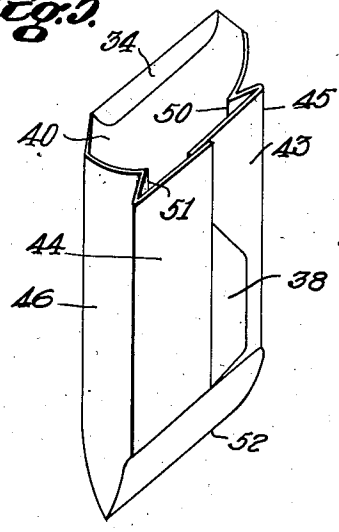
May 7, 1935. W. E. SWIFT ET AL 2,000,796

PAPER DRINKING CUP

Filed July 20, 1931

Fig. 5.



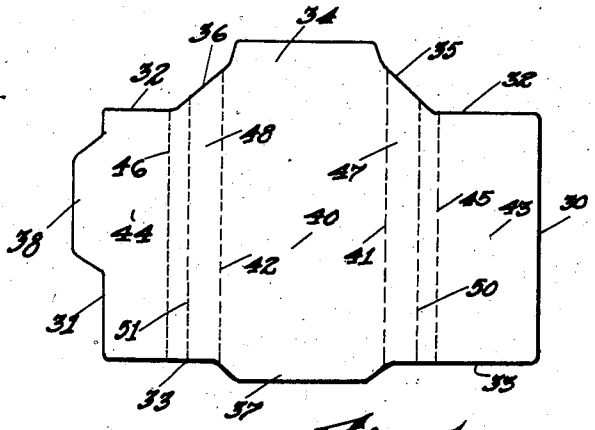


Fig. 1.

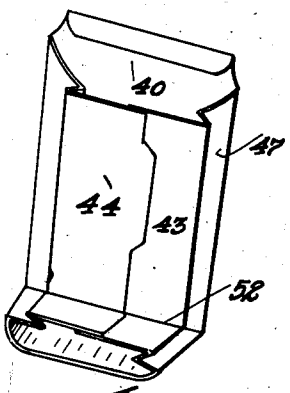


Fig. 2.

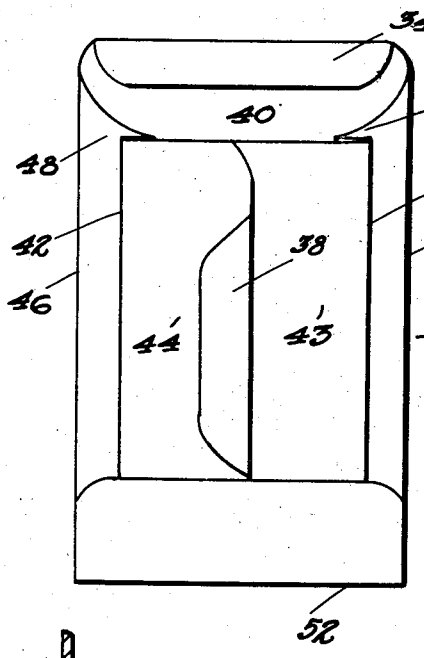


Fig. 3.

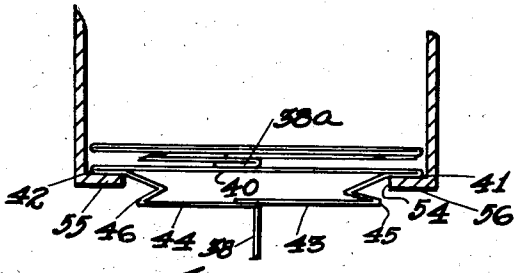


Fig. 4.

Inventors:
Willard E. Swift
Francis P. Swallow
By Geo. B. Kennedy Jr.
Attorney

Patented May 7, 1935 2,000,796

UNITED STATES PATENT OFFICE

2,000,796

PAPER DRINKING CUP

Willard E. Swift and Francis P. Swallow, Worcester, Mass., assignors to United States Envelope Company, Springfield, Mass., a corporation of Maine

Application July 20, 1931, Serial No. 551,932

4 Claims. (Cl. 229—53)

The present invention relates to paper drinking cups of the type which are adapted for flat packing in a container but which are opened for use as they are withdrawn from the container.

