

May 23, 1933.

B. M. GANDOLA

1,911,076

DETACHABLE SPOUT FOR CONTAINERS

Filed March 9, 1932

FIG. 1.

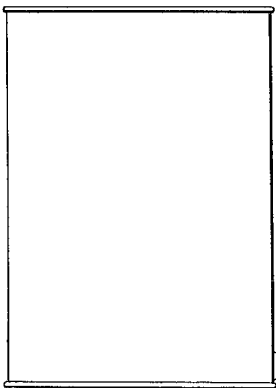


FIG. 2.

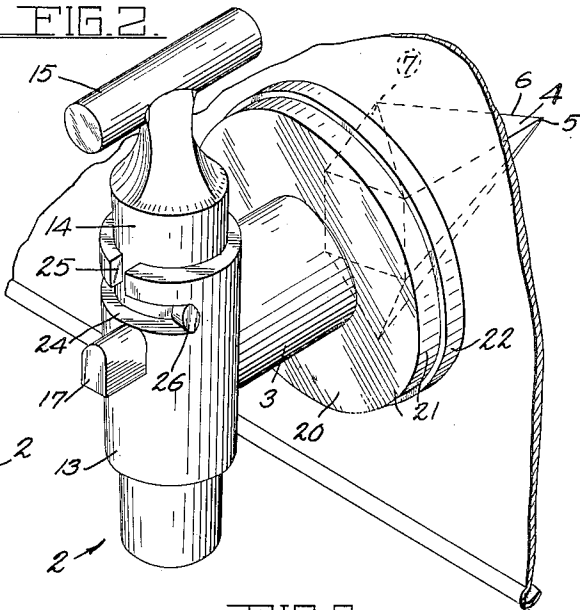


FIG. 3.

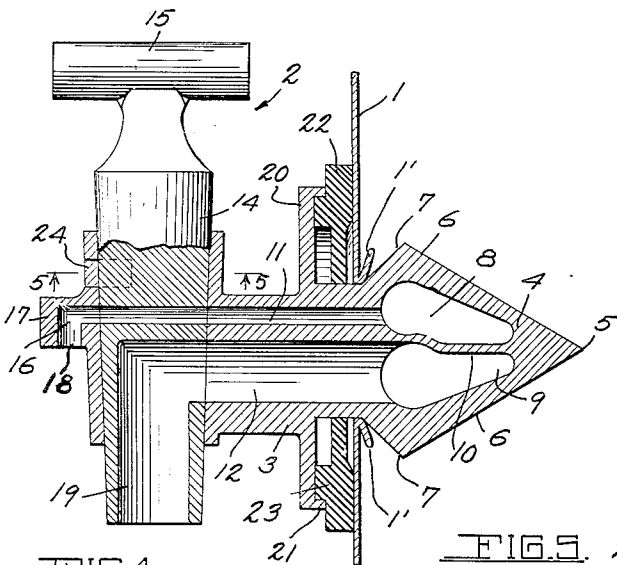


FIG. 6.

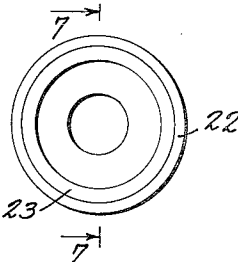


FIG. 7.

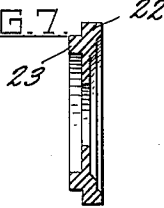


FIG. 4.

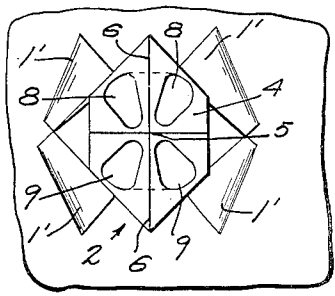
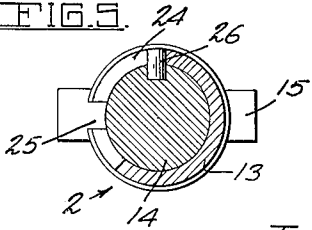


FIG. 5.



INVENTOR.
B. M. GANDOLA
BY *J. J. J. J. J.*
ATTORNEYS.

UNITED STATES PATENT OFFICE

BASIL M. GANDOLA, OF LOS ANGELES, CALIFORNIA

DETACHABLE SPOUT FOR CONTAINERS

Application filed March 9, 1932, Serial No. 597,730, and in Mexico August 24, 1931.

My invention relates to a detachable pouring spout for liquid containers.

It is an object of this invention to provide a detachable pouring spout which can be easily attached to a metal container, being so shaped that a minimum effort will cause the spout to pierce the metal of the can and by a quarter rotation of the spout will form a fluid tight seal with the metal of the container which it has pierced.

In devices of this kind in the prior art the detachable pouring spouts were provided with a piercing head polygonal in cross section, usually of the shape of a pyramid. It takes considerable force to pierce the metal of a can and the metal of the can at its place of cutting was usually so deformed that it was difficult to provide a fluid tight seal. The present invention provides a spout in which the piercing head is arrow shaped and provided with a pair of cams which, as the head is given a quarter rotation, will press the cam of the metal against a washer, making it fluid tight. Owing to the fact that the can is cut by making a longitudinal slit therein, little deformation of the cut edges of the metal takes place, facilitating the formation of a fluid tight seal.

