Feb. 3, 1959 G. A. FASOLD ET AL 2,871,817

NOZZLE FOR PERIODIC EJECTING CAULKING GUN

Filed Jan. 10, 1955

FIG. 1.

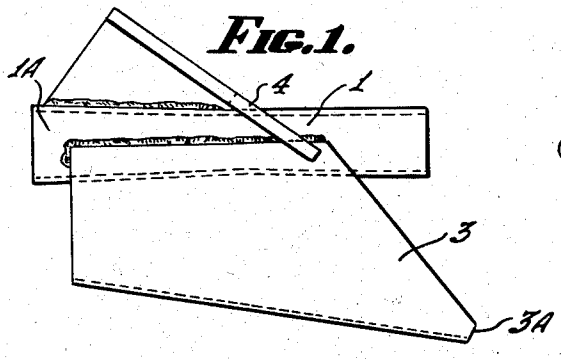
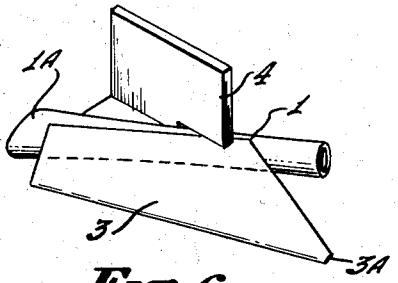


FIG. 6.



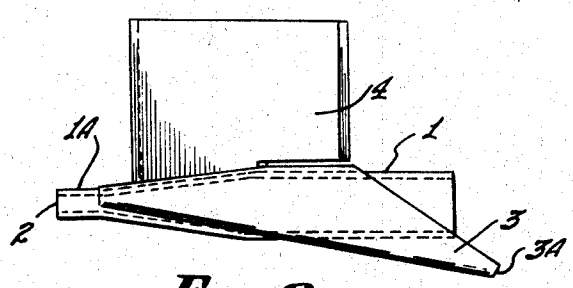


FIG. 2.

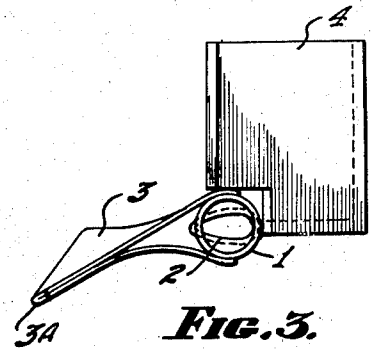


FIG. 3.



FIG. 4.

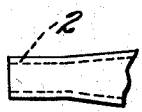


FIG. 4a

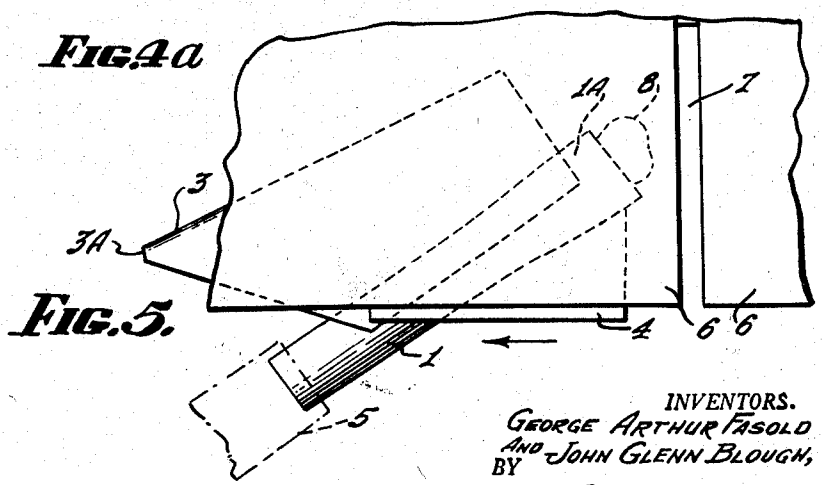


FIG. 5.

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NOZZLE FOR PERIODIC EJECTING CAULKING GUN

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4 Claims. (Cl. 118—407)

Our invention relates broadly to a nozzle for a periodic ejecting nozzle gun and more specifically to such a nozzle adapted for applying shingle cement under the tabs of asphalt shingles for sealing purposes and to the method of use thereof.

With exposure to low temperatures and high winds and rain, free tab asphalt shingles lift up making rain leakage through the roof more likely to develop. To correct this it has been customary to raise the shingle tabs, apply a gob of cement underneath and permit the shingle to be pressed down and become adhesively secured to the underlying shingle in the course below.

Such sealing is a very laborious task and requires long periods of hand work.

It is the object of our invention to provide a nozzle which may be mounted on a periodic ejecting caulking gun and which will permit a shingle worker to start at one edge of a roof and draw the nozzle along the tabs (mechanically lifting them up as he goes along, and to regulate the ejection of cement under the tabs of the shingle so that it will be placed properly to do the best job of sealing the shingles, without making an unsightly mess by building up dams in the cut-outs or by squeezing out below the lower edges of the shingle tabs.