It has been proposed heretofore to provide paper cups which are packed in a flat condition and are opened for use by pressure on opposite edges, these cups being, in general, triangular in shape when flat. Often times these cups do not open readily from the flat condition, since, under pressure applied to opposite edges, both sides spring in the same direction instead of away from each other as they should, to open the cup, or the sides buckle so that the cup opens unevenly. Moreover, this type of cup is supported in the hand only by grasping it along the converging sides with the result that the cup, when in use tends to slide upwardly out of the hand or to crush by reason of the pressure exerted in grasping it.

The objects of the present invention are to provide a cup of the flat packing type which is self-extending into open cup forms as it is withdrawn from the container, and which presents a surface of substantial width along the bottom for the user's hand or finger by means of which the cup is supported without exerting undue pressure on the sides thereof. Other objects and advantages of the invention will be apparent from the following detailed description thereof taken in connection with the accompanying drawing in which:—

Fig. 1 is a plan view of a blank from which a cup embodying the invention is formed.

Fig. 2 is a perspective view of a partially completed cup formed from the blank of Fig. 1.

Fig. 3 is a plan view of a completed cup formed from the blank of Fig. 1.

Fig. 4 is a fragmentary sectional view of a container showing the manner in which the cup of Fig. 3 is dispensed.

Fig. 5 is a perspective view of the completed cup.

Like reference characters refer to like parts throughout the drawing.

In the construction of Figs. 1 to 4 inclusive, the blank from which the cup is formed is generally rectangular in form having side edges **30** and **31** and top and bottom edges **32** and **33** respectively. The top edge **32** is provided substantially centrally thereof with a flap or drinking lip **34**, the outer side edges **35** and **36** of the lip converging toward the outer edge thereof. The bottom edge **33** of the blank is provided with a central bottom flap **37** opposite the flap **34**, said bottom flap being somewhat smaller than said flap **34** both transversely and longitudinally. The side edge **31** of the blank is provided with a tab or flap **38** adjacent the upper end thereof, the tab providing means by which the cup may be removed from the container as will hereinafter appear.

The blank provides a central body portion **40** defined by fold lines **41** and **42**, which extend vertically of the cup adjacent opposite edges of the bottom flap **37**, and side flaps **43** and **44** defined respectively by the side edges **30** and **31** and fold lines **45** and **46**, the latter extending parallel to and in spaced relation to the lines **41** and **42**. The portions of the blank between the fold lines **41** and **45** and similarly between the fold lines **42** and **46** comprise end-forming portions **47** and **48**, each of which has a fold or crease **50**, **51** extending reversely to the folds or creases **41** and **45**, **42** and **46** respectively. The folds or creases **50**, **51** are located nearer to the folds or creases **45** and **46** than to the folds or creases **41** and **42** for a purpose which will hereinafter appear.

In forming the cup, the side flap **43** is first folded into overlapping engagement with the central portion **40**, the end-forming portion **47** being arranged as shown most clearly in Figs. 2 and 4 between the portions **40** and **43**, the fold edge **50** extending inwardly. The fold at **45** is laterally separated from the fold **41**, and lies within the area of the central body portion **40**, as will be apparent from Figs. 3 and 4, by reason of the spacing of fold **50** from folds **41** and **45**. The opposite side flap **44** is next folded into overlapping engagement with the central portion **40** and with the edge of the flap **43**, the fold edge **51** extending inwardly between the portions **40** and **44** and the fold line **42** extending outwardly beyond the fold line **46** by reason of the location of fold **51**. The overlapping edges of flaps **43** and **44** are secured together in any suitable manner, after which the bottom portion of the cup is folded upwardly along the line **52** against the overlapping side flaps **43** and **44** and secured thereto. The fold-up of the bottom portion along the line **52** provides a straight-line bottom closure for the cup and provides watertight corners at opposite ends of said closure as will be apparent. The upper portion of the drinking lip **34** is folded against and secured to the remainder of the lip thereby to provide a reinforced drinking edge, and the tab **38** is folded against the side flap **44**.