It is another object of this invention to provide two separate conduits, one above the other, leading from the piercing head to a valve casing at the outer end of the device with a valve member to control the outlets of said conduits. The upper conduit permits air to pass into the liquid container, thereby assuring a free and uninterrupted flow of the liquid through the liquid conduit.

With the above and other objects in view which will appear as the description proceeds, my invention consists in the combination and arrangement of parts hereinafter described and claimed.

In the accompanying drawing, which forms a part of this specification, I have

illustrated a preferred embodiment of my invention, and in which:

Fig. 1 shows a metal container to which my pouring spout has been attached;

Fig. 2 shows a perspective view of the spout showing its attachment to a container, a portion of which is shown;

Fig. 3 is a vertical central section of the spout attached to the walls of the container, parts being shown in elevation;

Fig. 4 is an end view looking at the inner end of the spout;

Fig. 5 is a horizontal section taken on the lines 5—5 of Fig. 3, looking upwardly;

Fig. 6 is an elevation of the washer;

Fig. 7 is a vertical section on the line 7—7 of Fig. 6.

Referring to the drawing, 1 indicates a metal container for liquids to which my spout indicated as the unit 2 is attached. The spout consists of a shank 3 at the inner end of which is a flat, arrow-shaped head 4, from the sharp point 5 of which two sharp lateral cutting edges 6—6 diverge outwardly. From the ends of the cutting edges 6—6, a pair of shoulders 7—7 extend inwardly and constitute cams to form a fluid tight seal in junction with a resilient washer, as will be described hereafter.

The arrow head 4 is provided with a pair of upper perforations 8—8, separated from a lower pair of perforations 9—9 by a partition wall 10. Leading from the upper perforations 8—8 is a relatively small air conduit 11 disposed above a relatively large liquid conduit 12 which leads from the lower perforations 9—9, these conduits 11 and 12 passing axially through the shank 3 and terminating in a valve casing 13, preferably integral with the shank 3, in which a rotatable valve member 14 provided with a handle 15 is disposed. The valve member 14 is provided with a transverse bore 16 in alignment with air conduit 11. A boss 17 on the valve casing 13 is provided with an

outlet 18 in alignment with the bore 16. The lower part of the valve member 14 is hollow and constitutes the liquid outlet 19, which at the upper end terminates in a port in alignment with the liquid conduit 12.

In order to form a liquid seal, I provide a flange 20 integral on the shank 3 and provided with a peripheral inwardly extending shoulder 21 pressing against a resilient washer 22 disposed against the outer wall of the container 1. The washer 22 is provided with a shoulder 23 spaced from the periphery, and the shoulder 21 of the flange 20 fits against the shoulder 23 of the washer 22, pressing the latter firmly against the container.

The valve casing 13 is provided with a horizontal slot 24 communicating with the vertical slot 25 for the reception of a stop 26 on the valve member 14. In the position shown in Figs. 1, 3, and 5, the stop 26 is at the extreme opening position of the valve so that both the air conduit 11 and the liquid conduit 12 are in registration with the corresponding bore 16 and outlet 19, respectively.

Operation.—The piercing head 4 of the spout is disposed horizontally and caused to pierce the wall of the liquid container 1. The metal of the wall will be turned back upon itself, as indicated at 1' in Fig. 4. The spout is now given a quarter rotation so that the cutting edges 6—6 will be disposed in a vertical plane. This turning movement will cause the rolled metal portions 1' to ride on the cam faces 7 and cause the washer 22 to be firmly pressed and held in position against the wall of the container 1. On turning the valve member 14 into dispensing position shown in Fig. 3, liquid may, for a moment, flow from both the outlet port 19 as well as the outlet of the air conduit 11, but just as soon as the excess pressure of the liquid contents has thus been relieved, liquid will flow only through the conduit 12 through the outlet 19, while air will pass into the container through the air inlet 18 through the bore 16 of the valve member 14 and the air conduit 11, thus assuring a free and uninterrupted flow of liquid at all times as long as the valve member is in opening position.

Various changes may be made by those skilled in the art without departing from the spirit of my invention as claimed.

I claim:

A detachable pouring spout for liquid containers comprising a shank, a perforated cutter head on the inner end of said shank, a flange integral with said shank and provided with a peripheral compression edge, a resilient washer adapted to be pressed against the container to make a fluid tight seal about said flange, a valve casing at the outer end of the shank provided with an

air inlet and a liquid outlet, the outer ends of both said inlet and outlet being disposed vertically downwards, a liquid conduit and an air conduit leading from the head to the valve casing, and a rotatable valve member in the valve casing for registering said air conduit with said air inlet and the liquid conduit with the liquid outlet.

In testimony whereof I have signed my name to this specification.

BASIL M. GANDOLA.