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METHOD OF AND MEANS FOR COATING THE EDGES OF ROOFING ELEMENTS

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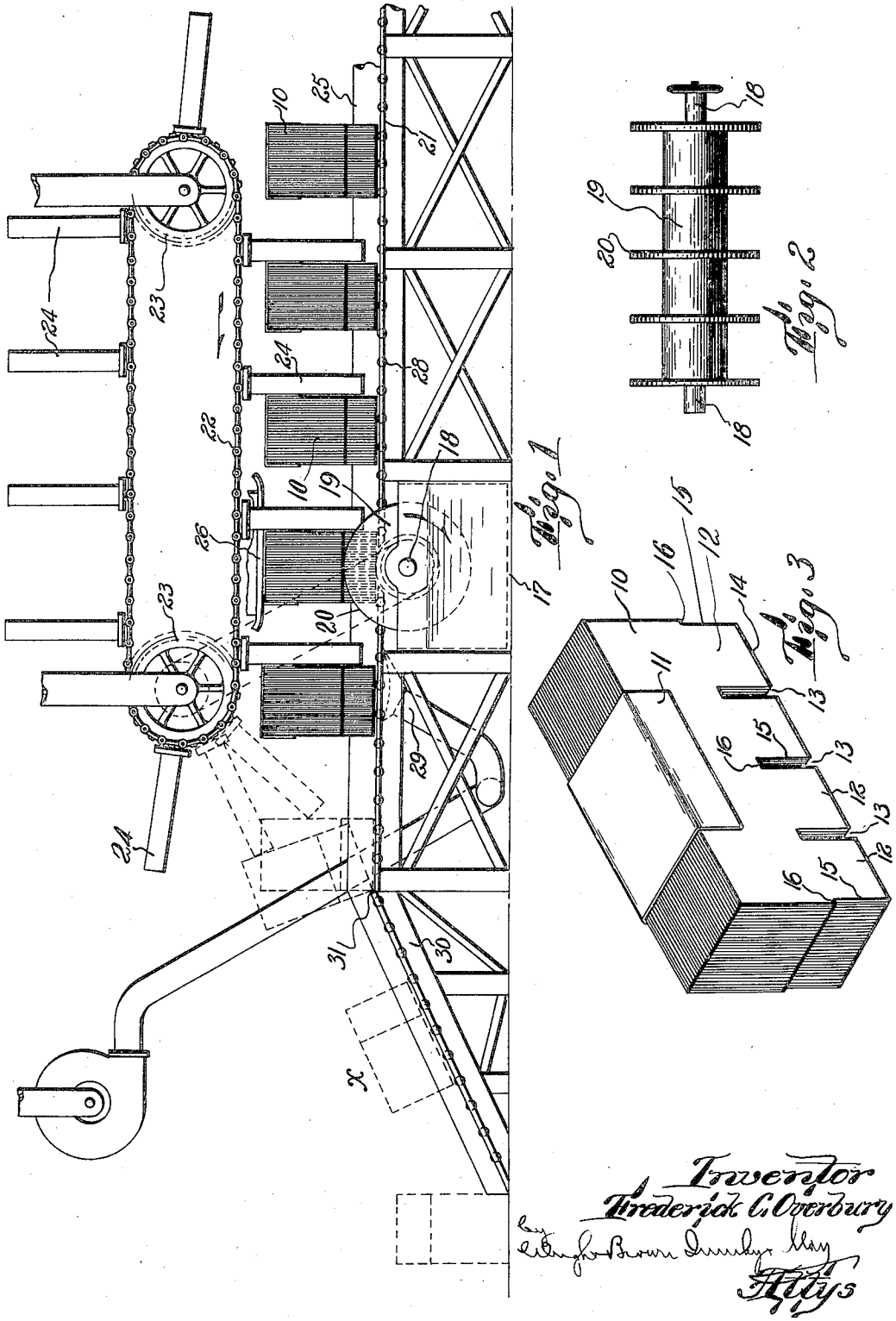


Fig. 1

Fig. 2

Fig. 3

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METHOD OF AND MEANS FOR COATING THE EDGES OF ROOFING ELEMENTS.

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To all whom it may concern:

Be it known that I, FREDERICK C. OVERBURY, a citizen of the United States, residing at Hillsdale, in the county of Bergen and State of New Jersey, have invented new and useful Improvements in Methods of and Means for Coating the Edges of Roofing Elements, of which the following is a specification.

This invention relates to the manufacture of roofing elements formed of waterproofed felt.

It is well known that cellulosic materials, such as are employed in the manufacture of felt and used for roofing purposes, have an affinity for moisture; and, notwithstanding that such felt is impregnated or saturated with asphalt, pitches or other bituminous materials, when the sheet is cut into shingles or shingle strips, the fibers themselves are unsaturated, and consequently, when such elements are placed upon the roof, the exposed fibers tend to absorb moisture causing a swelling or curling or other distortion of the elements.

The object of the present invention is to coat the cut raw edges of the roofing elements with asphalt or equivalent material so that, when they are exposed to the weather, they will be sealed against the admission or penetration of moisture.

On the accompanying drawing,—

Figure 1 illustrates more or less diagrammatically a machine by which a packet or package of roofing elements may be so treated as to coat the severed edges of the individual elements with an asphaltic waterproofing composition.

Figure 2 represents a roll by which the coating is applied.

Figure 3 is an isometric perspective view of a package of shingles.

