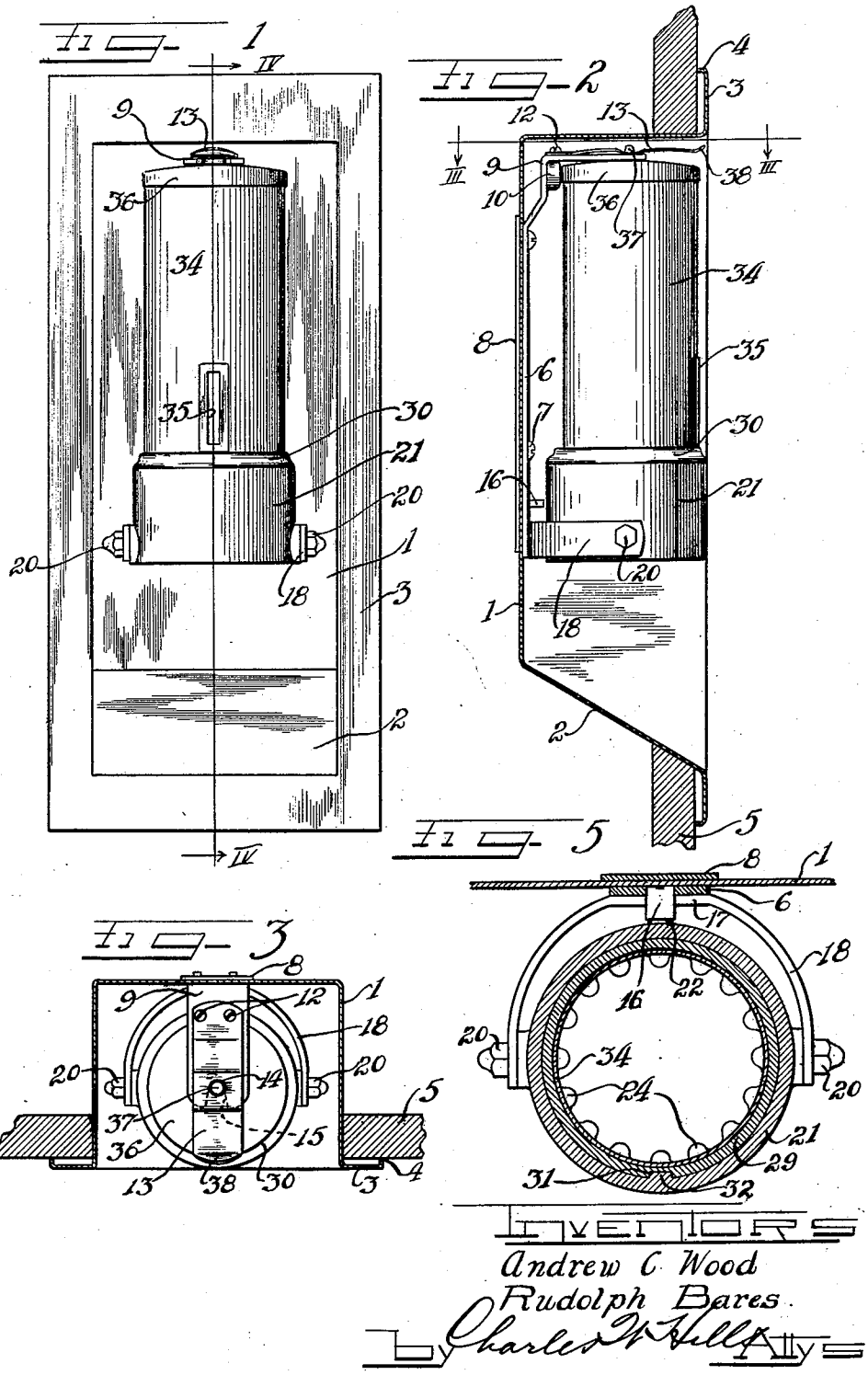
April 8, 1930. A. C. WOOD ET AL 1,753,357

