

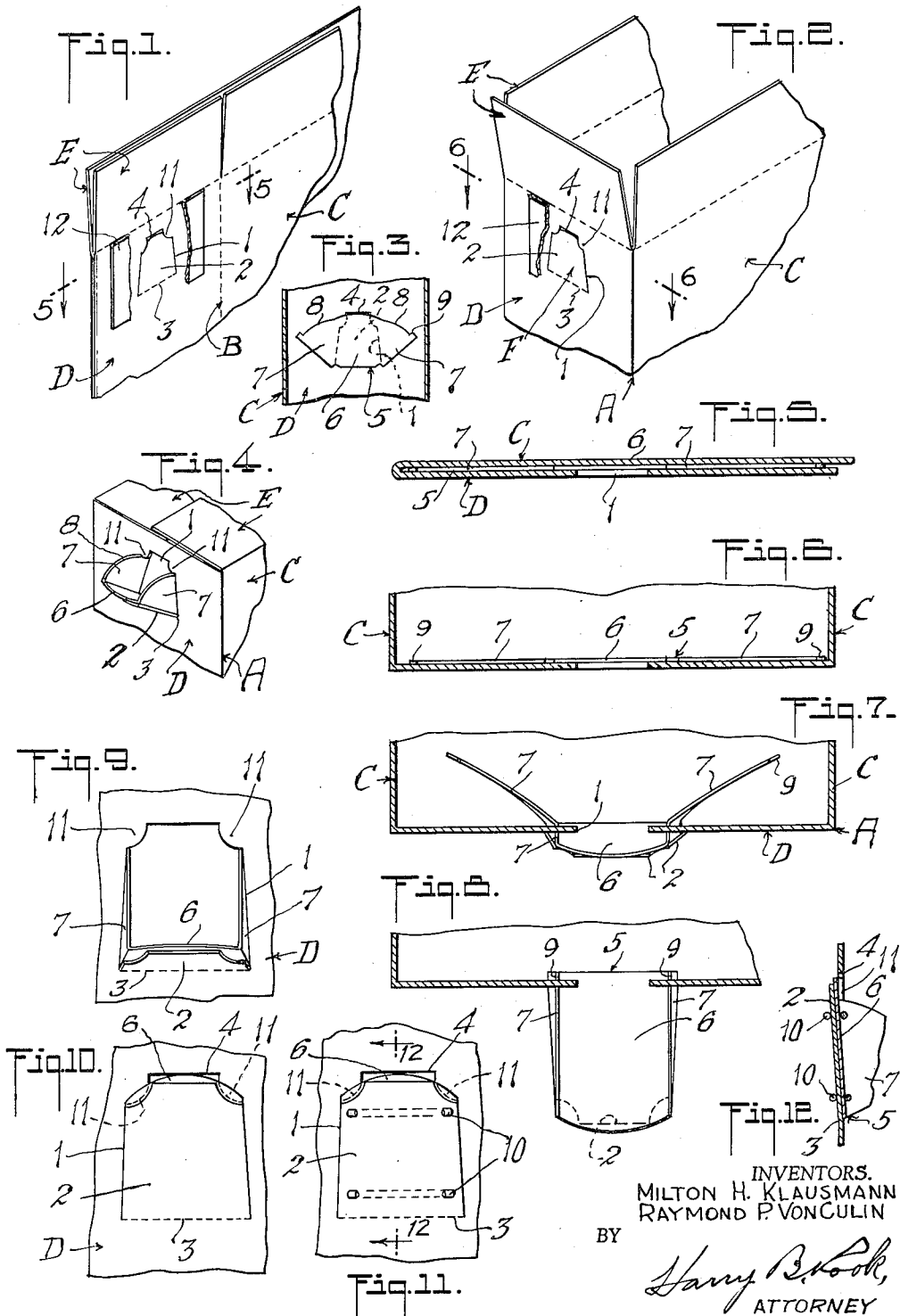
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COMBINED CONTAINER AND FOIL POURING SPOUT

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COMBINED CONTAINER AND FOIL POURING SPOUT

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This invention relates to containers or receptacles for comminuted or granular substances, having a discharge aperture and a pouring spout hingedly connected to one wall for swinging movement to close the aperture or to open the same so that the contents of the container may be poured therefrom through said aperture and spout.

The invention especially contemplates pouring spouts of the type including a bottom or body portion mounted to swing into closing and opening relation to the discharge opening in the container and formed with resilient arcuate side wings concentric with the axis of hinging to frictionally engage the walls of said opening, so that the body portion normally serves as a closure for the opening, and said wings form the side walls of the spout when the body portion is swung outwardly to open the discharge aperture.

According to the most common current practice, such pouring spouts are formed of stiff material, such as sheet aluminum; and the spouts are inserted into the containers after the containers have been set up for filling.

