Sept. 9, 1930. M. P. LINK 1,775,596

COMBINED CLOSURE AND SPOUT FOR CONTAINERS

Filed Jan. 26, 1928

Fig. 1.

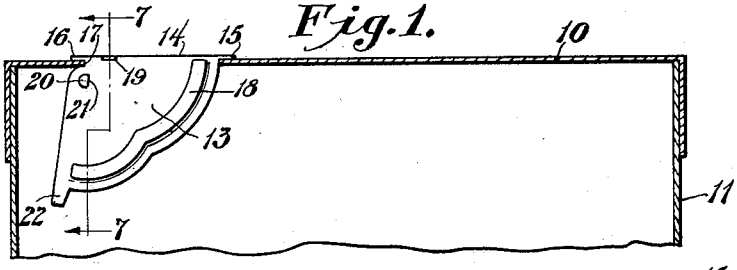


Fig. 2.

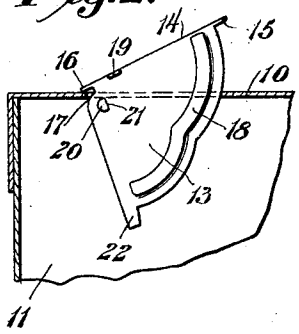


Fig. 3.

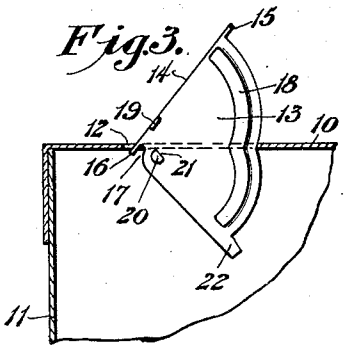


Fig. 4.

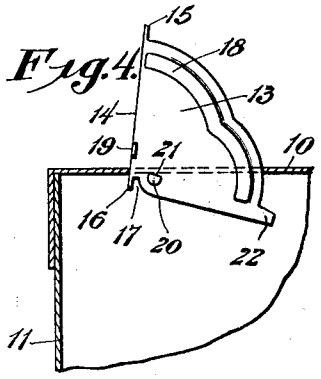


Fig. 5.

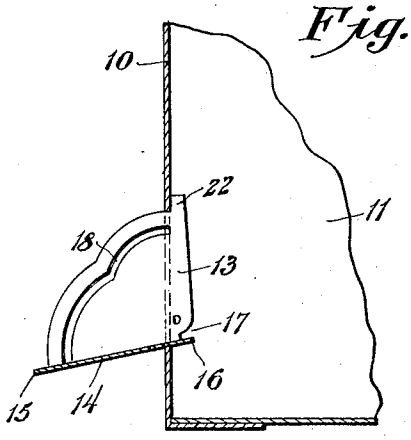


Fig. 6.

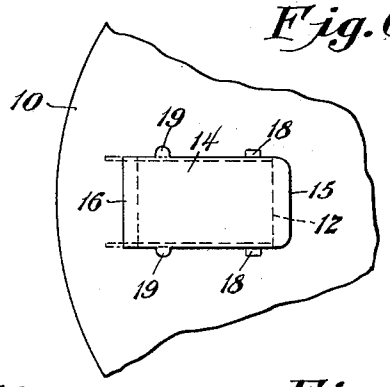


Fig. 7.

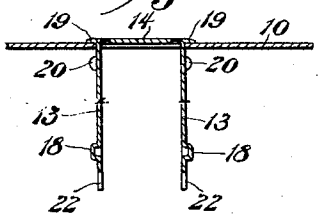


Fig. 8.

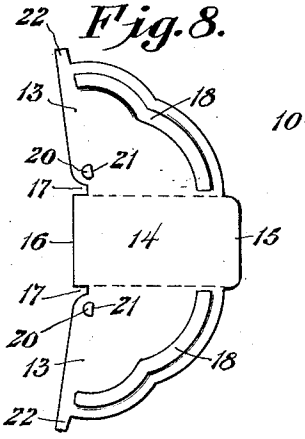
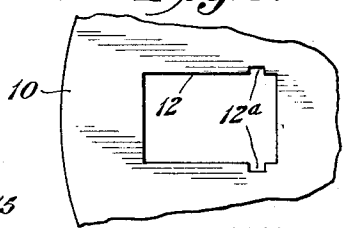


Fig. 9.



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UNITED STATES PATENT OFFICE

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COMBINED CLOSURE AND SPOUT FOR CONTAINERS

Application filed January 26, 1928. Serial No. 249,695.

