Jan. 24, 1956 W. J. S. EKINS 2,732,102

CAULKING GUN

Filed Nov. 29, 1951 4 Sheets-Sheet 1

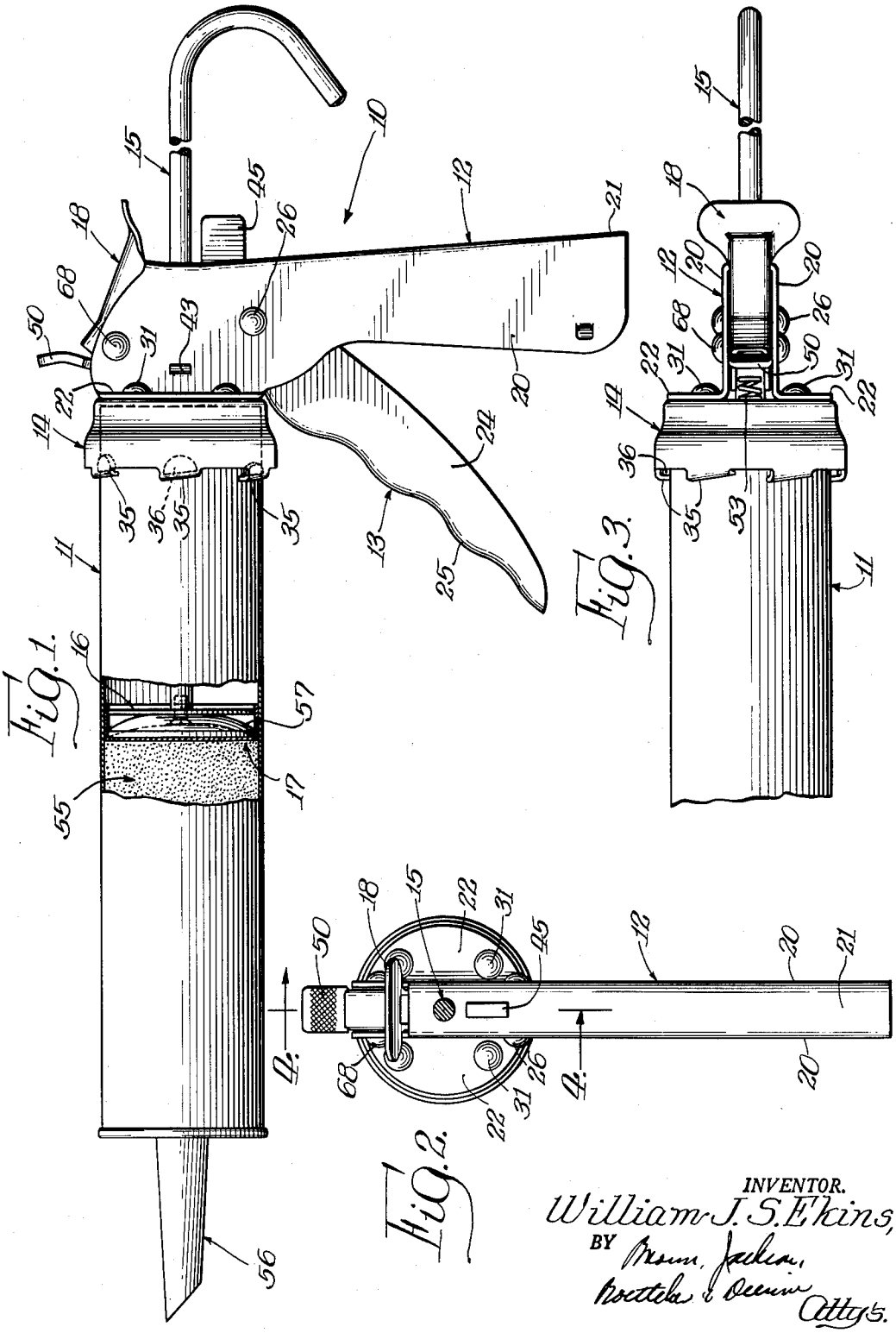


Fig. 1.

Fig. 3.

Fig. 2.

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CAULKING GUN

Filed Nov. 29, 1951 4 Sheets-Sheet 2

Fig. 4.

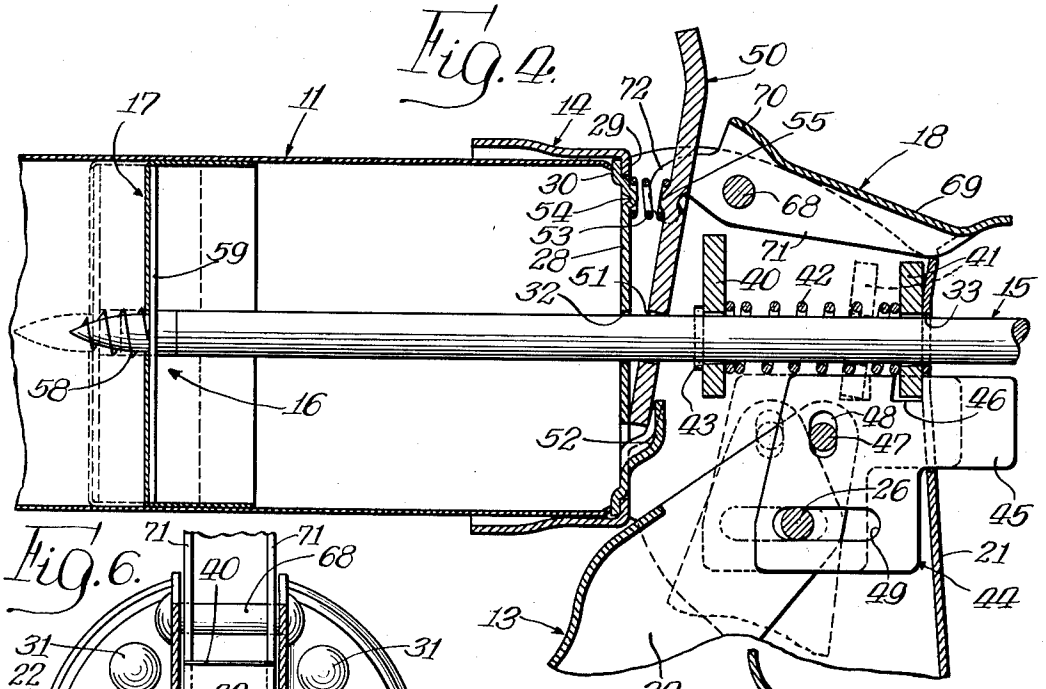


Fig. 6.

