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ANTI-DRIP CALKING GUN AND CARTRIDGE

Filed July 18, 1955

2 Sheets-Sheet 1

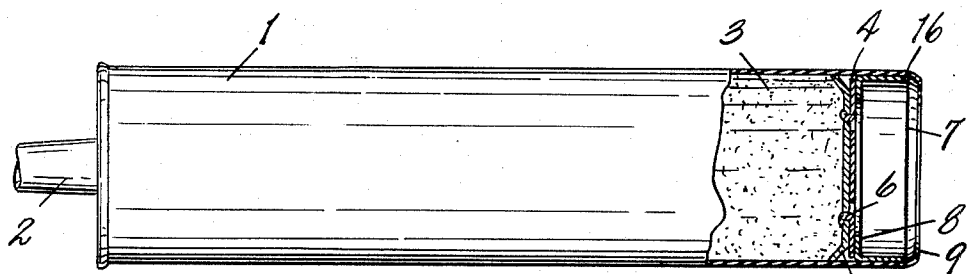


FIG. 1.

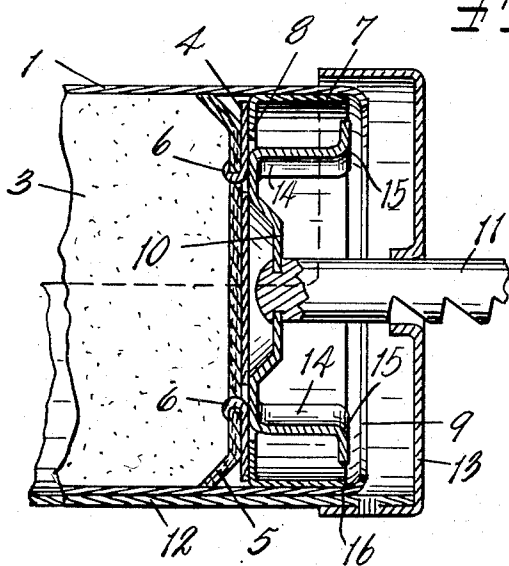


FIG. 2.

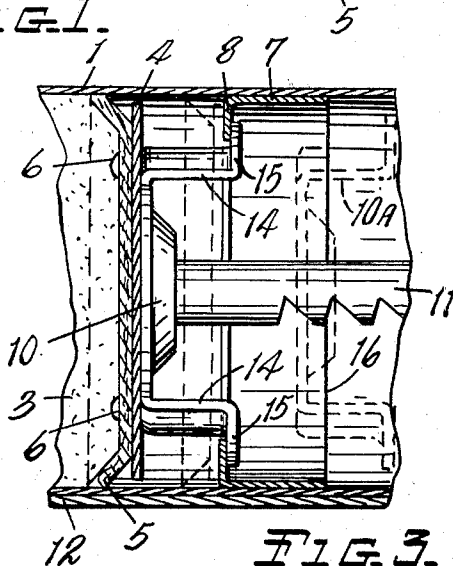


FIG. 3.

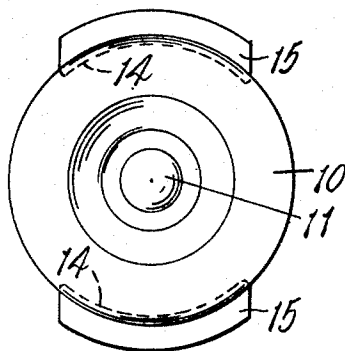


FIG. 4.