This invention relates to spouts for containers to dispense fluent materials and, among other objects, aims to provide an improved closure and spout for the pouring opening of a salt can or the like.

In the drawing, Figure 1 is a fragmentary sectional view of a container having a spout embodying the invention applied thereto;

Figures 2 to 5 inclusive are similar sectional views showing the spout in various positions during progressive stages of opening;

Figure 6 is a top plan view;

Figure 7 is a sectional view on the line 7—7 of Figure 1;

Figure 8 is a plan view of an embossed or stamped out blank from which the combined closure and spout shown is made; and

Figure 9 is a plan view showing the pouring opening in the can.

Referring particularly to the drawings the improved closure and spout is shown as being applied to the lid 10 of a container 11 such as is used for salt or other fluent materials and is positioned near the edge of the lid in a rectangular pouring opening 12 (Figure 9). The spout is so constructed and arranged that it may be opened and closed with a combined hinging and sliding action.

Herein, the spout is trough-shaped and has approximately sector-shaped side walls 13 snugly engaging the side edges of the opening 12, the bottom or closure portion 14 serving to close the opening. This closure, in the present example, has extensions at each end overlapping the ends of the opening to prevent the material from spilling. One of the extensions constitutes a combined stop and lifting lip 15 at the forward end of the spout and the other extension constitutes a tail piece 16 adapted to overlap the opening at the rear or hinge end of the spout. The rear edges of the side walls of the spout are shown as being notched at 17 to receive the edge of the top wall of the container and, when the spout is closed, to serve as a self-locking means to prevent the spout from being jarred open.

Referring to Figure 9 the pouring opening is shown as having opposed notches 12^a near the upper end and the side walls 13 of the spout have cams in the form of embossed or stamped out square ribs 18 which are formed on different radii of curvature and fit closely in and cooperate with the notches to cause the spout to be shifted longitudinally to free the tail piece 16 and notch 17 from the edge of the opening as the finger piece is initially lifted and, thereafter, to permit the spout to open on a shifting hinge, (see Figures 2 to 5).

To constrain the spout to open or close with a shifting hinge movement and to avoid the expense of making extra hinge parts, the spout has spaced pairs of pivot or abutment projections near the rear or tail piece end. One pair of projections 19 projects laterally from the closure part and may be rolled or hammered out of the sheet metal or other material of which the spout is made. This pair of projections also provides stops to prevent this end of the spout from being pushed into the can or container and also acts against the top of the container as an abutment for the open spout. These projections are not punched out of the side walls because this would leave leak openings for the material when it is being poured. Obviously they may be soldered on as separate pieces but they are preferably integral.

The other pair of pivot projections 20 is preferably formed by stamping button-like indentations in the side walls with one part rounded so that they can easily be pushed into the opening 12 while the paper is still moist and somewhat pliable without cutting or damaging it. That portion of these projections which faces the inside wall of the container top or lid, is preferably flat as shown at 21 so that, when the spout is open a relatively wide surface will be presented to act as an abutment at each side and thus prevent the whole spout from being pulled out of the can or container. After the spout is initially opened to disengage the tail piece 16, the projections 20 come in contact with the top of the can and act as a movable pivot for further opening causing the tail piece to swing into the can; while the shape of the cams 18 cause the whole spout to shift so that the outside face of the tail piece if forced

against the edge of the pouring opening to prevent any material from leaking at this place while it is being poured (see Figure 5).

The side walls of the spout also have stop means, herein in the form of stop fingers 22 which also strike the can top when the spout is opened to a position where the bottom is more than ninety degrees to the plane of the top.

As shown in Figure 8 the whole spout can be made very readily of a single piece of embossed sheet metal and then be bent into trough shape ready to be inserted in a can or container. The only operations required are those of a progressive stamping die. Hence, they can be made in quantities at a very low cost.

Further, operation of the spout is very simple being opened simply by lifting the finger projection 15 with one finger while holding another finger over the pivot end. It will not permit the material to sift out around the edges of the pouring opening and cannot be jarred open after it is closed as it must have a compound hinging and sliding movement. The cam and notch in the tail piece make it self locking upon being pushed to closed position.

Obviously the present invention is not restricted to the particular embodiment thereof herein shown and described. Moreover, it is not indispensable that all the features of the invention be used conjointly, since they may be employed advantageously in various combinations and sub-combinations.

