P. H. CARR.

COLLAPSIBLE PAPER CUP.

APPLICATION FILED JULY 11, 1919.

1,351,412.

Patented Aug. 31, 1920.

2 SHEETS—SHEET 1.

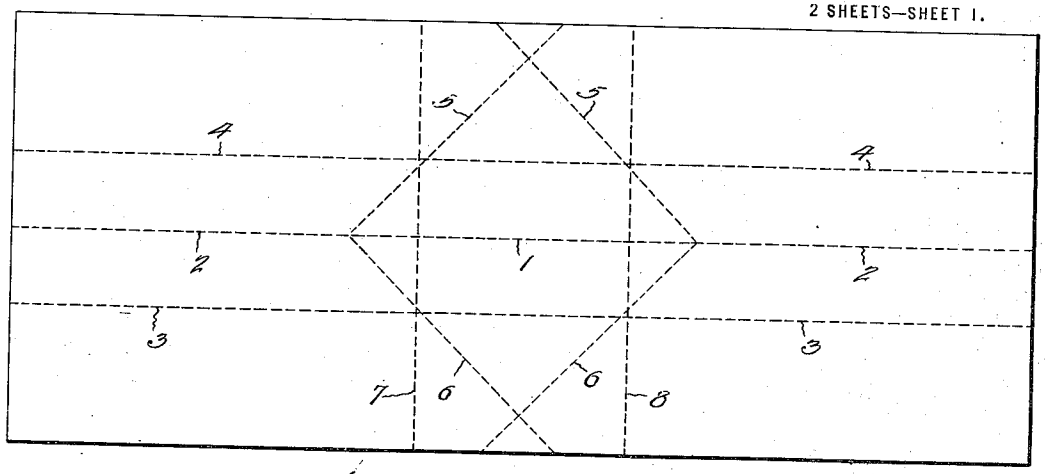


Fig. 1.

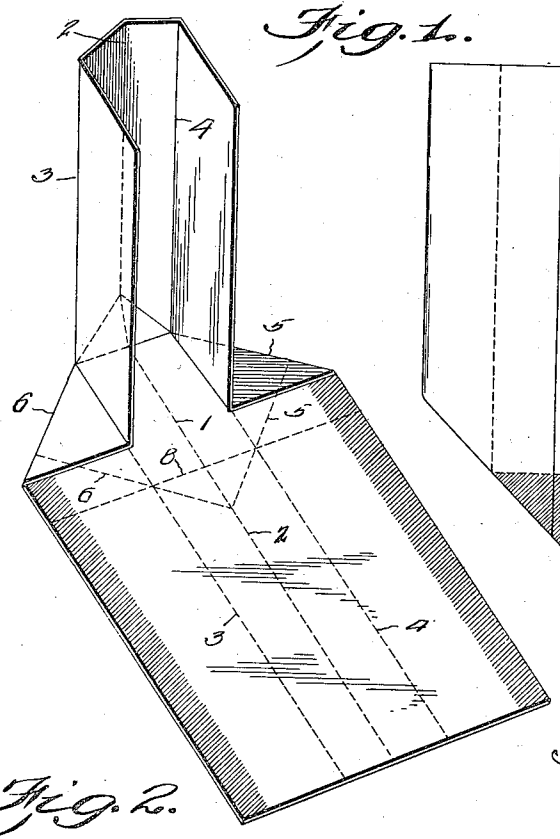


Fig. 2.

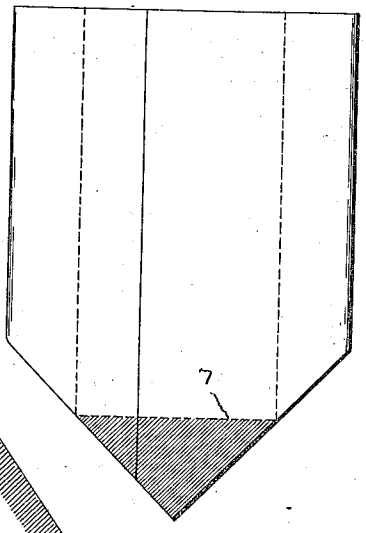


Fig. 3.



Fig. 4.

