July 5, 1932. F. BROWN 1,865,555

PAPER CUP

Filed July 15, 1930

Fig. 1.

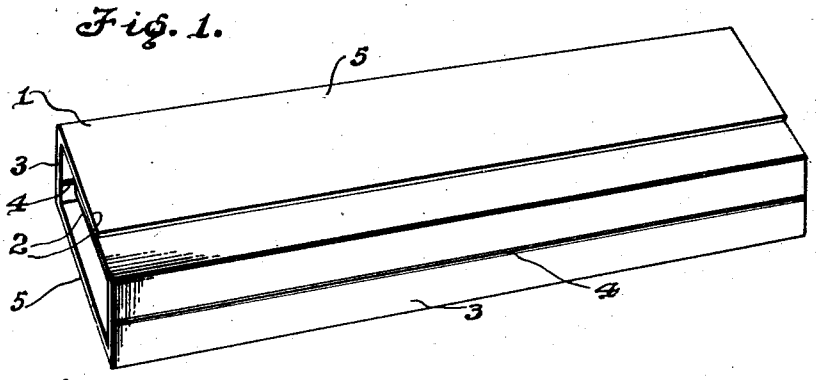


Fig. 2.

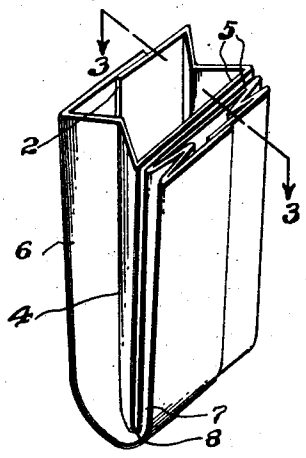


Fig. 3.

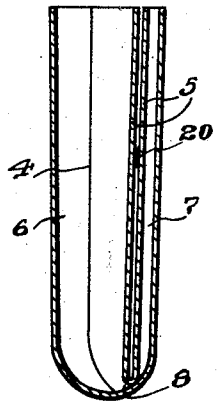


Fig. 4.

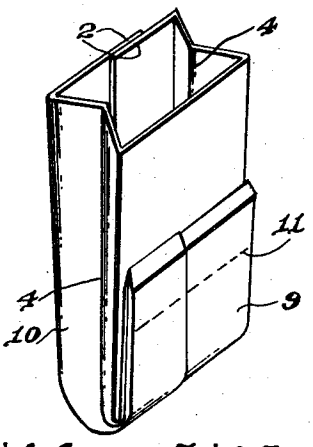


Fig. 5.

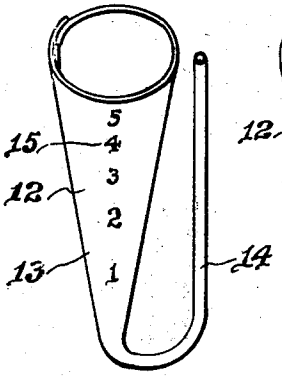


Fig. 6.

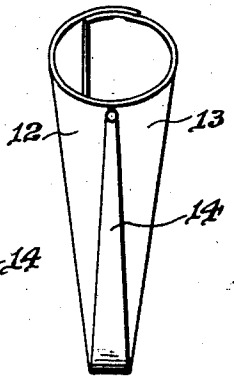


Fig. 7.

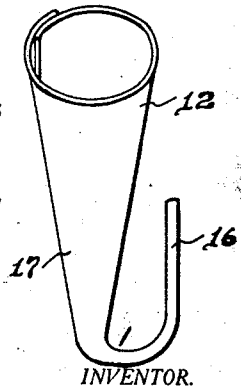
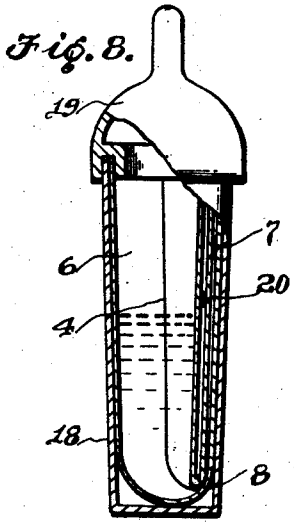


Fig. 8.



INVENTOR.
Franklin Brown
BY
J. Kaplan
ATTORNEY.

Patented July 5, 1932 1,865,555

UNITED STATES PATENT OFFICE

FRANKLIN BROWN, OF WHITE HOUSE, NEW JERSEY, ASSIGNOR TO GENERAL HEALTH CORPORATION, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF DELAWARE

PAPER CUP

Application filed July 15, 1930. Serial No. 468,134.

This invention relates to collapsible paper drinking cups capable of retaining a liquid for a considerable length of time without leakage.

