

Jan. 9, 1940.

S. S. PIKEN

2,186,205

PAPER CUP DISPENSER

Filed March 29, 1938

5 Sheets-Sheet 1

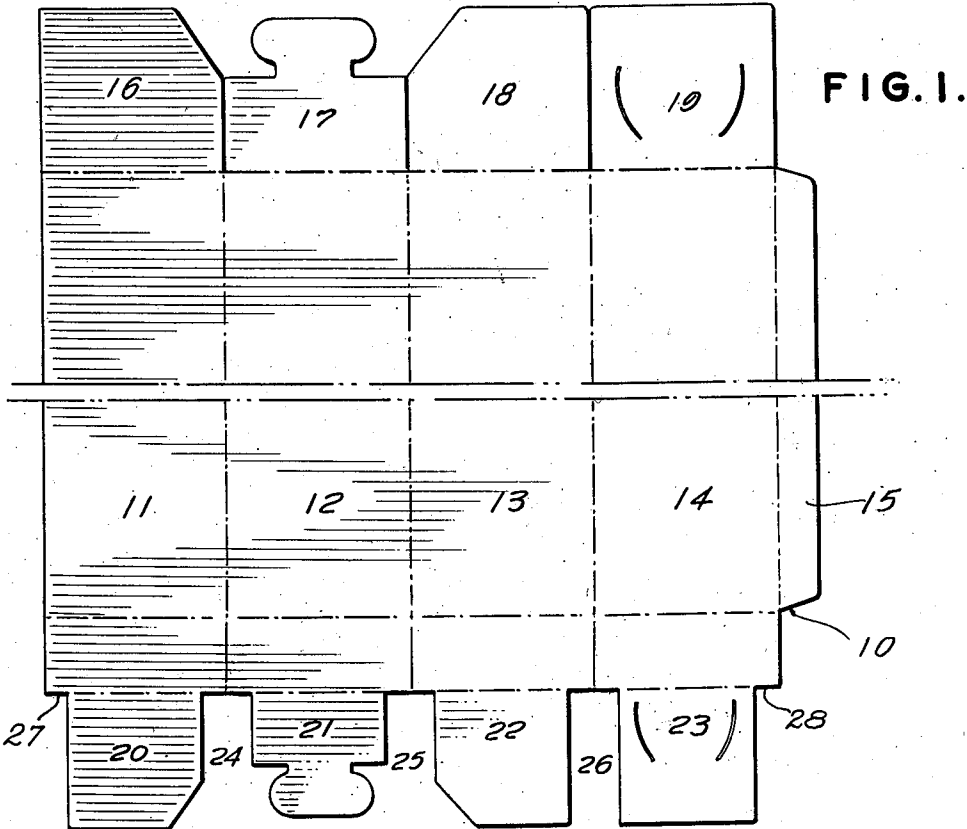


FIG. 2.

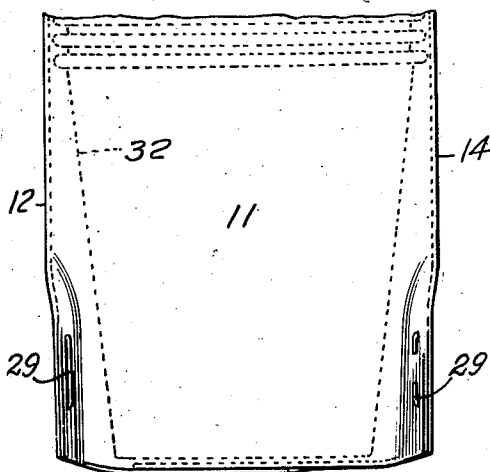
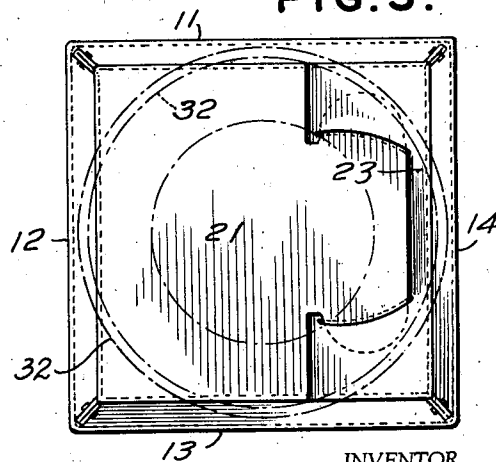


FIG. 3.