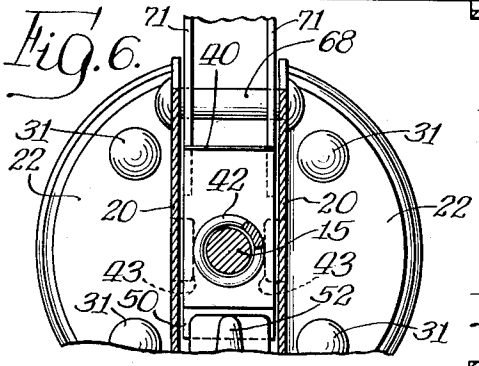
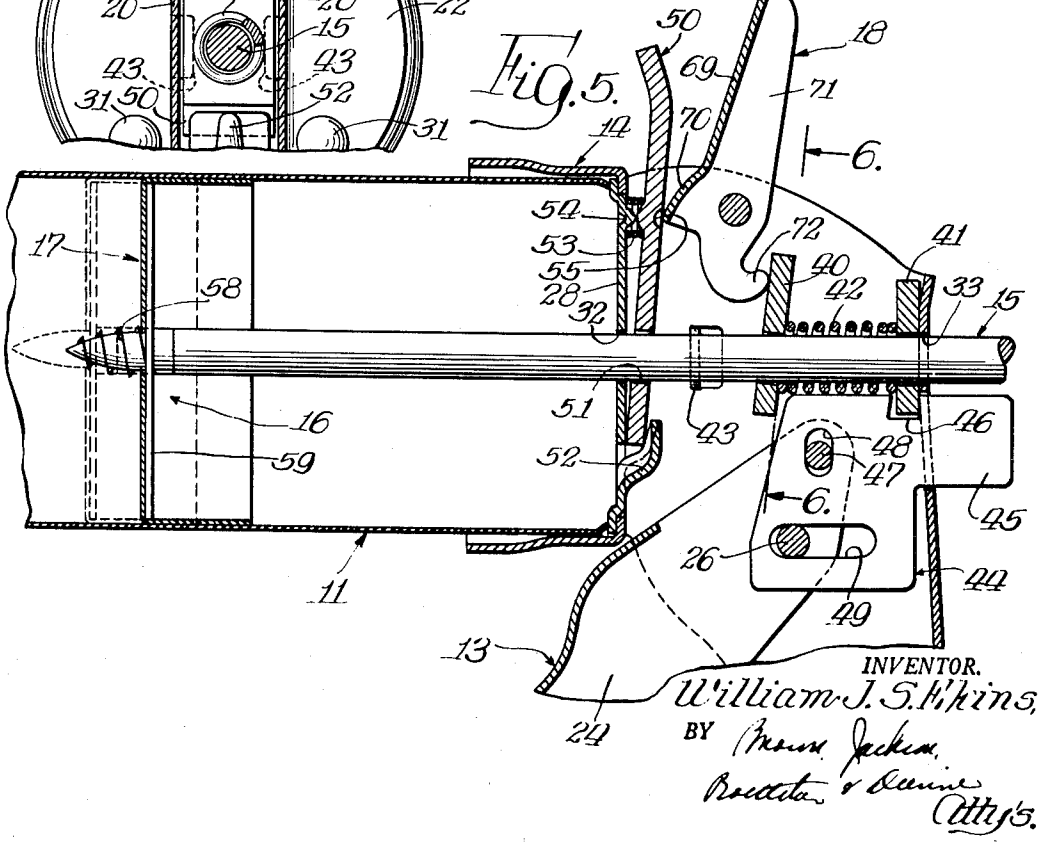


Fig. 5.



