H. E. DILL.

PAPER RECEPTACLE.

APPLICATION FILED SEPT. 5, 1908.

926,053. Patented June 22, 1909.

Fig. 1

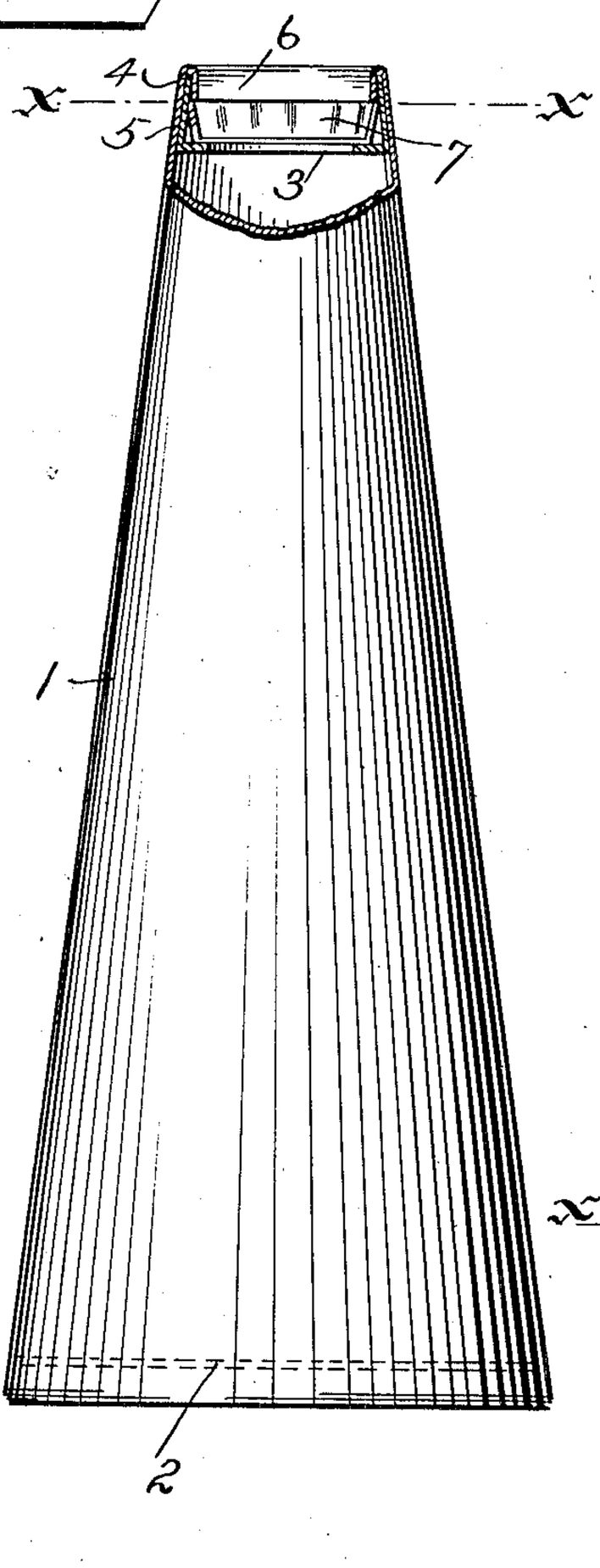

Fig. 3

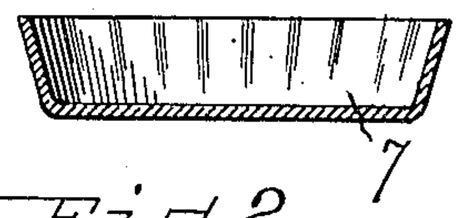

Fig. 2

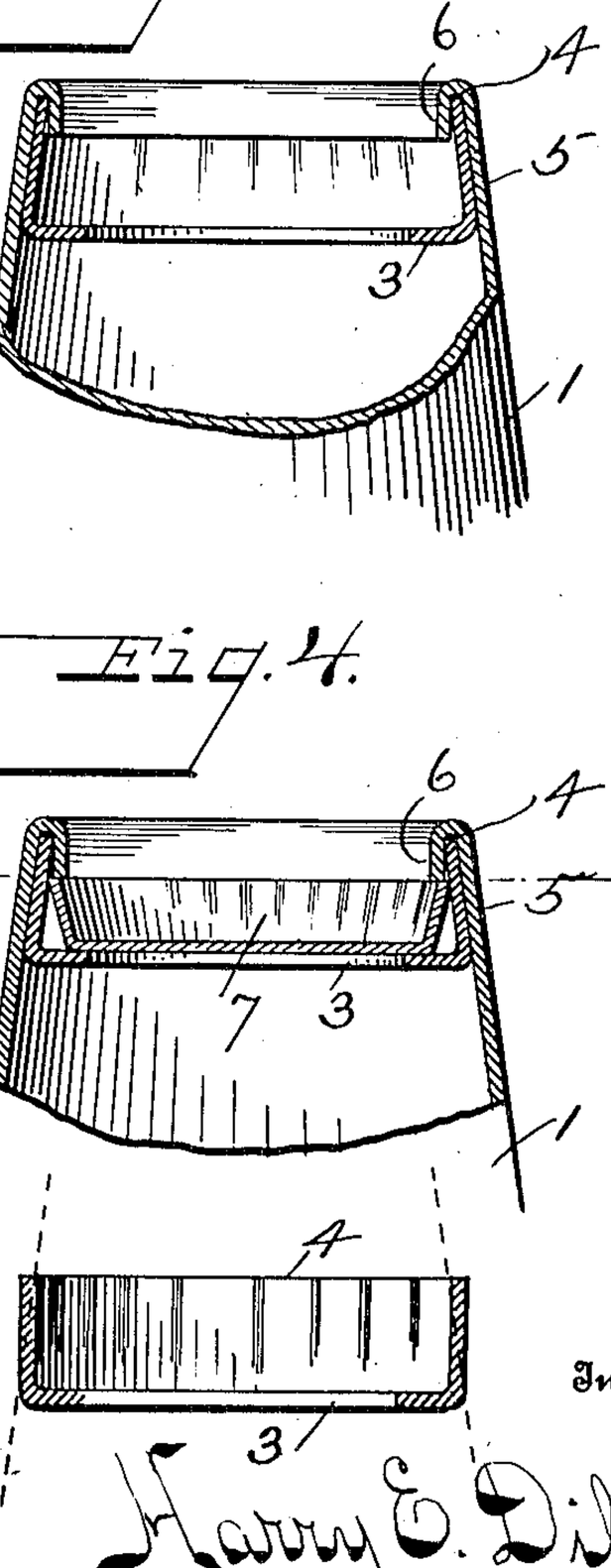

Fig. 4.

Fig. 5

Witnesses

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UNITED STATES PATENT OFFICE.

HARRY E. DILL, OF DAYTON, OHIO, ASSIGNOR OF ONE-THIRD TO MALON T. WOODY AND ONE-THIRD TO W. ALLISON SCOTT, OF INDIANAPOLIS, INDIANA.

PAPER RECEPTACLE.

No. 926,053. Specification of Letters Patent. Patented June 22, 1909.

Application filed September 5, 1908. Serial No. 451,818.

To all whom it may concern:

Be it known that I, HARRY E. DILL, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Paper Receptacles, of which the following is a specification.

My invention relates to paper receptacles, and particularly to paper bottles to contain liquids, such as milk, syrups, etc., but is more especially an improvement upon the structure shown and described in patent to John H. Hanks, No. 667,218, dated February 5, 1901.

The object of the invention is to provide a bottle which will be simple in construction, cheap, and durable.

A further primary object is to so improve the structure of the above mentioned patent that the upper portion of the bottle will be materially strengthened to enable it to resist the pressure to which it is subjected when used with the usual bottle filling machines.

A further primary object is to provide efficient means for securing or sealing the lid or cover of the receptacle.

With the above primary and other incidental objects in view the invention consists of the parts, means, and construction, or their equivalents as hereinafter described and set forth in the claims.

Referring to the drawings, Figure 1 is a side elevation of the bottle partly broken away. Fig. 2 is a vertical sectional view of the upper portion of the assembled bottle with the cover or cap removed. Fig. 3 is a sectional view of the cover or cap removed from the bottle. Fig. 4 is a vertical sectional view of the upper portion of the bottle with the cover in place. Fig. 5 is a vertical sectional view of the flange or collar before being secured within the neck of the bottle.

