of the lever rearwardly, a shaft mounted on the lever and provided with a friction roll and a ratchet wheel, a pawl mounted on the lever with its lower end engaging the ratchet to permit the roll to turn freely in the downward movement but lock the roll in the upward movement, of a feed mechanism to move the pack toward said friction roll, and an actuating device for the feed mechanism in the path of the descending lever arm.

4. The combination in a delivery cabinet, with a vertically sliding carrier having an external operating arm, a lever pivoted to swing vertically on the rear side of the carrier and having a depending pawl arm, a

spring forcing the upper end of the lever forwardly, a shaft mounted between the ends of the lever and having a friction roll and a ratchet wheel, and a pawl mounted on the lever and engaging the ratchet to allow the roll to rotate in the downward movement of the carrier and hold it against rotation in the upward movement, of a feed mechanism for the pack comprising a follower, a feed screw therefor, and a ratchet wheel on the front end of the screw in the downward path of the pawl arm of the lever.

5. A delivery or serving cabinet comprising, a casing having a discharge slot in the front of its top, a vertical post mounted in the front end of the cabinet, a carrier sleeve mounted to slide on the post and having an external operating arm, a spring on the post supporting said carrier sleeve, a lever mounted between the ends on the rear of the carrier sleeve, a contractile spring connecting the upper end of the lever with the sleeve, a shaft mounted between the ends of the lever, friction rolls on the shaft ends, a ratchet wheel on the shaft, a pawl depending from the lever and engaging the said

ratchet to lock the rolls against rotation in the upward movement of the carrier sleeve, a follower to feed the pack toward the rolls, a feed screw to operate the follower, means for disconnecting the follower and screw, a ratchet wheel on the front end of the feed screw in the path of the lower pawl-like end of said lever.

6. A delivery or serving cabinet comprising, a casing having a discharge slot in the front of its top, a vertically operating discharge mechanism in the front of the cabinet and having an extending operating arm, a follower pressing the pack toward the discharge mechanism, a feed device to move the follower toward the discharge mechanism, means for actuating the feed device from the discharge mechanism in its downward movement, guide rods supporting the lower end of the pack, and side rods for the sides of the pack.

In testimony whereof I affix my signature in presence of two witnesses.

THOMAS A. MATTHEWS.

Witnesses:

B. G. REGEN,
W. M. VAUGHN.