No. 869,515. PATENTED OCT. 29, 1907.

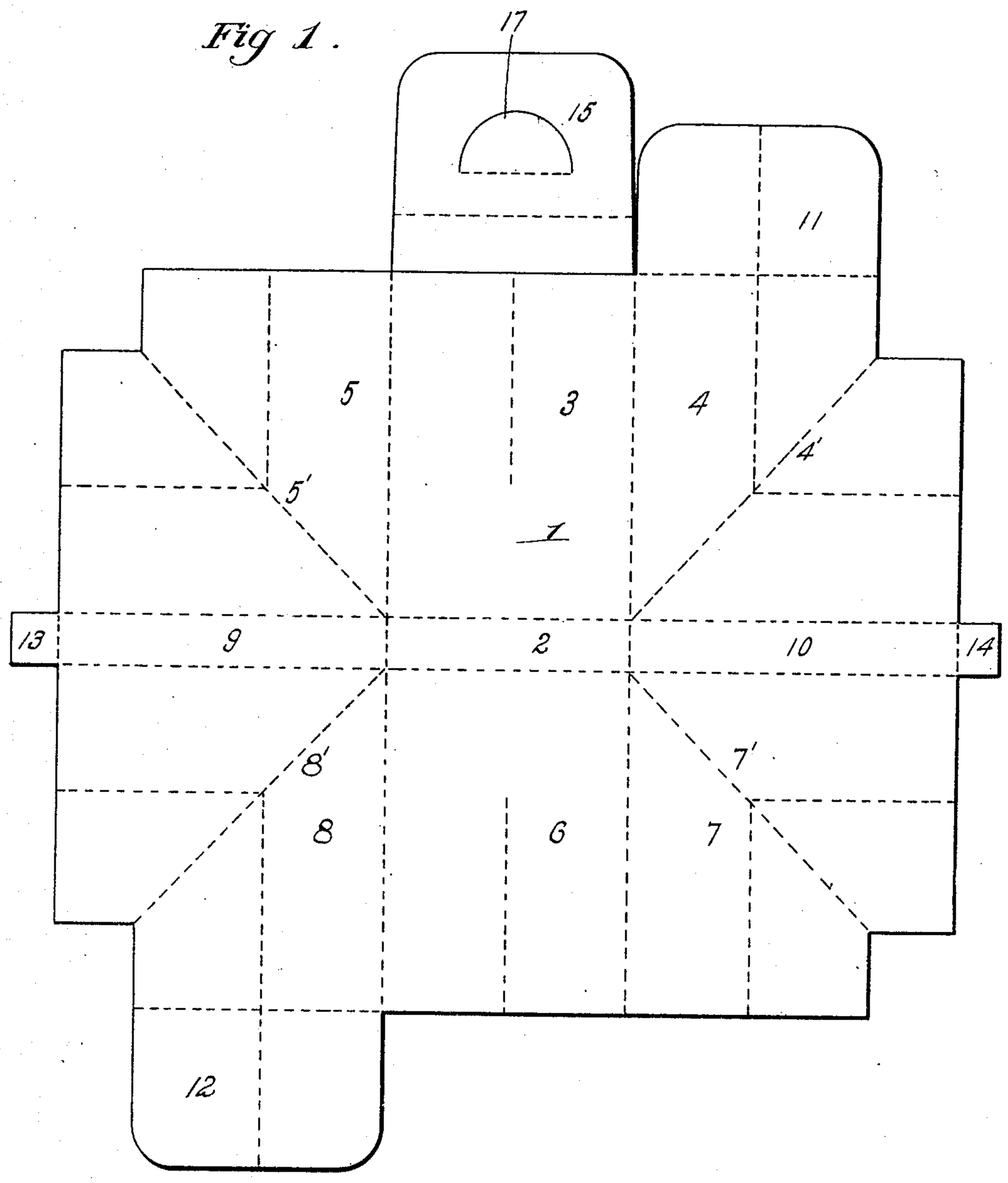
H. J. POTTER.

SPUTUM CUP.

APPLICATION FILED DEC. 21, 1906.

2 SHEETS—SHEET 1.

Fig 1.



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2 SHEETS—SHEET 2.