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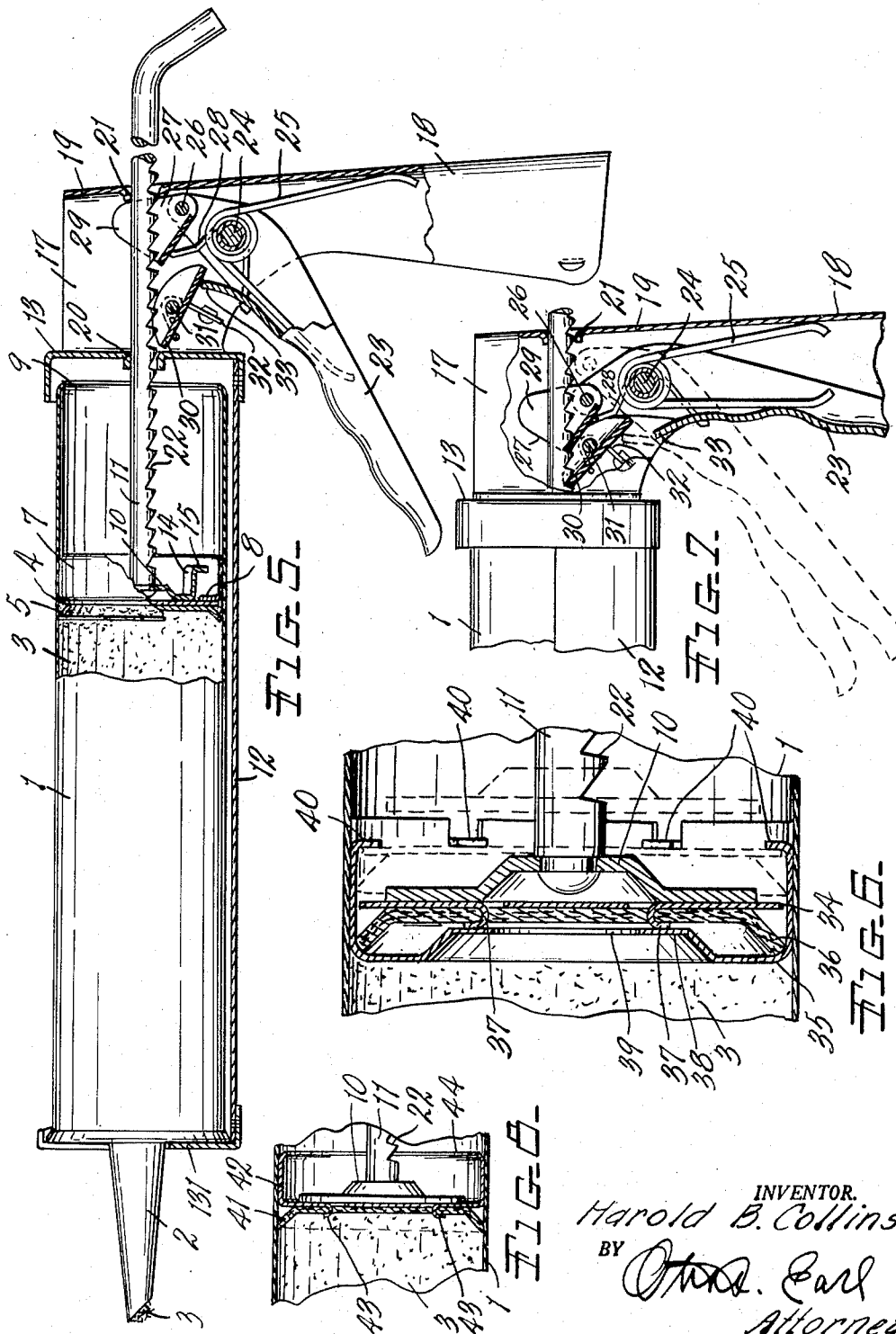
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2 Sheets-Sheet 2



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ANTI-DRIP CALKING GUN AND CARTRIDGE

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Application July 18, 1955, Serial No. 522,601

21 Claims. (Cl. 222-327)

This invention relates to anti-drip calking gun and cartridge. The principal objects of this invention are:

First, to provide a calking gun having provision for releasing the feeding pressure of the gun and a cartridge for the gun adapted to permit expansion of the calking material to prevent material from dripping from the nozzle.

Second, to provide a calking gun with a ratchet plunger and a lever operated plunger advancing dog and a locating dog wherein both dogs are arranged to be released from the shaft upon full extension of the lever to release the feeding pressure on the shaft.

Third, to provide a cartridge for a calking gun having a material feeding piston that is retractable under back pressure of the material in the cartridge having a backing member for limiting retracting motion of the piston.

Fourth, to provide a calking gun and cartridge therefor with means for releasing the pressure on the calking gun feed member and a two piece piston and follower in the cartridge that are advanced successively by the gun feed member so that the piston can retract a short distance to the follower each time the pressure on the feed member is released.