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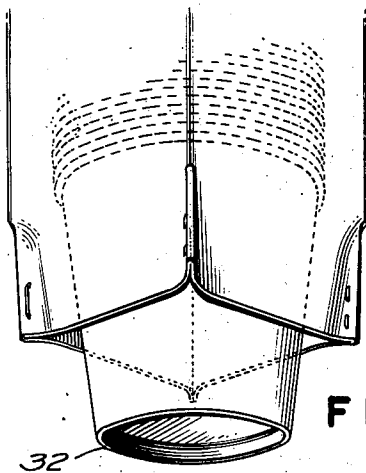


FIG. 4.

FIG. 5.

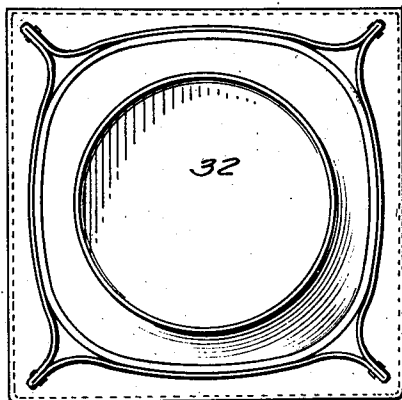
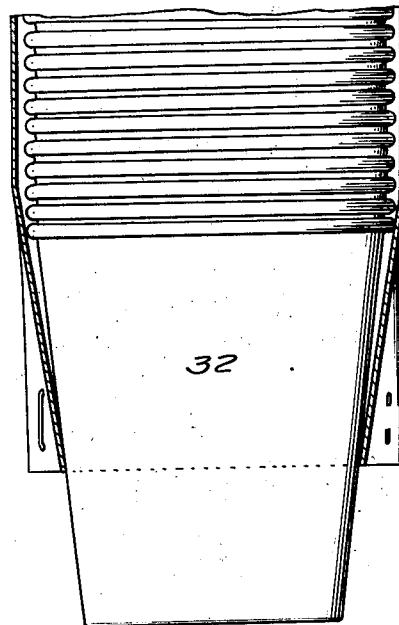


FIG. 7.

FIG. 6.

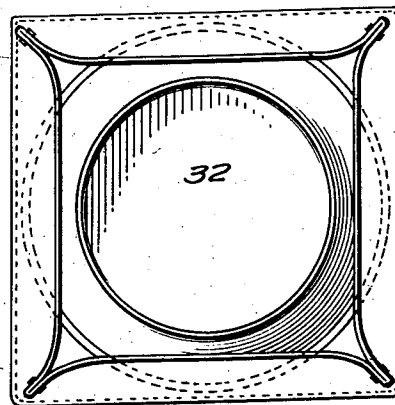
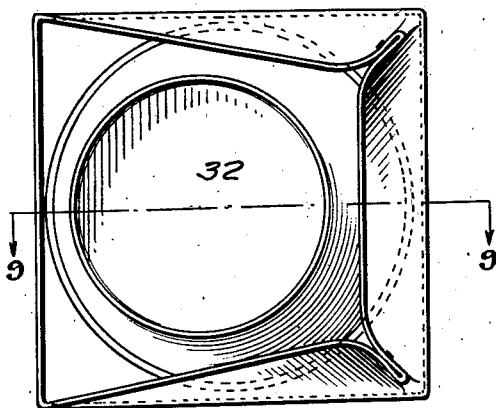


FIG. 8.