CUP DISPENSER

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CUP DISPENSER

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Fig. 4

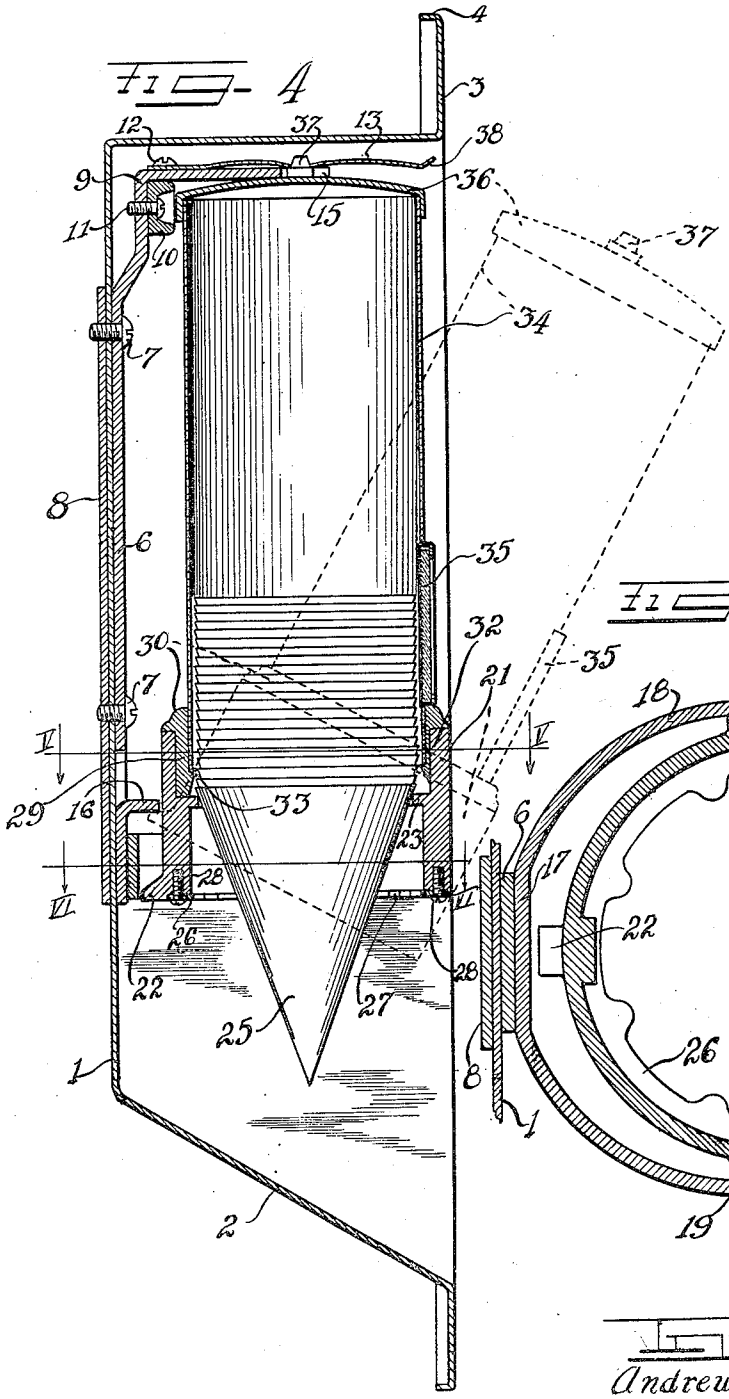
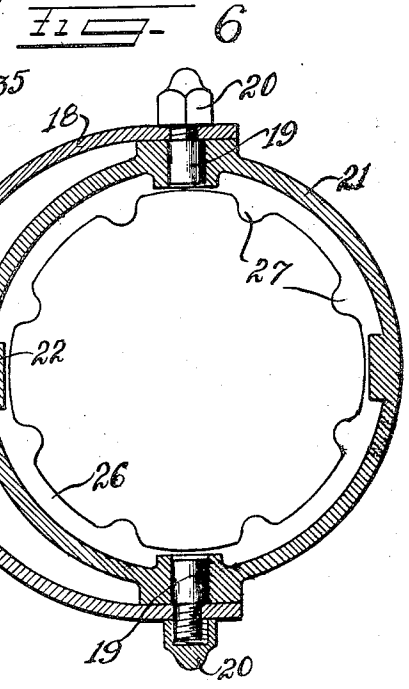


Fig. 6



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Patented Apr. 8, 1930 1,753,357

UNITED STATES PATENT OFFICE

ANDREW C. WOOD AND RUDOLPH BARES, OF CHICAGO, ILLINOIS, ASSIGNORS, BY MESNE ASSIGNMENTS, TO VORTEX CUP COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF DELAWARE

CUP DISPENSER

Application filed April 1, 1927. Serial No. 180,112.

This invention relates to a conical cup dispensing mechanism and more particularly to a combination housing and bracket adapted to pivotally support a container in place to permit convenient filling of the container with a stack of conical cups when the container is tilted outwardly, and, furthermore, permitting cups to be withdrawn one at a time from the lower end of the container and out of the lower portion of the housing.

It is an object of this invention to provide a cup dispensing mechanism wherein a cup container is pivotally supported and resiliently retained in dispensing position within a supporting housing.