Witnesse

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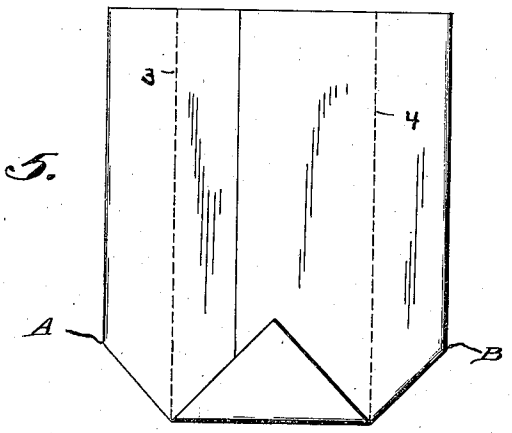
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2 SHEETS—SHEET 2.

Fig. 5.



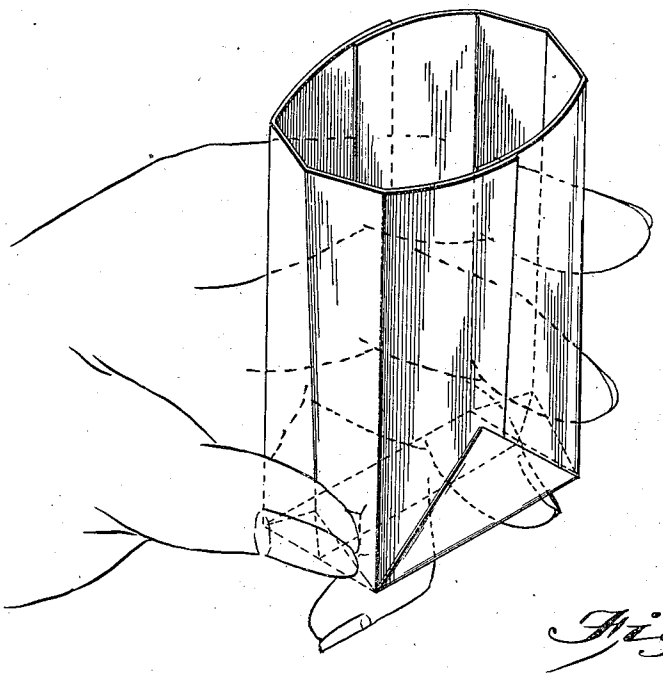
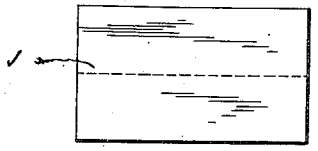


Fig. 6.

Fig. 7.



Witnesse:

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UNITED STATES PATENT OFFICE.

PAUL H. CARR, OF WASHINGTON, DISTRICT OF COLUMBIA.

COLLAPSIBLE PAPER CUP.

1,351,412. Specification of Letters Patent. Patented Aug. 31, 1920.

Application filed July 11, 1919. Serial No. 310,229.

To all whom it may concern:

Be it known that I, PAUL H. CARR, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Collapsible Paper Cups, of which the following is a specification.

My invention relates to drinking cups of the general type shown in my Patent 1,255,133, issued February 5, 1918.

Paper drinking cups, of the type most universally used are objectionable from the standpoint that it is frequently difficult to extend the cup to open position and it is impossible to set the cup on a support, when full of water, because the bottom of the cup is represented merely by the thin folded paper, which will not support the cup in upright position either when empty or full. The inconvenience of opening the present flat type of cup is especially noticeable when a person has a bundle in one hand.

To overcome these objections, fins and tabs have been placed upon one wall of collapsible cups to facilitate the opening of the cup, but these have been found objectionable because of their liability to tear and because such fins and tabs necessitate the placing of the cups in the dispensing cabinet in a particular way. Another objection to the collapsible cups now used is that, prior to my invention, the cup cannot be opened symmetrically and the walls of the cup frequently buckle thereby making it awkward to drink therefrom.

The object of my invention is to provide a collapsible cup of such construction that it requires a minimum amount of paper and a minimum scoring.

