Jan. 3, 1933. C. P. WELLMAN 1,892,714

RECEPTACLE

Filed March 4, 1930

Fig. 1

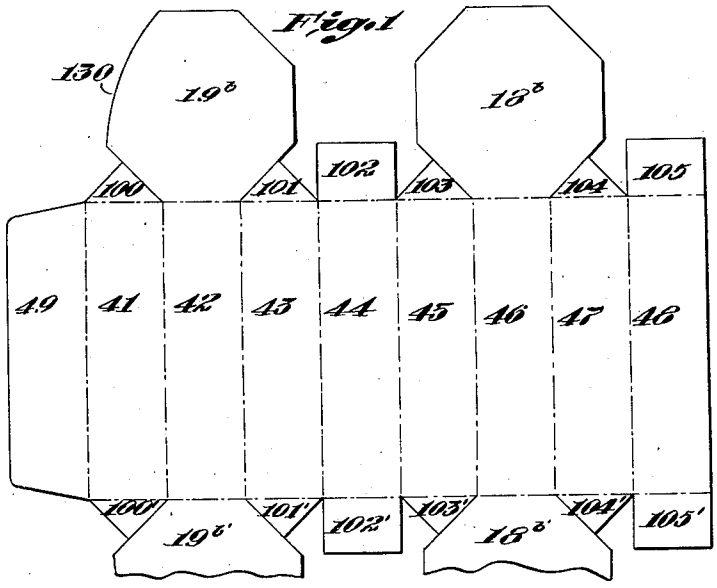


Fig. 2.

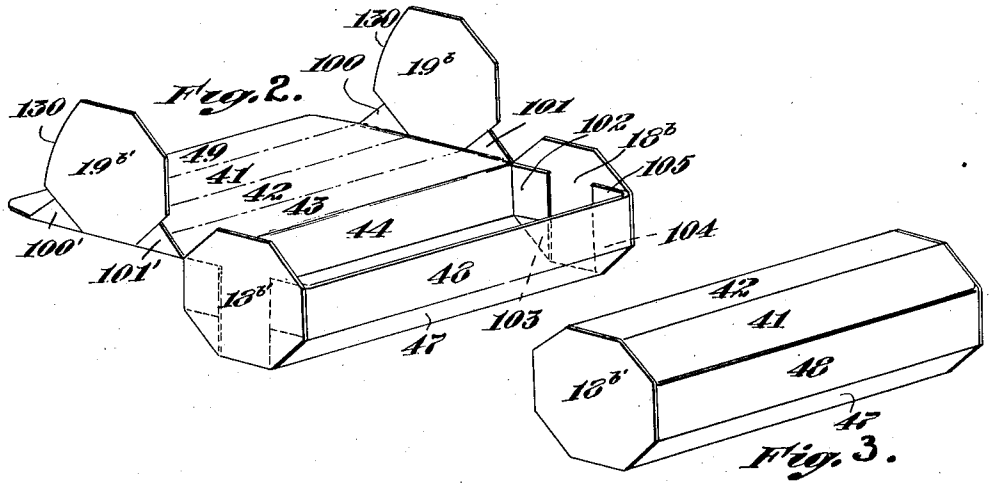


Fig. 3.

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UNITED STATES PATENT OFFICE

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RECEPTACLE

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This invention relates to receptacles having more than four side faces and an end wall, of any suitable material, usually paper or cardboard, and to flat and partially folded or closed blanks capable of being formed into such receptacles.

This invention aims to provide receptacles having more than four side faces, and hence possessing any or all of the advantages of such receptacles of wide adaptability to contain non-rectangular objects, of novelty and distinctiveness of shape, or of economy in wall area relative to volume enclosed, but which nevertheless are capable of easy and rapid manufacture by automatic machinery, are particularly adapted for easy and tight closure, and sealing if desired, and are neat in appearance, avoiding when desired any necessity of exposed flaps, flanges or exterior surface irregularities, which interfere with the affixing or imprinting of advertising or decorative matter smoothly on the outer faces of the receptacle, or its appearance.

My invention further provides receptacles characterized by economical disposal of the receptacle material to resist distortion or breakage, through the provision of more than four side walls with parts comprising extensions of these side walls intimately associated and forming a polygonal end wall of more than four sides, of multi-thickness, and of high rigidity. Receptacles of which adjacent side walls form obtuse interior angles and which are made according to my invention, are particularly adapted to serve as protecting receptacles for fragile articles.

Other objects and advantages of the invention, will appear from this explanation of my invention and of typical species of receptacles and receptacle-forming blanks exemplifying my invention and shown in the accompanying drawing.

In the drawing:

Fig. 1 is a plan view of a form of blank according to my invention;

Fig. 2 shows in perspective a partly closed receptacle open on several of its side faces, formed from the blank of Fig. 1;

Fig. 3 shows in perspective a completely closed receptacle formed from the blank of Fig. 1.

Referring to Fig. 1 the blank illustrated therein consists of an integral sheet of foldable material such as cardboard, having therein eight rectangular wall sections 41 to 48 inclusive separated by lines of increased flexibility such as the score lines indicated thereon. Flexibly extending from the end of the third of these sections from the right (section 46) is provided an octagonal end section 18^b of a size completely to close the end of the receptacle when folded transversely to the wall sections 41 to 46.