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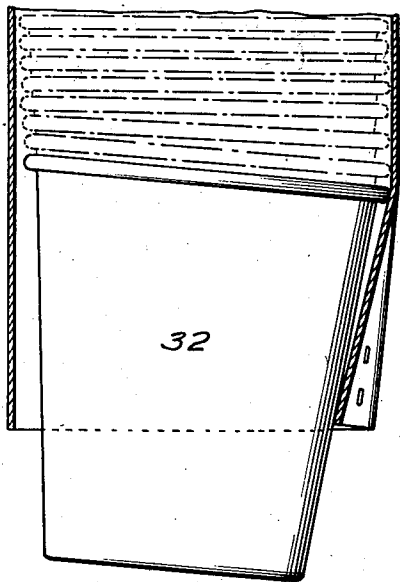


FIG. 9.

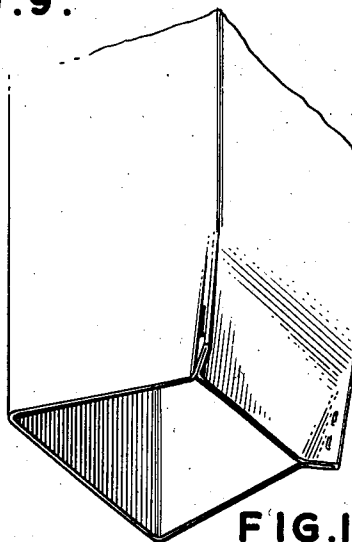


FIG. 10.

FIG. 11.

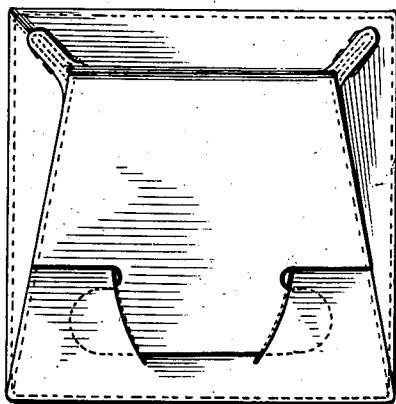


FIG. 12.

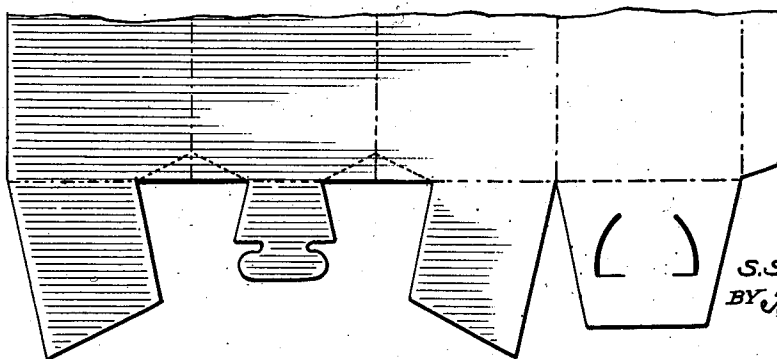
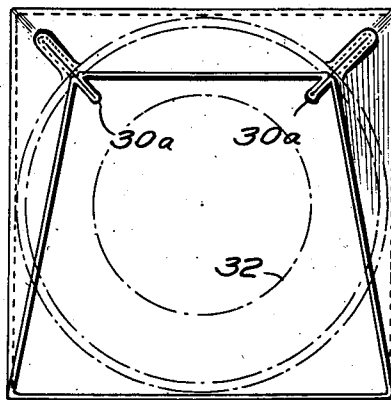


FIG. 13.

