Jan. 23, 1934. S. N. HOPE ET AL 1,944,431

PAPER CUP DISPENSER

Filed July 8, 1932 2 Sheets-Sheet 1

FIG. 1

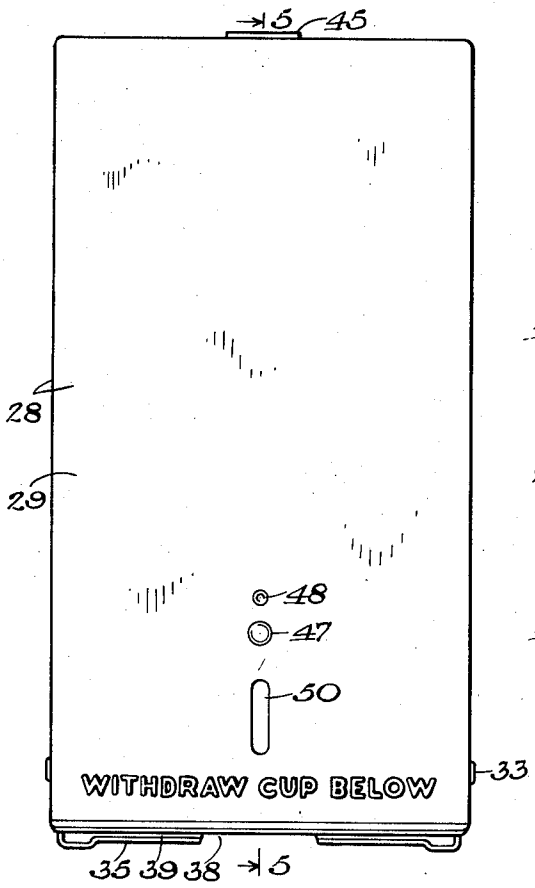


FIG. 2

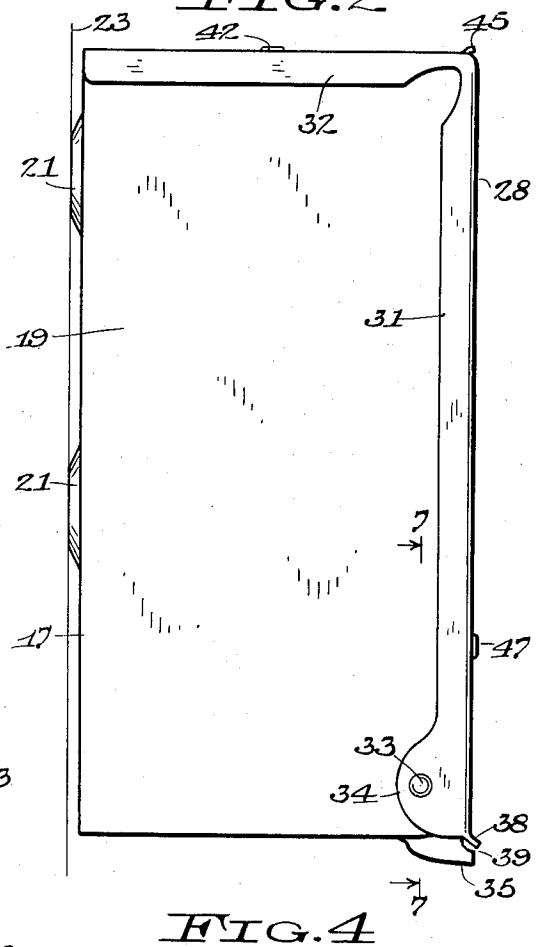


FIG. 3

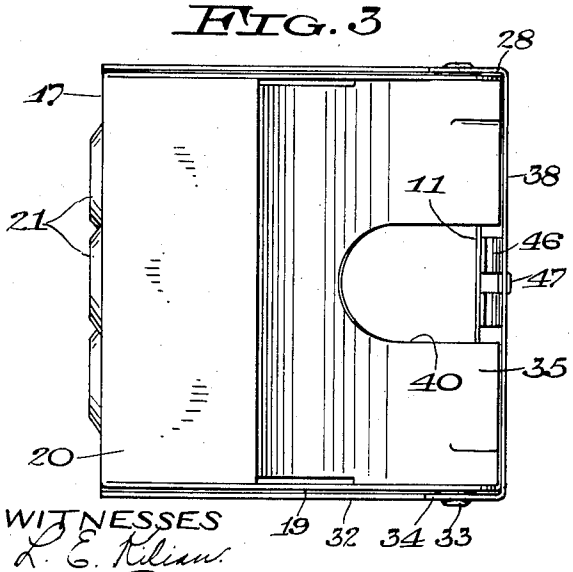
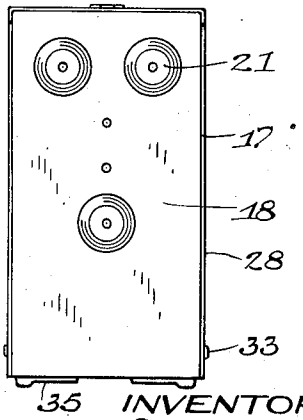