Fifth, to provide a cartridge of calking material having a piston that is automatically retractable when pressure on the piston is released.

Other objects and advantages will be apparent from a consideration of the following description and claims. The drawings, of which there are two sheets, illustrate several modifications of the cartridge and a preferred form of the calking gun in which the cartridges are adapted to be used.

Fig. 1 is a fragmentary side elevational view partially in axial cross section of a preferred form of the calking material cartridge.

Fig. 2 is a fragmentary enlarged cross sectional view of the rear end of the cartridge mounted in a calking gun in unactuated non-feeding position.

Fig. 3 is a fragmentary enlarged cross sectional view similar to Fig. 2 and illustrating the gun and cartridge in actuated material feeding position.

Fig. 4 is an end elevational view of the head of the calking gun shaft that coacts with the piston and follower of the cartridge.

Fig. 5 is a side elevational view partially in longitudinal cross section of a calking gun with the first form of cartridge operatively mounted therein.

Fig. 6 is an enlarged fragmentary axial cross sectional view through the piston and follower of a modified cartridge and the modified head of the gun associated therewith.

Fig. 7 is a fragmentary elevational view partially in cross section illustrating the feed mechanism of the gun shown in Fig. 5 in actuated feeding position.

Fig. 8 is a fragmentary axial cross sectional view through a second modified form of the cartridge cooperative with the gun shown in Figs. 5 and 7.

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Calking guns and cartridges of calking material therefore are well known. Calking materials commonly used in the cartridges and guns are semi-fluid plastic materials that are substantially compressible. Heretofore even when the pressure of the feeding mechanism of the gun was released the pressure built up in the calking material continued to force material out of the nozzle of the cartridge in undesirable dribbles that waste the calking material and create messy conditions around the work. Calking guns have been devised that will release the feeding pressure of the gun on the cartridge but these guns have required manual disengagement of the ratchet shaft of the gun independently of operation of the calking gun lever and no provision has been made for releasing the internal pressure that has been built up within the cartridge of calking material.

In Fig. 1 there is illustrated a tubular cartridge of calking material having a cylindrical body 1 with a nozzle 2 forming a discharge opening on its forward end. The calking material 3 is retained in the body by a circular piston plate or backing member 4 having a flexible sealing plate 5 secured to its forward face by means of staples or teeth 6 struck forwardly from the piston plate and crimped through the sealing plate. The sealing plate and piston plate form a piston or a compression member adapted to transmit compressive force to the calking material. In order to support the piston plates 4 and 5 in operative position the piston plate 4 is backed up by a rigid cylindrical follower ring 7 having an annular flange forming a front wall or inwardly extending projection 8 on its forward end. The rear end of the body 1 has an inwardly turned bead or rim 9 retaining the piston and follower ring within the body.

As appears more clearly in Figs. 2 and 3 the rear end of the body 1 and opening within the flange 8 of the follower ring are adapted to receive and pass the head 10 of a calking gun plunger shaft 11. When the cartridge is mounted in a calking gun having a supporting chamber wall or frame 12 and back wall 13 through which the shaft 11 extends, advancing motion of the shaft and head will first press the central portion of the piston plate 4 forwardly from the flange of the follower ring 7. The head 10 is provided with rearwardly extending arms 14 with outwardly turned ears or projections 15 on their rear ends that overlap and engage the flange 8 of the follower ring to advance the follower ring past the piston plate by a distance equal to the length of the arms 14.

The follower ring 7 is fitted tightly within the body 1 and may have a sharp rear edge 16 that tends to dig into the surface of the body 1 to prevent rearward motion of the follower ring. In any case the follower ring has sufficient frictional engagement with the body 1 to resist the internal pressure in the follower ring. When the shaft 11 and head 10 are retracted by any means to the position indicated by the dotted lines 10A in Fig. 3 the piston plate 4 and sealing plate 5 are free to retract the short distance to the flange 8 thus releasing internal pressure in the calking material 3 and preventing drip from the spout 2.