Fig 2

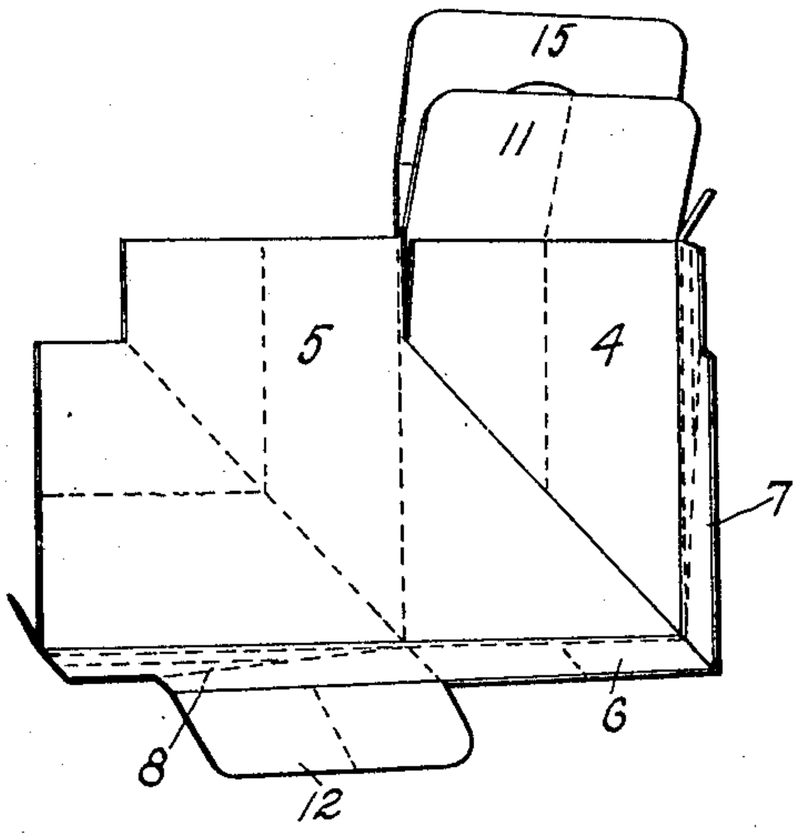


Fig 3

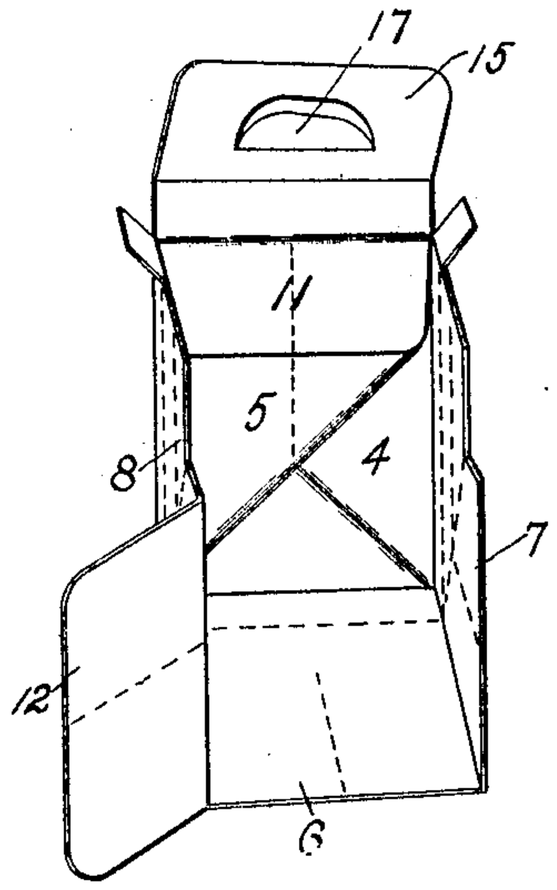


Fig 7

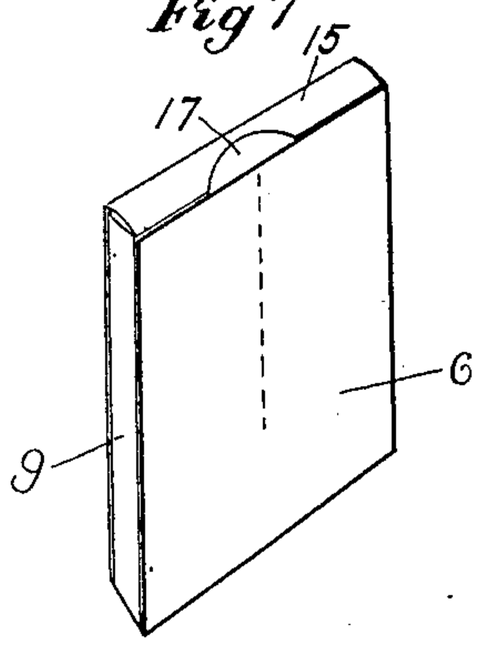


Fig 4

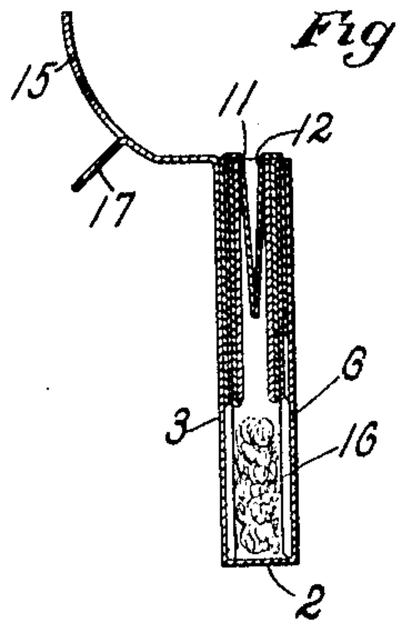


Fig 5

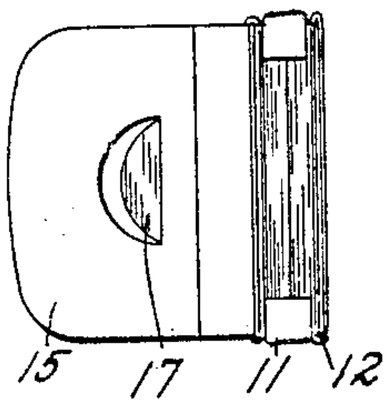
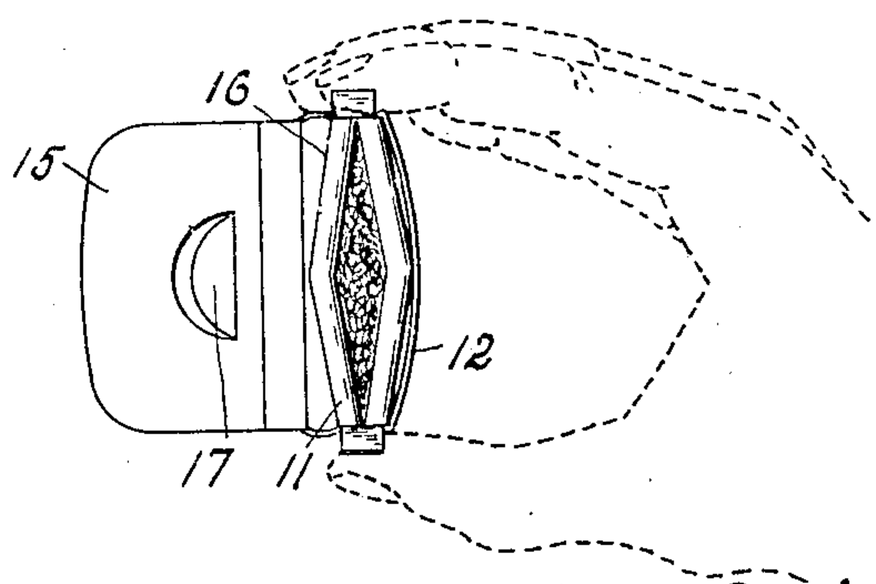


Fig 6



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UNITED STATES PATENT OFFICE.

HARRY J. POTTER, OF CAMBRIDGE, MASSACHUSETTS, ASSIGNOR TO ASEPTIC DRINKING CUP COMPANY, OF CAMBRIDGE, MASSACHUSETTS, A CORPORATION OF MAINE.

SPUTUM-CUP.

No. 869,515. Specification of Letters Patent. Patented Oct. 29, 1907.

Application filed December 21, 1906. Serial No. 348,902.

To all whom it may concern:

Be it known that I, HARRY J. POTTER, a citizen of the United States, and a resident of Cambridge, in the county of Middlesex, State of Massachusetts, have invented an Improvement in Sputum-Cups, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention relates to receptacles or cups and more particularly to aseptic sputum cups adapted for use in hospitals and sanitariums or which may conveniently be carried in a pocket of the user for use during a brief period.

