Oct. 1, 1935. E. GOODWIN 2,015,929

MEANS FOR DIPPING ASPHALT SHINGLES

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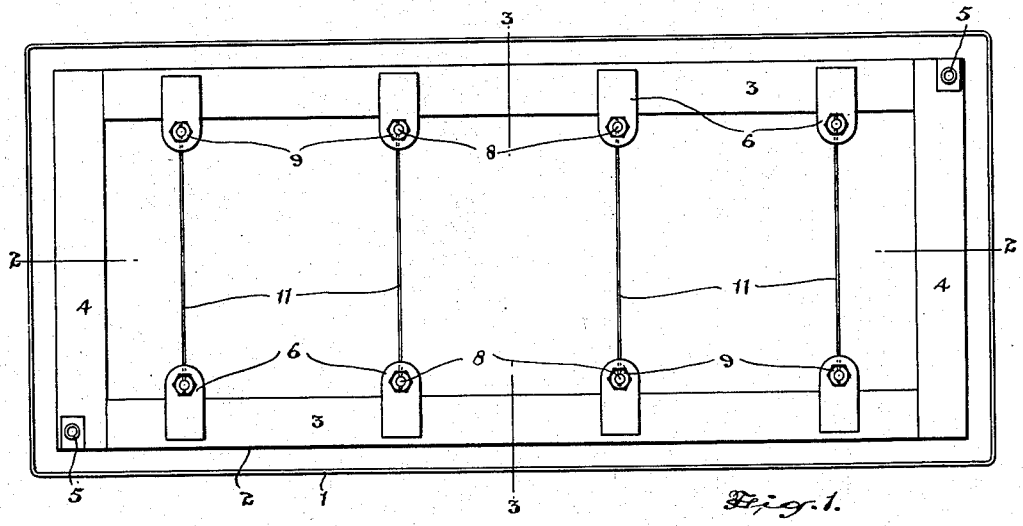
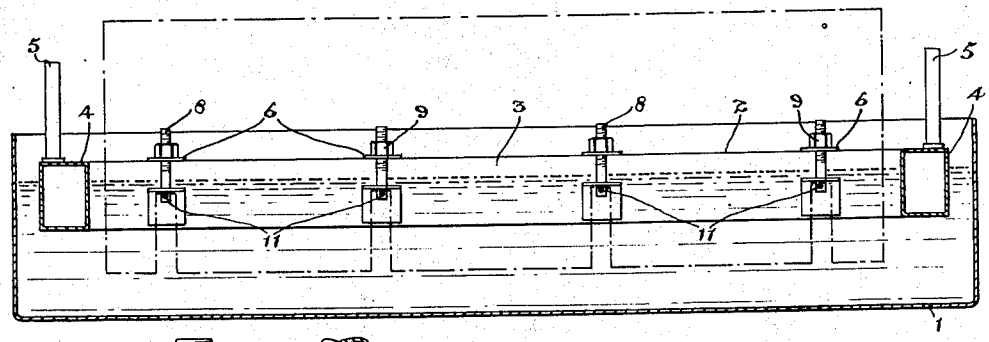


Fig. 1.

Fig. 2.



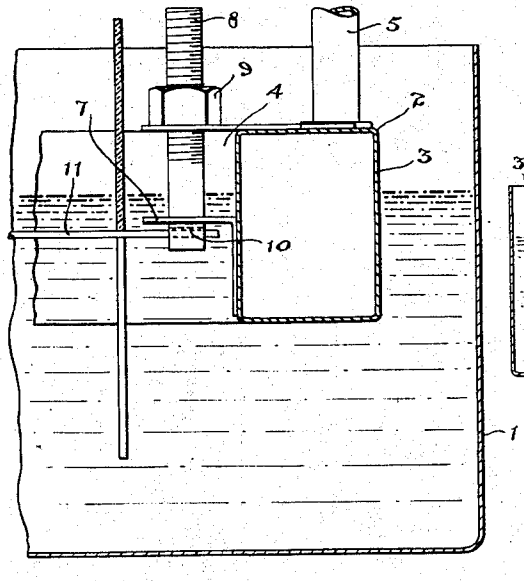
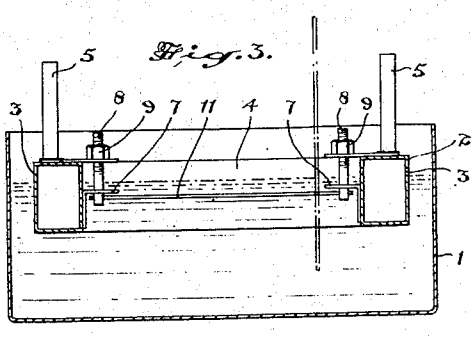


Fig. 3.



