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This invention relates to appliances for extruding plastic roofing cement, calking compound, or any other extrusable substance, from cartridges or cartridges wherein it is packed, for directing such compounds into crevices, and the primary aim is to provide an applicator that is quickly attachable to the existing cartridges, which is effective, inexpensive and so cheap to produce that the same may, if desired, be discarded with the empty cartridge when the compound has been extruded therefrom.

One of the important aims of the instant invention is the provision of an extruding applicator for calking compound cartridges that may be collapsed into a compact bundle, having a length substantially the same as the cartridge of compound with which it is to be used and of a disposable nature—all to the end that the more expensive “guns” now used, may be dispensed with and therefore, the time usually required to keep the same in condition saved.

This invention has for a further aim to provide apparatus of the aforementioned character, that is combinable with a tubular cartridge and capable of holding a nozzle in place as the manually operable extruding means is manipulated.

Other objects of the invention include specific structures and formations of parts—all of which will appear during the course of the following specification, referring to the accompanying drawings, wherein:

Fig. 1 is a perspective view illustrating the extruding applicator for calking compound cartridges, made in accordance with the present invention, and in disassembled association with one of the cartridges.

Fig. 2 is an enlarged longitudinal central sectional view through the applicator and cartridge.

Fig. 3 is a cross sectional view taken on line III—III of Fig. 2; and

Fig. 4 is a fragmentary side elevational view illustrating the applicator in use with a type of cartridge different from that illustrated in Figs. 1 to 3 inclusive.

It is presently the general practice of the trade to employ relatively expensive, ruggedly made and involved “gun” mechanism for receiving conventional cartridges of calking compound and for extruding their contents. Under certain conditions where knocked-down buildings, for example, are to be erected in army camps or remote parts of the country, a large amount of calking compound is needed and no convenient way is present for the aforesaid expensive guns to be returned for re-use— it is, therefore, one of the essential elements of this invention to meet the problem of supplying an inexpensive applicator that may be compactly shipped with the conventional cartridge and discarded after the contents thereof has been applied.

The preferred form of the invention is illustrated in the accompanying drawing where like reference characters designate similar parts throughout the several views.

The conventional tubular cartridge or carton 10 is well known in the trade. One of the end walls 12 thereof is provided with lines of weakness 14, which define an area that is easily punched from the condition shown in Fig. 1, to allow the escape of compound 16 through the perforation thus created. The opposite end wall of cartridge 10 is in the nature of a piston or closure 18 having a skirt 20 frictionally engaging the inner annular surface of cartridge 10 when the cartridge is originally packed for use as well as during the time the compound is being extruded.

The applicator per se includes a tie-member 22 in the nature of a U-shaped body, the free ends whereof are turned inwardly toward each other and formed as at 24 to engage a part of cartridge 10, as will hereinafter be more fully set forth. The height 26 of member 22 is offset to establish shoulders 28 and to receive a nut 30 threaded upon rod 32. Rod 32 is freely slideable in a centrally disposed aperture formed in the offset portion 28.

A handle 34 is presented by forming a portion of rod 32, as illustrated in Figs. 1 and 2. This handle becomes a grip for the operator.

The end of rod 32 opposite from handle 34 has a head 36 rotatably mounted for engagement with movable wall 18. The end of rod 32 which engages head 36 is reduced in diameter to create a neck 38 and after head 36 has been fitted thereover, the end of rod 32 is peened as shown and to allow freedom of movement on the part of head 36 about the axis of rod 32.

When a cartridge or a carton, such as illustrated in Fig. 1, is supplied with the applicator just specified, an additional part is included. This part comprises a nozzle 40 having an annular flange 42 and a head 44. Flange 42 is positioned intermediate the ends of nozzle 40 and is substantially the same size as end wall 12. Head 44 is used to form the perforation in wall 12 when the sharpened end thereof is forced against the line of weakness 14. Wall 12 is of thin material, will bulge inwardly when nozzle 40 is forced to the position shown in Fig. 2; and will thereafter assume the position behind the portion of greatest diameter on head 44—thus nozzle 40 will not accidentally pull from place when the assembly is being employed to force compound 16 through nozzle 40.