Generally, the containers or cartons are formed of cardboard blanks that are scored for folding so that the blanks can be unfolded or set up and glued to complete the container, but the blanks are shipped from the manufacturer to the user in knocked down or flattened condition; and it is necessary for the user of the cartons to insert the spouts into the cartons after they have been set up and just prior to the filling of the cartons.

One object of the present invention is to provide a novel and improved combination of a cardboard container and a metal pouring spout which shall permit the insertion of the spout into the container blank and the shipment of the container blank in flat or knocked down condition with the spout therein and in closing relation to the discharge aperture.

Probably the most common type of pouring spout is formed of sheet aluminum of such substantial thickness that the wings can be pushed through a wall of the container during the attachment of the spout to the container, but such sheet aluminum is so expensive that in many instances the spouts are omitted in the interests of economy.

Therefore, another object of the invention is to provide a novel and improved combination of a container and a pouring spout which shall permit the use of thin sheet metal of the order of aluminum foil, for example, foil of a thickness of .0035 inch, whereby it shall be possible to insert the spout into a container blank and ship the blank in folded or knocked down condition with the spout therein, and also the cost of the spout shall be so low as to permit its use in connection with cartons in which it would not be economically feasible to use the old type of heavy sheet aluminum spout.

A further object of the invention is to provide such a combination of a container and a foil pouring spout wherein the body portion of the spout shall be carried and reinforced by the portion of the wall of the con-

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tainer that is displaced to form the discharge aperture or opening, so that the spout shall be firmly supported and can be easily manually manipulated into open and closed positions.

Other objects, advantages, and results of the invention will be brought out by the following description in conjunction with the accompanying drawings in which:

Figure 1 is a fragmentary perspective view of a portion of a knocked down or flattened container blank having therein a pouring spout embodying the invention;

Figure 2 is a perspective view of the portion of the container shown in Figure 1 unfolded or set up preliminary to filling of the container;

Figure 3 is an elevational view of the inside of the wall of the container in which the spout is mounted, as shown in Figure 2;

Figure 4 is a fragmentary perspective view of a portion of the completed and filled carton, showing the spout in open or pouring position;

Figure 5 is an enlarged fragmentary horizontal sectional view approximately on the plane of the line 5-5 of Figure 1;

Figure 6 is a similar view on the plane of the line 6-6 of Figure 2 showing the spout prior to the initial opening thereof;

Figure 7 is a view similar to Figure 6 showing the spout in partially open position.

Figure 8 is a similar view showing the spout completely opened;

Figure 9 is a fragmentary front elevational view of the container wall and the spout in open position as shown in Figure 8;

Figure 10 is a fragmentary elevation of the container wall with the spout in completely closed position after having been once opened;

Figure 11 is a view similar to Figure 10 showing a modification of the invention;

Figure 12 is a fragmentary transverse vertical sectional view on the plane of the line 12-12 of Figure 11.

Specifically describing the illustrated embodiment of the invention, the container A is usually, but not necessarily, formed of cardboard or other similar fibrous sheet material which initially is scored as indicated at B to provide side and end wall panels C and D, respectively, and top and bottom closure flaps E; and the container is generally shipped by the manufacturer to the user in knocked down or folded, flattened condition as shown in Figure 1.

The user of the container unfolds the blank, sets it up, and glues it as shown in Figure 2, for subsequent filling and thereafter closure by the top flaps E (Fig. 4).

The pouring spout generally designated F is attached to one wall of the container, and in accordance with the invention, the spout is secured to the container blank so that the blank can be shipped in knocked down condition with the spout therein and also in flattened condition as shown in Figures 1 to 3 inclusive and 5.

The container wall, which usually comprises one of the panels C and D of the blank, is provided with a discharge aperture 1 and a correspondingly shaped tongue 2 that is cut or displaced from the wall to form the aperture and is integrally connected at one end to the container wall as indicated at 3 for hinging or swinging movement into and out of the aperture.

Preferably a portion of the wall is scored, depressed or cut away at the free end of the tongue as indicated at 4 to provide a groove for the insertion of a fingernail or knife to initiate movement of the tongue out of the aperture.

The tongue serves as a portion of the spout and has secured to the inner side thereof a piece of thin, flexible sheet material 5, preferably aluminum foil of a thickness

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of the order of .0035 inch. This thin piece of material is shaped to correspond to the desired shape of the spout and as shown its central portion 6 is of approximately the same shape and size as the tongue 2, while the end portions 7 of the sheet provide sector shaped wings or side walls at the side edges of the body portion 6 and having arcuate outer edges 8 concentric with the axis of swinging of the tongue. As is usual in spouts of this general type, the outer ends of the side walls or wings 7 are provided with lugs 9 to engage the inside of the container wall for limiting swinging movement of the spout into open position.