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CAULKING GUN

Filed Nov. 29, 1951 4 Sheets-Sheet 3

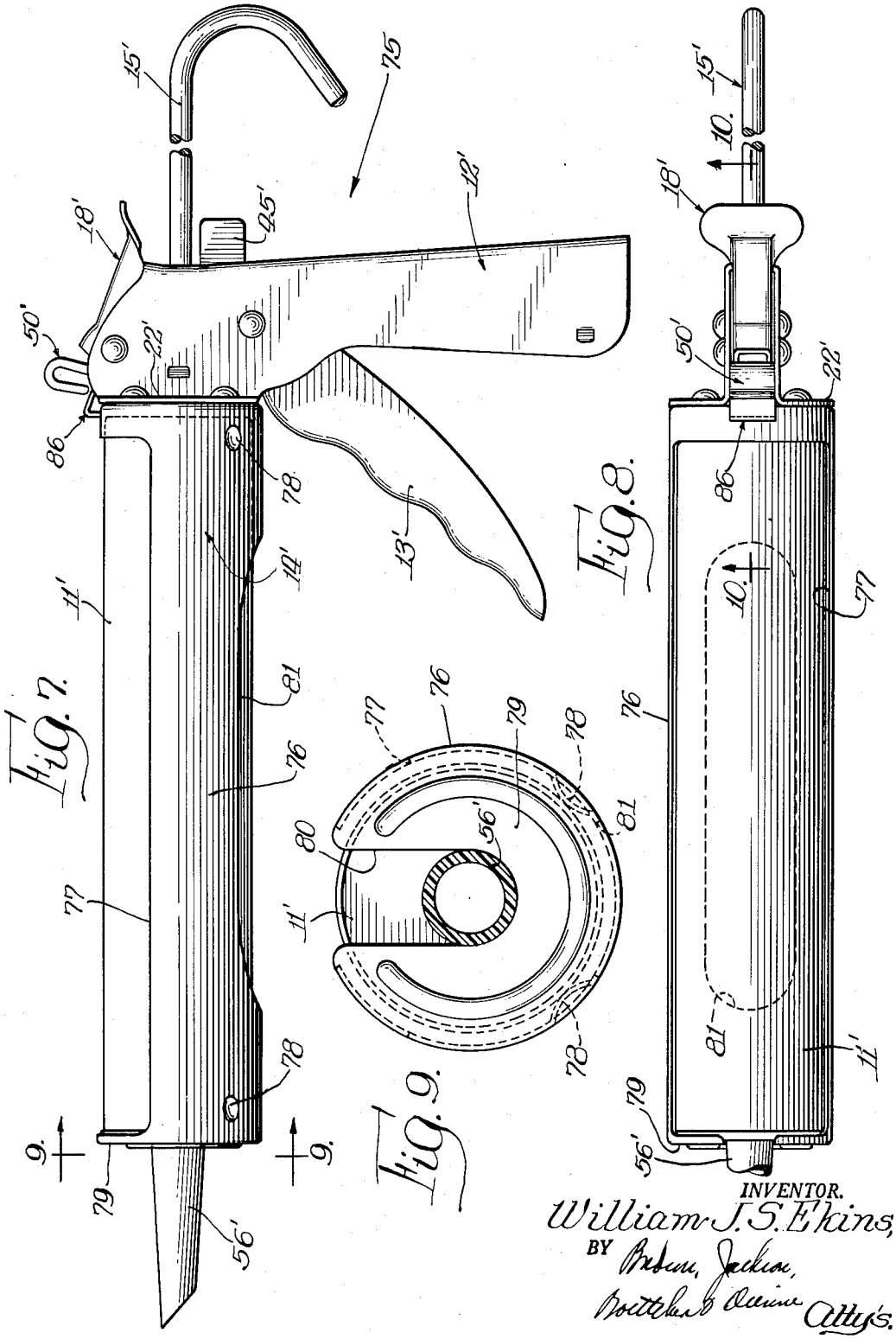


Fig. 7.

Fig. 8.

Fig. 9.

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CAULKING GUN

Filed Nov. 29, 1951 4 Sheets-Sheet 4

Fig. 10.

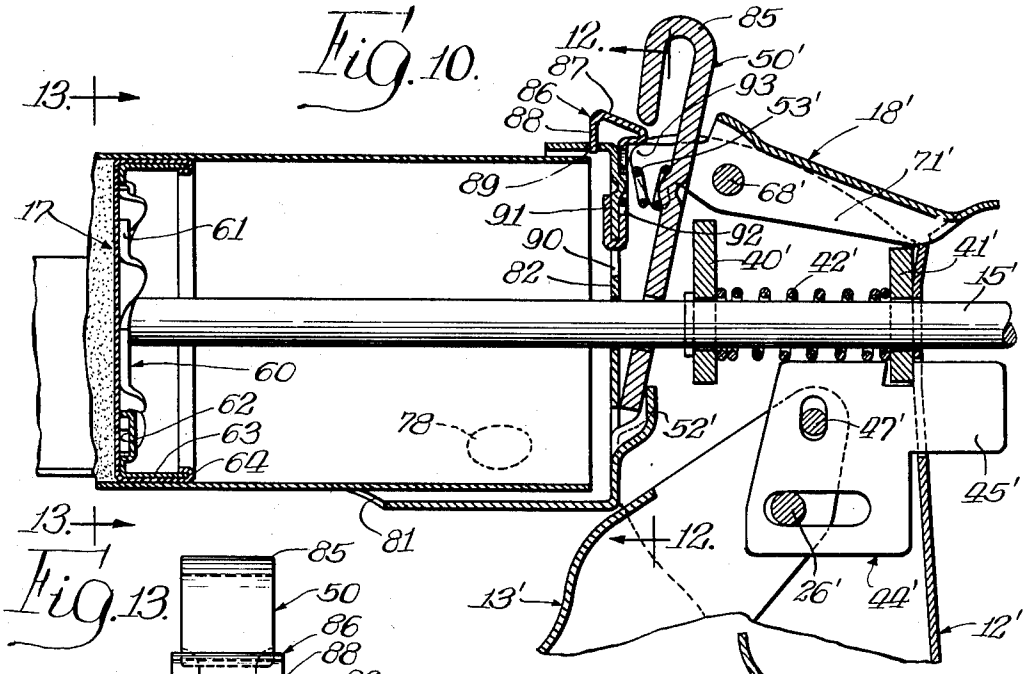


Fig. 13.

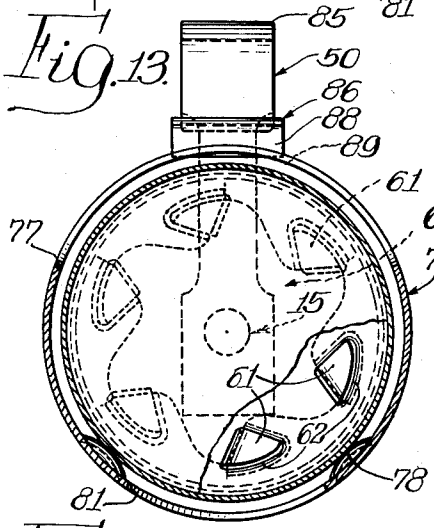


Fig. 12.

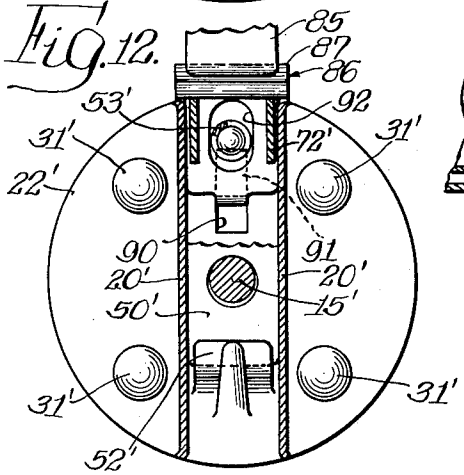
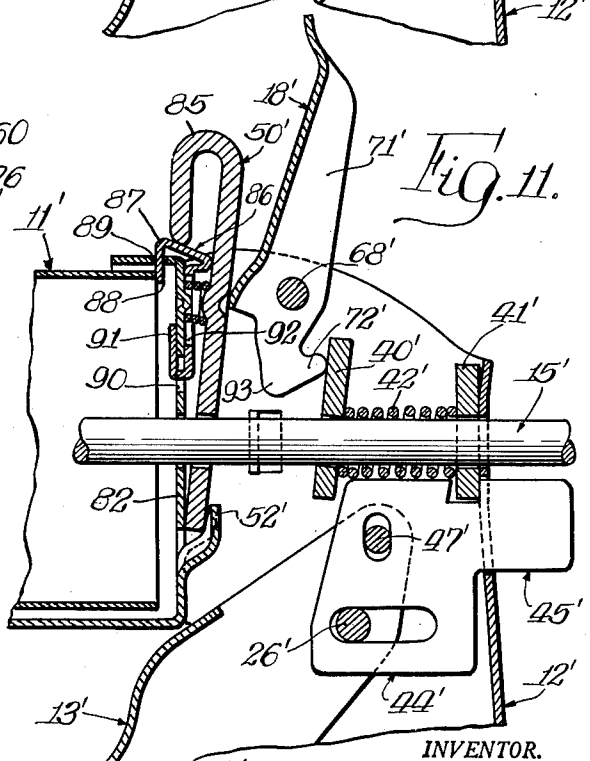


Fig. 11.