It is also an object of this invention to provide a cup dispensing mechanism wherein a housing is equipped with a pivoted cup container having a removable cover which is resiliently held in place by spring retaining means when the container is held in a dispensing position within said housing by said resilient retaining means.

It is a further object of this invention to provide a housing adapted to be conveniently mounted in a recessed wall or support, with said housing being equipped with a suitable bracket for supporting a cup dispensing container in a convenient position for not only withdrawing cups one at a time from said container and housing, but also permitting quick and easy loading of said container without necessitating the removal thereof from the housing.

It is an important object of this invention to provide a cup dispensing mechanism of improved simplified form having a housing adapted to be conveniently mounted on a supporting wall or the like and containing a bracket for pivotally supporting a cup container which together with its cover is adapted to be normally held in dispensing position by resilient means which may be readily released so that the container may be pivotally swung outwardly and held in a loading position by stop lugs, thereby permitting the cover on the outer projecting end of the container to be removed to permit a stack of cups to be inserted into the container.

Other and further important objects of this invention will be apparent from the disclosures in the specification and the accompanying drawings.

This invention (in a preferred form) is illustrated in the drawings and hereinafter more fully described.

On the drawings:

Figure 1 is a front elevation of a cup dispenser embodying the principles of this invention.

Figure 2 is a longitudinal section of the dispenser housing showing the cup container and the supporting mechanisms therefor in elevation.

Figure 3 is a transverse section through the housing taken on line III—III of Figure 2 and illustrating a top plan view of the bracket and container.

Figure 4 is an enlarged longitudinal detail section of the cup dispenser taken on line IV—IV of Figure 1 with the cups shown in elevation and illustrating the operation of the cup container in dotted lines.

Figure 5 is a transverse detail section taken on line V—V of Figure 4.

Figure 6 is an enlarged transverse detail section taken on line VI—VI of Figure 4 with parts of the housing broken away.

As shown on the drawings:

The reference numeral 1 indicates a sheet metal housing having a lower inclined wall 2. Integrally formed on the margin of the housing 1 is a face plate 3 the outer edge of which is bent rearwardly at an angle to form a flange 4 adapted to seat against the face of a wall or support 5 through an opening of which the housing 1 is projected, as illustrated in Figure 2. Screws or any other suitable retaining means may be engaged through suitable apertures in the face plate 3 to hold the housing mounted in position on the supporting wall 5. The housing 1 is mounted in a substantially vertical position and has secured on the inner face of the rear wall thereof a metal mounting strap or plate 6 provided with suitable apertures for receiving retaining screws 7 which project through the rear wall of the housing 1 and through threaded apertures in a back reinforcing plate or strip 8 positioned against the outer

face of the back wall of the housing. Integrally formed on the upper end of the metal mounting plate 6 is a forwardly directed angle bracket 9 to the upright portion of which is secured a shoe or stop member 10 held in place by means of a retaining screw 11 or any other suitable means. The stop shoe 10 is seated within the angle portion of the bracket member 9. Secured to the top of the angle bracket 9 by screws 12 or other suitable means is a plate latch spring 13 having an opening 14 intermediate the ends thereof directly above a notch 15 formed in the projecting end of bracket 9. Struck from the lower portion of the bracket mounting plate or strap 6 is a tongue or lug 16 which projects forwardly into the housing. Spot welded or otherwise rigidly secured to the lower portion of the bracket mounting plate 6 is a straight middle portion 17 of a yoke or curved strap 18 which projects forwardly in the housing and has the arms thereof apertured to receive the threaded shanks of pivot pins 19 projected therethrough. Removably engaged on the outer threaded shank end of each pivot pin 19 is a retaining nut or cap 20.

Pivotally mounted within the housing 1 upon the pivot pins 19 and between the arms of the yoke 18 is the lower end of a cylindrical metal base section 21. Integrally formed on the lower rear margin of the base section 21 is a beveled finger or projection 22 adapted to be moved into contacting engagement with the stop lug 16 of the bracket supporting plate to hold the base section in an inclined position, as shown in dotted lines in Figure 4, for a purpose hereinafter more fully described. Integrally formed within the base section 21 a short distance from the upper end thereof is a cup retaining ring 23 the inner peripheral margin of which is cut away or formed to provide a plurality of spaced radial fingers or projections 24 the ends of which are rounded and are adapted to be engaged by the outer wall of the upper end of the lowermost cup of a stack of paper conical cups 25 positioned within the base section, with said lowermost cup projecting downwardly therethrough and through a second or lower cup retaining ring 26. The lower retaining ring 26 has the inner periphery or margin thereof formed with a plurality of spaced rounded projections or fingers 27 which are staggered with respect to the projections or fingers 24 of the inner or upper retaining ring 23. The lower retaining ring 26 is held in position by retaining screws 28 in a recess provided in the lower end of the base section 21.