The inturned ends 34 of member 22 overlie the marginal edge of flange 42, and as rod 32 is turned about its axis, nut 30 will rest against the bight of member 22 and not only draw flange 42 against the outer face of wall 12, but will force head 36 against the movable end wall 18 to extrude compound 16.

In the form of the invention illustrated in Fig.
4. carton or cartridge 50 is a tubular body having a cap 52 over one end thereof and toward which a movable wall, similar to wall 10, is forced. A nozzle 54 integral with cap 52 serves as a means for directing the compound into the crevice to be calked. Member 22 is fitted on cartridge 50 in the same manner as illustrated in Fig. 2, to ensure rigidity and a clamping effect when rod 32 is manipulated.

The length of rod 32 is substantially the same as the length of cartridge 10 and member 22. It is possible, therefore, to package the parts when article 10, 22 and 32 are in side-by-side condition. The material from which member 22 is created is inexpensive, plentiful, and of little value. After the compound 16 has been forced from one of cartridges 10, the cartridge may, therefore, be discarded where construction work is being done in parts of the country where it is impractical to ship the applicator back to a point of origin for re-use.

It will be noted in Fig. 2 that member 22 is longer than the carton 10 to provide a space for the fingers of the operator. Thus, when the carton 10 first is inserted, rod 32 may be moved toward closure 18 until nut 30 is out of engagement with shoulders 28. As continued inward pressure is applied to rod 32, nut 30 may be moved along rod 32 by the operator until the head 35 engages the wall 10. Speedy manipulation is, therefore, insured without the employment of expensive mechanism. This feature is particularly advantageous when partially filled cartons are to be reinserted, and it also facilitates speedy movement of the nut 30 on the rod 32 when an empty carton is to be replaced by a full one, obviating the slow process of turning handle 34 outwardly to its point of beginning.

In practice, some dozen or so cartons are shipped with a single applicator, and, since it is easy and convenient to transfer the applicator from one cartridge to another, no time is lost and all the compound is forced from each cartridge as needed. No waste is experienced not only because of the quick interchangeability of the applicator, but because of the way in which it may be manipulated.

The flow of compound 16 may be stopped as soon as the exact desired amount is extruded from nozzle 40 or 54, as the case may be. The internal pressure is reduced to stop the flow of compound 16 by merely reversing the direction of rotation of rod 32 from that used to extrude the compound. One-half turn is sufficient.

Nozzles 40 or 54 may be formed to present specific shapes and can be created of any material desired. Temporary durability is all that is necessary. These nozzles are, of course, re-usable and, like the remaining parts of the applicator, not useless after a single employment with a cartridge. Several cartridges of compound may be applied with the device made in accordance with the concepts of this invention.

The pitch of screw-threads on rod 32 may be varied to suit conditions and screw-threads, or other means of attachment may be employed at head 44.

Obviously, the invention may be embodied in applicators having appearances different from those illustrated, and therefore, it is desired to be limited only by the spirit of the invention and scope of the appended claims.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:

1. An extruding applicator for caulking compound cartons having a fixed perforated end wall and an end wall movable upon application of pressure to force compound through the perforation of the fixed end wall, said applicator comprising a substantially U-shaped tie member having an offset portion at the bight thereof to present a pair of opposed shoulders, and having an opening therein through said offset portion; a manually operable, pressure exerting rod slidably mounted in said opening; a head on one end of said rod engageable with said movable end wall; a nut on the rod for driving the head into the carton upon rotation of said rod when the nut is between said shoulders; and a flanged nozzle fitted into the perforation of the fixed end wall, the free ends of the legs of said tie member being inturned, the carton being disposed between said inturned ends and the bight of said tie member, said ends holding the flanged portion of the nozzle against the fixed end of the carton when said head is against the movable end thereof, said nozzle being separable from the tie member and having the flange disposed intermediate the ends thereof, movement of said movable end wall serving to draw one end of the nozzle through the fixed end wall of the carton, said one end of the nozzle being sharpened and having a portion of increased diameter for holding the nozzle against displacement when said portion thereof is in the carton.

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