UNITED STATES PATENT OFFICE

2,048,597

PREPARED ROOFING

Walter H. Cady, Los Angeles, Calif., assignor, to The Patent and Licensing Corporation, Boston, Mass., a corporation of Massachusetts

Original application March 19, 1926, Serial No. 95,820, which in turn is a continuation of my application Serial No. 542,329, filed December 31, 1921.

The invention relates to a process and machine for coating and surfaced preparing shingles and refers more particularly to a process and apparatus in which prepared roofing in the form of roofing units, such for example as strip shingles, are marketed before being cut into shingle units.

An important object of the invention is the fact that all surfaces and edges of the strip shingles are completely covered and that any waste material is recovered to be recycled in the covering of other shingles.

Figure 1 is a plan view of the apparatus.

At 18 is situated a cleaning brush which is rotated in a manner to thoroughly clean the surface of the belt prior to its return to receive the coated shingles from the rolls 1 and 2.

The driving mechanism of the respective rolls and spools for running the belts has been purposely omitted as it forms no part of the invention. It is understood, however, that the rolls must be operated at relative speed so that the strip shingles will be properly fed and progressed at a uniform rate through the process of coating and surfacing.

In this manner, strip shingles which have been cut from the initial sheet may be readily coated and surfaced, all portions of the shingle unit receiving a complete coating of the mastic, an outer layer of crushed slate being partially embedded in the coating on one face and the edge of each shingle. The edges being coated with coating material from the container 8 and being somewhat smaller than the cut-outs, carry sufficient coating material into the cut-outs to coat their edges thoroughly. The films of coating material on the edges of the shingle and thus complete the coating of the unit with an envelope of coating material over its entire surface, and this coating is surfaced with the slate or other grit.

The apparatus comprises a machine 10 for coating and surfacing the shingles and for preparing the same for cutting into shingle units.

The machine consists of a belting portion 12 for conveying the shingles along in the line of the machine 10 and a coating portion 14 for preparing the shingles for surfacing.

The coating portion 14 comprises a heating chamber 16, a coating unit 18, a surfacing unit 20, and a separating unit 22.

The heating chamber 16 includes a heater 24 and a heating element 26 for heating the shingles before they are coated and surfaced.

The coating unit 18 comprises a coating applicator 28, a coating spreader 30, and a coating roller 32 for coating the shingles with a coating material.

The surfacing unit 20 comprises a surfacing applicator 34, a surfacing spreader 36, and a surfacing roller 38 for surfacing the shingles with a surfacing material.

The separating unit 22 comprises a separator 40 and a separator roller 42 for separating the coated and surfaced shingles from the belting portion 12.

The coated and surfaced shingles are then cut into shingle units by a cutting device 44.

The apparatus is operated in the following manner:

The shingles 46 are conveyed along the belting portion 12 and are heated in the heating chamber 16 before they are coated in the coating unit 18.

The coating unit 18 comprises a coating applicator 28, a coating spreader 30, and a coating roller 32 for coating the shingles with a coating material.

The surfacing unit 20 comprises a surfacing applicator 34, a surfacing spreader 36, and a surfacing roller 38 for surfacing the shingles with a surfacing material.

The separating unit 22 comprises a separator 40 and a separator roller 42 for separating the coated and surfaced shingles from the belting portion 12.

The coated and surfaced shingles are then cut into shingle units by a cutting device 44.

The apparatus is operated in the following manner:

The shingles 46 are conveyed along the belting portion 12 and are heated in the heating chamber 16 before they are coated in the coating unit 18.

The coating unit 18 comprises a coating applicator 28, a coating spreader 30, and a coating roller 32 for coating the shingles with a coating material.

The surfacing unit 20 comprises a surfacing applicator 34, a surfacing spreader 36, and a surfacing roller 38 for surfacing the shingles with a surfacing material.

The separating unit 22 comprises a separator 40 and a separator roller 42 for separating the coated and surfaced shingles from the belting portion 12.

The coated and surfaced shingles are then cut into shingle units by a cutting device 44.

The apparatus is operated in the following manner:

The shingles 46 are conveyed along the belting portion 12 and are heated in the heating chamber 16 before they are coated in the coating unit 18.

The coating unit 18 comprises a coating applicator 28, a coating spreader 30, and a coating roller 32 for coating the shingles with a coating material.

The surfacing unit 20 comprises a surfacing applicator 34, a surfacing spreader 36, and a surfacing roller 38 for surfacing the shingles with a surfacing material.

The separating unit 22 comprises a separator 40 and a separator roller 42 for separating the coated and surfaced shingles from the belting portion 12.

The coated and surfaced shingles are then cut into shingle units by a cutting device 44.
and shape, a sealing coat of waterproofing material overlaid both faces and all the edges of the element, and a masking layer of grit partially embedded in the coating on the surface and edges of the element which are exposed to the weather when the element is laid on a roof.

2. An individual shingle unit to be used for building construction cut from prepared roofing and having butt and adjacent side edges and being provided with vertical slots to provide a shingle simulating tabs and a continuous protective bituminous coating covering at least the exposed portion of the upper face and the exposed butt and side edges and the edges of said slotted portions of the unit and a coating of comminuted grit applied to the upper face of said exposed butt and side edges.

3. A shingle strip having slots forming tab defining elements, said slots extending upwardly from the butt edge toward the head thereof, said strip being provided with an asphalt coating, a layer of grit embedded therein, a second layer of asphalt coating disposed thereon and covering at least a portion of the exposed upper face thereof and extending above the terminals of said slots, and a second layer of grit applied thereto and embedded therein, said second layer of grit covering at least a portion of the upper face of the shingle.

4. A shingle strip having slots forming tab defining elements, said slots extending upwardly from the butt edge toward the head thereof, said strip being provided with an asphalt coating, a second layer of asphalt coating disposed thereon covering at least a portion of the exposed face thereof and extending above the terminals of said slots, and a layer of grit applied to the upper face of the uppermost layer of asphalt and covering at least the exposed upper face of said shingle.

5. A roofing element comprising a felted fibrous base of sheet material cut to the desired size and shape, a sealing coat of waterproofing material overlaid both faces and the exposed butt and side edges of the element, and a masking layer of grit partially embedded in the coating on the surface and said edges of the element, at least which are exposed to the weather when the element is laid upon the roof.

6. A shingle strip having slots forming tab defining elements, said slots extending upwardly from the butt edge toward the head thereof, said strip being provided with an asphalt coating, a layer of grit embedded therein, a second layer of asphalt coating disposed thereon and covering at least a portion of the exposed upper face and the butt and side edges thereof and extending above the terminals of said slots, and a second layer of grit applied thereto and also covering at least a portion of the exposed face.

7. A roofing element comprising a felted fibrous base of sheet material cut to the desired size and shape, a sealing coat of waterproofing material covering at least the exposed face of said element, a masking layer of grit partially imbedded in the coating on the surface of said element, at least, which is exposed to weather when the element is laid upon the roof, and means to seal both the exposed butt and side edges of said element, said means comprising a sealing coat of waterproofing material.

8. A shingle comprising a felted fibrous base of sheet material provided with an asphalt coating, a layer of grit imbedded therein, a second layer of asphalt coating disposed thereon and covering all of the upper surface of said shingle which is exposed and at least a portion of the upper surface which is overlapped when the shingle is laid with others in overlapping courses and a second layer of grit applied thereto and imbedded therein, said second layer of grit covering at least a portion of the upper face of the shingle.

WALTER H. CADY.