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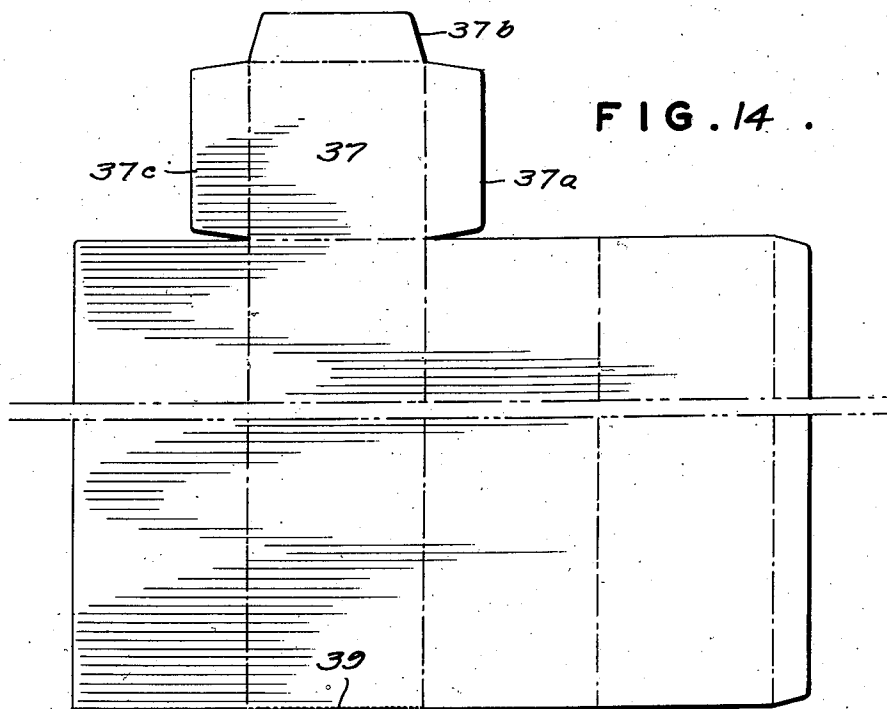


FIG. 14 .

FIG. 15 .

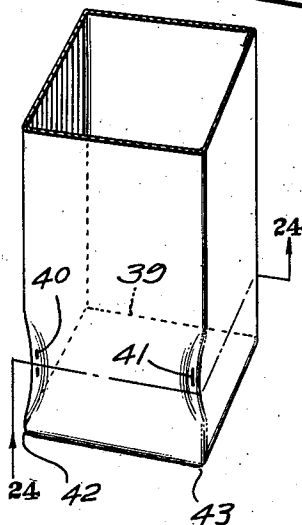


FIG. 17 .

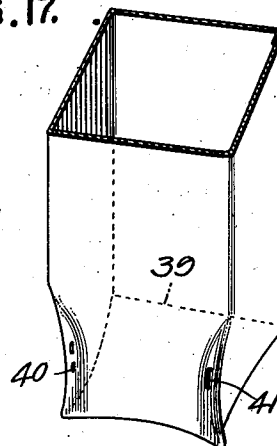
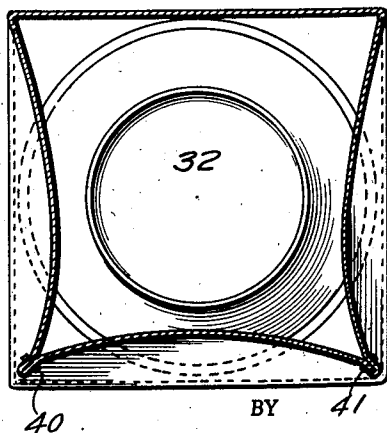


FIG. 16 .