Figs. 5 and 7 illustrate a highly practical gun for effecting release of the piston of a cartridge of calking material. The gun includes a frame 17 with a handle 18 on the rear end thereof. The forwardly extending body 12 of the frame is provided with a back wall 13 and a front wall 131 to form an elongated chamber for removably receiving the cartridge. A cross piece 19 on the rear of the frame coacts with the back wall 13 in providing spaced bearings 20 and 21 for the plunger shaft 11. The shaft 11 is provided with rearwardly facing ratchet teeth 22 on its underside as is common in guns of this type.

An operating lever 23 is pivotally mounted in the

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frame on the pivot 24 in gripping relation to the handle 18. A spring 25 constantly biases the lever to forward extended position. The upper end of the lever 23 carries a pivot pin 26 on which the shaft feeding dog 27 is pivoted. A spring 28 constantly biases the dog 27 toward engaged position with the teeth 22 but ears or shoulder portions 29 on the dog are engageable with the forward end of the bearing 21 and constitute means to move the dog to disengaged position when the lever 23 is fully extended. The spring 25 is stronger than the spring 28 so as to overcome the latter and automatically effect disengagement of the dog. Pivotally supported on the frame 17 ahead of the lever 23 is a locking dog 30 supported on the pivot 31. A spring 32 constantly urges the locking dog into locking engagement with the teeth 22 but coacting release portions 33 on the lever and the locking dog engage and constitute means to move the locking dog out of engagement with the teeth when the lever 23 is fully extended.

It will be seen that the operator of the gun and cartridge has only to fully release the operating lever 23 to release the shaft of the gun. Internal pressure built up in the calking material will then force the piston plate, seal plate and head rearwardly until the piston plate engages the follower ring to prevent complete and unnecessary retraction of the piston. This expansion of the calking material prevents the material from dribbling from the nozzle.

Fig. 6 illustrates a modified form of cartridge that is cooperative with the gun. In this cartridge the piston plate 34 is mounted within the short cylindrical follower 35 rather than ahead of the follower as in Figs. 1 to 3. The piston plate has a sealing flexible plate 36 secured to its forward face by the crimping finger 37 struck from the plate but the sealing plate coacts with the interior of the follower ring to prevent rearward escape of the calking material. The piston plate 34 and sealing plate 36 act as a unit as a piston. The forward face 38 of the follower ring has a central flanged opening 39 of substantial size formed therein so that back pressure in the calking material acts through the follower ring and against the forward face of the sealing plate when the head 10 is retracted. The rear edge of the follower ring has lugs 40 struck inwardly forming projections to retain the piston plate within the follower ring and to limit retracting motion of the piston plate. As in the first form of cartridge the follower ring 35 has a tight frictional engagement within the body 1 to resist and prevent backward motion of the follower ring and the piston plate when the piston plate has been retracted into engagement with the lugs 40.

Fig. 8 illustrates a third modified form of cartridge which has the advantage of being the least expensive to manufacture but which does not give as full control of the material in the cartridge as the other forms. In this cartridge the sealing plate or piston 41 is secured directly to the forward face of the cylindrical follower ring 42 as by the teeth 43. The front face of the follower or backing ring thus takes the place of the piston plate in the other forms of the cartridge. In order to allow for expansion of the calking material after the head 10 is retracted the backing ring 42 is sized to have a frictional but movable engagement within the body 1 under the influence of back pressures created within the calking material. Further the rear edge of the backing ring is rolled inwardly as at 44 to prevent the backing ring from digging into and locking against the inside of the body. Thus the follower ring and its sealing plate are adapted to move rearwardly as far as permitted by the retracting head and as far as required for expansion of the calking material.

It is pointed out that the same gun structure coacts with equal effect and utility with the several forms of the cartridge and plunger head disclosed. In the fully extended or unactuated position of the operating lever of the gun

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both the driving dog and the locking dog are disengaged from the plunger shaft thus automatically disengaging and releasing the plunger shaft so that it can retract under the influence of compressive force built up in the calking compound.