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United States Patent Office 2,732,102 Patented Jan. 24, 1956

2,732,102

CAULKING GUN

William J. S. Ekins, Garfield Heights, Ohio

Application November 29, 1951, Serial No. 258,788

8 Claims. (Cl. 222—327)

My present invention relates generally to caulking guns and more particularly to an improved construction therefor whereby means is provided for progressively actuating a piston and plunger into and out of a cartridge or container carrying a body of caulking or like plastic material, whereby the movement of the piston and plunger in one direction pressurizes the caulking material within the container for feeding the same through a suitable extruding nozzle and the retrogressive or reverse movement of the piston and plunger provides a means for quickly relieving the pressure on the caulking material thereby to stop the feeding operation.

Heretofore caulking guns have embodied certain variations of a progressively movable plunger means for extruding or pushing caulking compound from a container or cartridge whereby slow oozing emission of the caulking material from a feeding nozzle end of the cartridge is effected. However, it has been a serious fault of prior caulking guns, that having once pressurized the caulking material within the cartridge, no ready means for relieving the pressure from the caulking material to stop the oozing thereof from the cartridge has been available. As a result much waste has been encountered, in the use of such caulking guns, in that having once started to feed the caulking compound from the storage cartridge the oozing thereof from the cartridge persists until the pressure effected thereon by the feeding piston means has dissipated itself, irrespective of the desires of the operator.

Briefly, I have provided a new and improved feeding mechanism for progressively actuating the gun's pressurizing piston and plunger in one direction to accomplish the feeding of caulking compound, or the like, from a storage container and for retrogressively reversing the feeding movement of the plunger and piston thereby to effect an immediate release of the pressure on the caulking compound and stop the feeding function as desired.

It is the primary object of my present invention to demonstrate a caulking gun in which means is provided for progressively moving a pressurizing piston and plunger in two directions as desired; movement of the plunger in one direction serving to effect pressurization of a body of caulking compound, or like material, stored within a cartridge or container, for feeding the same from the cartridge, and movement of the plunger in an opposite direction serving to release the pressure on the caulking compound material to stop the feeding thereof from its storage container.

It is a further object of my invention to disclose a new and improved caulking gun useful with a detachable or throw-away caulking compound storage cartridge or the like, in which means is provided for pressurizing and depressurizing the material within the throw-away cartridge to start and stop the extrusion of the compound from the cartridge, according to the controlled movement of the feeder plunger means as desired.

The above and further objects and features of my invention will become apparent to one skilled in the art from the following description and specifications and with reference from time to time to the accompanying drawings.

In the drawings:

Figure 1 is a front elevational view, with parts thereof broken away in cross-section, demonstrating a first preferred embodiment of my invention;

Figure 2 is an end elevational view of the caulking gun shown in Figure 1, looking at the right end thereof as viewed in Figure 1;

Figure 3 is a partial top plan view of the caulking gun illustrated in Figures 1 and 2;

Figure 4 is a partial enlarged front elevational view, in cross section, taken substantially along line 4—4 of Figure 2 and showing in broken away sectional view the working parts of my new and improved feeder means;

Figure 5 is another partial, sectional view, similar to Figure 4, demonstrating the use of my retrogressive feeder means for retracting the feeding plunger associated with my caulking gun of Figure 1;

Figure 6 is a partial enlarged end view, in cross-section, taken substantially along line 6—6 of Figure 5 and looking in the direction of the arrows;

Figure 7 is a front elevational view, similar to Figure 1, showing a second alternate species of caulking gun embodying the features of my present invention;

Figure 8 is a top plan view of the caulking gun demonstrated in Figure 7;

Figure 9 is an end elevational view demonstrating the nozzle end of the gun illustrated in Figure 7 and taken substantially along line 9—9 of that figure, looking in the direction of the arrows;

Figure 10 is an enlarged partial front elevational view in full cross-section taken substantially along line 10—10 of Figure 8 and demonstrating the feeder means associated with the alternate species of caulking gun demonstrated in Figure 7;

Figure 11 is another partial front elevational view in cross-section, similar to Figure 10, demonstrating the positioning of the elements of the feeder mechanism for retrogressive movement of the plunger means associated with my caulking gun and the actuation thereby of a cartridge back-stop means associated with the species of gun illustrated in Figures 7 through 10;

Figure 12 is an end elevational view in partial cross-section taken substantially along line 12—12 of Figure 10 and looking in the direction of the arrows therein; and

Figure 13 is an enlarged end elevational view, taken substantially along line 13—13 of Figure 10, and showing the features of a new and improved attachment means for securing my caulking gun feed rod to the plunger of the throw-away cartridge used with the species of caulking gun demonstrated in Figure 7.

As will be recognized from the drawings, two embodiments of my invention are herein illustrated wherein the features of my new and improved feeder means appear, namely the gun as demonstrated in Figures 1 through 6 and the modified gun shown in Figures 7 through 13 of the drawings. For the sake of convenience and clarity of understanding, I shall first describe in detail the features of my caulking gun as illustrated in Figures 1 through 6 of the drawings wherein the general features of my invention are embodied.

Turning now to Figures 1 through 3 of the drawings, it will be recognized that a caulking gun, indicated generally at 10 therein, is of a type for use with a throw-away cartridge 11 which constitutes the barrel portion of the gun and embodies certain features as disclosed in my co-pending application Serial No. 171,100 filed June 29, 1950, and now abandoned.

The gun 10 includes a handle member 12, a trigger member 13, a rotatable cartridge connector 14, a plunger feed rod means 15, plunger connective means 16 for connecting the outer end of the feed rod with a plunger 17

disposed internally of the cartridge 11, and a feed stop means 18.