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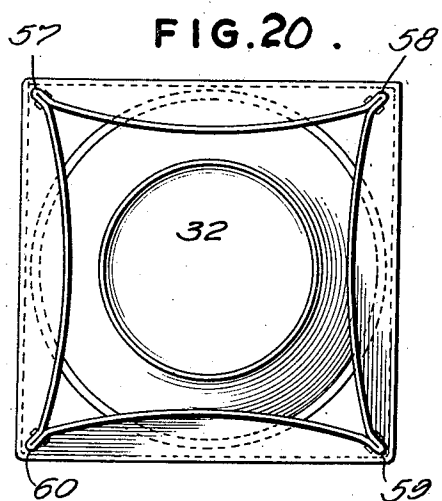
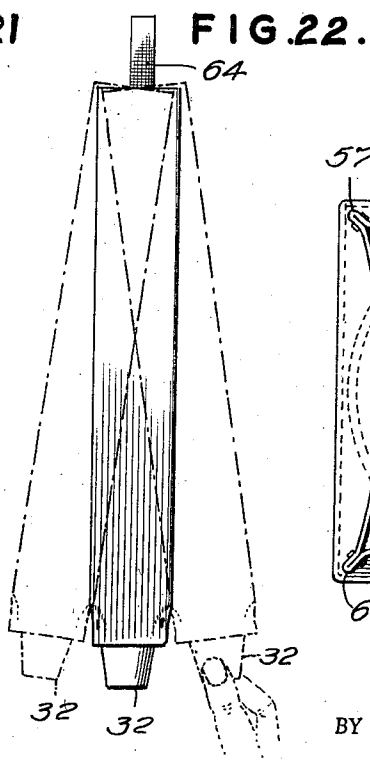
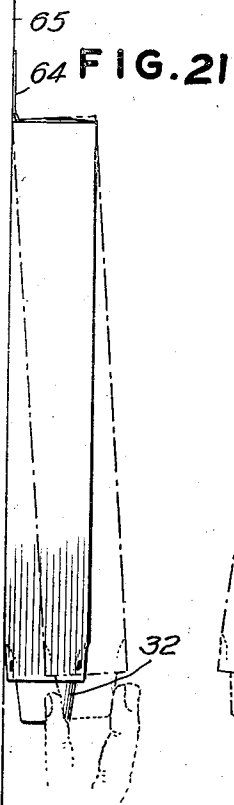
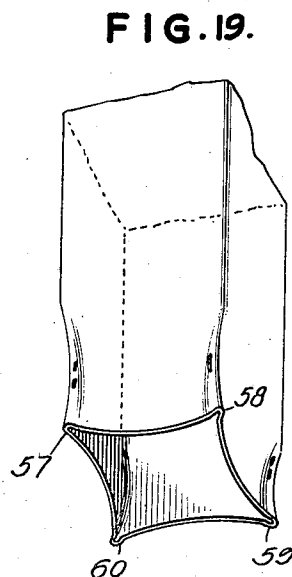
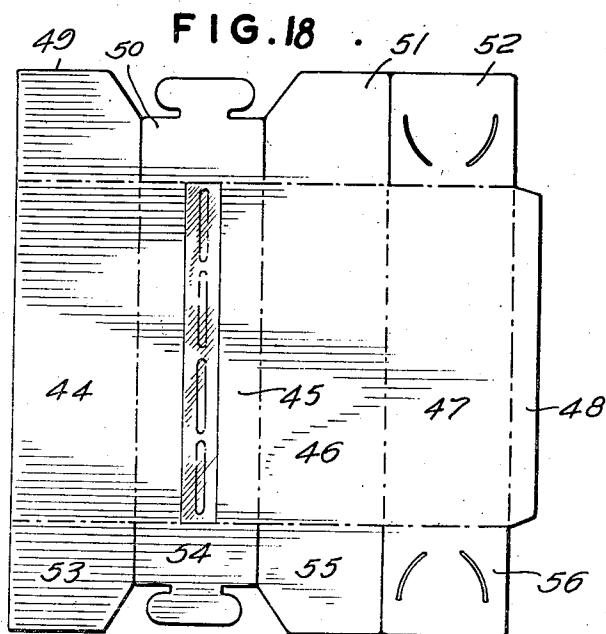
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PAPER CUP DISPENSER

Filed March 29, 1938

5 Sheets-Sheet 5



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UNITED STATES PATENT OFFICE

2,186,205

PAPER CUP DISPENSER

Samuel Sidney Piken, Bayonne, N. J.

Application March 29, 1938, Serial No. 198,721

10 Claims. (Cl. 206—56)

This invention relates to improvements in dispensing containers for stacks of nested upright paper cups or the like, from which the user may directly withdraw the cups one by one, and more in particular this relates to a combination shipping and dispensing container constituting a package from which paper cups are drawn individually directly by the user.