In all forms of the cartridge disclosed the compressive force of the actuated plunger shaft and plunger head are maintained through the piston to the calking compound to feed the compound from the end of the cartridge. Advancing motion of the plunger head also advances the backing ring or member that supports and retains the piston in the cartridge. In each form of the cartridge retracting motion of the piston is permitted to accommodate expansion of the compressed calking material and to retract the plunger shaft when the feeding operation is stopped. There is thus a lost motion relationship between the plunger shaft and the calking material in the cartridge. The lost motion between the plunger shaft and the calking material is obtained by different means in the several forms of the cartridge illustrated and the examples illustrated in Figs. 2 and 6 limit expansion of the calking material whereas the example shown in Fig. 8 is not so limited.

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

1. A calking gun and cartridge therefor comprising a frame forming a chamber with a front wall and back wall, a handle on said frame, a cross piece on said frame spaced from said back wall, a plunger shaft journaled in said back wall and cross piece and having ratchet teeth formed in its underside, an elongated tubular cartridge of calking compound positioned in said chamber and having a constantly open nozzle projecting through said front wall, a cylindrical follower ring in the rear end of said cartridge having frictionally holding engagement with the wall of the cartridge and having a front wall with a flanged opening of substantial size therein, a piston plate positioned within said ring and having a flexible sealing plate on its forward face in sealing engagement with the inside of the ring, inwardly turned projections on the rear of said ring retaining said plates for limited axial movement in said ring, a head on said plunger shaft coacting with said piston plate, a lever pivoted on said frame in gripping relation to said handle and spring biased to extended position, a first dog pivoted on said lever and biased to driving engagement with said teeth on compressing motion of the lever to advance said shaft, a shoulder portion on said first dog engageable with the cross piece on said frame in the fully extended position of the lever to disengage the dog from the shaft, a second dog pivoted on said frame and biased to locking engagement with the teeth on said shaft to prevent retraction of the shaft, and coacting release portions on said lever and said second dog engageable in the fully extended position of the lever to move the second dog to shaft releasing position.

2. A calking gun and cartridge therefor comprising a frame forming a chamber with a front wall and back wall, a handle on said frame, a cross piece on said frame spaced from said back wall, a plunger shaft journaled in said back wall and cross piece and having ratchet teeth formed in its underside, an elongated tubular cartridge of calking compound positioned in said chamber and having a constantly open nozzle projecting through said front wall, a cylindrical follower ring in the rear end of said cartridge having frictionally holding engagement with the wall of the cartridge and having a front wall with a flanged opening of substantial size therein, a piston plate positioned within said ring and having a flexible sealing plate secured thereto in sealing engagement with the inside of the ring, inwardly turned projections on the rear of said ring retaining said plates for limited axial movement in said ring, a head on said plunger shaft coacting with said piston plate, a lever pivoted on said frame in gripping relation to said handle and spring biased to extended position, a first dog pivoted on said

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lever and biased to driving engagement with said teeth on compressing motion of the lever to advance said shaft, a portion on said first dog engageable with said frame in the fully extended position of the lever to disengage the dog from the shaft, a second dog pivoted on said frame and biased to locking engagement with the teeth on said shaft to prevent retraction of the shaft, and means to move the second dog to shaft releasing position.

3. A calking gun and cartridge therefor comprising a frame forming a chamber with a front wall and back wall, a handle on said frame, a cross piece on said frame spaced from said back wall, a plunger shaft journaled in said back wall and cross piece and having ratchet teeth formed in its side, an elongated tubular cartridge of calking compound positioned in said chamber and having a nozzle directed through said front wall, a cylindrical follower ring in the rear end of said cartridge having frictionally holding engagement with the wall of the cartridge and having a front wall with an opening of substantial size therein, a piston positioned within said ring in sealing engagement with the inside of the ring, inwardly turned projections on the rear of said ring retaining said piston for limited axial movement in said ring, a head on said plunger shaft coacting with said piston, a lever pivoted on said frame in gripping relation to said handle and spring biased to extended position, a first dog actuated by said lever and biased to driving engagement with said teeth on compressing motion of the lever to advance said shaft, a portion on said first dog engageable with said frame in the fully extended position of the lever to disengage the dog from the shaft, a second dog movable independently of said lever and biased to locking engagement with the teeth on said shaft to prevent retraction of the shaft, and means to move the second dog to shaft releasing position.

