Nov. 4, 1947. W. E. STEPHENSON 2,430,147

REVOLUBLE CAN SPOUT

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Fig. 1.

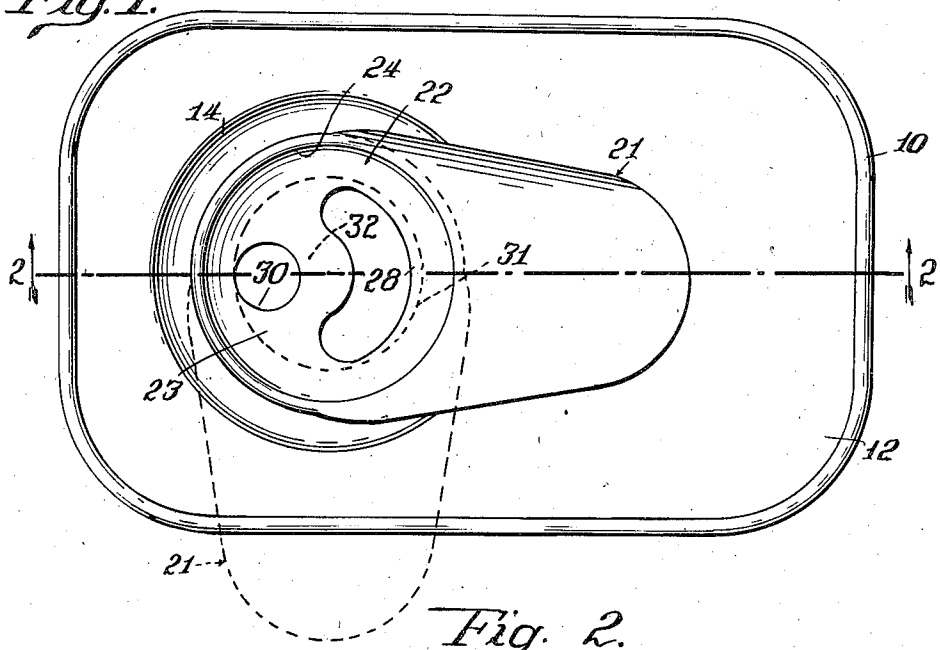
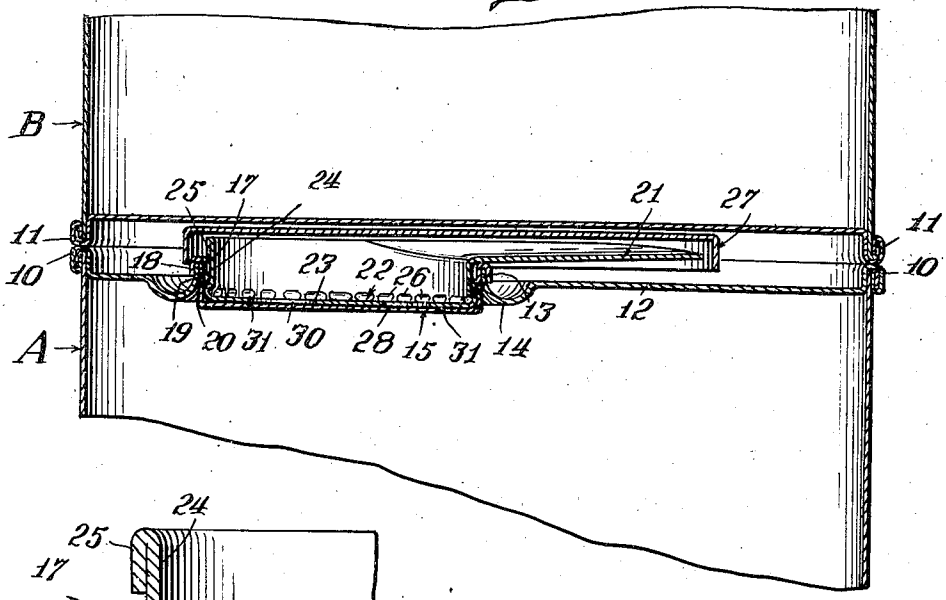


Fig. 2.



