

April 14, 1953

W. E. SHERBONDY
DISPENSING GUN WITH MEANS FOR INSERTING
REMOVABLE CONTAINERS

2,634,888

Filed Jan. 15, 1948

2 SHEETS—SHEET 1

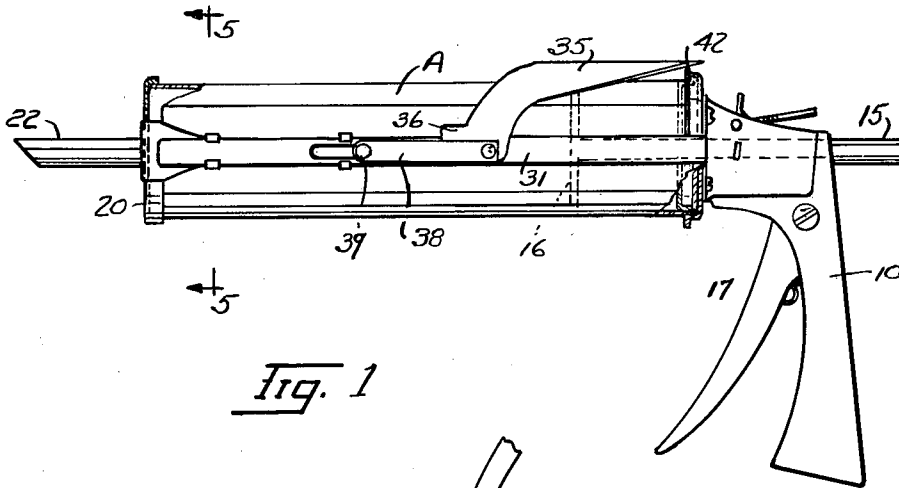


Fig. 1

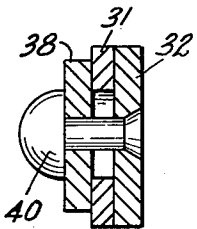


Fig. 6

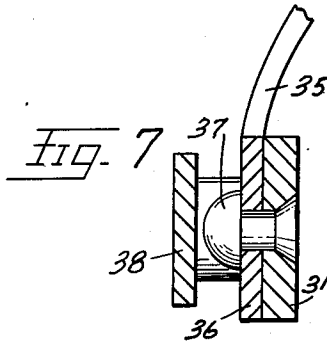


Fig. 7

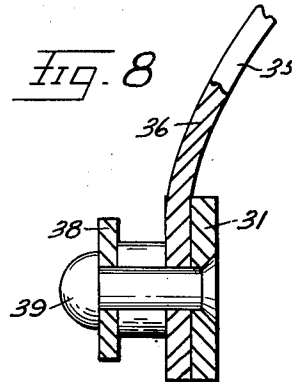


Fig. 8

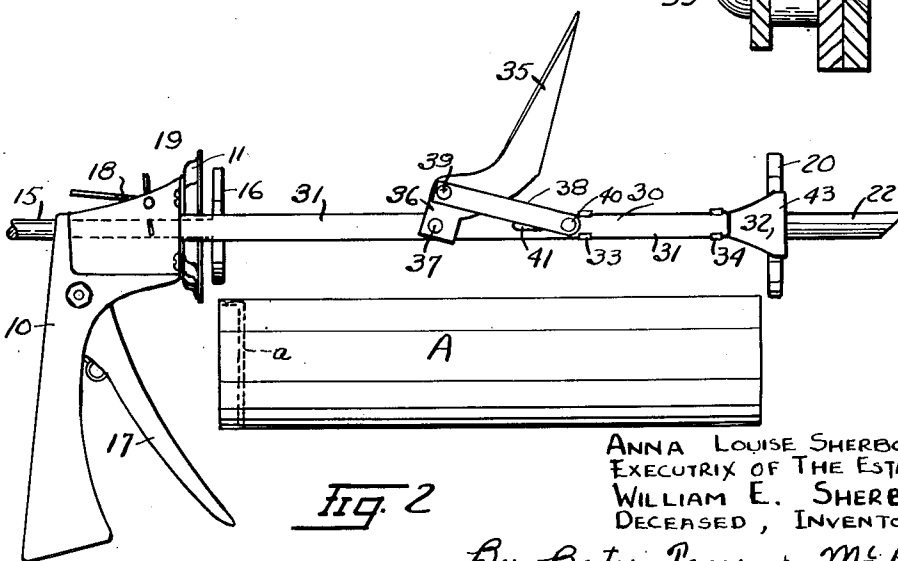


Fig. 2

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EXECUTRIX OF THE ESTATE OF
WILLIAM E. SHERBONDY
DECEASED, INVENTOR

By Bates, Peare, & M^cLean
ATTORNEYS

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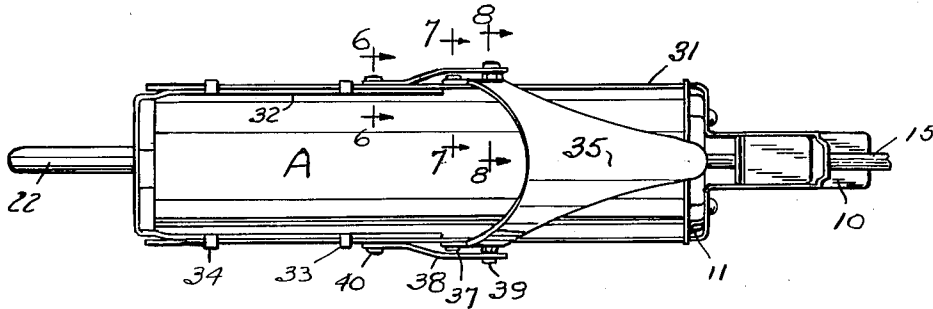


Fig. 3

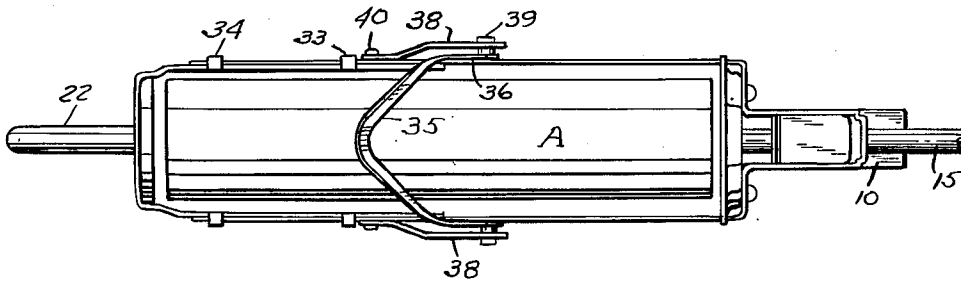


Fig. 4

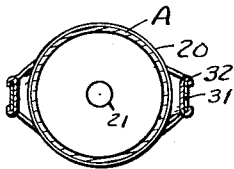


Fig. 5

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2,634,888

DISPENSING GUN WITH MEANS FOR INSERTING REMOVABLE CONTAINERS

William E. Sherbondy, deceased, late of Shaker Heights, Ohio, by Anna Louise Sherbondy, executrix, Shaker Heights, Ohio

Application January 15, 1948, Serial No. 2,428

1 Claim. (Cl. 222—327)

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The present invention relates to a dispensing device for calking material and the like and is concerned particularly with means for holding a cartridge containing the material in position for expulsion of the material by the manual operation of a plunger. The dispensing device comprises a handle in which one end of the cartridge may be mounted, and means connected to the handle to abut the far end of the cartridge and clamp against it to hold it in place, the handle carrying also a plunger and the operating mechanism therefor to expel the contents of the cartridge, the cartridge thus itself forming the barrel of what may be called a "calking gun."