With this construction you will observe that the properly shaped piece of foil 5 may be secured to the tongue 2 in any suitable manner, as by adhesive as shown in Figures 1 to 9 inclusive, or by staples or other suitable fastening Figure 10 as shown in Figures 11 and 12; and the piece 5 of material may be initially flat and lie against the container wall when the container blank is knocked down or folded as shown in Figures 1, 3, and 5. After the container has been set up, the spout can be opened by inserting a fingernail or a knife blade into the groove 4 and pulling outwardly on the tongue so as to swing the tongue about its hinged end 3 as shown in Figures 4 and 7 to 9 inclusive, the wing portions 7 of the spout being automatically bent into angular relation to the central or body portion 6 by engagement of said portions with the side edges of the discharge opening 1 as the spout is swung outwardly and as best shown in Figures 6, 7, and 8. The wings have sufficient resiliency to constantly frictionally engage the edges of the opening to prevent leakage of the contents of the container between the spout and said edges. The spout may then be closed by simply pushing the tongue inwardly until it closes the discharge opening 1, whereupon the wings will have a tendency to spring apart.

The spout is prevented from being pushed through the discharge opening into the container as the spout is closed, by engagement of the piece 5 of flexible material such as metal foil with the outer side of the container wall. As shown, portions 11 of the container wall at the end thereof opposite the hinged end of the tongue protrude into the discharge opening, or putting it another way, the corners of the opening at the free end of the tongue 2 have inwardly extending protrusions 11, and the main portion 6 of the piece 5 of sheet metal initially underlies said protrusions as shown in Figures 1 to 3 inclusive. The sheet material 5 then holds the spout in closed position. When the tongue 2 is pulled outwardly to open the spout, portions of the free edge of the sheet material 5 slip past or from beneath the protrusions 11 to permit opening of the spout as shown in Figures 8 and 9. Then when the tongue is pushed back into the opening 1 to close it, the edge portions of the sheet 5 overlies and abut the outer sides of the protrusions 11 as shown in Figure 10 to prevent the spout from being pushed through the container wall into the container.

It will be understood by those skilled in the art that the thin piece of sheet material 5 might be attached to the outer side of the tongue 2 instead of to the inner side as shown, in which case the main portion of the spout would always be disposed at the outer side of the container wall while the wings 7 would be disposed at the inner side of the container wall.

In both cases, probably it will be desirable to cover the spout and the discharge opening before the initial opening thereof by the consumer of the contents of the container. As shown in Figures 1 and 2, an adhesive label 12 is pasted on the container wall in overlying relation to the

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spout, but it should be understood by those skilled in the art that a complete overwrap of the container would serve the same purpose.

Other modifications and changes can be made in the construction of the container and spout within the spirit and scope of the invention.

What we claim is:

1. The combination of a cardboard container having a discharge aperture in a wall thereof and a tongue integrally hingedly connected at one end to said wall and corresponding in size and shape to said aperture and having a free end edge and opposite side edges, and a single sheet of aluminum foil of a thickness of the order of .0035 of an inch having a main portion of a size and shape corresponding to said tongue and secured thereto in tight flatwise contact with the tongue and with its side edges coincident with the respective side edges of the tongue, said sheet of metal foil having sector-shaped wing portions projecting integrally from said main portion and concentric with the point of hinging of the spout, said tongue normally being disposed in said aperture to close it and with said wing portions lying flatwise against the container, so that upon pulling of the free end portion of the tongue away from or outwardly of said wall, said wing portions will be bent into angular relation to said main portion with their outer faces frictionally engaging the side edges of said aperture, there being protrusions from the container wall at the end of said aperture corresponding to the free end of said tongue, and the free end of said main portion of said sheet of foil extending beyond the free end of the tongue for engagement with said protrusions when the tongue is in said aperture to restrain swinging movement of the tongue.

2. The combination of a cardboard container having a discharge aperture in a wall thereof and a tongue integrally hingedly connected at one end to said wall and corresponding in size and shape to said aperture and having a free end edge and opposite side edges, and a single sheet of aluminum foil of a thickness of the order of .0035 of an inch having a main portion of a size and shape corresponding to said tongue and secured thereto in tight flatwise contact with the tongue and with its side edges coincident with the respective side edges of the tongue, said sheet of metal foil having sector-shaped wing portions projecting integrally from said main portion and concentric with the point of hinging of the spout, said tongue normally being disposed in said aperture to close it and with said wing portions lying flatwise against the container, so that upon pulling of the free end portion of the tongue away from or outwardly of said wall, said wing portions will be bent into angular relation to said main portion with their outer faces frictionally engaging the side edges of said aperture, said sheet of metal foil being initially disposed wholly within the container with said main portion secured to the inner side of said tongue and with said wing portions in flatwise loose contact with the inner side of said wall of the container, said wall having a depression along the free end edge of said tongue for the insertion of a knife or fingernail to facilitate swinging of the spout into open position.

References Cited in the file of this patent

UNITED STATES PATENTS

2,288,042	Spilman	June 20, 1942
2,593,778	McGinnis	Apr. 22, 1952
2,832,516	Von Culin	Apr. 29, 1958

FOREIGN PATENTS

466,934	Italy	Nov. 21, 1951
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