In the ordinary type of collapsible paper drinking cup now on the market the body of the cup is made from a sheet of paper folded over with one longitudinal edge overlapping the opposite edge and the bottom turned upwardly and adhesively fastened against the overlapping face of the cup. Now where the inner longitudinal lap ends there is a minute triangular channel formed, the side of which is equal to the thickness of the bottom flap, the base comprises the wall member opposite the wall member which has the overlapping edges and the hypothenuse comprises the underneath portion of the upper overlapping wall member. When the bottom is turned upwardly to complete the cup this channel still remains due to the stiffness of the paper and forms an outlet for the liquid where the turned up bottom ends. As in most of the drinking cups the liquid does not remain long and as it takes a little while for the water to seep through the channel the leakage is not discovered because the cup is discarded right after being used.

Now where it is desired to retain the liquid for quite a length of time it is necessary to have a cup where no leakage can occur and in order to overcome this fault this present form of cup has been designed.

In brief the cup comprises a rectangular tubular portion bent substantially in the middle in the form of a U. Each leg of the U can be used for holding the liquid. As one leg fills up the walls distend and correspondingly contract the walls of the other leg so that the cup can conveniently be used.

In the drawing

Figure 1 is a perspective view of the tubular body portion from which the cup is made.

Figure 2 is a perspective view of the completed cup.

Figure 3 is a section on line 3—3 of Figure 2.

Figure 4 is a perspective view of a modified form of the invention.

Figure 5 is perspective side view of another modified form of the invention.

Figure 6 is front view thereof.

Figure 7 is another modified form of the invention.

Figure 8 is a cross-section of a nursing bottle showing the paper cup applied thereto.

Referring now to the drawing in which like reference characters denote like parts throughout the specification numeral 1 designates the body of the cup formed from one piece of material open at the ends, rectangular in cross-section and joined at the ends 2 by glue, paraffine or preferably casein and thereby make a leak-proof joint. Provided in the side walls 3 are creases 4 on which to fold the cup so that the walls 5 can come together face to face. For making the drinking cup ready for use the body portion is bent in the center in the form of a U as shown in Figure 2. Numeral 6 represents one leg of the U and 7 the other leg of the U. Either leg can be used for holding the liquid. The leg 6 which is filled up has a tendency to distend its walls against the walls of the opposite leg 7 and thereby form a seal at the bottom 8 against any liquid passing into the opposite leg 7. The greater the amount of water the greater the pressure at the seal 8 and the less chance there is for the liquid to enter the leg 7. However should any liquid by accident flow past the seal 8 and enter the leg 7 it will only rise as high as the liquid in the leg 6 due to the well known physical law that water seeks its own level.

In Figure 4 is shown a modified form of the invention whereby one of the legs 9 is shown sealed up. The opposite leg 10 is of course open. In other respects this modification is the same as shown in Figure 2. If by chance the liquid should enter the leg 9 the liquid will not rise to the closed top due to the trapped and sealed in air near the top of the leg but will rise substantially as far as the dotted line 11. As air is less troublesome to confine than a liquid and as no liquid will come in contact with the top joint it stands for reason that no leakage will occur at that point.

In Figure 5 is shown a modified form of the

invention whereby the body portion 12 is tapered and bent in the form of a U. Numeral 13 designates one leg of the U and 14 the other leg. The leg 14 is open at the top and the liquid in the cup can be drained by drawing with the mouth on the leg 14 in the manner like using a hollow straw for emptying the contents of a glass. Numeral 15 designates a set of graduations printed on the exterior of the body portion for ascertaining the amount of liquid in the cup. The cup is semi-transparent so that the liquid level can be plainly seen from the outside. In other respects this modified form of the cup is the same as that shown in Figure 2.

In Figure 7 is shown a modified form of the invention having a similar tapered body portion as that shown in Figure 5. The only difference between them is that the leg 16 is lower than the leg 17 and also the top of the leg 16 is sealed up.

In Figure 8 is shown one application of the invention in the form of a sanitary nursing bottle. The cup is held in the outer metallic casing 18 at the top of which is the nipple 19. The cup is not a permanent fixture of this invention but is replaceable. If desired the contacting wall members of the legs can be partly glued together as at 20. There has thus been provided a simple and efficient drinking cup of the kind described and for the purpose specified.

It is obvious that many minor changes may be made in the form and construction of the invention without departing from the material principles involved. I do not therefore desire to confine the invention to the exact form herein shown and described but I desire to include all forms which properly come within the scope claimed.

Having thus described the invention, what is claimed as new, is:

1. A cup made from a conical tubular body portion and bent substantially in half in the form of a U, the narrower leg of said U having an opening through which to draw out the liquid from the wider leg, said narrower leg being curved at the bottom.

2. A cup made from a conical tubular body portion and bent substantially in half in the form a U, the narrower leg of said U having an opening through which to draw out the liquid from the wider leg, said narrower leg being curved at the bottom and the interior thereof being unrestricted for allowing the passage of a liquid.

In testimony whereof I affix my signature.

FRANKLIN BROWN.