The handle member 12, as shown in Figures 1 and 2, is rolled or bent into a suitable channel shape to form a pair of side walls 20—20 commonly interconnected by a curved rear wall 21; the two side walls lying in parallel spaced relation and being free of any interconnecting front wall or partitions between their forward edges whereby the trigger member 13 may be inserted therebetween for pivotal actuation as will appear presently. Each of the side walls 20 is turned outwardly adjacent its upper end to form a pair of outwardly flared and semi-circular shaped breech flange members 22—22 to which the breech connector 14 is adjoined.

The trigger member 13, as shown, is substantially an elongated triangular member having metal side walls 24 which are formed, in a manner similar to that utilized in forming the handle member 12, so as to lie in spaced parallel relation with an innerconnection therebetween being afforded by a curved forward wall 25 suitably configured to formulate a hand or finger gripping means for the trigger. The trigger is to be inserted between the handle member side walls 20—20 for pivotal arcuate movement about an axial rivet 26 mounted horizontally through the side walls of both the handle and the trigger and turned over at its outer opposite ends in a conventional manner.

Referring now to Figures 4 through 6 of the drawings, wherein the details of the caulking gun are shown in enlarged cross-section, it will be recognized that the cartridge connector 14 constitutes a substantially cylindrical cup element which rotatably is attached to the breech flanges 22 of the handle member by means of an intervening breech connector plate 28 of a substantially circular configuration. The cartridge connector 14, is provided with an inwardly extending rearward lip portion 29, which mates with an inwardly off-set peripheral flange 30 formed on the breech connector plate 28. Rivet members 31 are inserted through the breech flanges 22, of the handle member, and the breech connector plate 28 to rigidly secure the breech plate and the handle member tightly together, but permitting the lip element 29 of the cartridge connector to be held between the flange 30 of the breech plate and the adjacent edges of the handle breech flanges 22.

It will be recognized that the structural features of the cartridge connector and its means for rotatable connection with the handle of the gun are substantially equivalent to the structure disclosed in my copending application Serial No. 195,038, filed November 10, 1950, now Patent No. 2,626,731, issued Jan. 27, 1953, and entitled "Caulking Gun Assembly," so such will not be further amplified herein other than to say that the connection described above and illustrated in the drawings permits rotational movement of the cartridge connector relative to the handle member for affording selective rotation of the compound holding cartridge as is desired. The breech plate 28 is further provided with a central circular aperture 32 which is in coaxial registering alignment with a similar aperture 33 formed in the rearward wall 21 of the handle member whereby the feed rod 15 is insertedly received through wall 21 of the handle and the breech plate member 28 and guided for rectilinear sliding movement through these two members. The cartridge connector 14 is also provided with a plurality of inwardly turned separated dogs 35 at its forward end which connect with arcuately spaced lugs 36 formed outwardly adjacent the cylindrical breech end of the cartridge 11 whereby locking connection is afforded between the cartridge connector and the cartridge by simple twisting action.

Located intermediate breech connector plate 28 and the rearward wall 21 of the handle member, within the hollow interior of the handle adjacent the upper ends of the two side walls 20—20 thereof, is to be found my new and improved means for progressively advancing the

feed rod 15 along the axial length of the caulking compound holding cartridge member 11. With specific reference to Figures 4, 5 and 6 of the drawings, it will be seen that the feed means utilized comprises front and back feed dogs 40 and 41, respectively, which are maintained in spaced apart normal parallel relation about feed rod 15 by an intermediary compression coil spring 42. Each of the feed dogs 40 and 41 constitute a substantially rectangular metal bar having an aperture located below center therein for receiving the cylindrical feed rod 15 therethrough, with the spring member 42 being mounted coaxially about the feed rod and between the two feed dogs. To provide means for maintaining the spring 42 in a compressed state between the two dogs, a pair of inwardly turned detents 43 are formed in the side walls 20 of the handle member so as to engage the forward face of feed dog 40. The feed dog 41 is then positioned adjacent the rear wall 21 of the handle member and the spring member 42 maintained coaxially about the feed rod 15 between opposed adjacent faces of the two feed dogs, as illustrated in Figures 4 and 5. The means for actuating the feed dog 41, to cause such to grip the feed rod 15 in response to depression of the trigger member 13, comprises a slide bar 44 which is formed as a substantially rectangular metal plate having a rearwardly extending ear projection 45, inserted through the wall 21 of the handle, immediately below the aperture 33 therein which receives the feed rod 15. It will be noted that the slide 44 is provided with a notch 46 along its upper edge for receiving the lower end of the feed dog 41; the notch 46 diverging slightly downwardly to permit rocking actuation of the back feed dog as will appear presently. The slide bar 44 is further connected intermediate the walls 24—24 of the trigger member 13 by means of a pin member 47 which is received through a vertically disposed upper slotted opening 48 formed through the slide bar 44. A second lower slotted opening 49 is provided in slide bar 44 below the slotted opening 48 and in transverse relation thereto for receiving the pivotal axial rivet 26 which pivotally connects the trigger 13 to the handle member 12. It will be understood that upon depression of the trigger member 13 toward the handle member 12, the upper end of the trigger member carries the slide bar 44 forwardly toward the breech plate 28 to cock the back feed dog 41 against the cylindrical sides of the feed rod 15 and carry the same forwardly to a position as represented by the dotted lines in Figure 4 of the drawings. This action serves to compress the spring 42 between the two feed dogs 40 and 41 so that upon release of the trigger the spring member 42 will return the feed dog 41, trigger 13 and slide bar 44 to their full line or non-operating position, as illustrated in Figure 4 of the drawings.

In order that the feed rod 15 will be maintained at its advanced position as induced by the progressive or forward feeding movement of the feed dog 41, a lock bar 50 is provided immediately adjacent the breech plate 28. The lock bar is herein displayed in its preferred form as that of a substantially rectangular metal plate disposed between the handle side walls 20, 20 and having an aperture 51 adjacent its lower end for receiving the cylindrical feed rod 15. A pivotal connection of the stop bar 50 with the breech plate 28 is provided by means of an outwardly turned projection 52 stamped rearwardly from plate 28 for receiving the lower end of lock bar 50 and supporting the same for rocking actuation. Means for maintaining the lock bar 50 in a substantially cocked position, wherein the side walls of opening 51 grip the feed rod to prevent rearward movement of the latter comprises a small compressive coil spring 53 disposed intermediate the adjacent faces of the breech plate 28 and lock bar 50. It will be noted that the spring is located and held in position by means of a small beaded projection 54 formed outwardly from the rearward face of the breech plate 28 and a similar beaded projection 55 formed on the adjacent face of stop bar 50.