4. A calking gun and cartridge therefor comprising a frame forming a chamber with a front wall, a handle on said frame, a cross piece on said frame spaced from said wall, a plunger shaft journaled in said cross piece and having ratchet teeth formed in its side, an elongated tubular cartridge of calking compound positioned in said chamber and having a nozzle directed through said front wall, a cylindrical follower ring in the rear end of said cartridge having frictionally holding engagement with the wall of the cartridge and having a front wall with an opening of substantial size therein, a piston positioned within said ring in sealing engagement with the inside of the ring, inwardly turned projections on the rear of said ring retaining said piston for limited axial movement in said ring, a head on said plunger shaft coacting with said piston, a lever pivoted on said frame in gripping relation to said handle and spring biased to extended position, a first dog actuated by said lever and biased to driving engagement with said teeth on compressing motion of the lever to advance said shaft, means actuated in the fully extended position of the lever to disengage the dog from the shaft, a second dog movable independently of said lever and biased to locking engagement with the teeth on said shaft to prevent retraction of the shaft, and means to move the second dog to shaft releasing position.

5. A calking cartridge comprising an elongated tubular body having a constantly open nozzle at its front end, a cylindrical follower ring in the rear end of said cartridge having frictionally holding engagement with the wall of the cartridge and having a front wall with an opening of substantial size therein, a piston plate positioned within said ring and having a flexible sealing plate in sealing and sliding engagement with the inside of the ring, inwardly turned projections on the rear of said ring retaining said plates for limited axial movement in said ring, and a retaining rim on the back of said body retaining said ring therein.

6. A calking cartridge comprising an elongated tubular body having a nozzle at its front end, a cylindrical follower ring in the rear end of said cartridge having fric-

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tionally holding engagement with the wall of the cartridge and having a front wall with an opening of substantial size therein, a piston positioned within said ring in sealing and sliding engagement with the inside of the ring, and inwardly turned portions on the rear of said ring retaining said piston for limited axial movement in said ring.

7. A calking gun and cartridge therefor comprising a frame forming a chamber with a front wall and back wall, a handle on said frame, a cross piece on said frame spaced from said back wall, a plunger shaft journaled in said back wall and cross piece and having ratchet teeth formed in its underside, an elongated tubular cartridge of calking compound having a cylindrical body positioned in said chamber and having a constantly open nozzle projecting through said front wall, a cylindrical follower ring in the rear end of said cartridge having frictionally holding engagement with the wall of the cartridge and having a front wall with an opening of substantial size therein, a piston plate positioned within said body ahead of said ring and having a flexible sealing plate on its forward face in sealing engagement with the inside of the body, a head on said plunger shaft coacting with said piston plate through the opening in said ring, projections on said head spaced rearwardly from the face thereof to engage the front wall of said ring, a lever pivoted on said frame in gripping relation to said handle and spring biased to extended position, a first dog pivoted on said lever and biased to driving engagement with said teeth on compressing motion of the lever to advance said shaft, a shoulder portion on said first dog engageable with the cross piece on said frame in the fully extended position of the lever to disengage the dog from the shaft, a second dog pivoted on said frame and biased to locking engagement with the teeth on said shaft to prevent retraction of the shaft, and coacting release portions on said lever and said second dog engageable in the fully extended position of the lever to move the second dog to shaft releasing position.

8. A calking gun and cartridge therefor comprising a frame forming a chamber with a front wall, a handle on said frame, a cross piece on said frame spaced from said wall, a plunger shaft journaled in said cross piece and having ratchet teeth formed in its side, an elongated tubular cartridge of calking compound having a cylindrical body positioned in said chamber and having a nozzle projecting through said front wall, a cylindrical follower ring in the rear end of said cartridge having frictionally holding engagement with the wall of the cartridge and having a front wall with an opening of substantial size therein, a piston positioned within said body ahead of said ring in sealing engagement with the inside of the body, a head on said plunger shaft coacting with said piston through the opening in said ring, projections on said head spaced rearwardly from the face thereof to engage the front wall of said ring, a lever pivoted on said frame in gripping relation to said handle and spring biased to extended position, a first dog actuated by said lever and biased to driving engagement with said teeth on compressing motion of the lever to advance said shaft, means actuated in the fully extended position of the lever to disengage the dog from the shaft, a second dog movable independently of said lever and biased to locking engagement with the teeth on said shaft to prevent retraction of the shaft, and means to move the second dog to shaft releasing position.