One of the objects of this invention is to provide a dispensing container from which the individual cups can be drawn smoothly, without effort, without injury or violence to the cup or any part thereof and without strain upon the container, and yet in a manner that the withdrawal of each individual cup functions reliably and precisely.

Other objects are to design an improved combination shipping and dispensing container for nested paper cups or the like, which is simple and inexpensive in manufacture or mass production, involving no appreciable cost beyond that of the ordinary shipping container or cardboard box for paper cups; which is convenient to manipulate with respect to the withdrawal of the cups or the like, and which functions reliably even though carelessly or violently handled.

In order to attain these objects a dispensing container is provided with a non-circular or cornered cup delivery mouth portion of such characteristics of conicity and shape that through it each cup will let itself be withdrawn individually by reason of a temporary gentle deformation of the circular top or crown portion of the cup in accordance with the relatively incongruent shape of the delivery passage. More specifically, this is a container which while it may be of ordinary cornered cross-section has the particular characteristic that its lower side wall portions are made to form an outlet constriction of the desired character and of a design suitable for the purpose of this invention.

According to one feature, a container or carton for the paper cups constitutes a combination shipping and dispensing container due to the drawing-in or pinching of lower corner portions of the container side walls in a manner to provide the desired constriction.

Another feature has to do with a simple method and means of utilizing otherwise standard or ordinary shipping containers for paper cups in the making of dispensing containers.

In one of various possible embodiments the dispensing container has been made from an otherwise standard ordinary carton or shipping con-

tainer for instance of the square cross-section type, by applying clips, staples or the like to the corner portions near the lower end of the container. Severable or perforated closure flaps are provided at the outlet end of the container, the severing of which flaps will leave the outlet portion of the container in a condition and free to form a somewhat resilient constriction functioning in the manner desired for the dispensing and individual withdrawal of the cups.

The invention possesses other objects and features of advantage, some of which with the foregoing will be set forth in the following description and in the claims, parts will be identified by specific names for convenience, but they are intended to be as generic in their application to similar parts as the art will permit. In the accompanying drawings there has been illustrated the best embodiment of the invention known to me, but such embodiment is to be regarded as typical only of many possible embodiments, and the invention is not to be limited thereto.

More in particular it is not limited to a square cross-section type of container, but triangular, polygonal or other non-circular types are included in the scope of the invention.

The novel features considered characteristic of my invention are set forth with particularity in the appended claims. The invention itself, however, both as to its organization and its method of operation, together with additional objects and advantages thereof, will best be understood from the following description of a specific embodiment when read in connection with the accompanying drawings, in which:

Fig. 1 is the development of a carton blank for creating a desired cup delivery mouth portion in the container to be made from the blank.

Fig. 2 is an enlarged detail side view of the lower portion of a container made from the blank in Fig. 1, with closure flaps closed.

Fig. 3 is a bottom view of the container portion shown in Fig. 2.

Fig. 4 is a perspective view of the container portion shown in Fig. 2 with closure flaps removed and cups ready for withdrawal.

Fig. 5 is a longitudinal sectional view of the container portion ready for use as shown in Fig. 4.

Figs. 6 and 7 are bottom views of the container portion shown in Figs. 4 and 5 respectively, illustrating respective elastic deformations of paper cup and container respectively in the process of cup withdrawal.

Figs. 8-11 and 13 are views to illustrate a

modification in the construction of the cup delivery mouth portion of the container.

Fig. 12 shows a modified mode of drawing-in of the lower end corner portion of the container, to make the constriction.

Fig. 14 is the development of a carton blank for a container having single tab closure flaps and perforations for the severing thereof.

Fig. 15 is a perspective view of the lower closed portion of a container made from the carton blank shown in Fig. 14, two corner portions being drawn in at relatively unrestricted corners.

Fig. 16 is a bottom view of the container, or else a sectional view according to the line 24—24 in Fig. 15.

Fig. 17 is a perspective view of the lower portion of the container with cover flap removed.

Figs. 18 to 20 illustrate the making of a combination shipping and dispensing container according to the principle of this invention from an otherwise standard ordinary shipping container for paper cups.