It is thus seen that upon feeding advancement of the feed rod **15**, in response to depression of the trigger and forward movement of the slide bar, lock bar **50** resiliently grips the cylindrical exterior of the feed rod **15** to prevent its rearward movement after release of the trigger member **15**, thus maintaining the feed rod in its advanced position within the cartridge **11**.

At this point it should be noted that the forward or left hand end of the feed rod **15**, as viewed in Figures 4 and 5, is provided with a plunger connector means **16** for engaging the plunger means **17**, which is mounted transversely across the cylindrical interior of the cartridge **11** and constitutes a movable bulk head for preventing the escape of caulking compound through the open breach end of the cartridge. The plunger **17** is to be moved progressively along the length of the interior of the cartridge thereby to pressurize a body of caulking compound **55**, as shown in Figure 1, and cause its extrusion through a distributing nozzle **56** mounted at the muzzle end of the cartridge member **11**.

As illustrated in Figure 1, the plunger connective means **16** may take the form of a gripping suction cup, such as shown at **57** of that figure, or may be a tapered screw thread means **58** formed at the outer end of the feed rod **15** and having a supporting transverse plate member **59** therebehind for contacting the plunger member, as illustrated in Figures 4 and 5 of the drawings. When the screw type of connector is used, as shown in Figure 4, it is necessary that such be threadingly inserted through the plunger member **17** of the cartridge. A further variety of plunger connector is illustrated in Figures 10 and 13 of the drawings comprising a star connector **60** having a plurality of separated projecting fingers **61** adapted for interconnection with corresponding pocket openings **62** projecting rearwardly from the plunger member **17**, as illustrated in particular in Figure 10. With the star connector, it will be observed that the plunger member **17** of Figure 10 is fitted with an inner cylindrical cup **63** which is inserted coaxially within the cup shaped plunger member **17** and rigidly secured therewith by virtue of an inwardly rolled rearward edge **64** of the plunger **17**. The pocket openings **62** are then pressed rearwardly of the inner cup member **63** whereby an impervious wall is presented to the caulking compound, stored within the cartridge member **11**, by the wall of plunger **17** to prevent its seepage through the pocket openings associated with the inner plunger cup member **63**. The star connector **60** is to be engaged and locked with the plunger **17** by means of a twisting action which serves to permit the finger members **61** thereof to enter the pockets **62**.

Although each of the above variations in the connective means **16** for rigidly tying the feed rod **15** to the plunger means **17** is successful in its operation, it will be understood that other connective means may be utilized as well, so long as positive connection is made between the feed rod and the plunger of the cartridge whereby progressive and retrogressive movement of the plunger within the cartridge may be afforded in response to corresponding movements of the feed rod.

It will be appreciated that from the several elements and their combined relationship, as described hereabove, means have been provided for mounting a detachable cartridge to my caulking gun **10**, which in turn is provided with means for attaching a plunger feed rod positively to an internally disposed plunger associated with the compound holding cartridge and with means for progressively advancing the plunger rod with given increments of movement axially along the length of the detachable cartridge for effecting the extrusion under pressure of the caulking compound through a distributing nozzle of the cartridge.

It will be realized that having once applied pressure to the compound within the cartridge barrel by means of the feeding mechanism of my gun, such compound will remain under pressure to cause its continued extrusion or

oozing out of the cartridge nozzle unless some means is devised for relieving the compound of the pressure or force which is forcing such out of the cartridge. It is therefore very desirable to provide some type of pressure relieving means to create a more economical use of the compound by preventing its unwanted exit from the cartridge during those intervals when the gun and cartridge are put away for storage or are temporarily out of use.

To this end I have provided my feed stop means or lever **18** and its associated linkage, as I will now describe, whereby I am enabled to retract or retrogress the forward feeding movement of the feed rod **15** thereby to withdraw the plunger means **17** from the compound holding cartridge **11** and thus relieve the feed pressure on the caulking compound, thereby to stop its extrusion from the cartridge. As will be recognized from an inspection of Figures 4, 5 and 6 of the drawings, the feed stop lever **18** is mounted at the upper end of the handle member **12** for vertical arcuate actuation about a transversely disposed pivot axle member **68** which comprises a rivet turned over at its outer ends outwardly of the handle side wall members **20**, as with the axle rivet **26** utilized for pivotally mounting the trigger member **13**. The feed stop lever **18** further comprises an upper wall **69**, the rearward end of which is suitably formed to provide a thumb engaging means and the forward end of which is turned upwardly to provide a lever projection **70**. The stop lever is further provided with a pair of parallel separated or bifuracted side walls **71**, **71** through which the pivot axle **68** is inserted for connection with the handle member **12**. The extreme forward end of the stop lever is formed so that each of the side walls **71** thereof terminate in a cam arm portion **72**, which is illustrated herein as being somewhat hook-shaped and which cam arms are provided for engaging the front feed dog **40**, as will appear presently. The cam arm portions are further mounted to straddle the lock bar **50**, one on either side thereof, as illustrated in Figure 4, to avoid interference with their arcuate movement.

With the feed stop lever in its Figure 4 position, actuation of the trigger member **13** serves to progress the feed rod **15** forwardly along the axial length of the compound holding cartridge **11** and the lock bar **50** maintains the feed rod in its progressively advanced positions as described heretofore. However, with movement of the feed stop lever **18** to its Figure 5 position, or vertically upward about the pivot axle **68**, it will be seen that the lever projection **70**, formed at the forward end of the upper wall thereof, engages the lock bar **50** to force the same to a substantially vertical upright position against the compressive force of the small spring member **53**, thus releasing the feed rod **15** from the gripping action of the lock bar. The two cam arm portions **72** simultaneously move arcuately downward to engage the forward feed dog **40** to cant the same out of its normal vertical position, against the detents **43** in the handle member **12**, causing this dog to bite into the feed rod **15** and carry the same rearwardly against the force of spring member **42**. This action, of course, retrogresses or withdraws the feed rod and the associated attached plunger means **17** rearwardly from the compound within the storage cartridge **11**, releasing the feeding pressures thereon and thus stopping the compound's oozing or extrusion from the nozzle of the cartridge. The continued upward and downward movement of the feed stop lever of course will progressively retract the feed rod from the cartridge **11** with spring **42** moving the dog **40** along the rod **15** upon release of the stop lever **18**. However, a more rapid withdrawal of the feed rod and plunger from the cartridge may be effected by manually pressing the lock bar **50** to a substantial vertical position, or its position as illustrated in Figure 5, wherein such releases the feed rod **15**, so that the latter may be withdrawn manually from the cartridge **11** with a rearward pulling action. This latter function is possible mainly by virtue of the fact that the spring member **42**, interposed between the feed dogs **40** and **41**, and the slide

bar 44, serve to maintain the feed dogs in a substantially parallel position so that neither of the feed dogs normally engage or grip the feed rod until actuated either by the trigger member 13 or the feed stop lever 18, thus permitting withdrawal of the feed rod manually, providing locking engagement thereof when the lock bar 50 is released.