Inventor

Ernest Goodwin

Fig. 4. by H. J. Drummond atty.

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MEANS FOR DIPPING ASPHALT SHINGLES

Ernest Goodwin, Brantford, Ontario, Canada, assignor to Brantford Roofing Company, Limited, Brantford, Ontario, Canada

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7 Claims. (Cl. 91—46)

The principal objects of this invention are to simplify the operation of dipping fabricated felt shingles or siding strips in an asphalt solution, and to provide a means which will ensure the immersion of the shingles or strips to a uniform depth, irrespective of the quantity of the hot asphalt in the dipping tank, and whereby shingles or siding strips of uniform quality will be produced.

A further important object is to provide an apparatus for the dipping of shingles which will be capable of ready adjustment to enable the dipping of the shingles to varying depths.

The principal feature of the invention consists in the novel provision of a float member supported upon the body of dipping material presenting adjustable guides for limiting the depth of immersion of the shingles or other article to be coated, irrespective of the volume of such material in the tank, such guides comprising thin supporting members extending across an opening in the float.

In the accompanying drawing, Figure 1 is a plan view of a dipping tank equipped with my improved gauging device.

Figure 2 is a longitudinal mid-sectional view through the line 2—2 of Figure 1.

Figure 3 is a cross sectional view through the line 3—3 of Figure 1.

Figure 4 is an enlarged sectional detail through a portion of the tank and float showing the adjustable arrangement of the guide.

In the manufacture of asphalt shingles and siding slates, it is customary to fabricate the felt strips by the securing together of numerous thicknesses of felt or fabric sheets and these are cut to the desired shape and size.

It is customary then to dip a portion of the fabricated strip in a heavy asphalt solution to coat the weather portion of the shingle or siding strip with a weather-resisting material and also to effect the thickening of the shingle butt, and also to provide a base for a crushed stone or other granular coating which is frequently applied.

The dipping tanks in which such shingles or strips are immersed have been equipped with suitable guide means to limit the depth of immersion, but such depth varies in accordance with the quantity of material in the tank, and though this is replenished from time to time, there is nevertheless a constant variation and it is to overcome this variation that the present invention has been devised.

According to the present invention it is proposed to furnish within the asphalt holding tank 1 a float device 2 in the form of an open frame and it is of course preferably of rectangular form.

The float member 2 is preferably of hollow or tubular construction, the tubes being preferably of a rectangular formation. They may be mitered at the corners, or the corners may be formed by square butted joints, the ends of the tubes forming the sides 3 and end members 4 being sealed. Such a float is extremely light in weight.

Air vents 5 which are preferably in the form of short lengths of tubing are secured to the float 2 and extend upwardly therefrom and form vents to the interior of the sealed compartments formed within the float so that the air within the float may be permitted to expand freely without stress upon the float structure when the float is subjected to the heat of the molten asphalt or other dipping material.

Secured to the longitudinal side sections 3 of the float, preferably by pressing to the top thereof, are a plurality of brackets 6 which extend inwardly past the side walls of the float and each of these brackets is provided with a circular orifice.

The set of angle brackets 7 are secured to the inward walls of the side members 3 of the float, each being in vertical alignment with the brackets 6 and also provided with a circular hole in the horizontal member thereof in alignment with the hole in the bracket 6.

Threaded studs 8 are inserted through the holes in the brackets 6 and 7, the upper ends thereof being threaded and they are supported by the nuts 9 which rest on the top bracket 6.

The lower ends of the studs 8 are provided with horizontal holes 10 and stiff wire rods 11 are inserted therein and extend across the float from side to side.

Any desirable number of these rods 11 with their supporting studs and brackets may be arranged for the supporting of the goods that are to be dipped.

In practice the tank 1 is filled to a desirable level with a heated asphalt, tar or other solution into which it is desired to dip the shingles or other articles.