A preferred type of periodic ejecting caulking gun is the type disclosed in the U. S. Patents Nos. 1,536,477, 1,883,767, 2,180,978, 2,111,582 and 2,233,587 or modifications thereof. Such guns have a snap trigger action which permit an operator to control the flow of material from the barrel of the gun in accordance with any desired pattern of periodic ejection.

Specifically it is our object to provide a nozzle having incorporated therewith a guide to abut against the lower edge of the tabs of a course of shingles extending across a roof and a plow for elevating the shingle tabs from underneath so as to provide clearance for the nozzle through which the shingle cement is ejected.

Such objectives and other objects which will be further explained in the ensuing description we accomplish by that certain combination and arrangement of parts of which we have shown a preferred arrangement in the drawings, in which:

Figure 1 is a plan view.

Figure 2 is a side elevation.

Figure 3 is an end elevation.

Figure 4 is an end elevation from the discharge tip end with Figure 4*a* showing a part of the tip in side elevation.

Figure 5 is a plan view showing the nozzle in use, this view having portions shown diagrammatically.

Figure 6 is a perspective view of the parts shown in plan in Figure 1.

The nozzle consists of a tube 1 having the discharge tip flattened out as indicated at 1A, and provided with an oval, egged shaped internal opening 2, the sharpened end of the oval extending toward the plow 3. The plow has a pointed tip 3A. The plow may be welded or otherwise secured to the tube 1 and there is also a guide wall 4 welded to the opposite edge of the tube as shown.

It is preferable that the guide extend up on the side of the nozzle assembly opposite the plow and that it have a guiding edge extending at substantially a right angle to the plane of the plow, and the plane of the guide is preferably at an acute angle to the axis of the tube. The tube 1 is suitably connected to a tube 5 (diagrammatically indicated in Figure 5), which may be either rigid, semi-rigid or flexible which is connected to the discharge port of the caulking gun. If the tube 5 is of adequate length, it permits the roof worker, who is operating the caulking gun to begin at one side of the roof and without stooping uncomfortably to draw the gun, with the plow underneath the tabs of the shingles and the guide abutting the bottom edge of the tabs clear across the roof.

Instead of working clear across the roof, the operator may only advance to such position on the roof as will permit two operators, one working from right to left, and the other working from left to right, to meet.

It will thus be obvious that in the construction of the nozzle the plow and guide may be arranged in opposite relative positions so that the nozzle may be used as a right or as a left depending on the relative positions of the plow and guide.

In the drawing, Figure 5, the arrangement of the plow and guide is such that the nozzle should be drawn from right to left in the direction of the arrow. Viewing a mirror image of Figure 5 will indicate the appearance of the nozzle for use in working from left to right.

In Figure 5 shingle tabs 6 are indicated with the cut-outs between the tabs. A gob of shingle cement is indicated at 8. We have found that the preferred shape of the discharge orifice should be oval but satisfactory performance is not limited to one particular shape of opening. The important thing is that the amount of cement ejected and the dimensions of the area of application be controlled so as to perform an adequate sealing job.

It will be understood that in drawing the nozzle across a roof under the tabs of a course of shingles the trigger is snapped after the nozzle end passes across each cut-out and again shortly before its arrival at the next cut-out. Thus each shingle tab will have a gob of shingle cement applied adjacent the side edge of each tab but not smearing across the cut-out areas.

Modifications in the specific arrangement illustrated and described of the nozzle with its plow and guide will occur to those skilled in the art without departing from the principle involved, which, as far as we are advised, is the first time that apparatus has been provided which makes the sealing down of shingle tabs such a simplified operation.

The method of using our new nozzle combination involves mechanically raising the shingle tabs of a course of shingles in a continuous lineal movement, depositing gobs of cement in periodic ejections underneath the raised shingle tabs at the proper distance from the edge to seal the shingles securely without smearing or squeezing out at the bottom, by guiding the movement of the nozzle along the continuous line formed by the bottoms of the shingle tabs.

Having thus described our invention, what we claim as new and desire to secure by Letters Patent is:

1. A nozzle comprising in combination a tube through which shingle cement may be periodically ejected, said tube having a plow arranged in a plane extending laterally from one side of the tube and a guide extending from another side of the tube having a guiding edge extending up substantially at right angles to the plane of the plow.

2. A nozzle comprising in combination a tube through which shingle cement may be periodically ejected, said

tube having a plow arranged in a plane extending laterally from one side of the tube and a guide extending from another side of the tube having a guiding edge extending up substantially at right angles to the plane of the plow, and with the plane of the guiding edge of the guide extending at an acute angle to the axis of the tube.

3. A nozzle comprising in combination a tube through which shingle cement may be periodically ejected, said tube having a plow arranged in a plane extending laterally from one side of the tube and a guide extending from another side of the tube having a guiding edge extending up substantially at right angles to the plane of the plow, and said tube having an oval shaped discharge orifice.

4. A nozzle comprising in combination a tube through which shingle cement may be periodically ejected, said

tube having a plow arranged in a plane extending laterally from one side of the tube having a guiding edge extending up substantially at right angles to the plane of the plow, and with the plane of the guiding edge of the guide extending at an acute angle to the axis of the tube, and said tube having an oval shaped discharge orifice.

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