The roofing elements, for example, shingle strips, are in any suitable way formed into packages, one of which is illustrated in Figure 3, and the elements are bound and held together by a spring clip or other suitable means. It will be understood, of course, that the felt is first saturated with a relatively low-melting-point asphalt, pitch or the like, and is then coated with a higher-melting-point asphaltum, into which is partially embedded, while the coating is still in a plastic adhesive condition, a layer of crushed slate, grit or other equivalent material. The shingle strips or shingles are, by a suitable instrumentality, cut from the sheet, and they are stacked into packages, of which one is indicated at 10 in Figure 3. The metal clamp or binder, by which the individual shingles are held in the package or stack, is indicated at 11. Each shingle strip, which I have selected for illustration, is provided with the tabs or projections 12—12, between which are the notches or recesses 13.

It is my purpose to coat the bottom edges 14, the side edges 15 of the notches and the end edges 16 of the notches with a high-melting-point asphalt or equivalent water-repellent composition. To this end, the coating compound is placed within a tank 17, and is kept in a hot molten condition by any suitable heating apparatus. In the side walls of the tank are journaled the trunnions 18 of a roll 19 which is provided with a plurality of peripheral flanges 20. In the case of a shingle strip, these flanges are of such width or thickness and are so spaced that their faces engage the edges 15, 15, of the notches 13 into which the flanges may extend. The peripheral portions of the flanges are adapted to engage the end walls 16 of the notches 13, and the cylindrical portion of the roll 19 is adapted to engage the edges 14 of the shingle strips. The packages are supplied to a guideway or table indicated at 21, being fed thereto by hand or in any other suitable way. The tank 17, the roll 19 and the table are so located in relation to each other that, as the packages are fed along the table, they will pass over and into engagement with the coating roller 19 so that the flanges 20 will enter the notches 13 thereof. For the purpose of moving the packages along the table, I may employ an endless belt or conveyor 22 which tracks upon pulleys 23 one of which is driven from any suitable source of power. This conveyor is provided with a plurality of members 24, each of which is adapted to engage one of the packages and move it along the table in the direction of the arrow in Figure 1. The packages are supplied to the table, and each package is engaged by one of the members 24 and is moved along the table. The packages are placed on the table in the position shown in

Figure 3, with the tabs 12 extending downwardly, and as each package is engaged by one of the members 24, it is fed along the table and over the coating roller 19 so that the cut raw edges of the shingle strips of each package will be coated as described. The coating roller 19 may be driven in either direction and by any suitable means. I have shown conventionally mechanism by which the roll is driven in the direction of the arrow by a sprocket connection with the shaft on which one of the pulleys 23 is mounted.

To prevent lateral dislocation of the packages, suitable lateral guides 25 may be employed to form a guideway in connection with the table, and, to prevent the package which is undergoing coating from being lifted, each package may be caused to pass beneath one or more guides 26 located above the coating roller.

The table, to facilitate the movement of the packages, may be provided with a plurality of anti-friction rolls 28, and, for rapidly chilling the coated edges, a blast of cold air may be delivered by a conduit 29 so as to be directed against the coating edges. At the end of the table, I have shown an inclined runway 30, the end 31 of which forms a shoulder against which the package may abut temporarily, so that, as the propelling member 24 passes around the pulley 23, the packet may be tilted and passed down the guideway in a prone position, as indicated in dotted lines at x.

Of course it will be understood that the mechanism is illustrated more or less conventionally and that various changes may be made in the details thereof without departing from the spirit and scope of the invention as defined in the claims.

Having thus explained the nature of my said invention and described a way of making and using the same, although without attempting to set forth all of the forms in which it may be made or all of the modes of its use, what I claim is:—

1. A method of treating fibrous roofing elements, which comprises assembling said elements into a package with the edges flush, then moving said package in a direction transverse to said edges over a roll to bring said flush edges successively into contact therewith, supplying said roll with an asphaltic waterproofing material, and finally permitting said material to set.

2. A method of treating fibrous shingle strips each having a plurality of tabs or projections and intervening slots, which comprises assembling such strips into a packet with their edges flush and then effecting a relative movement, transversely of the plane of the strips, of said packet and a coating member shaped to apply coating to the end and side edges of the tabs or projection of said strips.

3. A method of treating fibrous shingle strips each having a plurality of tabs or projections and intervening slots, which comprises assembling such strips into a packet with their edges flush, and then moving the packet bodily transversely of the planes of the strips relative to a coating member shaped to apply coating to the side and end edges of the tabs and the edges at the ends of the slots.

4. A method of treating fibrous shingle strips each having a plurality of tabs or projections and intervening slots, which comprises assembling such strips into a packet with their edges flush, and then coating the end and side edges of such tabs or projections and the edges at the ends of said slots with an asphaltic compound, by passing such packet in a direction transverse to such edges over an applying roll.

5. The combination of a coating roll having peripheral flanges, means for supplying a waterproofing compound to said roll and to the flanges thereof, means for feeding a packet of roofing elements transversely to the edges thereof past said roll to bring the end and side edges of said elements into contact with the waterproofing compound on the surface of said roll and the flanges thereof.

6. The combination of a coating roll having peripheral flanges, means for supplying a waterproofing compound to said roll and to both faces of said flanges, a table, and a conveyor having elements arranged serially to engage packets of roofing elements and feed them past and into contact with the surfaces of said roll and the flanges thereof.

In testimony whereof I have affixed my signature.

FREDERICK C. OVERBURY.