The float 2 rests upon the surface and supports the cross rods 11 in a desirable position, either slightly above or below the surface of the dipping material and their position can be very easily and quickly changed by turning the nuts 9 on the studs 8 to raise or lower the same.

This arrangement permits the rods being adjusted to any desirable relative depth.

The goods to be dipped are usually notched and it is intended that the rods 11 shall register with the notches in the strip to be dipped so that the bottom of the notch will come in contact with the rod and limit the depth of immersion and this adjustable provision enables the rods being arranged so that the strip will not be immersed to the top of the notch, or so that it will immerse the strip over the notch, as may be desired.

When the guide rods 11 are below the surface of the dipping solution they are of course out of sight, but the operator is able to judge their location by the arrangement of the brackets 6 on the side of the float.

The arrangement of the adjustable supports for the guide rods not only enables the depth of dipping to be accurately regulated, but in the event of the float frame becoming warped and one corner or side being higher than the other the stud supporting the guide rods can be adjusted to keep the dip line of the shingle straight with the edge.

It will be understood that the gauge rods and their supporting brackets may be placed in any desirable arrangement on the float. Further, it will be appreciated that while the float is preferably formed of metal arranged in the form of a sealed casing, other material may be used and even cork or wood suitably protected to keep it from absorbing the dipping fluid might serve as an effective floating medium without departing from the spirit of the invention, which is to provide gauging means for regulating the depth for dipping sheet materials regulated by the relation to the surface of the material irrespective of its depth.

What I claim as my invention is:—

1. Means for dipping shingles, comprising a tank a float of rectangular form within said tank having a rectangular opening therethrough unobstructed between the ends and giving access to the dipping material, a plurality of rods extending across said openings at spaced intervals below the surface of the dipping material, and vertically adjustable means supporting the ends of said rods from said float.

2. Means for dipping shingles, comprising a float of rectangular form having a rectangular opening therethrough, a plurality of rods extending across said opening at spaced intervals, brackets mounted on said float and extending over the sides of the opening therein, threaded studs extending through said brackets and supporting the ends of said rods, and nuts threaded on said studs and engaging said brackets to support the studs and the rods carried thereby in adjusted positions.

3. Means for dipping shingles, comprising a float formed of a tubular structure adapted to float upon the dipping solution and presenting an unobstructed dipping area, said float having air vents in the top, brackets secured to the side members of said float and projecting inwardly therefrom, threaded studs having nuts thereon adjustably mounted in said brackets, said studs having holes in the lower ends, and wire rods secured in the holes in said studs and extending across the float member.

4. As a means for facilitating the consecutively uniform treatment of shingles with a fluid compound for a predetermined portion of their width only extending inwardly from an edge thereof, a buoyant gauge member to float on he fluid compound, and spaced gauge means supported by the float at a constant predetermined level in respect to the surface level of the fluid compound for supporting contact with said shingle at a plurality of spaced points to thereby accurately and uniformly gauge the depth of partial immersion of the shingles.

5. As a means for facilitating the consecutive uniform treatment of the notched edge portion of shingle strips with a fluid compound for a predetermined portion of their width only extending inwardly from the notched edge, a float member adapted to float on the fluid compound, and a series of guides supported by said float at a predetermined constantly uniform level with respect to the surface level of the fluid compound and spaced apart a distance corresponding to the spacing of said shingle notches to enter and contact the bottoms of the respective notches and thereby limit the extent of immersion of the notched edge portion of said shingle.

6. As a means for uniformly dip-treating shingles for a predetermined uniform portion only of the width thereof with a fluid compound the depth of which is subject to change, a buoyant gauge structure floating on said treating material and presenting a bottoming contact for the said shingle strip at spaced points in a plane parallel with the surface of the treating material to thereby uniformly limit the submergence of the shingle strip to an area of uniform width extending from end to end thereof parallel with the lower edge.

7. As a means for uniformly dip-treating shingles for a portion only of their width, a tank for containing the dipping material in fluid form, a float presenting an unobstructed open dipping area to permit free entry of the shingle edgewise into the dipping material, and a plurality of bottoming stops buoyantly supported by said float at a continuously constant depth below the surface of the said open dipping area of the dipping material for positioning stop engagement with the shingle when the latter has been only partially submerged, said bottom stops being adjustably associated with said float for the purpose of controlling their depth relation to the surface of the dipping material.

ERNEST GOODWIN.