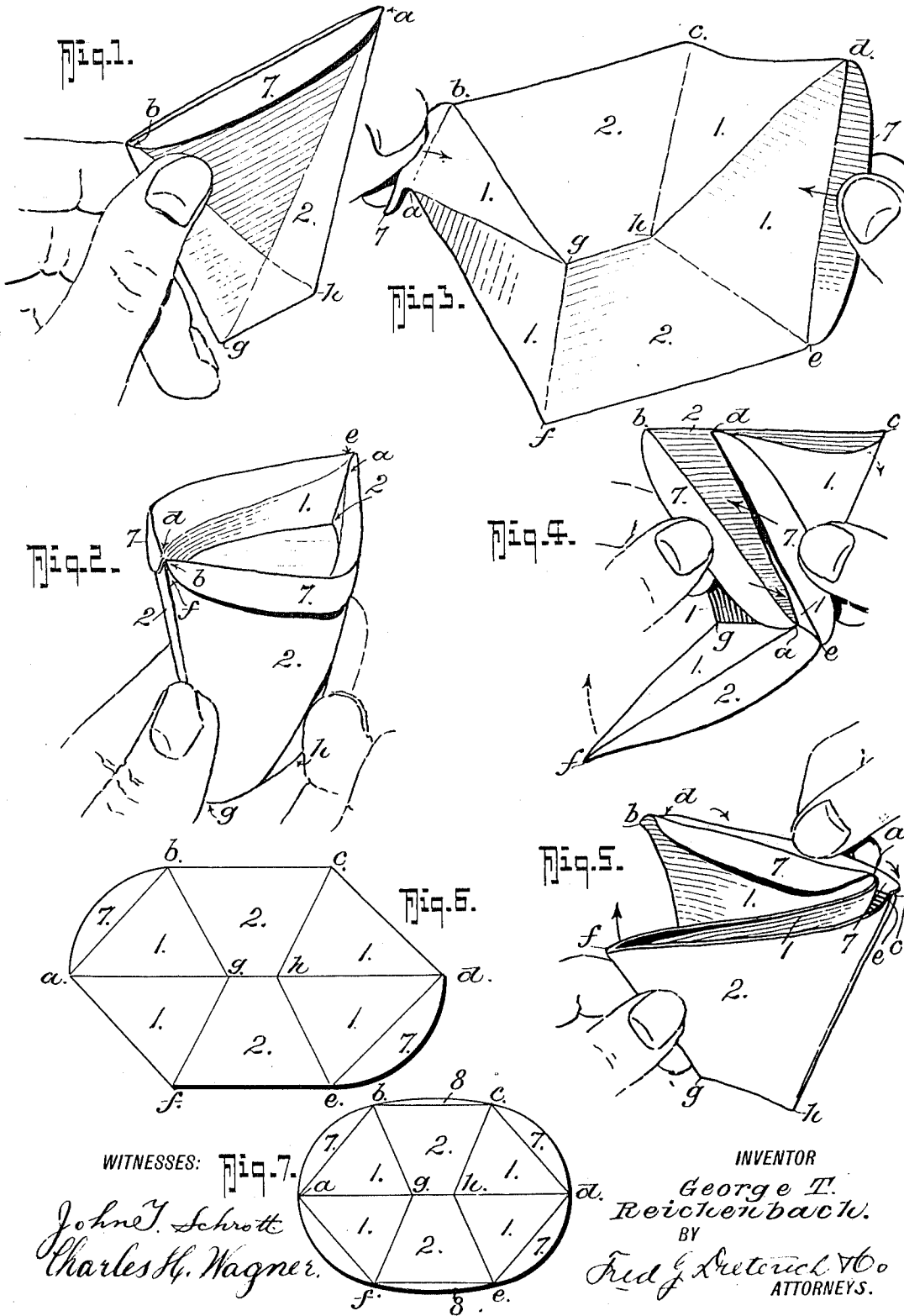


G. T. REICHENBACH.
 SANITARY CUP.
 APPLICATION FILED MAY 31, 1910.

1,048,583.

Patented Dec. 31, 1912.



UNITED STATES PATENT OFFICE.

GEORGE T. REICHENBACH, OF SEATTLE, WASHINGTON.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, GEORGE T. REICHENBACH, residing at Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Sanitary Cups, of which the following is a specification.

My invention is an improved sanitary cup and in its general nature the invention resides in providing a cup that may be made of a single uncut paper blank by simply folding the same, and of a construction wherein the folds may be held in position without the necessity of gumming, sewing, riveting or otherwise fastening the parts together.

The invention also has for its object to provide a cup which is so constructed that it may lie folded flatwise as a thin body for convenience in shipping or vending through the means of automatic vending machines, and it may be opened up for use by simply squeezing the side edges of the body together. Again, the invention provides a cup in which the paper is so folded as to leave a flap or flaps along the edge of the cup which will be tightly held against the cup body when the cup is opened, and form a smooth lip to the cup mouth at the drinking edges.

Another object of my invention is to provide a cup in which the blank is so folded that when the cup is closed flat the exposed surfaces will be smooth and unbroken so that they may be run through a printing press to receive suitable inscriptions, advertising matter or other printing.

The invention also has for its object to provide a sanitary cup in which the folds of the blank are few and simple so that the cup can be readily manufactured by machinery without the necessity of designing complicated machines for effecting the folding operations.