The object of the invention is to provide a receptacle that, while adapted for other uses and which in certain aspects thereof may be of general application, will fully meet all the requirements of the trade and of the best medical practice for a cup or receptacle of this character. I have therefore devised a receptacle made from a single blank, shaped into suitable form to present a receptacle that is liquid proof and of little cost. A receptacle made in accordance with the present type of the invention, has no wall or edge united by an adhesive and all edges are non-broken and without seams. These receptacles are designed to be destroyed after having been used for a short time, preferably by burning, to avoid contagion, for which reason the material employed in their manufacture is preferably of a fibrous character, such as paper, or cardboard.

Cheapness of cost and manufacture is secured not only by using paper or the like, but by forming the receptacle of a single blank cut to prevent waste material and to save labor by the manner in which it is formed.

In order that the principles of the invention may be more fully apparent, I have disclosed one type or embodiment thereof in the accompanying drawings, wherein,—

Figure 1 is a plan view of the inner side of the blank from which the receptacle is folded; Fig. 2 is an elevation representing the outer wall and one infolding double wall positioned thereagainst, the second double infolding wall being represented in outstanding position; Fig. 3 is an elevation typifying the succeeding step in the formation of the box and representing the second double infolding wall positioned; Fig. 4 represents a vertical section of the completed box, the cover being turned back; Fig. 5 represents a top plan of the completed box, the cover being open; Fig. 6 is a similar view but representing the box as opened by lateral compression into position for use; and, Fig. 7 is a perspective view of the completed box with the cover in position.

Having reference to the single type or embodiment of the invention herein illustrated, the blank (Fig. 1) from which the box is constructed, is represented at 1, and comprises a generally rectangular sheet of any suitable material, such as paper, died out to the required shape by suitable cutting mechanism and scored in any suitable manner to present a rectangular bottom 2, outer side wall 3, first infolding double wall 4, second infolding double wall 5, opposing outer side wall 6, first opposing double infolding wall 7, second opposing double infolding wall 8, walls 9 and 10, broad flaps 11 and 12, narrow flaps 13 and 14, and cover 15.

While the receptacle may be of any suitable proportions, the present type or embodiment of the invention represents a box intended to be carried in a pocket of the user, such, for example, as an upper vest pocket and therefore the base 2 is shown as narrow and elongated, in order that the receptacle may readily be carried as indicated, although it is apparent that changes in form may readily be made within the scope of the invention.

The box or receptacle has four longitudinal walls, namely, the side walls 3 and 6, and walls 9 and 10, said walls being disposed in the blank at right angles to each other, as clearly shown in Fig. 1, and as united respectively by the corner pieces herein termed the double infolding walls 4, 5, 7 and 8. In the present type of the invention each of said walls is outlined by suitable scoring, the side walls 3 and 6 being preferably scored, as indicated, from the upper edge to a point somewhat below the center thereof. Each corner or double infolding wall is diagonally scored, as represented at 4′, 5′, 7′, and 8′, and also and preferably by scored-in lines disposed at right angles to each other, meeting at the diagonal scoring line, preferably mid-length thereof and terminating at an outer edge of such corner. It will be observed that the scoring lines preferably extend to the outer edge of the flaps 11 and 12. Preferably, each corner or double infolding wall is notched at the extreme outer corner thereof to facilitate the folding together of the walls.

In forming the receptacle from the blank (Figs. 2 and 3), either corner that is provided with a flap,—that is to say, either the corner 4 or 8, and, for example, the corner 4,—is folded inwardly upon the diagonal scoring line 4′, and laid flat and doubled against the outer side wall. This stage of the formation of the box is represented in Fig. 2. The corresponding or second corner 5, is similarly infolded upon the diagonal scoring line 5; and is laid double and flat against the doubled infolding wall 4, the flap 11 then being turned down to retain in position said doubled infolded walls 4 and 5. This stage of the formation of the box is represented in Fig. 3.