Figs. 21 and 22 illustrate convenience in manipulating cup withdrawal from a combination shipping and dispensing container with one point flexible suspension.

With respect to a combination shipping and dispensing container, one of the manifestations of this invention is shown in the embodiment of Figs. 1 to 7. A carton blank 10 from which the container is to be folded is shown in Fig. 1 to comprise side wall body portion 11, 12, 13, 14 and a connecting flap 15. The top portion is shown to consist of conventional closure flaps 16, 17, 18, 19. The bottom end comprises closure flaps 20, 21, 22, 23, which are similar to the top closure flaps although of a slightly reduced size so that they will form cut-outs 24, 25, 26, and shoulders 27 and 28 with respect to the body wall portion. This reducing of the bottom closure flaps will permit to make the constriction or cup delivery portion which is the characteristic of the lower portion of the container. For this purpose clips or staples 29 or the like are driven through the respective lower corner portions of the container (see Fig. 2) and the bottom closure flaps may be closed in the interlocking manner in which they appear in the bottom view of Fig. 3, cups 32 being indicated in dotted lines within the container in Fig. 2 and Fig. 3.

In order to condition such a shipping container for use as a dispenser, the bottom closure flaps are opened and severed so as to leave available a constricted cup delivery portion as illustrated in Figs. 4 and 5.

The manner in which the constricted portion or mouth functions when delivering or yielding up the cups is illustrated in the bottom views of Figs. 6 and 7. In Fig. 6 the cups are indicated to be in a position in which the stack is normally detained by the constriction of the container, as the lower end wall portions tangentially contact the upper portion of the lowermost paper cup. In this condition of the dispenser the constricted end portion of the container appears as a substantially square frame, although its sides may be said to be flexed inwardly to an extent. However, as the downwardly protruding bottom portion of the lowermost cup is grasped and pulled, the cup will undergo a slight momentary deformation of its top or crown portion in accordance with the four-cornered shape of the delivery mouth, while on the other hand the contacting portions of the surrounding container walls in turn will slightly give, as shown in Fig.

7, with the result that the individual cup then being grasped will slip out or snap out smoothly, whereas the remainder of the stack of paper cups is retained.

A modification of the embodiment just described is illustrated in Figs. 8 to 13, which modification relies upon only two corner portions to be drawn-in or pinched, to form the desired constriction or cup delivery portion of the container. In view of the description of the similar embodiment previously rendered, the Figs. 8 to 13 are thought to be self-explanatory, although a sub-modification according to Fig. 12 shows corner portions 30a drawn or folded inwardly and thus fixed by gluing or otherwise. Thus one arrives at a trapezoidal shape of the outlet portion, and accordingly the closure flaps for that opening are arranged substantially as shown in Fig. 13.

An embodiment shown in Figs. 14 to 17 is in the way of a combination shipping and dispensing container made from a carton blank (see Fig. 14) shown to have only one closure flap 37 at the top and a similar one 38 at the bottom, both having auxiliary flaps 37a, 37b, 37c and 38a, 38b, 38c respectively. The bottom flap 38 is indicated to be severable from the body portion of the container by reason of perforations indicated at 39. Fig. 15 shows the container as made from the blank, and having staples 40 and 41 applied to the corner portions 42 and 43 respectively of the container, these corner portions being the ones that are located opposite the perforations 39 of the bottom flap. In order that the container may be conditioned for use as dispenser, the single bottom closure flap 38 is severed, thereby making available a constricted cup delivery opening such as shown in the bottom view of Figs. 16 or in the perspective view of Fig. 17.

In Figs. 18, 19, 20 the invention is shown to be embodied in a substantially standard shipping container of square cross-section in a manner which requires substantially no change in the standard mode of manufacture of the carton blank. Accordingly, the blank for making this container (see Fig. 18) is shown to comprise side wall body portions 44, 45, 46, 47; a connecting flap 48; standard top closure flaps 49, 50, 51, 52, and likewise standard and identical bottom closure flaps 53, 54, 55, 56, the bottom closure flaps preferably having suitable perforation to be readily severable from the body wall portions. Again, and by way of example staples are applied to or driven through the corner portions 57, 58, 59, 60, so that the severance of the bottom closure flaps will permit the desired constriction to form in the manner indicated in Figs. 19 and 20.

