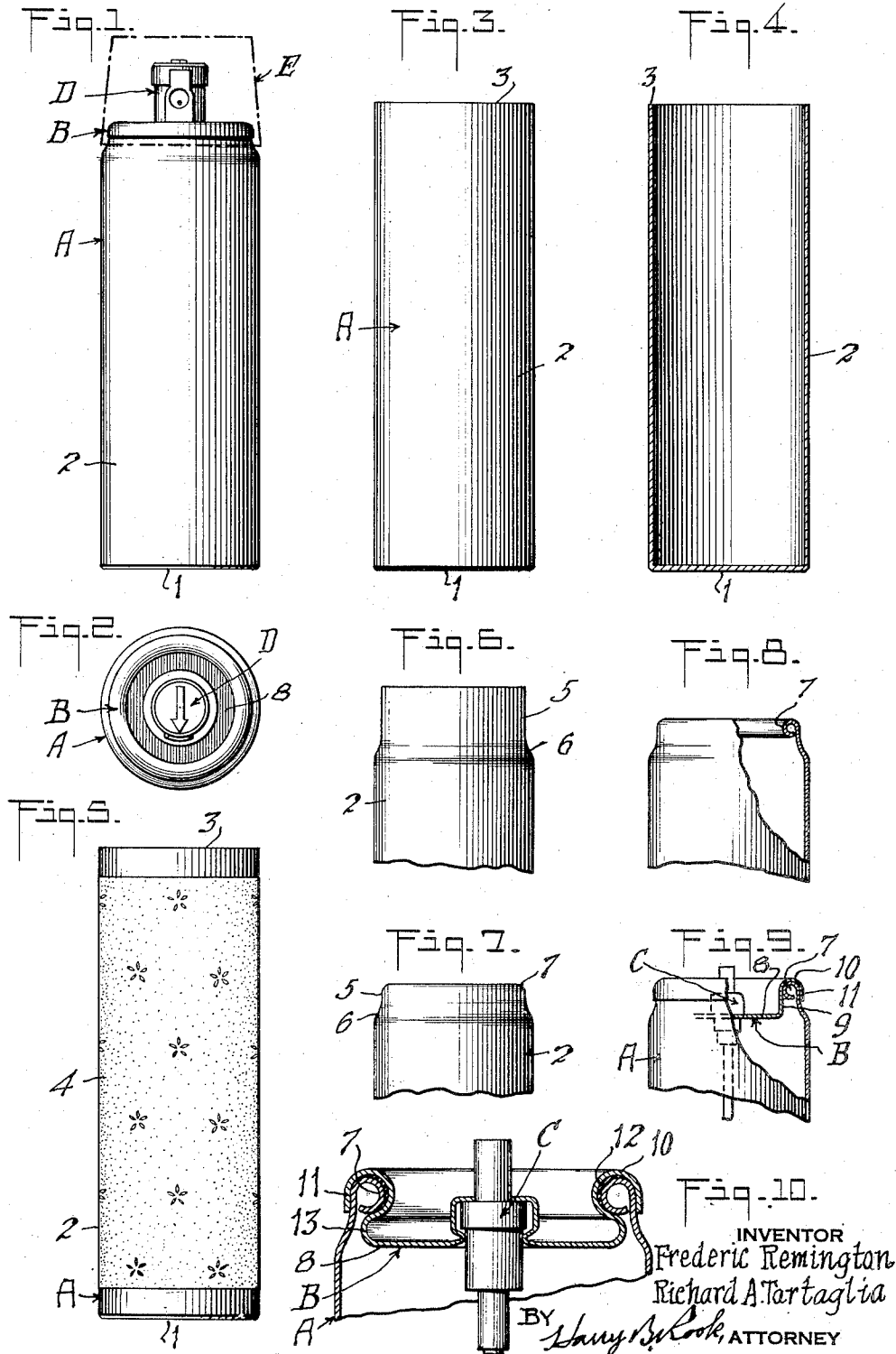


Oct. 14, 1958

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PRESSURE DISPENSING CONTAINER

2,856,102

Filed Feb. 18, 1955



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2,856,102

PRESSURE DISPENSING CONTAINER

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Application February 18, 1955, Serial No. 489,148

2 Claims. (Cl. 222—394)

This invention relates in general to containers constructed to dispense or eject their contents under gas pressure within the containers, and a primary object of the invention is to provide a container of this character, and particularly a metal can, which shall embody novel and improved features of construction whereby the danger of leakage of gas or liquid from the container or can shall be reduced to the minimum.

Another object of the invention is to provide such a can which shall have its bottom and side walls formed integrally of one piece of material so as to eliminate the usual seams that are required between the side walls and bottoms of known types of pressure dispensing cans.

A further object is to provide a novel and improved method of making such a pressure dispensing can whereby the side walls and bottom of the can can be produced with known types of machines or apparatus, rapidly and at relatively low cost.

