March 4, 1952 R. E. BARRY 2,587,683

DISPOSABLE CAULKING GUN

Filed Sept. 9, 1949

Fig. 1.

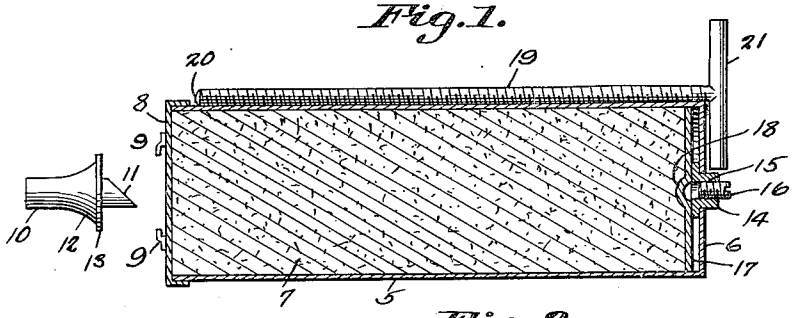


Fig. 2.

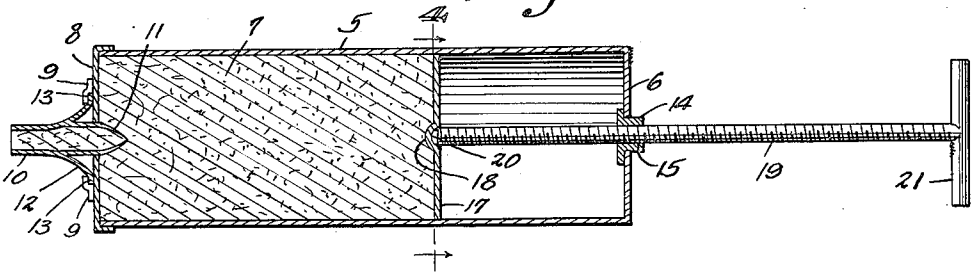


Fig. 3.

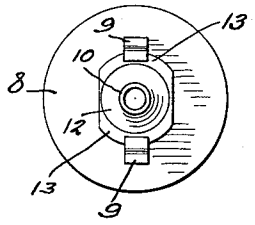


Fig. 4.

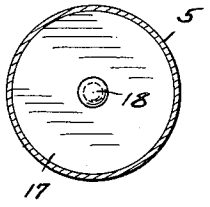


Fig. 5.

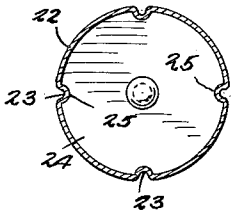
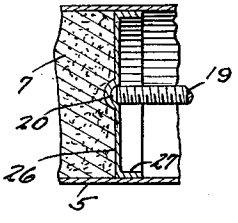


Fig. 6.



R. E. Barry

INVENTOR

BY C. A. Snow & Co.

ATTORNEYS.

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DISPOSABLE CAULKING GUN

Robert E. Barry, Bethesda, Md.

Application September 9, 1949, Serial No. 114,851

1 Claim. (Cl. 222—89)

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This invention relates to an ejection means and nozzle construction for a container, and more particularly, has reference to a container for such material as caulking or the like, which container is adapted to be manufactured at low expense, and carry its own ejection means and readily applied nozzle, the entire container, nozzle, and ejection means being capable of being disposed of after the container is fully emptied of its contents.

By way of background, it may be noted that in the art, it is generally necessary that one provide himself both with a caulking gun and with a separate supply of caulking, with said gun being filled as necessary for the performance of caulking operations.

It may be noted that in many instances, this involves expenses which are excessive in the light of the rare occasions on which the caulking gun is necessary, and the ordinary householder, for instance, though finding need of a caulking means on certain occasions, rarely has need of a caulking gun except on rare instances.

Accordingly, it is an important object of the present invention to provide a container in which caulking or a similar product can be sold, said container being capable of manufacture at little more than the regular cost for a disposable container, but said container also having an ejection means at one end and a nozzle extendable through the other end, whereby the container can be converted into a gun until its contents are completely exhausted, at which time the container can be disposed of.

Summarized briefly, the container in its broadest aspects comprises a can or any other ordinary receptacle in which caulking or a similar material can be packed and which is so constructed that when sold, it has a closed top and bottom; a follower that comprises merely a disc seated in the bottom of the container but non-connected thereto in any way; a nozzle adapted to puncture the top of the container; and a threaded key adapted to be threaded directly through the bottom of the container so as to engage the follower and press it forwardly so as to expel the material from the nozzle of the container.

With the foregoing and other objects in view which will appear as the description proceeds, the invention consists of certain novel details of construction and combinations of parts, hereinafter more fully described and pointed out in the claims, it being understood that changes may be made in the construction and arrangement of parts without departing from the spirit of the invention as claimed.

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Referring to the drawings:

Fig. 1 is a longitudinal sectional view through a container formed in accordance with the invention, the nozzle being spaced from the end wall of the container immediately prior to application thereto.

Fig. 2 is a similar view, the container being illustrated with the nozzle and ejection means applied thereto, a portion of the material packed in the container being previously ejected.