9. A gun and cartridge for dispensing semi-fluid material comprising a frame forming a chamber with a front wall and back wall, a handle on said frame, a cross piece on said frame spaced from said back wall, a plunger shaft journaled in said back wall and cross piece and having ratchet teeth formed in its side, an elongated tubular cartridge of semi-fluid material of plastic consistency having a cylindrical body positioned in said chamber and having a nozzle directed through said front wall, a piston

positioned within said cartridge and having a flexible sealing plate on its forward face in sealing relation with the inside of the cartridge, a head on said plunger shaft coacting with said piston, a lever pivoted on said frame in gripping relation to said handle and spring biased to extended position, a first dog pivoted on said lever and biased to driving engagement with said teeth on compressing motion of the lever to advance said shaft, a shoulder portion on said first dog engageable with said frame in the fully extended position of the lever to disengage the dog from the shaft, a second dog carried by said frame and biased to locking engagement with the teeth on said shaft to prevent retraction of the shaft, and coacting release portions on said lever and said second dog engageable in the fully extended position of the lever to move the second dog to shaft releasing position.

10. A gun and cartridge for dispensing semi-fluid material comprising a frame forming a chamber with a front wall, a handle on said frame, a cross piece on said frame spaced from said wall, a plunger shaft journaled in said cross piece and having ratchet teeth formed in its side, an elongated tubular cartridge of semi-fluid material of plastic consistency having a cylindrical body positioned in said chamber and having a nozzle directed through said front wall, a piston positioned within said cartridge and in sealing relation with the inside of the cartridge, a head on said plunger shaft coacting with said piston, a lever pivoted on said frame in gripping relation to said handle and spring biased to extended position, a first dog actuated by said lever and biased to driving engagement with said teeth on compressing motion of the lever to advance said shaft, means actuated in the fully extended position of the lever to disengage the dog from the shaft, a second dog carried by said frame and biased to locking engagement with the teeth on said shaft to prevent retraction of the shaft, and coacting release portions on said lever and said second dog engageable in the fully extended position of the lever to move the second dog to shaft releasing position.

11. In a calking gun having a head adapted to be advanced in step by step fashion by a ratchet dog, a locking dog connectable with said head to prevent retracting motion thereof, means for moving said dogs out of operative connection with said head to permit retraction of the latter, a cartridge positioned ahead of said head, a piston plate having a sealing plate on its forward surface positioned in sealing engagement in the rear of said cartridge and engageable on its rear side with said head, and a follower ring in said cartridge having locking frictional engagement therewith, said head being engageable with said piston plate through said ring, coacting portions on said head and said ring capable of advancing said ring with said head, other coacting portions of said plate and said ring limiting retracting motion of said plate, said head being retractable away from said plate through said ring.

12. In a calking gun having an advanceable and retractable head, a cartridge comprising a tubular body with a piston plate having a sealing plate on its forward surface positioned in sealing relation in the rear of said body and engageable on its rear side with said head, and a follower ring in said cartridge having rearwardly locking frictional engagement therewith, said head being engageable with said piston plate through said ring, coacting portions on said head and said ring capable of advancing said ring with said head in rearwardly spaced relation to said piston plate, other coating portions on said plate and said ring limiting retracting motion of said piston plate, said head being retractable away from said piston plate through said ring.

13. In a calking gun having an advanceable and retractable head, a cartridge comprising a cylindrical body with a nozzle on one end, a piston positioned in sealing relation in the rear of said cartridge and engageable on its rear side with said head, and a following ring in said

cartridge having rearwardly locking frictional engagement therewith, said head being engageable with said piston through said ring, overlapping portions of said head and said ring capable of advancing said ring with said head in rearwardly displaced relation to said piston, overlapping portions on said piston and said ring limiting retracting motion of said piston relative to said ring, said head being retractable away from said piston through said ring.