Other objects are to provide a pressure dispensing can which shall be strong, substantially leak-proof, and at the same time shall be attractive in appearance; and to obtain other advantages and results that will be brought out by the following description in conjunction with the accompanying drawings in which

Figure 1 is a side elevational view of a pressure dispensing container constructed in accordance with the invention;

Figure 2 is a top plan view thereof;

Figure 3 is a side elevational view of the body portion of the can produced by the first step of the method of the invention;

Figure 4 is a central vertical sectional view through the body of the can as illustrated in Figure 3;

Figure 5 is a view similar to Figure 3 showing the body of the tube at the end of the coating or decorating step of the method;

Figure 6 is a fragmentary side elevational view of the upper end of the can body at the end of the next successive step of the method;

Figure 7 is a fragmentary side elevational view of the upper end of the can body at the end of the next method step;

Figure 8 is a similar view with portions broken away and shown in section;

Figure 9 is a view like Figure 8 but showing the top of the can loosely inserted into the upper end of the can body; and

Figure 10 is an enlarged fragmentary central vertical sectional view through the upper end of the can body and the top of the can in completely assembled relation, portions of the dispensing valve being omitted.

Specifically describing the invention, the dispensing container or can comprises a one piece body A that has a flat bottom 1 and cylindrical side walls 2 integral with said bottom as best shown in Figure 4. The can body is shown as formed of aluminum or similar extrudable material and the body is made by extruding a slug of metal from a die upon an extruding plunger according

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to a known method, examples of which are described in our Patent No. 2,600,921 granted on June 17, 1952.

At the end of the extruding operation, the open or upper end of the body A is usually uneven and the body is slipped over a mandrel and subjected to a trimming operation to make the upper edge 3 of the body smooth and in a plane perpendicular to the longitudinal axis of the body. The spindle with the tube thereon is then moved to a coating apparatus where a decorative coating 4 or suitable advertising matter is applied to the body in known manner by rolling contact of a printing roller with the outer surface of the body. For carrying out these operations, known types of collapsible tube making machines and tube supporting spindles can be used.

The upper end of the body is then subjected to a tube drawing operation to form a reduced cylindrical end portion 5 and a shoulder 6 between said reduced end portion and main portion of the can body, as shown in Fig. 6. Thereupon, the upper edge of the can body is rolled inwardly to form an interior continuous circumferential bead 7 of approximately circular cross-section at the upper end or mouth of the body. Then a known type of top B is loosely inserted into the end of the body, said top being cup-shaped and initially having a recessed main portion 8 that is surrounded by an upstanding cylindrical wall 9 that merges into an arcuately curved portion 10 which terminates in a flange 11 thereby providing a channel-shaped portion to receive and seat upon the bead 7 of the body as best shown in Fig. 9. This top wall includes any suitable known type of dispensing valve which generally includes a valve body C secured in the top B and having an operating finger piece D. As is customary, preferably a ring 12 of known sealing compound is interposed between the top B and the bead 7 as shown in Fig. 10, and for firmly securing the top B on the can body A with a fluid-tight joint, the wall 9 of the top is expanded in known manner as indicated at 13 so that the expanded portions 13 underlie and interlock with the bead.

The can or container can be filled with liquid or powder and a gas under pressure, in known manner which forms no part of our invention.

From the foregoing it will be seen that the container or can embodying our invention includes only one joint through which liquid or gas might escape, namely the joint between the top B and the can body A, and this joint can be made easily fluid-tight. The walls 2 and the flat bottom 1 of the can body being integral, there is no seam through which gas or liquid can escape and the difficulties and expense incident to forming seamed connections are eliminated. Moreover, the container is attractive in appearance as the result of the drawing of the reduced portion 5 and the rolling of the edge thereof into an internal bead. The diameter of the reduced portion 5 of course corresponds to the diameter of the flange 11 of the container top, and the diameter of the main portion of the body 2, in conjunction with the shoulder 6, to make it possible to apply a cover E, indicated by dot and dash lines in Fig. 1, over the flange 11 of the can top in such a way that the circumference of the lower edge of the cover is substantially flush with the circumference of the main portion of the body.

What we claim is:

1. In a method of making a pressure dispensing can, the steps of extruding from a slug of aluminum a one-piece body having a cylindrical wall and an integral bottom wall at one end, drawing the other end portion of said body into a reduced cylindrical portion of lesser diameter than said main portion and thereby providing a rounded shoulder between the reduced portion and the main portion of the body that tapers toward the reduced portion, and rolling the edge of said cylindrical reduced

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portion inwardly into a continuous rigid circumferential bead that is hollow and approximately circular in cross-section at the free end of said reduced portion in closely spaced relation to said rounded shoulder.

2. A pressure dispensing container comprising a one-piece extruded aluminum main body portion having a cylindrical side wall and an integral bottom wall at one end thereof, the other end of said side wall being drawn into a reduced cylindrical portion of lesser diameter than said main body portion and there being a convexly curved shoulder between said main body portion and said reduced portion that is tapered toward the reduced portion, said reduced cylindrical portion having its outer extremity rolled inwardly into a continuous rigid circumferential bead that is hollow and approximately circular in cross-section and in spaced relation to said curved shoulder, a sheet metal top wall having a circumferential flange in

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fluid-tight relation to said bead to provide a fluid-tight joint between said top wall and said cylindrical reduced portion, and a dispensing valve secured in said top wall within said circumferential flange.

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