In its more specific nature the invention also resides in the novel way in which the blank is folded to produce the cup, and in the novel way in which the flaps or lips serve to hold the folds in place and protect the drinking edges of the mouth of the cup.

In the drawings: Figure 1, is a perspective view of the cup complete, showing the same folded flatwise ready for distribution. Fig. 2, is a perspective view of the cup, the same being opened and ready for use. Fig. 3, is a diagrammatic view of a blank from

which the cup is made. Figs. 4 and 5, are views showing the folds of the blank and showing how the blank is folded into position to form the completed article. Fig. 6 is a diagrammatic view of the blank used in the form shown in Figs. 1 to 5. Fig. 7, is a diagrammatic view of a slightly modified form of blank.

Referring now to the accompanying drawings in which like letters and numerals of reference indicate like parts in all of the figures and referring particularly to Fig. 3 of the drawings, it will be observed that the blank from which my improved cup is formed is substantially of the form of a hexagon inscribed within an ellipse and may be considered as an elongated hexagonal blank bounded by the outer side edges *a*, *b*, *c*, *d*, *e*, *f* and *a*. The lines *ab*, *bc*, *cd*, *de*, *ef* and *fa* are of equal length.

In folding the blank, the blank is folded downward along the lines *ag* and *dh* and folded upward along the line *gh*, the line *aghd* being the longitudinal axis of the blank. In other words, the fold along the lines *ag* and *hd* is of the same character or in the same direction, while that along the central line *gh* is in an opposite direction. The blank is also folded upwardly along the lines *bg*, *gf*, *ch* and *he*. Thus two pairs of similar triangles 1—1 are formed at each end of the blank with a single pair of intermediate trapezoids 2—2, the trapezoids 2—2 defining the shape of the cup when completed and folded flat.

One of the triangular sections 1 of each set is provided with a flap 7, the triangular sections having the flaps being diagonally opposite one another.

It will be observed that by folding the blank as indicated, the trapezoids 2—2 will have two unequal parallel sides and two equal sides that do not run parallel to one another. After the blank has been folded or creased along the lines *ag*, *gh*, *hd*, and *bg*, *gf*, *ch*, *he* and *ab* and *ed*, the operator grasps the flaps 7—7 and moves them toward one another, as indicated in Figs. 4, 5 and 6 of the drawings, thus bringing the triangles *abg* and *edh* in contact with one another, the point *d* then coinciding with the point *g*, and the point *e* coinciding with the point *a*. It will be noticed that the length of the line *ag* is equal to a line drawn from the point *g* to the point *e* and the line *ab* coincides with the line *hd*.

After the triangles *abg* and *ehd* are brought in contact with one another, the triangle *hcd* will oppose the trapezoids *bghe* and the triangle *agf* will oppose the trapezoid *fghe* when the cup is folded flatwise, as shown in Fig. 1 of the drawings, it being understood that after the cup is folded flatwise the flaps 7 are folded down over the remaining edges of the blank and form the mouth of the cup, it being observed that when the cup is open, as shown in Fig. 2, the flaps 7 will be drawn tightly in engagement with the cup and hold the folds in place.

It will be observed that the bottom of the cup is formed by a line *gh* not a surface, so that the cup can be used only a very few times, thus insuring its destruction after it has been used, and preventing the user setting the cup down to be picked up by someone else and subsequently used by them. As the cup can be made very cheaply it is desirable and intended to be but a single-service article.

An elliptical blank may be used, as shown in Fig. 7, but in that event a plurality of flaps 7 will be formed and additional flaps 8 on the trapezoidal sections which will coincide in two sets. The blank shown in Fig. 3 is practically the same blank shown in Fig. 7, with the exception that only two of the flaps 7 are left on, the remaining flaps 7—8 being cut away. The blank folded along the lines *ag*, *gh*, *hd*, *bg*, *gf*, *ch*, *he* and *ab* and *ed* may be manufactured and sold as a new article of manufacture, leaving it to the user to bring the blank into its cup shape.

What I claim is:

1. A cup formed of a single uncut blank folded upon itself to form triangular end sections and trapezoidal intermediate sections, certain edges of all of said sections coinciding and lying parallel to the base

of the cup, and flaps projected from certain of said edges to fold over the coinciding edges and hold the folds of the blank in position to form the cup.

2. A cup formed of a single uncut blank folded upon itself to form triangular end sections and trapezoidal intermediate sections, the outer edges of all of said sections being of equal length, and flaps projected from certain of said edges to fold over the other edges and hold the folds of the blank in position to form the cup.

3. A cup formed of a single uncut hexagonal blank folded into shape to produce a pair of opposing central trapezoidal sections having their side of least length coincident, said blank having its ends folded inwardly between said trapezoidal sections to lie flat against the same.

4. A cup formed of a single elliptical blank and folded to form an inscribed hexagon having sides of equal length, said blank being further folded along its longitudinal axis and along diagonal lines extending from the corners of the hexagon at each side of the longitudinal axis and bisecting the angles of said corners and running toward and terminating in said longitudinal axis.

5. As a new article of manufacture, a blank for sanitary cups comprising a body folded to form an inscribed hexagon and further folded along its longitudinal axis to provide a fold *gh* in one direction and end folds *ag* and *dh* in an opposite direction, said blank being further folded along lines *bg* and *gh*, *he* and *ec* which latter folds are all made in the same direction substantially as shown and described.

GEORGE T. REICHENBACH.

Witnesses:

A. E. DIETERICH,
GEO. B. PITTS.