Seated in the upper end of the base section 21 is a base ring 29 provided with an integral stop flange or bead 30 on its upper margin which seats upon the upper edge of the base section 21. The base section ring 29 is provided with a longitudinal slot or groove at 31 to permit the same to be engaged on a rib or lug 32 (Figure 5) to hold the ring 29 against rotation within the base section 21. Integrally formed in the lower end of the base ring 29 is an inner peripheral bead or shoulder 33 to afford a seat for the lower end of a cylindrical container or casing 34 constructed of metal or any other suitable material and adapted to serve as a container for the stack of nested conical cups 25. Provided in the lower front portion of the casing 34 is a longitudinal window or sight opening 35 to permit the contents of the interior of the cup container or casing to be viewed so that the supply of cups may be replenished when necessary. Removably engaged on the upper end of the container or casing 34 is a flanged cover or cap 36 which is of substantially convex shape or rounded and has a knob or head 37 secured centrally thereon to engage in the notch 15 of the bracket member 9 beneath the latch spring 13 into the aperture of which said knob is adapted to engage to hold the pivoted cup dispenser or container in a latched vertical position within the housing 1 ready for use.

The operation is as follows:

The improved cup dispenser of this invention is adapted to be mounted on a suitable support or wall having an opening through which the housing 1 is adapted to be projected, as illustrated in Figure 2. The face plate 3 of the housing may be provided with apertures to receive retaining screws for the purpose of holding the housing in position. With the cup dispenser mounted, as described, an operator has merely to engage a finger or thumb underneath the thumb piece or outer end 38 of the latch spring 13 to lift said spring out of latching engagement with the knob 37 of the container cover 36. The container 34 may now be readily swung from the full line position of Figure 4 into the dotted line position illustrated in said figure until the finger or lug 22 on the base section 21 comes into contact with the stop finger 16 which serves to hold the container in an outwardly projecting inclined position to the outside of the face plate 3 so that an operator may readily remove the cover 36 and place a stack of nested conical cups 25 into the container with the lowermost cup projecting through the base section 21. The cover 36 may now be replaced, and the container swung inwardly about the pivot pins 19 with the knob 37 of said cap engaging beneath the spring 13 to raise the same until the knob passes into the notch 15 of the bracket 9 and registers with the opening in said spring 13. When this occurs the spring 13 springs back into latching engagement, thereby holding the container locked in position for use within the housing 1 in which position the flange of the cover 36 is adapted to come into contact with the stop shoe 10

carried by the mounting bracket 9. The bracket 9 is bent forwardly out of the plane of the bracket supporting plate 6 and affords a resilient or spring bracket effect when the container is swung into engagement therewith, thereby obviating injury to the upper portion of the container or cover when the same are swung back into coacting relation with said bracket.

With the container in dispensing position within the housing 1 the lowermost cup in the stack has the upper margin thereof resting upon the fingers 24 of the upper ring 23 and thereby acts to support the stack or column of cups in position within the container. To withdraw a cup from the container a person has merely to insert a hand into the lower portion of the housing 1 and grip the end of the projecting cup and pull the same downwardly so that the upper margin of the lowermost cup is flexed into the spaces between the adjacent fingers 24 so as to ease the withdrawal movement of said end cup. The cup is thus pulled downwardly between the two retaining rings 23 and 26 and is then pulled past the retaining fingers 27 of the lower ring without injury to the cup the flexed margin of which immediately springs back into normal position after passing the two retaining rings.

In case two cups are accidentally withdrawn from the container through the upper or inner retaining ring 23 said cups are adapted to pass between the rings 23 and 26 so that the second cup will come into contact with the fingers of the lower retaining ring 26 and will be held in place thereby as the lowermost cup is being withdrawn through said lower ring. This arrangement insures dispensing of cups one at a time.

After a number of cups have been withdrawn from the container out through the lower portion of the housing 1 an attendant may readily observe through the window 35 whether or not an additional supply of cups is required. When the container is empty or nearly so an attendant has merely to raise the spring 13 to release the container which may be swung outwardly into the dotted line position of Figure 4 and is held in said inclined position by means of the finger 22 on the base section coming into engagement with the stop finger 16. This arrangement permits the attendant to use both hands in removing the cover 36 to insert a fresh supply or stack of conical cups into the open upper end of the casing or container 34.