FIG. 4



WITNESSES

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Filed July 8, 1932 2 Sheets-Sheet 2

FIG. 5

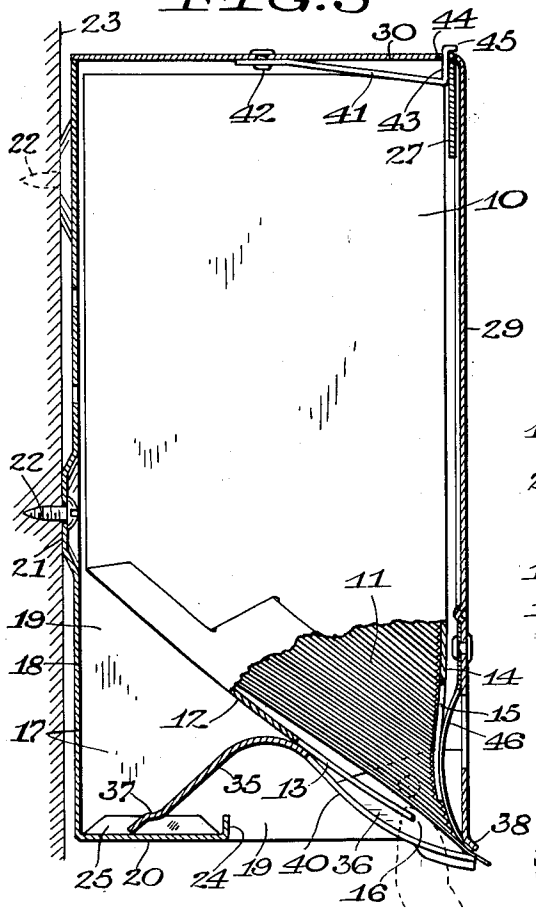


FIG. 6

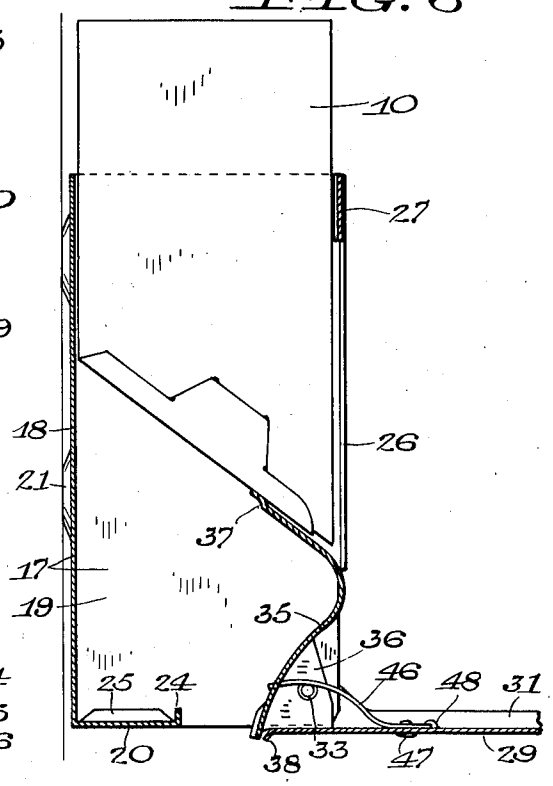


FIG. 7

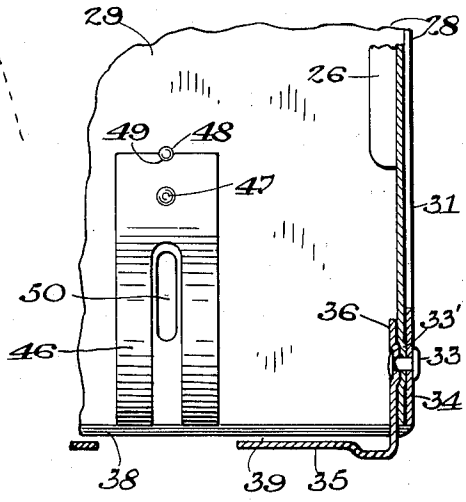
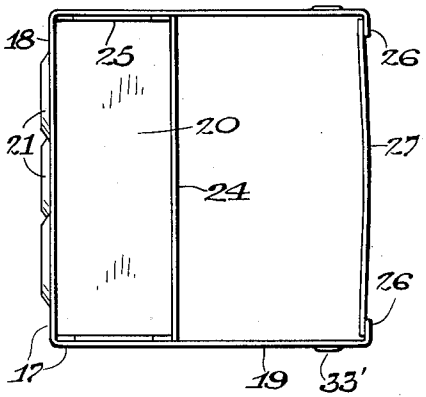


FIG. 8



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UNITED STATES PATENT OFFICE

1,944,431

PAPER CUP DISPENSER

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Application July 8, 1932. Serial No. 621,360

5 Claims. (Cl. 312—60)

The invention relates to dispensers for sheets such as folded paper cups and the like.