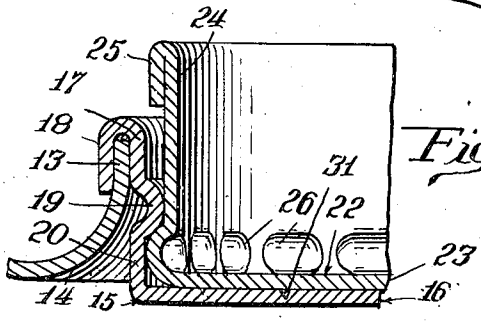


Fig. 3.

Inventor.

William E. Stephenson

By Barnett Trueman

Attorneys.

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Fig. 4.

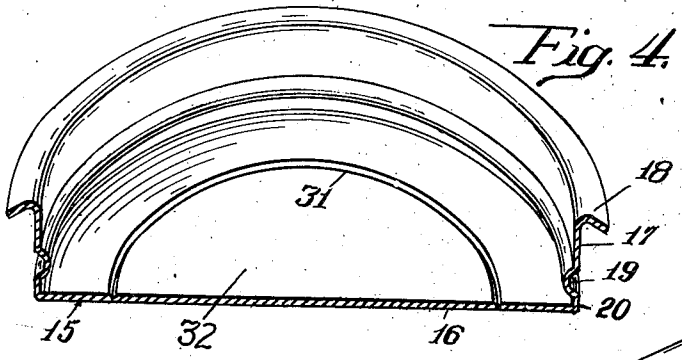


Fig. 5.

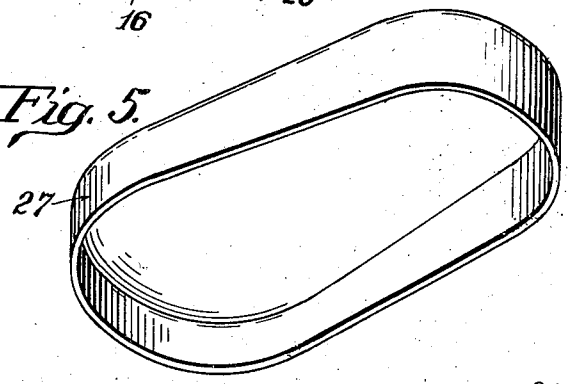
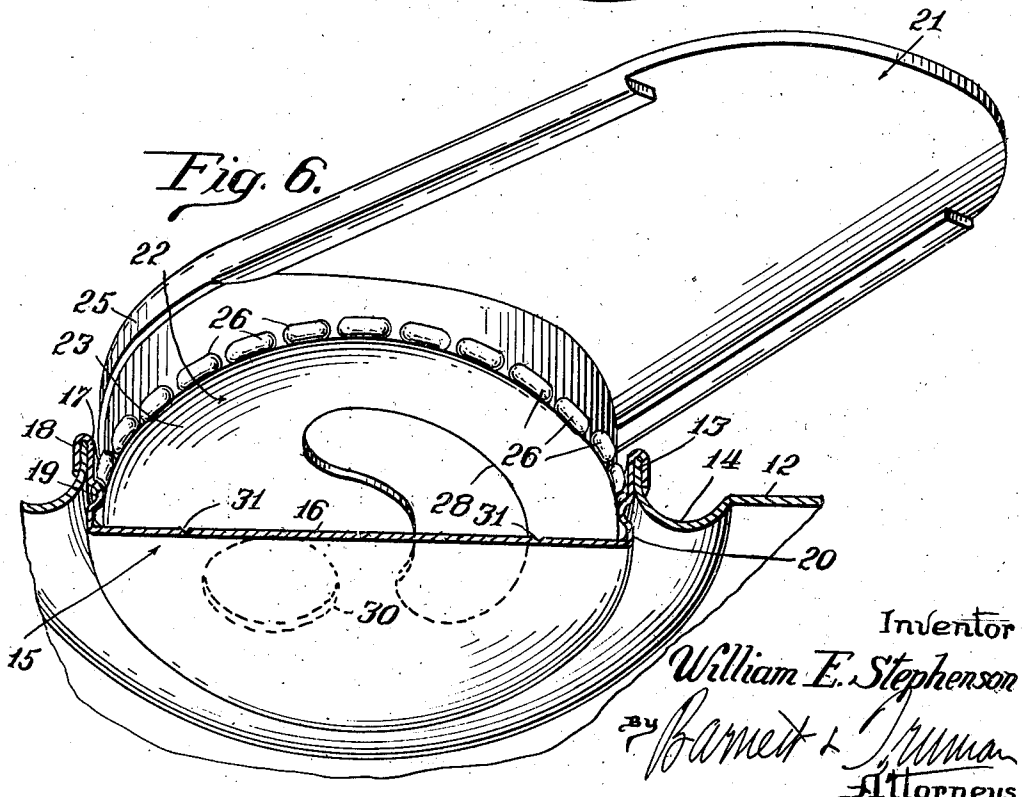


