W. E. SWIFT.

DISPENSING CABINET FOR COLLAPSIBLE DRINKING CUPS OR THE LIKE.

APPLICATION FILED NOV. 9, 1912.

1,170,705. Patented Feb. 8, 1916.

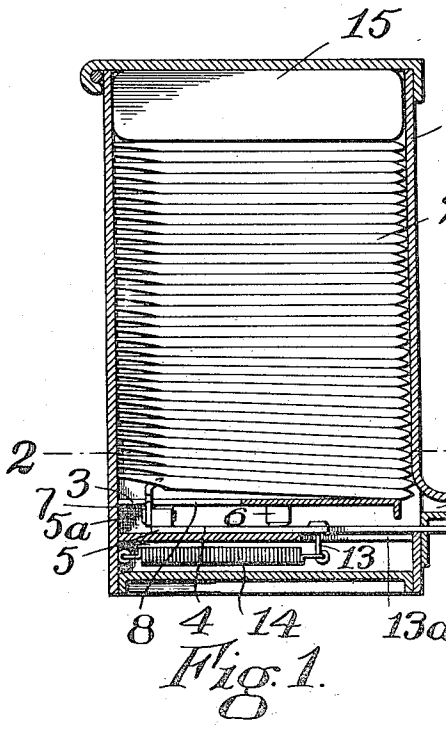


Fig. 1.

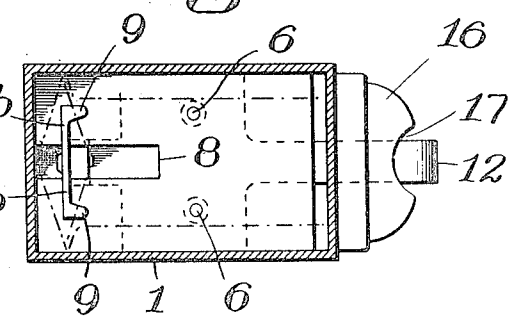


Fig. 2.

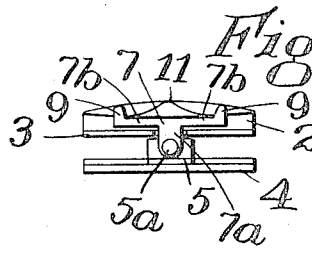


Fig. 3.

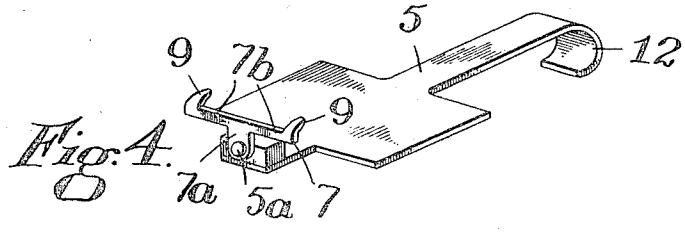


Fig. 4.

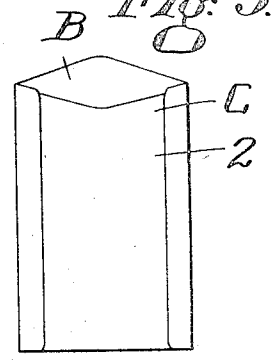


Fig. 5.

Witnesses

R. D. Tolman

Penelope Comberback.

Inventor

Willard E. Swift.

By Ralph E. Atherton.

Attorney

UNITED STATES PATENT OFFICE.

WILLARD E. SWIFT, OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO UNITED STATES ENVELOPE COMPANY, OF SPRINGFIELD, MASSACHUSETTS, A CORPORATION OF MAINE.

DISPENSING-CABINET FOR COLLAPSIBLE DRINKING-CUPS OR THE LIKE.

1,170,705. Specification of Letters Patent. Patented Feb. 8, 1916.

Application filed November 9, 1912. Serial No. 730,487.

To all whom it may concern:

Be it known that I, WILLARD E. SWIFT, a citizen of the United States, residing at Worcester, in the county of Worcester and Commonwealth of Massachusetts, have invented a new and useful Improvement in Dispensing-Cabinets for Collapsible Drinking-Cups or the like, of which the following, together with the accompanying drawing, is a specification.

My invention relates to dispensing cabinets for collapsible drinking cups or the like and resides more particularly in an improved means for projecting collapsible cups or the like from such cabinets.

The subject matter of the present invention consists in an improvement in the dispensing cabinet disclosed in my former application for "Dispensing cabinets for collapsible drinking cups and similar articles," Serial No. 717,026, filed August 26, 1912.

It has been found in practice that the projecting means shown in my former application is not as certain in its action as is desired, and an object of the present invention is to provide an improved cup projecting means that will be certain to project a cup at each operation.

In the accompanying drawing, Figure 1 is a vertical sectional view showing a dispensing cabinet provided with projecting means constructed in accordance with the present invention; Fig. 2 is a horizontal sectional view on the line 2—2 of Fig. 1, the position of the collapsible cups within the cabinet being shown by broken lines; Fig. 3 is a rear view of the improved projecting means together with a collapsible cup in position to be engaged thereby; Fig. 4 is a perspective view of the projecting means; and Fig. 5 is a view of a form of cup adapted to be used in connection with a cabinet constructed in accordance with my invention.