A type of paper cup dispenser has heretofore been devised for the reception of a cup package having a sloping bottom wall on which flat folded paper cups are stacked in inclined position and from which the cups are discharged through a slot at the lower end of the package. Among the disadvantages hitherto met with in dispensers of this type are the wasteful feeding of several cups in one operation and the necessity for a weighted follower on the stack of cups.

An object of the invention is to provide an improved cup dispenser of this general type in which means other than the stack pressure is relied on to resist the inward pressure on the foremost cup as it is withdrawn, thereby minimizing the tendency to withdraw several cups in one operation, and obviating in many cases the need for a weighted follower or other pressure means for the stack.

Another object of the invention is to provide a cup dispenser in which the opening of the dispenser incident to reloading will partially eject the empty cup package to a position permitting its ready removal.

A further object is to provide a cup dispenser which can be economically manufactured, and which is of simple, durable, compact and light weight construction.

The invention further consists in the several features hereinafter set forth.

In the accompanying drawings, Fig. 1 is a front view of a cup dispenser embodying the invention,

Fig. 2 is a side view thereof;

Fig. 3 is a bottom view thereof;

Fig. 4 is a rear view thereof;

Fig. 5 is a sectional view taken along the line 5—5 of Fig. 1;

Fig. 6 is a similar sectional view showing the dispenser in open position;

Fig. 7 is a detail sectional view taken along the line 7—7 of Fig. 2; and

Fig. 8 is a top view of the dispenser casing.

In these drawings, 10 designates a cup package or box containing a stack of flat folded paper cups 11, both the package and cups being of well known construction. As seen in Fig. 5, the package has an inclined bottom wall 12 supporting the cups in inclined position and provided with a finger notch 13 at its lower forward edge. The long vertical wall 14 of the package, here shown as the front wall, is provided with a window slot 15 at its lower edge. When the package is in dispensing position the lower edges of the bottom wall 12 and vertical wall 14 are spaced to form a dispensing slot 16 through which the cups are withdrawn closed edge foremost, as hereinafter described.

A casing member 17 is adapted to receive the cup package 10 and comprises a piece of sheet metal bent to form a rear wall 18, parallel side walls 19, and a narrow bottom wall 20. The rear wall 18 is provided with apertured embossments 21 adapted to receive screws 22 for securing the casing member to a supporting wall 23. The bottom wall is provided with an upstanding stiffening flange 24 at its front edge and with upstanding side flanges 25 which are secured, as by spot welding, to the inner faces of the side walls 19. The forward edges of the side walls 19 are formed with integral inturned flanges 26 which terminate at their lower edges at some distance from the lower end of the casing member, as seen in Fig. 7. At their upper ends the flanges 26 are connected by a sheet metal cross strap 27 having its end portions secured thereto, as by spot welding.

The casing member 17 is closed at its front and top by a cover member 28 comprising a piece of sheet metal bent to form a front wall 29 and a top wall 30 which are respectively provided with integral inturned side flanges 31 and 32 adapted to overlap the edges of the side walls 19. The cover member 28 is pivotally secured to the lower forward portion of the casing member by rivets 33 which connect apertured embossments 33′ on the side walls 19 with ears 34 formed at the lower ends of the flanges 31 and engaging the embossments.

An upwardly arched sheet metal bottom member 35 is disposed between the side walls 19 and carries integral embossed ears 36 at opposite sides engageable with the side walls and pivotally secured thereto by the rivets 33. The forward edges of the ears 36 on the bottom member lie along and engage the inner face of the front wall 29 of the cover member to form a driving connection by which the bottom member and cover member are swingable as a unit.

The bottom member 35 has an offset rear edge portion 37 which is adapted to rest on the bottom wall 20 of the casing member when the cover member is in closed position. The front portion of the bottom member 35 is concavely formed and has its forward edge spaced downwardly from an inclined lip 38 formed at the lower edge of the cover member front wall 29 to present therebetween a cup dispensing slot 39. A finger-receiving notch 40 is cut in the bottom member 35 in

register with the notch 13 in the cup package, and opens at the front edge of the bottom member.

The cover member is retained in closed position by a catch formed by a resilient metal strap 41 secured at one end to the inner face of the top wall 30 by a rivet 42, and having an upturned free end portion 43 presenting a shoulder engageable with the inner face of the cross strap 27. The free end portion 43 slidably passes through a slot 44 formed in the top wall 30 and is provided with a finger lip 45 by which the catch may be lifted and released from the cross strap 27.