The present invention is concerned especially with the means for causing the member formed to engage the far end of the cartridge to clamp the cartridge effectively between such means and the handle.

In its preferred form the cartridge comprises a paper tube having an internal cap which may form a closure at one end and may act as a head for a plunger in extruding material from the other end, which is open. The means which engages the front end of the cartridge comprises a closure plate carrying a discharge spout, and the connecting parts are so arranged that a tight connection is made between the cartridge and this closure plate, so that the material may be extruded through the spout without leakage.

The invention, comprising the means by which the above results are accomplished, as illustrated in the drawings hereof, and as hereinafter more fully described.

In the drawings, Fig. 1 is a side elevation of the complete apparatus, showing a cartridge in place therein; Fig. 2 is a side elevation showing the apparatus spread to release the cartridge, shown freed from the apparatus; Fig. 3 is a plan of the apparatus with the cartridge in place; Fig. 4 is a plan showing the position of the clamping parts of the apparatus when the cartridge is released; Fig. 5 is a cross section through the apparatus with the cartridge in place as indicated by the line 5—5 on Fig. 1, looking toward the spout; Figs. 6, 7 and 8 are details through different joints of the apparatus, being sections as indicated by the correspondingly numbered lines on Fig. 3.

The apparatus illustrated in the above drawings comprises essentially a handle 10 carrying manual mechanism for expelling the contents of the cartridge and having means for positioning the rear end of the cartridge; a cup-like member 20 to engage the front end of the cartridge and

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an extensible connecting device 30 between said front engager and the handle whereby the cartridge may be effectively clamped in the apparatus to constitute the barrel of the gun or be released therefrom when empty.

The cartridge positioner on the handle includes a forwardly facing cup 11 secured to the frame of the handle and of such size that the rear end of the cartridge, as A, may be seated in such cup-like member. The front engager 20 is likewise a cup-shaped member which may engage the front end of the cartridge. The mechanism 30 connects the two cup-like members and is extensible and collapsible to clamp the cartridge between these members.

As shown, the clamping mechanism comprises a pair of frame bars 31 secured at their rear ends to the handle frame and extending parallel with each other in position to stand on opposite sides of the cartridge. These two side members 31 having sliding or telescoping engagement with a pair of side bars 32 which are secured to the front abutment 20. As shown the front arms 32 are each provided with two pairs of ears 33 and 34 which loosely overhang the bars 31 so that the two sets of bars are slidably connected together. An operating lever 35 and suitable linkage connects with the bars 31 and 32 in a manner to spread them or contract them.

As shown the operating lever 35 is curved into a scoop-shape and terminates in a pair of arms 36 which extend over the outer faces of the bars 31 and are pivoted to them at 37. The opposite sides of the scoop-shaped lever are connected with the bars 32 by a pair of side links 38, pivoted to the lever 35 at 39 and pivoted to the side bars 32 at 40. The pivot pins 40 extend freely through slots 41 in the bars 31.

It results from the above described arrangement of bars, lever and links that when the scoop-shaped lever is turned down to bring its free end 42 into engagement with the flange 12 on the cup 11, the links 38 are thereby swung into parallelism with the bars 31 and 32 and in doing so pull the pivots 40 along the slots 41 to draw the bars 32 and the front abutment 20 to their rearward position to clamp the cartridge in place with its ends resting in the respective members 11 and 20.

To free the cartridge it is only necessary for the operator to raise the scoop-shaped lever 35 from the normal operating position to some such upwardly extending position, as indicated in Figs. 2 and 4. This movement causes the links 38 to push forwardly on the pins 40 thereby pushing

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the abutment plate 20 sufficiently free from the end of the cartridge to allow the cartridge to drop out between the flanges of the two-cup members 11 and 20, as indicated in Figs. 2 and 4.