Extending from other wall sections of the group, are provided other extensions adapted to cooperate with the end section 18^b in forming end walls of the closed receptacle; these other extensions preferably include flaps 104, 103, 101, and 100 in the form of right triangles flexibly extending from the second, fourth, sixth and eighth wall sections from the right of the blank; and rectangular flaps 105 and 102 flexibly extending from the first and fifth wall sections from the right. The arrangement of these parts is such that the blank may be assembled into a boat-like tray shown in Fig. 2 which includes the first five wall sections 48, 47, 46, 45 and 44 affixed to the end section 18^b by the flaps 105, 104, 103, and 102 which are glued or otherwise fastened thereto.

In the assembled state of Fig. 2, the rectangular glue lap 102 abuts its neighboring triangular glue lap 103, while the rectangular glue lap 105 abuts its neghboring glue lap 104 as indicated in Fig. 2, producing a rigid reinforcement for the end of the receptacle.

The three remaining rectangular wall sections 43, 42 and 41, constitute a flexible cover for the tray thus formed, the last of these remaining wall sections having extending therefrom a tuck-in flap 49 adapted to extend into the receptacle adjacent to the first wall section 48 to hold the cover closed. Upon such closing of the receptacle, triangular flaps 101 and 100 are swung into the receptacle face to face with end wall section 18^b and respectively abutting rectangular glue laps 102 and 105 respectively. These flaps 101 and 100

while not necessarily fastened to the end wall of the receptacle, serve to close the joints between the flexible cover and the end wall, and also to retain the cover against dislodgment.

The seventh rectangular wall section 42, which is directly opposite to the section 46 carrying the end section 18^b, preferably also has flexibly extending therefrom a similar section 19^b approximating an octagon in shape but slightly cut away on an arc at 130 to facilitate swinging this section into the boat-like tray of Fig. 2. With the flexible cover composed of sections 43, 42 and 41 in place, the edges of this inner section 19^b contact with the various wall sections, thus stiffening the closed receptacle and preventing sagging of the cover sections. The end of the closed receptacle thus formed includes three thicknesses of the blank stock, formed of the inner and outer sections 19^b and 18^b respectively, with the flaps 105, 104, 103, 102, 101, and 100 lying in a common plane therebetween. Since in the preferred form illustrated each of the rectangular wall sections has at its end an integral extension folded to extend across the end of the receptacle no open joints exist between these rectangular wall sections and the end wall. The resulting structure is therefore strong and relatively tight.

Thus far the extensions at only one side of the group of rectangular wall sections have been described; it will readily be apparent from Figs. 1 and 2 that sections 100 and 105 inclusive and sections 18^b and 19^b are duplicated at the opposite side of the blank, these duplicate sections having the corresponding reference characters with the addition of primes.

While in the illustrated preferred form of the invention the receptacle has eight side walls and has ends of octagonal shape, the number of sides may in some cases be made more or less, so long as more than four side walls are employed, the shape of the end walls of course corresponding to the number of side walls employed.

While in the present specification I have referred to "ends" and "sides" of receptacles, and have shown only receptacles of which the sides are of greater dimensions than the ends, it will be apparent that my invention is not limited to these relative proportions. While in each embodiment illustrated sufficient joint-closure sections to form a tightly closed receptacle are shown, it will be apparent that if rigidity alone is required, without maximum tightness of closure, a smaller number of joint-closure sections may be employed.

I claim:

1. An octagonal receptacle comprising an integral sheet of foldable material formed into a group of eight rectangular wall sections defined by intervening lines of increased flexibility, opposite octagonal end walls comprising extensions of said group of rectangular wall sections, glue laps cooperating with said octagonal end sections to retain five of the eight rectangular wall sections in place, transverse to said two end sections thus forming a tray-like structure, the remaining three wall sections forming a flexible cover for the said tray-like structure, and a tuck-in flap extending from the outermost of said three remaining rectangular wall sections and adapted to hold the cover closed.

2. A receptacle comprising an integral sheet of foldable material formed into a group of more than four flexibly conjoined rectangular side wall sections, opposite end walls comprising extensions of said group of rectangular wall sections, said end walls having as many sides as there are side wall sections, glue laps cooperating with said end walls to retain a plurality, less than all, of said rectangular wall sections in place transverse to said two end walls, thus forming a tray-like structure having a bottom comprising a plurality of sections disposed at an angle to each other, the remaining side wall sections forming a flexible cover for the said tray-like structure, and a tuck-in flap extending from the outermost of said remaining rectangular side wall sections and adapted to hold the cover closed.

3. A receptacle comprising an integral sheet of foldable material formed into a group of more than four flexibly conjoined rectangular side wall sections, opposite end walls comprising extensions of said group of rectangular wall sections, said end walls having as many sides as there are side wall sections, glue laps cooperating with said end walls to retain a plurality, less than all, of said rectangular wall sections in place transverse to said two end walls, thus forming a tray-like structure having a bottom comprising a plurality of sections disposed at an angle to each other, the remaining side wall sections forming a flexible cover for the said tray-like structure, a tuck-in flap extending from the outermost of said remaining rectangular side wall sections and adapted to hold the cover closed, and a plurality of flaps extending from ends of the side wall sections which form the cover and adapted to extend into the receptacle adjacent to the said end walls upon closure of the receptacle.

4. An octagonal receptacle comprising an integral sheet of foldable material formed into a group of eight rectangular wall sections defined by intervening lines of increased flexibility, opposite octagonal end walls comprising extensions of said group of rectangular wall sections, and glue laps cooperating with said octagonal end sections to retain a plurality of the eight rectangular wall sections in place, transverse to said two end

sections thus forming a tray-like structure, a plurality of the rectangular wall sections forming a flexible cover for the said tray-like structure.

Signed by me at Boston, Mass., this third day of March, 1930.

CHARLES P. WELLMAN.