It will be observed that the first infolded double wall 4, is attached at one longitudinal edge to the side

wall 3, and that the second infolded double wall is attached to the opposite longitudinal edge of said side wall. Thus, the infolded double wall is held at one edge, by reason of the fact that it is integral with the side 3, and at its free edge by the second infolded double wall 5, which, in its turn is held in position not only by reason of the fact that it is integral with the side wall 3, but also by reason of the inturned flap 11, which, in the present embodiment of the invention, embraces the entire upper or transverse free edge of the double infolding walls 4 and 5. Thus, the side wall of the box when completed is composed of five thicknesses, so that the box is thoroughly re-inforced. Moreover, each longitudinal edge,—that is, the edges uniting the members 3 and 4 and 3 and 5,—is not only supported interiorly, but the contents of the box or receptacle cannot escape at any longitudinal edge of the completed box, for the reason that in order to escape from the interior of the box or receptacle, material would have to traverse laterally the entire width of the box in one direction, and then in the other, before finding an exposed edge. This is prevented by reason of the fact that the infolding double reinforcing walls lie flat against each other and are retained by the downward turned flaps 12 or 13.

The side wall of the completed box that is opposed to the wall 3 with its re-inforce, is assembled in the manner described with reference to the wall 3, in such manner that the box when assembled has the form represented in Fig. 7.

Viewing Fig. 4 it will be observed that the inturned flaps 11 and 12 not only retain in position the double infolded side walls, but have assumed a downwardly converging position so as effectively to guard the mouth of the box or receptacle and to prevent the escape of material from the box, in case the same be held other than in an upright position.

If desired, narrow inturned flaps 13 and 14 may be employed, at the upper edges of the edge walls 9 and 10, which act to prevent escape of material from the receptacle along said edge walls.

In use, cotton, 16, or some similar absorbent, is preferably contained in the box.

Viewing Fig. 5, it will be noted that in its normal condition, the cotton or other absorbent contained in the box, is concealed from view, and is effectively retained in position by the inturned flaps 11 and 12. In use, the receptacle is laterally compressed, as indicated in Fig. 6 so that the re-inforced walls 3 and 6, yield along the scored lines upon the members 3, 4, 5, 6, 7 and 8, to present an open mouth.

Preferably, a cover, 15, is employed, extending from one of the side walls, as 3, which may have partially cut out therefrom, a flap or tab 17, which, when the cover 15 is closed, assumes the position indicated in Fig. 7, affording convenient means for withdrawing the cover. Preferably, said cover is scored, as indicated in Fig. 3, at the base of the flap or tab 17, and also transversely beneath said flap to facilitate the insertion of the body of the cover between the re-inforced portions of the opposing side wall 6.

It will be observed that by the rectangular conformation of each wall, including the bottom wall 2 and the mouth end, that collapse of the receptacle by reason of pressure being brought to bear upon a wall thereof, is prevented. In certain types of receptacles, an end thereof is frequently formed, as an edge, instead of a rectangle from which edge the sides diverge, thus presenting a substantially wedge-shaped receptacle in cross section. The effect of such construction is such that if pressure be brought to bear flat-wise upon the receptacle, by reason of the said edge formation, a wedging action results from said edge, to the opposite end frequently resulting in the escape or spurting of the material from the receptacle through the mouth thereof or an exposed edge. If the mouth of the receptacle be formed merely as an edge as contrasted to a wall of well defined rectangular construction, spurting or forcing of the material likewise occurs. Furthermore, in many types of receptacles an adhesive is employed to unite adjacent walls.

A receptacle so constructed would be highly objectionable for the principal purpose of use for which applicant's invention is intended, inasmuch as the sputum would tend to soften the adhesive and permit the separation of attached walls.

In the present embodiment of the invention a rectangular or braced construction of the end wall and also of the mouth of the receptacle, as well as of the edge walls, is presented, and hence the wedging action referred to cannot occur; consequently, even though a very considerable pressure be applied to the receptacle, either upon the side walls or elsewhere, the contents of the receptacle cannot be ejected or spurted from the box, nor disturbed. In the present embodiment of my invention, an unfoldable bottom wall is avoided, thereby obtaining the full capacity of the receptacle and avoiding any collapsing or wedging action.

In the present type of the invention no adhesive need be employed, yet each wall is as effectively positioned and is held in as close engagement with the neighboring walls as though an adhesive were employed. Thus all danger is avoided of the escape of the contents by reason of the softening of adhesive and the consequent separation of the walls of the receptacle.

If desired, the paper or other material from which the receptacle is formed, may be treated, either before or after the folding of the box into form in any suitable moisture-proof material, as paraffin or the like.