A further object of my invention is to provide a collapsible cup of such construction that the walls of the cup open to extended position for use by simply pressing inwardly, with the fingers of one hand, upon two opposite walls of the cup, the bottom of the cup assuming a flat position substantially at right angles to the general plane of the walls of the cup, whereby said cup with its contents may be maintained in a vertical position by said flat bottom wall.

In the drawings:

Figure 1 is a plan view of my improved blank.

Fig. 2 is a perspective view of the blank with one end of the blank in a vertical position and the other end flat.

Fig. 3 is a side elevation of the cup as it appears before the last folding operation.

Fig. 4 is an edge elevation of Fig. 3.

Fig. 5 is a side elevation of the completed cup.

Fig. 6 is a perspective view of the cup in open or extended position.

Fig. 7 is a bottom view of the cup.

The blank from which my improved cup is made is a rectangular piece of paper which does not require any special die work, said blank having a central score extending from end to end thereof, a middle portion 1 of said score being designed or formed for an inward fold, while the end portions 2 of the score, are formed for an outward fold.

Lengthwise scores, extending from end to end of the blank are formed in the blank between the center lengthwise score and the side edges of the blank, said score being designated by the reference numerals 3 and 4, and are adapted for an outward fold.

Two scores, 5, and 6, designate diverging scores extending from each end of the middle portion 1 of the central scores toward the side edge of the blank. The blank is further provided with transverse scores 7, 8, which intersect the intersection of the scores 3 and 4 and diagonal scores 5 and 6, and are formed for an outward fold.

In folding the blank the first fold is made as shown in Fig. 2, then the opposite end of the blank is folded to a vertical position, with the edges of the end portions overlapping, the edges of one of the end portions having previously been supplied with an adhesive, the edges are pasted together, after which the cup is of the shape shown in Fig. 3. The point portions of the side walls of the cup below the score line 7 are then supplied with adhesive after which they are folded up against and pasted to the side walls of the cup, after which the cup is of the shape shown in Fig. 5.

The cup when completed is in flat form. To use the cup it is only necessary to press inwardly with the finger and thumb against the points or portions A—B, whereupon the bottom of the cup is flattened out and the side walls and front and rear walls are moved to extended position so that the cup assumes the shape shown in Fig. 6.

It will be observed that the blank does not have to be cut or notched but is simply a flat piece of paper of rectangular shape which

can be very readily folded and pasted by simple machinery.

What I claim is:

1. A collapsible drinking-cup made from a rectangular blank which is neither cut nor notched, but which has three longitudinal scores extending more or less centrally thereof and throughout its entire length, two transverse scores, and four diagonal scores at the center having the form of a square set diagonally with respect to the blank, the central score between the square and the end of the blank forming an out-fold, and the same central score within the square an infold when the cup is collapsed, and the edges of the blank overlapped and secured together to form the body of the cup.

2. A receptacle made of a single blank scored longitudinally throughout its length, and transversely and diagonally at the center, and having its edges overlapped and pasted together, and the overlapping portions at the edges of the center resulting from folding being bent upwardly and secured against the sides over the overlapped edges, thereby serving to stiffen the cup at each side of the bottom to sufficiently resist pressure at the areas where located to facilitate opening or spreading the cup when the extreme outer folds are pressed inwardly.

3. A receptacle having a seamless bottom formed from a blank scored and counter-scored and bent to form a collapsible center capable of being flattened out or spread to serve as a bottom on which to rest the receptacle when in use, the edges of the blank secured together at the sides of the receptacle, and the corresponding sides of the center portion thereof folded and secured against the sides of the receptacle, thereby reinforcing them sufficiently to resist the pressure brought to bear upon the outwardly-extending folds of the receptacle when same is to be expanded for use.

4. A collapsible drinking-cup made from a blank which is scored more or less centrally throughout its entire length, two transverse scores and four diagonal scores at the center, which latter have the form of a square which is set diagonally with respect to the blank, the longitudinal score forming an outer folding body portion, and an infolding bottom when the cup is collapsed, and a flat bottom upon which the cup may rest when expanded, the portion of the square beyond the edges of the bottom folding into triangular multiple reinforces at the opposite sides of the cup, which add rigidity to the center of the cup when the outer folds are compressed, in the transformation of the cup from its collapsed to its extended form.

In testimony whereof I affix my signature.

PAUL H. CARR.