14. A cartridge for semifluid material of plastic consistency comprising a tubular body having a discharge nozzle on its front end, a piston positioned in the rear end of said body and having a flexible sealing plate on its forward face, a cylindrical backing ring in said body behind said piston and having an annular flange on its forward end in backing engagement with said piston, said piston being exposed to the rear of the body within the opening in said annular flange, said ring having frictional rearwardly locking engagement with the interior of said body, said ring and said piston being separately movable relative to said body.

15. A cartridge for semifluid material of plastic consistency comprising a tubular body having a discharge nozzle on its front end, a piston positioned in the rear end of said body in sealing engagement with said body, a cylindrical backing ring in said body behind said piston and having a radially inwardly extending projection on its forward end in backing engagement with said piston, said piston being exposed to the rear of the body within the opening inwardly of said projection, said ring and said piston being separately movable relative to said body.

16. A cartridge for semifluid material of plastic consistency comprising a tubular body having a discharge nozzle on its front end, a piston positioned in the rear end of said body, a cylindrical backing ring in said body and having a radially inwardly extending projection on one end in backing engagement with said piston, said piston being exposed to the rear of the body within the opening inwardly of said projection, said ring and said piston being separately movable relative to said body.

17. In a calking gun having an advanceable and retractable head, a cartridge comprising a cylindrical body with a nozzle on one end, a piston plate having a sealing plate on its forward surface positioned in sealing relation in the rear of said cartridge and engageable on its rear side with said head, and a follower ring in said cartridge having rearwardly locking frictional engagement therewith, said head being engageable with said piston plate through said ring, coacting portions of said plate and said ring capable of advancing said ring with said head and with said ring extending rearwardly from said piston plate, other coacting portions on said plate and said ring limiting retracting motion of said piston, said head being retractable away from said piston through said ring.

18. A cartridge of calking material comprising a cylindrical body with a discharge opening in its front end, a rigid ring slidably mounted in the rear of said body and having rearwardly locking engagement with the body, a radially intumed annular flange on said ring adapted to receive thrust force from a plunger head to advance said ring in said body, and a compression member closing the rear of said body and having its periphery in sealing engagement with said ring and being advanceable with said ring, said compression member being engageable centrally thereof by the plunger head to apply compressive force to the calking material through the center of the ring and being movable relative to the ring to accommodate expansion of the calking material upon retraction of the plunger.

19. A cartridge of calking material comprising a cylindrical body with a discharge opening in its front end, a rigid ring slidably mounted in the rear of said body, a radially intumed annular flange on said ring adapted to receive thrust force from a plunger head to advance said ring in said body, and a compression member closing the

rear of said body and having its periphery in sealing engagement with said ring and being advanceable with said ring, said compression member being engageable centrally thereof by the plunger head to apply compressive force to the calking material through the center of the ring and being movable relative to the ring to accommodate expansion of the calking material upon retraction of the plunger.

20. Dispensing apparatus for semi-liquid compressible material comprising a gun removably receiving a tubular cartridge of the material, a plunger shaft on said gun having a head projectable into the rear end of said cartridge, a lever pivoted in gripping relation on said gun and biased to unactuated extended position, means on said gun to advance and hold said shaft in all actuated retracted positions of said lever, means on said gun to disengage said first means and permit retraction of said shaft in said cartridge in the extended position of said lever, said cartridge having a tubular body open at the rear end to receive said head and said shaft, and a piston slidable in said body and having its periphery in sealing relation thereto, said piston being movable rearwardly in said body under compressive force stored in said material when said head is disengaged from said first means, and having a backing member adapted to receive advancing force from said head.

21. Dispensing apparatus for semi-liquid compressible material comprising a gun removably receiving a tubular

cartridge of the material, said cartridge having a closure and material expelling member in its rear end including a rigid annular holding ring in radially supported relation to the wall of the cartridge and an impervious central element within said ring and movable relative to the ring into expelling contact with the material, a plunger shaft on said gun having a head projectable into contact with said expelling member, said head having a central area of lesser diameter than said ring engageable with said central element within the outline of said ring, and rearwardly offset radially projecting parts on said head engageable with said ring after said central area has advanced said impervious central element.

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