Mounted in the handle 10 is a push rod 15 having a suitable plunger plate 16 on its forward end which may act as a plunger for the cartridge or as a pusher for an internal cap (indicated in dotted lines at *a* in Fig. 2) within the cartridge and having a flange snugly engaging the wall thereof. The rod 15 is advanced as desired by a handle lever 17 pivotally mounted in the handle and operating suitable mechanism to engage the rod and feed it forwardly upon successive operations of the hand lever.

The rod advancing and retaining mechanism is not shown in detail but may be of the form shown in Patent No. 2,420,203, granted to me May 6, 1947, as executrix of William E. Sherbondy. As there shown the hand lever operates a pawl or plate which is canted by the lever to bite into the rod with each rearward stroke of the hand lever and shove the rod forwardly, the gain made in such action being retained by a suitable detent pawl or plate which normally engages the rod under spring pressure and prevents rearward movement thereof. The handle carries a suitable throw-out device (indicated at 18) which may be operated when desired to nullify the action of the detent pawl and thus allow the rod 15 to be freely drawn rearwardly out of the cartridge.

It will be seen from the description given that when the push rod is retracted and the clamping mechanism is expanded by the turning up of the lever 35, the cartridge may be readily put into position between the side members of the expansible frame and in line with the rear and front seats; then when the lever 35 is turned down into position along the top of the cartridge the extensible frame is collapsed and the cup-like members become seated on opposite ends of the cartridge and hold it firmly in position to constitute the barrel of the gun.

When the cartridge is clamped in place the contents may be expelled merely by operation of the hand lever, causing the rod 15 to push forward on the rear of the contents and discharging at the forward end through a central opening 21 (Fig. 5) in the front abutment 20. This front abutment carries a tubular spout 22 which thus receives and properly directs the material being discharged.

It has been found convenient in manufacture to make the forward side bars 32 as integral parts of a U-shaped bail, the intermediate portion 43 of which extends across the front face of the abutment cup 20 and is provided with a central opening for the passages of the spout 22. The adjacent portions of the side bars 32 are pref-

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erably curved transversely and have a snug engagement with the rim of the cup 20. It has also been found convenient to secure the rear positioning cup 11 to the handle by outward flanges 19 on the handle which abut and are secured to the rear face of the cup, and to attach the side bars 31 by bending inwardly their rear ends so that they lie alongside the rear face of the cup and occupy notches in the handle flanges 19, these inwardly bent portions at the side being welded to the cup.

It will be seen that this invention provides a clamping mechanism of comparatively simple form which may be economically manufactured and connected to the respective parts, and that the whole device comprises a comparatively light skeleton gun adapted for very quick mounting of the cartridge and the equally quick discharge thereof when the contents have been expelled.

I claim:

The combination of a handle, a forwardly facing cup carried thereby and adapted to form a seat for the rear end of a cartridge, a pair of side bars arranged in spaced parallel relation and having their rear ends secured to the handle, said bars extending across the sides of and substantially coplanar with the horizontal axis of the cup and projecting forwardly therefrom, a cup adapted to engage the front of the cartridge, a pair of side bars arranged in spaced parallel relation and attached to and extending substantially coplanar with the horizontal axis of the front cup, said last mentioned pair of side bars projecting rearwardly from the front cup and lying alongside of the forwardly extending pair of side bars, means slidably guiding the forwardly extending bars on the rearwardly extending bars, a scoop-shaped lever adapted to overlie the top of the cartridge when positioned between said bars, said lever having two spaced depending arms pivoted to the respective forwardly extending side bars, and a pair of links pivoted to the lever at opposite sides thereof and extending forwardly therefrom and pivoted at their front ends to the rearwardly extending side bars, said lever and link comprising a toggle device for drawing said front cup against the forward end of the cartridge between said side bars.

ANNA LOUISE SHERBONDY,

Executrix of the estate of William E. Sherbondy, deceased.

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