Similar reference characters refer to similar parts in the different figures.

The cabinet 1 is of suitable size and shape to accommodate a stack of collapsible drinking cups 2 or the like. A shelf 3 is rigidly fixed within the cabinet for supporting the stack of cups 2. Spaced below this shelf 3 is a second shelf 4 upon which rests a slide 5 held against the upper face of the shelf 4 by short projections 6 extending downwardly from the shelf 3. The slide 5 is provided at its rear end with a stud 5^a on which is pivotally supported a T-shaped cup engaging member 7, the upright stem 7^a of this T-shaped member 7 extending upwardly through a slot 8 in the shelf 3. The horizontal arms 7^b of the T-shaped member when in a horizontal position are slightly raised above the shelf 3. The slot 8 is sufficiently wide to allow a slight rocking movement of the T-shaped member. The slide 5 extends sidewise in both directions to the sides of the cabinet so that it is guided in a backward and forward path upon the shelf 4, and the slot 8 in the shelf 3 extends in a direction parallel to the path of the slide 5 to allow the cup engaging member to move with the slide.

Each horizontal arm of the cup engaging member is provided with an upwardly and forwardly extending prong 9 for engaging a cup and moving it till it projects through an opening 10 in the front of the cabinet. The cup engaging member 7 is pivoted below the longitudinal centers of the cups as they rest in the cabinet and each prong 9 engages the cup between the longitudinal center and one edge thereof. The cup engaging member 7 is tall enough to raise the rear end of the lowermost cup somewhat above its supporting shelf 3.

The cups intended for use in the cabinet are in general in the shape of an open end envelop as shown at A, Fig. 5, that is, the cups are collapsible or flat with one end open and with one edge at the open end extending beyond the other edge forming a flap B. The cups are laid horizontally in the cabinet, as shown in Fig. 1, with the open ends to the rear and with the flap B uppermost. When the slide 5 and the cup engaging member 7 are in their rearmost positions, this cup engaging member lies at the rear of the shorter edge C of the cup and beneath the flap B. The prongs 9, therefore, press upwardly against the inner surface of the longer face of the cup, thus tending to open the cup. It is found in practice, however, that the lower face of the cup tends, under these circumstances, to rest against the upper face along the median line of the cup, as shown at 11, Fig. 3. It is for this reason that the prongs 9 are located between this median line and the sides of the cup, a prong located at the median line

of the cup being liable at times to pass under the lower face of the cup, instead of engaging the edge C in its forward motion. It is also found in practice, however, that between the median line of the lowermost cup and the sides thereof, when the flap B is resting upon the cup engaging member 7, the upper and lower faces of the cup tend to separate, as shown in Fig. 3, thus providing spaces for the two prongs to enter so as to insure positive engagement between the cup engaging member and the rear edge of the lower face of the cup.

Inasmuch as the cups are not rigid in character and are sometimes slightly bent or warped, the cup engaging member is pivotally mounted upon the slide 5 in order that it may tip toward one side or the other of the cabinet until both prongs 9 bear against the flap B. The slide 5 extends at its forward end through the front face of the cabinet and is provided at its forward end with a hook 12 by which the slide may be operated.

A pin 13 extending downwardly from the slide 5 through a suitable slot 13^a in the shelf 4 has its lower end connected to a fixed point at the rear of the cabinet by a spring 14, which acts to retract the slide 5 to its normal position after it has been used to project a cup from the cabinet. A weight 15 is provided to rest upon the stack of cups 2 to insure their proper descent within the cabinet. A small shelf 16 with a finger recess 17 in its front edge is provided to support the cups as they are withdrawn through the opening 10.

While I have shown and described in detail one embodiment of my invention and one application thereof, I do not wish to be limited to such details as certain changes may be made without departing from the spirit of the invention; but

What I claim as new and desire to secure by Letters Patent is:

1. In a dispensing cabinet for drinking cups, an ejecting mechanism for moving each cup in the plane of its flat or extended position, comprising a slide, movable in the direction of the median line of the cup, and cup engaging means, pivoted to said slide about an axis parallel to said median line, and having projections on each side of said median line adapted to contact with said cup.

2. In a dispensing cabinet for drinking cups, an ejecting mechanism for moving each cup in the plane of its flat or extended position, comprising a member adapted to be reciprocated in a direction corresponding to the median line of a cup, said member being pivoted about an axis parallel to said median line, and having cup engaging means disposed on each side of said median line.

3. In a dispensing cabinet for drinking cups, a slide, and a T-shaped member pivoted to rock transversely to the direction of movement of said slide, the horizontal arms of said T-shaped member having prongs to engage an edge of the cup at each side of its center, to project the cup from the cabinet.

Dated this seventh day of November, 1912.

WILLARD E. SWIFT.

Witnesses:
PENELOPE COMBERBACH,
NELLIE WHALEN.