Fig. 3 is an end elevational view taken from the left of Fig. 2 and showing the nozzle in position on the container.

Fig. 4 is a section on line 4—4 of Fig. 2.

Fig. 5 is a section taken on a cutting plane similar to that of Fig. 4, but showing a modified follower and container construction.

Fig. 6 is a fragmentary longitudinal section showing another modification of the follower.

Referring to the drawings in detail, in accordance with the invention I provide a receptacle 5 having the usual closed end 6 and packed with caulking 7 or other material. When fully packed, the container is closed by the cover 8, in the regular manner. It may be understood at this point that the container can comprise an ordinary can of sheet tin, cardboard, or similar material such as is commonly used for the packing of many products.

In the present instance, the cover 8 of the receptacle 5 is initially imperforate, but is of a material capable of being readily punctured. The cover is provided with spaced retaining flanges 9, so that there can be held to the cover 8 the nozzle 10 open at opposite ends, one end of which is cut away angularly as at 11 so as to permit the pointed end 11 to readily puncture the cover 8 of the receptacle 5, thereby to provide a nozzle through which the contents 7 can be ejected. The nozzle 10 in the present instance is provided with the skirt 12 which is provided with the diametrically opposed, oppositely extended flanges 13 adapted to engage under the retaining flanges 9 when the nozzle is partially rotated in the opening it makes when it punctures the cover.

At the center point of the end wall 6 of the receptacle 5, I provide a threaded opening therein, and this opening in the present instance is provided for by mounting in the end wall 6 a small threaded sleeve 14 having the threaded opening 15. When the contents are not being dispensed, the threaded opening 15 can be closed by a small threaded plug 16.

Before the receptacle 5 is filled prior to commercial marketing of the receptacle and its contents, there is positioned in the bottom of the

receptacle a follower 17 of a diameter corresponding to the inner diameter of the receptacle 5, said follower 17 being non-connected to the receptacle, and being simply dropped into the bottom before the contents 7 are deposited in the receptacle.

The follower 17, at its center point, is formed with the indentation or node 18 that is in exact alignment with the threaded opening 15 as may be readily noted by reference to Fig. 1.

Adapted to cooperate with the follower 17 in ejecting the contents 7 is the elongated threaded rod 19 one end of which can be rounded off corresponding to the indentation 18, and the other end of which is provided with the handle 21 whereby the user can conveniently rotate said threaded rod 19 after it has been entered in the threaded opening 15.

The threaded rod or key 19, at the time the container is commercially marketed, can be attached in any suitable manner to the outer surface thereof as by a tape or by an adhesive substance.

When the contents 7 are to be ejected, the nozzle 10 is applied to the end wall 8 in the manner illustrated in Fig. 2, and the threaded rod 19 is then entered into the threaded opening 15. On rotation of the threaded rod 19, the inner end 20 thereof will engage in the indentation or node 18 of the follower 17, and continued rotation of the threaded rod 19 will cause said follower 17 to be advanced longitudinally of the receptacle 5, thus to cause ejection of the contents 7 through the outlet opening defined in the present instance by the nozzle 10.

In Fig. 5 I have illustrated a modified construction wherein the receptacle 5 is adapted to guide the follower 17 in the shifting of said follower longitudinally of and within the receptacle. To this end, there are provided longitudinal ribs 23 in the side wall of the receptacle 5, these ribs being readily formed in the initial manufacture of the receptacle by being pressed into the wall of the receptacle. The follower 24 in this instance is formed with a peripheral edge that is notched correspondingly to the ribs 23, so that said ribs will be received in the notches 25 of the follower 24, thus to guide the follower during the shifting of the follower within the receptacle 22.

In Fig. 6 another modified form of follower is illustrated, the follower in this instance being formed with a peripheral flange 27 adapted to engage the side wall of the receptacle 5. Again, the purpose of the modification of Fig. 6 is to provide a positive guide for preventing binding of the follower 26 during its movement within and longitudinally of the receptacle 5.

I believe that other modified constructions are quite possible, and those illustrated herein are submitted purely by way of example, and it will be understood that except as limited by the claims, various other changes in design may suggest themselves.

From the above, it is seen that a container in which caulking or a similar material can be sold is provided, which container can be manufactured at little increase in cost above conventional containers, and which will yet be in itself a caulking gun which will be fully disposable after the entire contents have been ejected.

What is claimed is:

A disposable caulking gun comprising a cylindrical container closed at opposite ends; a follower positioned within and shiftable longitudinally of the container from one end of the container to the other end thereof, to force material contained within the container toward the second-named end; diametrically opposed flanges extended toward each other and secured to the exterior surface of the second-named end of the container; a nozzle open at opposite ends and having one end cut away angularly to provide a point adapted to puncture the second-named end of the container to form an opening therein, whereby to extend the nozzle partially into the container; a skirt surrounding and secured to the intermediate portion of the nozzle and engageable against the exterior surface of the second-named end of the container; diametrically opposed flanges extended outwardly from the skirt, said flanges being engageable under the first-named flanges when the nozzle is partially rotated in said opening to secure the nozzle in position upon the container; and means for forcing the follower longitudinally of the container to expel material through said nozzle.

ROBERT E. BARRY.

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