Fig. 6.



Inventor
William E. Stephenson
By Barnett & Truman
Attorneys

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UNITED STATES PATENT OFFICE

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REVOLUBLE CAN SPOUT

William Ewart Stephenson, Summit, Ill., assignor to Corn Products Refining Company, New York, N. Y., a corporation of New Jersey

Application December 22, 1941, Serial No. 423,925

1 Claim. (Cl. 222—498)

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This invention relates to a revoluble spout construction for cans or like containers; and the primary object of the invention is to provide a spout construction in which the spout may be turned either to a pouring position, in which it extends over the edge or beading of the can top, or to a position in which it lies entirely within the space between the can top and the bottom of another can that, in shipping or storage, may be placed on top of the can under consideration, and in which construction the parts of the device are formed, assembled and united together in a unitary structure in a novel, convenient and inexpensive manner, as will be more fully set forth hereinafter.

The invention is illustrated in the accompanying drawings of which

Fig. 1 is a plan view of the can (the dust cap preferably forming part of the assembly being removed) in which the spout is shown in full lines, in the position of non-use, and in dotted lines, fragmentarily, in its pouring position.

Fig. 2 is a fragmentary vertical sectional view on line 2—2 of Fig. 1, showing in its place the dust cap, referred to above, and also the bottom portion of a can arranged upon the can embodying the present invention.

Fig. 3 is a detailed vertical sectional view, on a much enlarged scale, showing the means providing the rotatable engagement between the spout and the can top structure.

Fig. 4 is a view in sectional perspective of a cap or bung which, preferably, forms part of what has been referred to as the can top structure; this figure illustrating the cap or bung before it is seamed to the top sheet of the can.

Fig. 5 is a view in perspective of the dust cap; and

Fig. 6 is an inverted perspective view of the spout with the associated parts of the can top structure in section.

Referring to the drawings, Fig. 2 shows two cans A and B, one stacked on top of the other. The lower can A is provided with the revoluble spout construction of the present invention, which, in the non-use position of the spout, lies entirely within the space between the beaded edges 10 and 11 of cans A and B.

The can top structure of the can A comprises a top sheet 12 provided with an opening surrounded by an up-turned flange 13 (Figs. 2, 3 and 6) which rises from a down-pressed groove 14, the purpose of which groove is to lower the spout assembly in respect to the plane of the top sheet 12. The can top structure

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comprises a cup-like cap or bung 15 formed with a bottom portion 16 and an upwardly extending ring-like portion 17 having a flange 18 (Fig. 4) adapted to be seamed to the flange 13 of the can top sheet as shown in Figs. 2, 3 and 6. The cap 15 is formed, before being assembled on the can, with an inpressed rib 19 which provides, between it and the bottom 16 of the cap, a grooved trackway 20.