What is claimed is:

1. A trough shaped pouring spout and closure for a rectangular pouring opening in a salt can or the like comprising, in combination, generally sector-shaped side walls; pairs of aligned pivot projections adjacent to the inner end of the spout, one pair engageable with the outside of the can and the other pair engageable with the inside of the can; a tail piece adapted to overlap and cover a portion of the pouring opening; and cams on the side walls arranged to cooperate with suitable notches in the adjacent edges of the opening and with said pairs of projections to give the spout a sliding and hinging movement when opened whereby the tail piece is caused to enter the pouring opening.

2. A trough shaped pouring spout and closure for a rectangular pouring opening in a salt can or the like comprising, in combination, generally sector-shaped side walls; pairs of aligned pivot projections adjacent to the inner end of the spout, one pair engageable with the outside of the can; a tail piece adapted to overlap and cover a portion of the pouring opening; and cams on the side walls arranged to cooperate with suitable notches in the adjacent edges of the opening and with said pairs of projections to give the spout a sliding and hinging movement when opened whereby the tail piece is caused to enter the pouring opening; said side walls having notches below said tail piece to engage the can wall so that the spout is self locking.

3. A trough-like pouring spout and closure for rectangular pouring openings in salt cans or the like comprising, in combination, generally sector-shaped side walls; parts on the closure wall overlapping the ends of the pouring opening; embossed compound cams on the side walls adjacent to the edges; and spaced pairs of laterally extending pivot projections adjacent to the opposite end of the trough, one pair on the inside of the can and the other pair on the outside of the can, arranged to cause the spout to open with a shifting hinge movement; the shape of the cams being such as to cause the closure initially to move longitudinally and permit the overlapping part at the pivoted end to be freed of the can wall and, subsequently to be projected into the can.

4. A trough-like pouring spout and closure for rectangular pouring openings in salt cans or the like comprising, in combination, generally sector-shaped side walls; parts on the closure wall overlapping the ends of the pouring opening; embossed compound cams on the side walls adjacent to the edges; and spaced pairs of laterally extending pivot projections adjacent to the opposite end of the trough, one pair on the inside of the can and the other pair on the outside of the can, arranged to cause the spout to open with a shifting hinge movement; the shape of the cams being such as to cause the closure initially to move longitudinally and permit the overlapping part at the pivoted end to be freed of the can wall and, subsequently to be projected into the can, one part of the cams cooperating with the wall of the can to cause the spout to move longitudinally of the pouring opening to a position where the overlapping part of the spout is clear of the end edge of the pouring opening in the can and the other part of the cams cooperating with the pair of projections inside the can to produce a hinging movement of the spout causing said overlapping part which has been retracted to move into the can and, during the latter part of its movement to be shifted against the edge of the pouring opening.

5. A trough shaped pouring spout and closure for salt cans and the like comprising wings and having opposed pairs of pivot projections adjacent to the inner end of the spout, one pair being inside the can and the other pair being outside the can; said spout being formed of sheet metal and said projections being stamped therein.

6. A trough shaped pouring spout and closure for salt cans and the like comprising wings having opposed pairs of pivot projections adjacent to the inner end of the spout,

one pair being inside the can and the other pair being outside the can; said spout being formed of sheet metal and said projections being stamped therein; said pair of projections within the can being pressed out of the sheet metal and presenting a substantially flat abutting surface to engage the inside wall of the can when the spout is open and resist easy or accidental withdrawal of the spout from the can, and the other parts of the projection being rounded to permit the spout to be inserted in the can while the material is somewhat pliable.

7. A cardboard container for salt and the like having a rectangular pouring opening and opposed notches near the rear end of the opening, a sector shaped, trough-like, pouring spout having cam ribs on the side walls cooperating with said opposed notches; pivot projections extending from the sides of said spout adjacent to the spout end of said opening cooperating with the wall about the opening both on the inside and outside of the container to cause the spout to have a compound shifting and hinging movement.

8. As an article of manufacture a trough-shaped closure and pouring spout having approximately sector-shaped side walls adapted to be inserted in a rectangular pouring opening, means adjacent to one end of the closure adapted to co-act with the wall about the pouring opening to provide combined interlocking and hinge connection; and cam-shaped ribs on said side walls adapted to work in suitable notches at the opposite edges of the pouring opening whereby to shift the closure longitudinally in the opening so as to engage and disengage the end edge of the opening at the hinge end of the closure.

In testimony, that I claim the foregoing as my own, I have hereto affixed my signature.

MAXIMILIAN PAUL LINK.