Turning now to Figures 7 through 13 of the drawings, I have therein illustrated an alternate style of caulking gun, indicated generally by numeral 75, which embodies essentially identical features to that of the gun 10 heretofore described, having a handle means 12', trigger means 13', a feed rod 15', and a feed stop means 18'. However, it immediately will be appreciated that the cartridge connector 14' of the modified form of gun 75 differs substantially from the cartridge connector 14 related to gun 10 of Figure 1. Consequently, the description of gun 75 will be treated briefly herein with the exception of the connector means 14' thereof and the elements directly related thereto; the remaining portions of the gun being substantially identical to the corresponding elements of the gun 10 heretofore described and illustrated in Figures 1 through 6 of the drawings.

The alternate gun 75 of Figure 7 is of a type adapted for use with a throw-away metal cartridge 11' similar to that used with gun 11. However, it will be seen that the mode of attachment of the cartridges in the two guns is entirely different, gun 10 using a quick connecting twisting action while gun 75 utilizes a drop-in style of loading for the cartridge. This drop-in loading of the cartridge in gun 75 is accomplished by means of the modified cartridge connector 14' which constitutes a substantially cylindrical barrel 76 having substantially one-half of its cylindrical walls cut away at its upper side, as at 77, to afford insertion of the cartridge 11' therewithin. Inwardly projecting embossments 78, 78 are also provided adjacent each end of the barrel portion 76 for spacing the cartridge radially inwardly of the cylindrical interior walls thereof. The forward end of the barrel 76 is substantially closed over by a circular front wall 79 having a vertically disposed slot 80 communicating with the center and upper edge thereof for receiving a nozzle 56' of the cartridge 11', as shown specifically in Figure 9 of the drawings. A bottom opening 81 is also cut out of the cylindrical barrel 76 for convenience in pushing the cartridge 11' out of the barrel when unloading the same. The rearward or breech end of the barrel 76 is attached integrally to the breech flange members 22' of the handle member 12' by means of a transversely disposed rear wall 82, which is similar to the breech plate 28 utilized in gun 10, except that such is integrally formed with the barrel portion 76. The wall 82 is fastened to the breech flanges 22' by suitable rivets 31' which are turned over at their opposite ends outwardly of the breech flanges 22' and inwardly of the transverse rear wall 82 of the barrel member 76, substantially as shown in Figure 12 of the drawings. It should be noted that the breech connector 14' of the gun 75 is not rotatable, due to its rigid attachment to the handle member as described above, unlike the breech connector 14 of gun 10. Consequently, rear wall 82 carries the fulcrum projection 52' upon which the lock bar 50' is mounted for arcuate actuation in gripping the feed rod 15 of the gun.

The feeding means disposed within the handle member 12' is identical to that described in association with gun 10 of Figure 1 having a corresponding trigger member 13' pivotally connected between side walls 20', 20' of the handle member 12' by an axle rivet 26'. A slide bar 44', with its ear projection 45', is mounted connectively by pivot pin 47' to the trigger member 13' for actuating a back feed dog 41'. A front feed dog 40' is separated and held in spaced parallel relation to the rear feed dog 41' by means of a feed dog spring member 42'. A feed stop means or lever 18' is mounted, as in gun 10, such having a configuration and construction similar to the feed stop lever 18 described heretofore. However, the lock bar 50' of the modified gun 75 has

a turned over upper end 85 which is adapted to actuate a back stop member 86 for preventing rearward movement of the cartridge member 11' within the barrel member 76 when withdrawing the feed rod 15' by actuation of the feed stop lever or the manual withdrawal of the feed rod. An inspection of the cross sectional Figures 10 and 11 will demonstrate that the back stop 86 comprises a substantially rectangular metal plate having an inclined upper end 87 which is to be contacted by the lower end of the bent over portion or upper end 85 of the stop bar member 50' to force the back stop downwardly upon upward vertical arcuate actuation of the feed stop lever 18' to reach its Figure 11 position. It further will be seen that a downwardly bent lip 88 is provided at the leading edge of the upper end 87 of the back stop; such being received through a slotted opening 89 formed in the upper cylindrical wall of the cartridge holding barrel member 76. The lower end of the back stop is likewise suitably inserted through a slotted opening 90 formed in the rear wall 82 of the cartridge connector barrel 76 and thence turned reentrantly upward to form an inner guide wall 91 lying inwardly of the rear wall 82 of the barrel 76. In this latter connection it will be noted that the vertical length or height of the guide wall 91 is greater than the vertical dimension of opening 90 in rear wall 82 whereby the back stop member is maintained connectively with the rear wall 82 and permitted to slide vertically relative thereto along the slotted opening 90. A suitable vertical slot opening 92 is also provided in the back stop member 86 for receiving one end of the spring member 53' which is positioned intermediate the lock bar 50' and the rear wall 82 of the barrel 76 for maintaining the lock bar in canted engagement with the feed rod 15'. It further will be recognized that the sidewalls 71' of the feed stop lever 18', in addition to arm portions 72' which contact the forward feed dog 40', are each provided with a camming projection 93, for engaging the backstop 86 beneath its upper head end 87 to provide a convenient means for raising the same vertically upward, for purposes which will appear presently.