The spout 21 is provided with a cup-like portion 22 consisting of a bottom member 23 and a ring-like member 24, the upper edge of which is turned over as indicated at 25, Fig. 3.

The ring portion 24 of the spout cup 22 is formed with a plurality of spaced, outward projections 26 which extend into the grooved trackway 20 of the cap 15 to engage the spout with the can top structure, but revolubly, so that the spout may be turned back and forth between its positions of use and non-use. The advantage of forming the trackway 20 in the cap 15 by inpressing the rib 19 is that the pressing operation can be performed with the greatest convenience if it is done before the cap is assembled on the can top. The rib being inpressed does not interfere with the placing of the cap in the opening in the top sheet 12 of the can upon flange 13.

The advantage of providing the cup portion 22 of the spout 21 with a series of spaced projections 26, instead of with a continuous rib, is that the operation of uniting the spout to the can can be performed more conveniently, cheaply and expeditiously in the case of the projections than in the case of a continuous rib. For example, this operation may be performed by the apparatus disclosed in United States Patent to G. W. Chalmers, 1,979,793, November 6, 1934 (see particularly Figs. 6 and 7); where, however, the apparatus was used for non-revolubly connecting the spout to the can top.

The spout assembly is preferably covered with a dust cap 27 (Fig. 5) which may be removed for pouring operations.

The bottom 23 of the cup portion 22 of the spout is provided with an approximately crescent shaped pouring opening 28 (Figs. 1 and 6). The bottom of the cup of the spout is also provided with a small, round air inlet opening 30. The bottom 16 of the cap 15 is formed with a circular scoring 31, defining a disk portion 32 which may be punched out by application of a tool through opening 28 or 30. When this portion of the cap is punched out, an opening is provided which communicates with both openings 28 and 30 in

the bottom of the spout cup. The arrangement of the crescent-shaped pouring opening and small round air inlet gives a pouring opening which is, in effect, large, so that the liquid can be poured back into the can therethrough if desired, without making the spouts difficult to handle in assembling on cans, as would be the case if single large holes were provided having the same radius as the crescent-shaped holes.

Obviously the element of the top structure of the can referred to as the cap or bung 15 might be made integral with the top sheet of the can; but in this case a separate filling opening, and closure therefor would have to be provided.

The present invention contemplates, preferably, filling the can through the opening defined by flange 13, then placing the cap or bung 15 in this opening and seaming it to flange 13 by pressing down the flange 18 of the cap to the position shown in Figs. 2, 3 and 6. The cup portion 22 of the spout is then introduced into the depression in the can top structure formed by the cap 15, and the revoluble engagement of the spout to the cap is effected by forming the projections 26 by means of the apparatus of the Chalmers patent above referred to, or by other suitable apparatus.

I claim:

In combination with a container having a body portion and top and bottom walls secured to said body portion by flange seams extending longitudinally above and below said top and bottom walls respectively, said top wall being substantially planar and being provided with an opening surrounded by an upturned flange: a cap arranged in said opening and formed with an upturned flanged ring portion adapted to be seamed to said last mentioned flange of said top wall, said cap being also formed with an impressed rib which provides, between said rib and the bottom of the cap, a grooved trackway; and a spout having an imperforate-walled cup portion fitted into the cap and provided with outwardly extending portions disposed within said grooved trackway for revolubly engaging the spout with the cap, the uppermost point of said spout being no higher above the extremity of the flanged seam connecting said top wall and said body portion than the distance by which said flange seam connecting said bottom wall and said body portion extends below said bottom wall, whereby a plurality of containers of said construction can readily and firmly be stacked, one upon the other.

WILLIAM EWART STEPHENSON.

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The following references are of record in the file of this patent:

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