Having thus described one type or embodiment of the invention, I desire it to be understood that although specific descriptive terms are employed, they are used in a generic sense and for descriptive purposes and not for the purpose of limitation, and that the scope of the invention is set forth in the following claims.

Claims.

1. A sputum cup comprising a base and two pairs of walls rising therefrom and integral therewith, each member of a pair of such walls comprising an outer side wall, and integral with opposite edges thereof infolding double walls adapted when positioned to be superimposed flatwise upon the inside of the cup against said outer side wall, that infolding double wall of each pair of such walls that is first infolded in shaping the cup having a retaining flap extending from and in line with that member of the double wall that lies directly against the outer wall, each flap being adapted to be inturned into the receptacle over the other member of said double wall and over both members of the companion double wall.

2. A sputum cup comprising a base 2, side walls 3 and 6 and end walls 9 and 10 extending integrally therefrom, double infolding walls 4, 5, 7 and 8 extending between said side and end walls and adapted to be infolded against

the side walls 3 and 6 respectively and flaps 11 and 12 extending directly from and in line with the member of the infolding walls 4 and 8 that in assembling the box lies directly against said side walls 3 and 6, and adapted to be inturned into the receptacle.

3. A sputum cup comprising a base and two pairs of walls rising therefrom and integral therewith, each member of a pair of such walls comprising an outer side wall, and integral with opposite edges thereof infolding double walls adapted when positioned to be superimposed flatwise upon the inside of the cup against said outer side wall, that infolding double wall of each pair of such walls that is first infolded in shaping the cup having a retaining flap extending from and in line with that member of the double wall that lies directly against the outer wall, each flap being adapted to be inturned into the receptacle over the other member of such double wall and over both members of the companion double wall, and a cover integral with and extending from one of the outer side walls and adapted to extend over the mouth of the receptacle and to have its end inserted between the opposite side wall and that member of the double wall pertaining thereto that lies against said opposite side wall.

4. A sputum cup comprising a base 2, side walls 3 and 6, and end walls 9 and 10 extending integrally therefrom, double infolding walls 4, 5, 7 and 8 extending between said side and end walls and adapted to be infolded against the side walls 3 and 6 respectively, and flaps 11 and 12 extending directly from and in line with that member of the infolding walls 4 and 8 that in assembling the box lies directly against said side walls 3 and 6 and adapted to be inturned into the receptacle, and a cover 15 extending from the side wall 3 and adapted to have its end inserted between the side wall 6 and that member of the double infolding wall 8 from which the flap 12 extends.

5. A sputum cup comprising a base and two pairs of walls rising therefrom and integral therewith, each member of a pair of such walls comprising an outer side wall, and integral with opposite edges thereof infolding double walls adapted when positioned to be superimposed flatwise upon the inside of the cup against said outer side wall, that infolding double wall of each pair of such walls that is first infolded in shaping the cup having a retaining flap extending from and in line with that member of the double wall that lies directly against the outer wall, each flap being adapted to be inturned into the receptacle over the other member of such double wall and over both members of the companion double wall, the other pair of side walls being rectangular so that the assembled cup is rectangular in transverse vertical section, each of said last mentioned pair of side walls having a flap extending therefrom and adapted when the cup is assembled to be inturned thereinto to lie between the inturned flaps upon the double infolding walls.

6. A sputum cup comprising a base and two pairs of walls rising therefrom and integral therewith, each member of a pair of such walls comprising an outer side wall, and integral with opposite edges thereof infolding double walls adapted when positioned to be superimposed flatwise upon the inside of the cup against said outer side wall, each infolding double wall having a rectangular portion cut from the outer corner thereof, that infolding double wall of each pair of such walls that is first infolded in shaping the cup having a retaining flap extending from and in line with that member of the double wall that lies directly against the outer wall, each flap being adapted to be inturned into the receptacle over the other member of such double wall and over both members of the companion double wall, a cover extending from one of said outer walls and adapted to have its end inserted between the other outer wall of such pair and an infolding double wall pertaining thereto, the other pair of side walls being rectangular, the side walls of the first mentioned pair of walls being longitudinally scored to facilitate outward flexing of such side walls and the consequent rounding open of the mouth of the receptacle.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses.

HARRY J. POTTER.

Witnesses:

IRVING U. TOWNSEND,

JESSE A. HOLTON.