The completed cup thus formed is substantially in the form of a wedge having a front portion **40**, Fig. 5, a back portion comprising flaps **43** and

44 and end portions 47 and 48 providing, when the cup is in open position, a substantially rectangular open mouth, the cup decreasing in cross-section to the straight line bottom fold 52. The front and back portions of the cup remain substantially planar either in the open or in the collapsed condition, the folds in the end portions 47 and 48 permitting the cup to be distended or collapsed readily by inward folding of the reentrant creases 50 and 51. It will be noted in the completed cup that the front portion 40 is of substantially greater width than the back portion composed of the side flaps 43 and 44, the creases 45 and 46 which define the opposite edges of the back portion being substantially spaced from the corresponding creases 41 and 42 respectively.

Referring now to Fig. 4, in which a portion of a dispensing container for the cup is shown in cross-section, it will be noted that the container provides a dispensing opening 54 of a width somewhat greater than the width of the back portion of the cup but of less width than the front portion thereof, the edges 55 and 56 of the dispensing opening thereby engaging the outer edges of the cup between the fold lines 41 and 45, 42 and 46 respectively. As the cup is grasped by the tab 38 for removal from the container, it will be seen that the edges 55 and 56 retain the front portion 40 of the cup against movement until the back portion has been substantially separated therefrom, that is, the cup has been opened to substantially its greatest size. The material of the cup is sufficiently flexible to permit the front portion to bend or buckle after the cup is extended, thereby to permit the cup to be entirely removed from the container. It will thus be seen that the cup is automatically distended as it is withdrawn from the container and is thus automatically made ready for use without any necessary manipulation by the person using the cup. The natural resiliency of the material of the cup is sufficient to cause the tab 38a of the succeeding cup within the container to spring away to a slight extent from the portion of the cup against which it is folded, thereby providing a handle for the cup which may be easily grasped by the user when the succeeding cup is to be withdrawn from the container.

We claim:

1. A paper cup for use in a dispensing container, the latter having a dispensing opening with supporting lips on opposite sides thereof, said cup having side and end walls, said end walls having reentrant creases to provide for collapse of said cup to a flat condition, one of said side walls being substantially wider than the other of said side walls, the wider wall being somewhat wider and the narrower wall being somewhat less wide than the spacing between the supporting lips of the container to provide for passage of the narrower wall between said lips and to prevent accidental passage of the wider wall therebetween.

2. A paper cup for use in a dispensing container, the latter having a dispensing opening with supporting lips on opposite sides thereof, said cup having substantially plane side walls, end walls connecting said side walls and having reentrant creases therein to provide for collapse of said cup to a flat condition, said side walls being unequal in width, one of said side walls being wider and the other side wall being narrower than the spacing between the supporting lips of the container to provide for passage of the narrower wall between said lips with the latter restraining the remainder of the cup from unintended passage between said lips.

3. A paper cup for use in a dispensing container, the latter having a dispensing opening with supporting lips on opposite sides thereof, said cup having opposed side walls, end walls connecting said side walls, reentrant creases in said end walls to permit collapse of the cup to a flat condition, one of said side walls being wider and the other side wall being narrower than the spacing between the supporting lips of the dispensing container, and a flap integral with said cup and extending from the narrower of said side walls, said flap permitting removal of the cup from a dispensing container.

4. A paper cup for use in a dispensing container, the latter having a dispensing opening with supporting lips on opposite sides thereof, said cup having opposed side walls, end walls connecting said side walls, reentrant creases in said end walls to permit collapse of the cup to a flat condition, one of said side walls being narrower and the other side wall being wider than the spacing between the lips of the container, said side wall being folded over adjacent the lower end to provide a straight line bottom for said cup, and a flap integral with said cup and extending from the central portion of the narrower of said side walls, said flap permitting removal of the cup from a dispensing container.

WILLARD E. SWIFT.
FRANCIS P. SWALLOW.