An arched forked leaf spring 46 has its upper end secured to the inner face of the lower portion of the front wall 29 by a rivet 47. A nub 48 formed on the front wall 29 engages a notch 49 with the upper edge of the spring 46 to prevent rotation of the spring. The spring, which is inwardly arched, engages the front wall 14 of the cup package on opposite sides of the window slot 15, and extends below the package to a point adjacent the lip 33. A window slot 50 is formed in the front wall 29 in register with the slot 15 in the cup package to permit inspection as to the need of reloading.

When the dispenser is to be loaded, the cover member is swung open to the horizontal position indicated in Fig. 6, the bottom member 35 being swung upwardly with its rear edge uppermost. The opening movement of the cover member is limited either by the engagement of the arched bottom member with the lower ends of the flanges 26, or by the engagement of the cover member with the lower edges of the side walls 17. The cup package is inserted into the open top of the casing member and descends until its inclined bottom wall rests on the bottom member, the wedge-shaped lower end of the package entering the wedge-shaped space between the bottom wall and the flanges 26. The cover member is then swung upwardly and the package descends farther as the bottom member reaches its normal position, as seen in Fig. 5, the spring 46 being pressed closer to the front wall 29, and the catch 41 engaging the cross strap 27.

When a cup is to be dispensed, the user inserts a finger upwardly through the notches 40 and 13 and engages the lowermost cup, urging it forwardly and upwardly. A number of the lower cups are thereby pressed forwardly and upwardly against the adjacent face of the arched spring 46 in fanned-out or offset relation, and the lowermost cup is pushed through the dispensing slot 39, the cups immediately above being prevented from leaving by their frictional engagement with each other and with the spring 46. The lower free end portion of the spring 46 is substantially parallel to the lowermost sheets. The lowermost cup may then be completely withdrawn by grasping it between the thumb and forefinger. The cups are thus dispensed one by one and there is no need for a weighted follower on the stack of cups since the weight of the cups is sufficient for feeding purposes.

When the package is empty and is to be replaced the cover is swung open and the lifting of the bottom member 35 raises and partially ejects the empty package so that it can easily be withdrawn.

While the dispenser is preferably used in vertical position as shown, it will be obvious that it can be used in other positions if the cup pack is urged toward the discharge portion of the device.

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

1. A dispenser for sheets such as folded paper cups and the like, comprising a casing adapted to receive a pack of sheets therein, a closure pivotally secured to said casing and having converging walls defining a discharge slot towards which the pack of sheets is urged and through which the sheets are withdrawn edgewise, and resilient means engageable with edge portions of the leading sheets adjacent said discharge slot and resisting inward pressure exerted on the faces of said sheets by the withdrawal of the foremost sheet through said discharge slot.

2. A dispenser for sheets such as folded paper cups and the like, comprising a casing adapted to receive a pack of sheets therein and having opposite walls, a cover for said casing having flanges overlapping said walls, a wall member within said casing towards which said sheets are urged and forming a dispensing slot with the adjacent edge of said cover through which sheets are withdrawn edgewise, ears at opposite edges of said wall member adjacent the inner faces of said casing walls, and pivot members securing said ears and said flanges to said interposed casing walls, said wall member having a driving connection with said cover for simultaneous swinging movement therewith.

3. A dispenser for sheets such as folded paper cups and the like, comprising a casing adapted to receive an apertured box of sheets therein, and a closure pivotally secured to said casing and having a dispensing slot through which sheets are withdrawn edgewise, said closure having a wall engageable with the dispensing end of said box and movable into the casing by the opening of the closure to project the box from the casing.

4. A sheet dispenser comprising a container adapted to receive a pack of sheets therein and having converging walls forming a discharge slot between them toward which the sheets are urged and withdrawn edgewise, there being a finger opening in one of said walls adjacent said slot, and a resilient sheet-restraining member carried by the other wall in register with said finger opening and having a convex portion engageable with edge portions of the leading sheets adjacent said discharge slot, said resilient member yieldingly resisting pressure exerted on the faces of said sheets by a finger extending into said opening and pressing on the sheets during the withdrawal of the foremost sheet through said discharge slot.

5. A sheet dispenser comprising a container adapted to receive a pack of sheets therein and having converging walls forming between them a discharge slot for the sheets, one of said walls having a finger opening adjacent said slot for access to the outer face of the foremost sheet of the pack, and an inwardly arched leaf spring secured to the other wall and having a free end portion adjacent said slot and engageable with the inner face of said wall, said spring being in register with said finger opening and having a convex face engageable with edge portions of the leading sheets adjacent said slot for yieldingly resisting finger pressure exerted on the faces of said sheets during the withdrawal of the foremost sheet through said slot.

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