The provision in the gun 75 of the modified cartridge connector means 14', which receives a compound holding cartridge 11' through a drop-in loading action, necessitates sufficient longitudinal clearance or dimensional augmentation of the length of the barrel 76, over the length of the cartridge member 11', to permit the insertion therein of the latter. Therefore, it will be appreciated that upon actuation of the feed stop lever 18' to withdraw feed rod 15', it is necessary to maintain the cartridge member 11' adjacent the forward wall 79 of the barrel member to prevent disengagement thereof from the barrel 76. Therefore, I have provided the backstop member 86 which, as will be recognized from Figure 11 of the drawings in particular, automatically is depressed downwardly by upward vertical arcuate actuation of the feed stop lever 18', by contacting engagement therewith of the downwardly turned upper end 85 of stop bar 50'. It will be seen that the forward lip 88 of the backstop is designed to nest behind the rearward extremity of the cartridge member 11' thereby to prevent its rearward movement within the barrel member 76 and thus maintaining its position adjacent the front wall of the barrel member as desired.

To permit sufficient longitudinal clearance for the unloading of an empty cartridge 11' from the barrel member 76, the cam projection 93 is provided on each of the sidewalls 71' of the feed stop lever 18' for engaging the underside of the upper head end 87 of the backstop member. These cam projections serve to force the backstop vertically upward and out of the longitudinal path of movement of the cartridge member 11' when lever 18' is depressed sufficiently, thus permitting sufficient clearance between the cartridge and the cartridge barrel 76 to permit the removal of the cartridge.

Thus it may be seen that I have illustrated and described two forms in which the features and improvements of my invention may appear and whereby I have accomplished a new and useful caulking gun or similar device wherein a means is provided for progressively actuating a feed rod in a given direction, such as along the axial length of a compound holding cartridge as illustrated, and additional means is provided for reversing the progressive actuation of the feed rod for withdrawing the same from the compound holding cartridge or the like, thereby to release the compound within the cartridge from the feeding pressure exerted by the feed rod. It of course will be appreciated that I do not wish to be limited to the specific embodiment of my invention herein illustrated since various changes, modifications, and substitution of equivalents may be made therein without departing from the spirit and scope of my invention. It is therefore my intention that my invention be limited only as appears in the following appended claims.

I claim:

1. In a caulking gun having a means for progressively moving a pressure transmitting plunger and feed rod along the interior of a compound storing container to effect the extrusion of such compound from such container, means for progressively withdrawing the plunger from the compound stored within the container thereby to stop its extrusion from the container, comprising in combination, a feed dog mounted about the feed rod, a pivotal lever engageable with said feed dog for causing the same to grip the feed rod and move the latter therewith away from the container, a spring means for advancing such feed dog along the feed rod in opposition to its movement by said lever, and a lock bar for gripping and holding the feed rod stationary during the advancing movement of said feed dog.

2. A caulking gun for dispensing plastic caulking material, or the like, stored in a detachable cartridge having an extruding nozzle at one end and a movable plunger sealing over its opposite end, which plunger is movable axially along the interior of the container, comprising in combination, a handle member, a feeding trigger member pivotally connected at one end to said handle, a feed rod slidably mounted in said handle for rectilinear movement therethrough, cartridge connector means mounted on one side of said handle and coaxially of said feed rod, for detachably connecting the cartridge to said handle; means on one end of said rod, adjacent the cartridge, for rigidly, but detachably connecting said one end thereof to the plunger within the cartridge, a pair of feed dogs mounted in parallelism within said handle, each of said dogs having an aperture formed therein for receiving said feed rod therethrough, a spring member mounted coaxially about said feed rod and between said two feed dogs, for maintaining the latter in separated relation, spaced abutments on said handle against which said feed dogs are pressed normally by said spring, a slide bar slidingly mounted in said handle in parallel relation to said feed rod, said slide bar having pivotal connection with the upper end of said trigger and engaging one of said feed dogs whereby depression of said trigger towards said handle serves to move said slide bar forwardly thereby engaging said one feed dog with said feed rod to progressively advance the latter into said cartridge; a stop feed lever pivotally mounted to said handle and having one end engageable with and shifting the second of said feed dogs for causing the same to grip said feed rod and progressively retract the same from said cartridge, and a lock bar, pivotally mounted within said handle and engageable with said feed rod for periodically arresting its rectilinear movement when such is not being moved in response to actuation by said trigger and said stop lever.

3. In a caulking gun of the class described, the combination comprising, a hollow handle holding member, a cartridge connector means mounted on the one side of said handle and comprising a semi-cylindrical member suitable for journaling a cylindrical throw-away compound holding cartridge, the cartridge being of lesser longitudinal dimension than said connector to afford its drop-in mounting within said connector; a movable plunger mounted within the cartridge and sealing over the rearward end thereof, a feed rod slidingly journaled in said handle and extending coaxially of said connector, connective means at one end of said rod for securing the same to said plunger, a manually actuated trigger member pivotally mounted in said handle, a feed dog engageable by said trigger member for progressively advancing said rod in one direction whereby said plunger is responsively moved toward the forward end of the cartridge to force caulking compound therefrom, a stop feed lever pivotally mounted in said handle, additional feed dog means engageable with said feed rod and actuated in response to pivotal movement of said lever for moving said rod in a second direction whereby said plunger is responsively and progressively withdrawn therewith toward the rearward end of the cartridge, and a back stop means, slidingly movable into a position between the rearward end of the cartridge and the adjacent end of said connector for preventing rearward movement of the cartridge in said connector during the progressive withdrawal therefrom of said rod and plunger.

4. In a caulking gun, a handle member detachably mounting a cartridge having a discharge at one end and a plunger slidable therein, a feed rod shiftable endwise in said handle and longitudinally of said cartridge, means for detachably securing the end of said rod to said plunger, a shiftable lock biased to accommodate advance of said feed rod and prevent withdrawal of said feed rod, means for advancing said rod, and means for simultaneously releasing said lock and shifting said rod for withdrawal thereof and of said plunger.

5. A caulking gun as defined in claim 4, wherein said last named means includes a feed dog associated with said rod and a pivoted lever having a normal inoperative position and an operative path in which it trips said lock and actuates said feed dog to impart withdrawal movement to said feed rod.

6. A caulking gun as defined in claim 4, wherein said securing means comprises a screw-threaded end portion on said feed rod.

7. A caulking gun as defined in claim 4, wherein said securing means comprises a tapered screw thread on said feed rod piercing said plunger and a plunger-engaging transverse plate behind said screw-thread.

8. A caulking gun as defined in claim 4, wherein said securing means comprises a suction cup mounted on the end of said feed rod and engaging said plunger.

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