

Jan. 9, 1962

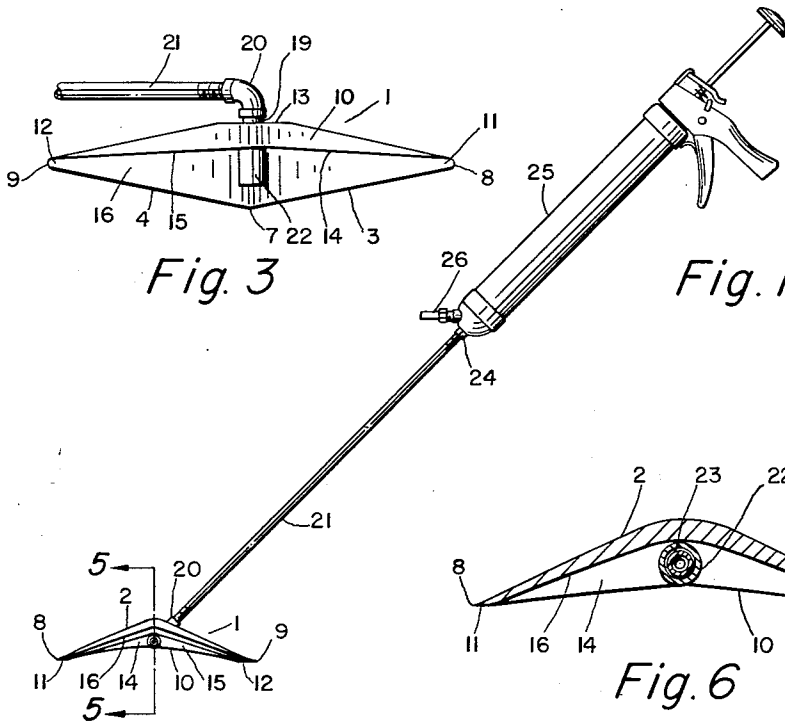
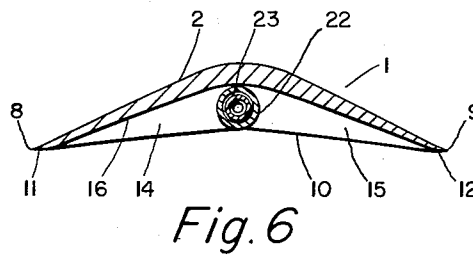
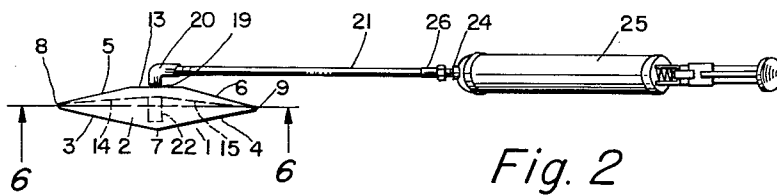
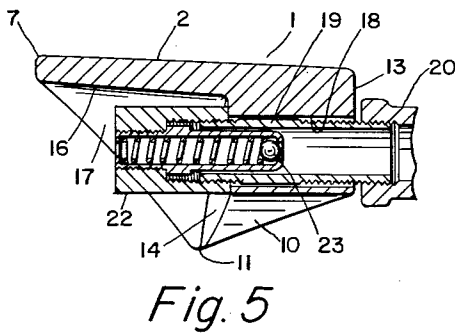
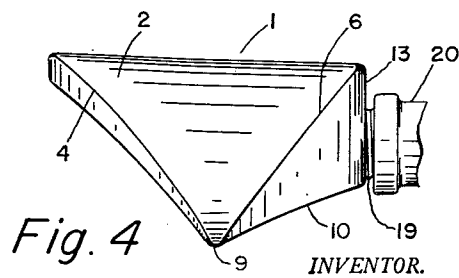
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3,016,040

APPARATUS FOR SEALING SHINGLES

Filed Aug. 13, 1959

2 Sheets-Sheet 1



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APPARATUS FOR SEALING SHINGLES