It will thus be seen that the improved cup dispenser may be readily mounted in place with the pivoted container easily accessible to permit an additional supply of cups to be inserted therein in a comparatively short time. The cups within the container are adapted to be fed downwardly by gravity a predetermined distance each time the lowermost cup is withdrawn from the cup container and from the lower open end of the housing 1 in which the container is pivotally supported.

We are aware that many changes may be made, and numerous details of construction may be carried through a wide range without departing from the principles of this invention, and we therefore do not purpose limiting the patent granted hereon, otherwise than necessitated by the prior art.

We claim as our invention:

1. A cup dispenser comprising a housing adapted to be projected through a recess in a supporting wall and secured thereto, of a bracket mounted in said housing, a cup container pivotally supported on said bracket, and latch means on said bracket adapted to removably engage the container to hold the same in a dispensing position within said housing.

2. A cup dispenser comprising a housing adapted to be projected through an opening in a supporting wall, a flanged face plate integrally formed on said housing adapted to abut against the front face of said supporting wall to be secured thereto, a bracket mounted in said housing, a cup container pivotally supported on the lower end of said bracket, and a latch spring mounted on the upper end of said bracket adapted to resiliently engage the container to hold the same latched in a dispensing position within said housing.

3. A cup dispenser comprising a housing, a bracket mounted therein, a yoke member secured to said bracket, a cup dispensing container pivotally supported on said bracket, and means on said bracket adapted to releasably engage said container to hold the same in dispensing position within the housing.

4. A cup dispenser comprising a housing, a bracket secured on the rear wall thereof, a yoke member secured to said bracket, a cup container pivotally supported on said yoke member, a latch spring mounted on the upper end of said bracket, and a cover engaged on said container adapted to releasably engage said spring to cause said spring to hold the container in a dispensing position within said housing.

5. A cup dispenser comprising a housing, a bracket secured therein, a stop member formed on said bracket, a cup container pivotally mounted on said bracket, a projection formed thereon adapted to be moved into engagement with said stop member to hold the container in an inclined position projecting from said housing to permit filling of the container.

6. A cup dispenser comprising a housing, a bracket mounted therein, a stop member formed on said bracket, a yoke member secured to said bracket, a cup container pivot-

ally supported on said yoke member, a projection on said container adapted to be moved into engagement with said stop member to hold the container in a convenient position for filling, a cover for closing said container, and a latch spring mounted on said bracket adapted to be contacted by said cover when the container is swung back into the housing after a loading operation.

7. A cup dispenser comprising a housing, a cup dispensing container pivotally mounted therein, stop members formed on said housing and container to hold the container in a projected position convenient for filling, and resilient latching means mounted within the housing adapted to releasably engage the container when the same has been loaded and swung back into the housing.

8. A cup dispenser comprising a housing, a yoke member mounted therein, a cup container pivotally supported on said yoke member, a stop member in said housing for holding the container in an inclined position projecting from the housing to permit convenient loading of the container, a cover for said container, a knob formed on said cover, and an apertured latch spring mounted in said housing adapted to receive said knob when the container is swung back into the housing to hold said container in a dispensing position.

9. A cup dispenser comprising a bracket, a yoke secured thereto, a cup container pivotally mounted on said yoke, a stop member on said bracket adapted to be engaged by said container to hold the container in an inclined loading position, a cover engaged on said container, and a latch mounted on said bracket adapted to be engaged by said cover to hold the container in a dispensing position with said cover locked thereon.

10. A cup dispenser structure comprising a supporting bracket having a yoke at its lower end and having its upper end extending forwardly above said yoke, a container trunnioned in said yoke to swing forwardly to loading position, said container at its top having an abutment lug and said upper end of the bracket having a notch for receiving said lug to thereby stop and align said container in upright dispensing position when it is swung rearwardly after loading, a projection on said lug, and a spring latch plate secured on said upper end and adapted to receive said extension to thereby releasably lock said container in upright dispensing position.

11. In combination, a cup dispenser comprising a supporting base for a stack of cups and a cover for said stack detachably mounted on said base, a supporting bracket, said base being trunnioned to said bracket whereby said dispenser may be swung forwardly into loading position, a lug at the upper end of said cover, an abutment extension at the upper end of said bracket having a slot for receiving said lug to thereby stop and aline said dispenser in upright dispensing position when swung rearwardly after loading, a projection on said lug, and a spring latch plate on said bracket adapted to receive said extension to thereby releasably lock said dispenser in upright dispensing position.

In testimony whereof we have hereunto subscribed our names at Chicago, Cook County, Illinois.

ANDREW C. WOOD.
RUDOLPH BARES.