A suitable suspension means, for instance a tab 64 of adhesive tape or of what is known as Scotch tape constitutes for the dispensing container a one point flexible suspension which leaves the container relatively free and bodily swingable in a universal fashion, that is to say sidewardly or forwardly as indicated in Figs. 21 and 22, and without any undesirable strain or constraint being imposed upon the cups or upon the lightly built container incident to any even though rapid withdrawal of a cup by the user.

With respect to Fig. 18, in the side wall portion 45 there are shown indicator openings to make visible the amount of cups left within the container. These openings are covered by a strip of transparent material and which may be in the nature of a Cellophane-like material or it may 75

be a length of transparent Scotch tape applied as shown.

I claim:

1. A combination shipping and dispensing container for nested paper cups or the like, comprising a tubular housing body portion of cornered cross-section adapted to loosely surround a stack of said nested upright paper cups, and a downward cup delivery mouth portion constituting in effect a downward continuation of said cornered body portion, providing downwardly diminishing correspondingly cornered cross-sectional areas, and providing a cornered terminal cup delivery area the diameter of the inscribed circle of which is smaller than the largest diameter of the crown portion of the cup, said cornered mouth portion adapted to sustain the stack of cups as a whole while allowing cups to be individually withdrawn therefrom by reason of elastic deformation of the circular crown portion of the cup substantially corresponding to the cornered configuration of the delivery area.

2. A combination shipping and dispensing container for paper cups according to claim 1, in which the cup delivery mouth portion has at least one closure flap severable along a weakened line.

3. A combination shipping and dispensing container for paper cups according to claim 1, in which the housing portion is of substantially square cross-section, and in which the delivery mouth portion thereon is formed by way of drawn-in lower corner portions of said housing portion.

4. A combination shipping and dispensing container for paper cups according to claim 1, in which at least one lower corner portion of the housing portion is pinched in a manner to form said delivery mouth portion.

5. A combination shipping and dispensing container for paper cups according to claim 1, in which at least one lower corner portion of said housing portion is drawn-in to form said delivery mouth portion.

6. A combination shipping and dispensing container for paper cups according to claim 1, in which the housing portion is of substantially

square cross-section, and in which at least two lower corner portions of the housing portion are pinched to form said delivery mouth portion.

7. A shipping and dispensing container according to claim 1, in which the walls of the delivery mouth portion are flexibly resilient and in which the cups are withdrawn by virtue of mutual deformation of the walls of the delivery mouth portion and of the cup being withdrawn.

8. A shipping and dispensing container according to claim 1, in which the walls of the delivery mouth portion are inwardly convex, and in which the cups are withdrawn by way of mutual elastic deformation of the walls of the delivery mouth portion and of the cup being withdrawn.

9. A shipping and dispensing container according to claim 1, in which the mouth portion has at least one closure flap.

10. A combination shipping and dispensing container for a stack of nested upright paper cups, comprising a body portion of substantially square cross-section and having end openings of substantially the same cross-section, which body portion is adapted to loosely surround said cups, said body portion being provided with closure flaps at both ends and designed to be operable to close the end openings of said body portion, said body portion having at least two corner portions at the lower end thereof pinched and thereby adapted after the adjacent closure flaps are severed from the body portion, to cause the lower end portion of said body portion to form and provide a downward cup delivery mouth portion of downwardly gradually diminishing four-cornered cross-sectional areas and a correspondingly cornered terminal cup delivery area the diameter of the inscribed circle of which is smaller than the largest diameter of the crown-portion of the cup, said mouth portion adapted to sustain the stack of cups while allowing cups to be individually withdrawn therefrom by reason of elastic deformations of the circular crown portion of the cup substantially corresponding to the cornered configuration of the delivery area.

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