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2 Sheets-Sheet 2

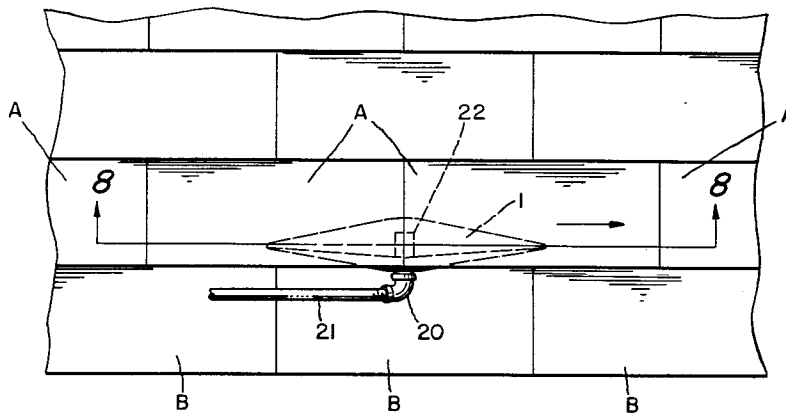


Fig. 7

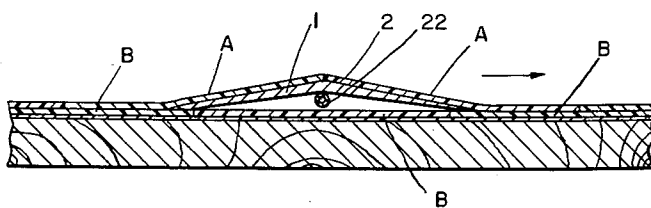


Fig. 8

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3,016,040
APPARATUS FOR SEALING SHINGLES
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This invention relates, as indicated, to a method of and apparatus for sealing shingles.

It has heretofore been the practice, in repairing roofs covered with composition shingles, where such shingles have become loosened as the result of a windstorm or the like, to raise portions of the loosened shingles sufficiently to enable a sealing compound to be applied thereunder, so that when the loosened shingles are released, the compound adheres to such shingles, securing them to the shingles immediately below the loosened shingles. This work is usually done manually, and is extremely difficult, and time consuming.

The present invention has as its primary object a method of and device for sealing shingles, whereby entire rows of shingles may be sealed efficiently and with a minimum of effort.

Another object of the invention is to provide a method of sealing shingles, whereby the shingles are lifted and sealing compound applied in a continuous single operation.

A further object of the invention is to provide a device for practicing the aforesaid method, which device is of simple and sturdy construction, and is inexpensive to manufacture and assemble.

A still further object of the invention is to provide a device of the character described, which lifts the shingles in consecutive order and applies the sealing compound as the shingles are thus lifted.

Other objects and advantages of my invention will be apparent during the course of the following description.

In the accompanying drawings forming a part of this specification, and in which like numerals are employed to designate like parts throughout the same.

FIG. 1 is a front elevational view of the device;

FIG. 2 is a top plan view of the device;

FIG. 3 is a bottom plan view of the applicator;

FIG. 4 is an end elevational view of the applicator as viewed from the right side of FIGS. 1 and 2;

FIG. 5 is a cross-sectional view, on an enlarged scale, taken on the line 5—5 of FIG. 1;

FIG. 6 is a cross-sectional view, on an enlarged scale, taken on the line 6—6 of FIG. 2;

FIG. 7 is a plan view of a conventional composition shingle roof, illustrating the manner in which the device of the invention is used, and

FIG. 8 is a fragmentary cross-sectional view, taken on the line 8—8 of FIG. 7.

Referring more particularly to the drawings, reference numeral 1 designates generally the applicator of my apparatus, which is preferably made as a die casting.

The applicator 1 is of elongated substantially diamond-shaped contour, having an upper arched surface 2, bounded by front edges 3 and 4, and rear edges 5 and 6. The front edges 3 and 4 form an apex 7, and extend rearwardly to meet the outer ends of the rear edges 5 and 6, to form points 8 and 9.

The rear portion of the applicator varies in thickness from a maximum at the center thereof to a minimum at the ends, this rear portion terminating at the bottom at an arched surface 10, having a greater radius of curvature than that of the surface 2. The ends of this surface 10 terminate at flat surfaces 11 and 12, which extend to the points 8 and 9 respectively.

The rear edges 5 and 6 extend to a flat surface 13, at

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the rear central portion of the applicator, which extends vertically. The front of the rear portion of the applicator is bounded by vertical surfaces 14 and 15, which are inclined slightly to each other and extend to the flat surfaces 11 and 12.

The front portion of the applicator also varies in thickness from a maximum at the center thereof to a minimum at the ends, this front portion terminating at the bottom at an arched surface 16. The ends of this arched surface terminate at the surfaces 11 and 12. The surfaces 14, 15 and 16 provide a cavity or recess 17 at the front or forward portion of the applicator, which serves a purpose to be presently described.

The rear portion of the applicator 1 is provided with an opening 18 (FIG. 5), through which a pipe nipple 19 extends, the applicator being mounted for pivotal movement about this nipple.

The nipple 19 has secured to the rear end thereof a pipe elbow 20, to which a conduit 21 is secured.

Secured to the front end of the nipple 19 is a nozzle 22, having incorporated therein a spring pressed ball or check valve 23, which permits fluid, under pressure, to flow out of the nozzle, but automatically closes, when the fluid pressure is relieved. The nozzle 22 and elbow 20, as best shown in FIG. 5, restrain the applicator against appreciable axial movement along the nipple 19.