Like parts are indicated by similar characters of reference throughout the several views.

In the drawing, 1 is the body of the bottle formed from a paper blank of suitable shape. The body is substantially cone shape and is provided with a bottom 2 shown in dotted lines in Fig. 1, secured as described in the aforementioned patent of said Hanks, or in any other suitable manner.

It has been found in practice that when the bottle, as constructed according to the aforementioned patent, is used with the bottle filling machines and also in general usage, the top of the bottle becomes broken or crushed. This difficulty has been overcome in the present construction in the following manner: Located in the neck of the bottle is a collar or flange shown in detail in Fig. 5, which is stamped from a paper blank and is substantially cup shaped. In the present construction this collar or flange is inserted within the bottle with the edge 4 uppermost, whereby the walls of the bottle adjacent to the top thereof are of double thickness, as at 5. The extreme edge of the walls of the bottle 1 projects beyond the flange or collar 3, and are folded inward over the upper edge 4 of said collar as shown at 6.

On account of the inclination or conical shape of the bottle, the diameter of the upper end thereof is less than the diameter of the bottle on the plane $x\ x$, to which such projecting end is folded, thereby forming an internal rib about the mouth of the bottle under which the cap or lid 7 is engaged when in place. The cap 7 is a cup shaped body stamped from a single paper blank and of less diameter than the orifice of the bottle whereby it will pass through the mouth of the bottle and rest upon the flange or collar 3. The stamping operation crimps the edge of cap 7 rendering same somewhat elastic, whereby the edge of the cap 7 will tend to expand, causing the cap to project below the inturned edge of the bottle, thus effectually sealing the vessel.

When the cap is in place in the bottle as shown in Fig. 4, the inturned edge of the bottle walls overhang the upper edge of the cup shaped cap 7, and any dirt or foreign matter coming in contact with the bottle will be deflected by the inturned edge of the bottle walls to the center of the cap, and the entrance of such foreign matter between the cap and the bottle walls will be effectually prevented. Furthermore, the engagement of the cap 7 beneath the inturned edge of the bottle wall, due to the expansion of the walls of said cap, forms a lock for the cap which is continuous throughout the entire periphery of the bottle mouth and prevents the removal of the cap without destroying the same. Thus, the construction serves as a seal for the bottle, and any tampering therewith or attempting to remove the cap

will be plainly indicated by the mutilation of the same.

From the above description it will be apparent that there is produced a bottle of the character described in the aforementioned patent, in which the upper edge is materially strengthened, being provided with a double wall above the supporting collar and a continuous internal locking flange and other features of advantage before mentioned as desirable, which is susceptible of modification in its form, proportion, detail, construction, and arrangement of parts without departing from the principle involved, or sacrificing any of its advantages.

Having thus described my invention, I claim:

1. In a paper receptacle as described, a vessel having a circular mouth or orifice, a cup shaped collar secured within said vessel adjacent to the mouth thereof, said collar having its peripheral flange projecting upward toward the mouth of the receptacle, thereby forming a double wall, a cup shaped cap adapted to be pressed within the mouth of said vessel, substantially as specified.

2. In a paper vessel as described, a receptacle having a circular mouth, a cup shaped collar located in said receptacle adjacent to the mouth thereof, a continuous internal locking flange formed by folding inward the extreme edges of the vessel wall upon the peripheral flange of said cup shaped collar and a cup shaped cap adapted to be pressed within the mouth of said receptacle and rest upon said collar, said cap being secured in position by the expansion of the walls thereof beneath said internal flange, substantially as specified.

3. In a paper vessel as described, the combination with a conical shaped body portion of a cup shaped collar inserted within said body portion, the peripheral flange of which projects upward, the extreme edge of the walls of said receptacle being inturned over the peripheral flange of said collar, a cup shaped cap of the size substantially equal to the receptacle orifice adapted to be pressed within said orifice until its rests upon said collar, the walls of said cup being resilient whereby they will expand beneath the inturned edges of the receptacle wall, substantially as specified.

In testimony whereof, I have hereunto set my hand this 2nd day of September A. D. 1908.

HARRY E. DILL.

Witnesses:

HARRY F. NOLAN,

F. L. WALKER.