The conduit 21 extends at right angles to the axis of the nipple 19, and the upper end of this conduit is connected to the outlet end 24 of a conventional caulking gun 25, such for example, as a gun of the type disclosed in Patent No. 1,986,166, which may be filled with a bituminous sealing compound through a check valve 26, which extends from the gun and may be connected to a container from which the sealing compound is pumped into the gun to fill it.

The nozzle 22 extends into the cavity or recess 17 of the applicator 1, so that the outlet end of the nozzle is disposed fairly close to the apex 7, but rearwardly of such apex.

In using the apparatus, the applicator is disposed in the manner shown in FIGS. 7 and 8, below the row of shingles A, with the outlet end of the nozzle 22 about 1½ inches from the front edge of the shingles A.

The applicator is then moved in the direction indicated by the arrow in FIGS. 7 and 8, so that it is moved, the shingles A are successively lifted from the shingles B therebelow by the surface 2 of the applicator, and as the applicator moves, the shingles which have thus been lifted, snap back into their original condition or position, due to their inherent resiliency, it being understood that the rear portions of the shingles A, which are nailed to the roof, are not disturbed by the movement of the applicator, at least not to an extent sufficient to pull the nails upwardly.

In this connection, it may be noted that the apparatus is designed primarily to be used for sealing composition shingles which are naturally flexible and resilient.

As the applicator is thus moved by the person operating it, the operator will actuate the caulking gun to continuously force the sealing compound to issue from the nozzle 22 and be deposited between the overlapped shingles A and B, in a line substantially parallel to the forward edges of these shingles, so that as the shingles snap back into their normal condition, a substantially continuous seal is provided between the overlapped shingles, and all danger of the shingles being blown off the roof, as by a windstorm or the like, is obviated.

Due to the gradual slope of the surface 2 of the applicator, the shingles are lifted in a gradual gentle manner, as indicated in FIG. 8.

It will also be noted that the edges 3 and 4 of the applicator recede from the line along which the sealing

composition is deposited. This combined with the fact that the surface 16 slopes in both directions to the points 8 and 9, prevents the applicator from being dragged through or touching the sealing compound as it is deposited. At the same time, the applicator overhangs the outlet end of the nozzle 22, so that the nozzle is not dragged against the lower surfaces of the shingles A.

It is thus seen that I have provided a method of and apparatus for sealing shingles, whereby entire rows of shingles may be sealed efficiently and with a minimum of effort and whereby the shingles are lifted and sealing compound applied in a continuous single operation.

It is also seen that I have provided a device for practicing the aforesaid method, which device is of simple, sturdy construction, and which is inexpensive to manufacture and assemble.

It is to be understood that various changes may be made in the method and apparatus which have been described, without departing from the spirit of the invention or the scope of the appended claims.

I claim:

1. Apparatus for lifting and sealing shingles comprising a conduit having an elongated vertically extending handle portion and a lower generally horizontal nozzle portion disposed substantially at a right angle to said handle portion, an applicator having a top wall with a smooth convex outer surface and a generally vertical rear closure wall depending from the rear edge of said top wall, said rear closure wall having a horizontal bore there-through, means mounting the applicator on the horizontal nozzle portion of the conduit for pivotal movement about the axis of said horizontal bore whereby the handle portion can be suitably pivoted about the applicator to thereby enable the apparatus to be moved first in one direction and then in the opposite direction by merely swinging the handle portion about the axis of the horizontal bore, and means for feeding a sealing compound through said conduit into said applicator.

2. Apparatus as defined in claim 1 in which said top wall is of generally elongated diamond shape having a

relatively wide central portion with said convex outer surface tapering longitudinally outwardly from said central portion into aligned pointed ends.

3. Apparatus as defined in claim 1 in which the bore in said rear closure wall lies between and is spaced from the top wall and the bottom edge of said rear wall, the horizontal nozzle portion of the conduit extending axially through said bore, said horizontal nozzle portion having an outlet end disposed within the recess formed by said top wall and said rear closure wall.

4. In a device of the character described, a nozzle, means for applying a cementitious material to said nozzle for application beneath a row of roof shingles or the like, and means for lifting portions of said shingles as said material is applied, said last-named means comprising a member including a convex top wall which overlies said nozzle and a rear closure wall in which said nozzle is mounted, said convex top wall having a pair of upper surfaces sloping downwardly in opposite directions from the medial portion of said convex top wall and adapted to lift the shingle portions, said convex top wall terminating in aligned longitudinally spaced pointed ends adapted to bear against the roof to space the nozzle therefrom as the material is passed through said nozzle.

5. A device, as defined in claim 4, in which said convex top wall is of generally elongated diamond shape having a relatively wide central portion including a forwardly directed apex, said apex overlying and being extended beyond the outlet end of the nozzle to prevent the nozzle from being dragged against the undersurface of the row of roof shingles.

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