W. P. DUN LANY.

MEANS FOR ORNAMENTING PREPARED ROOFING.

APPLICATION FILED SEPT. 5, 1916.

1,228,191. Patented May 29, 1917.

Fig. 1.

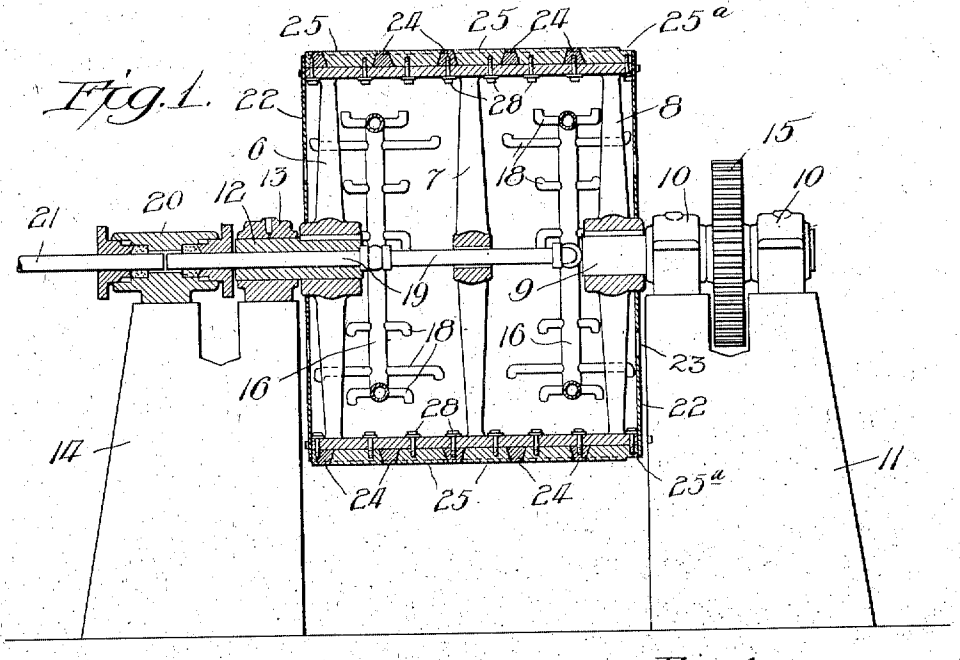


Fig. 2.

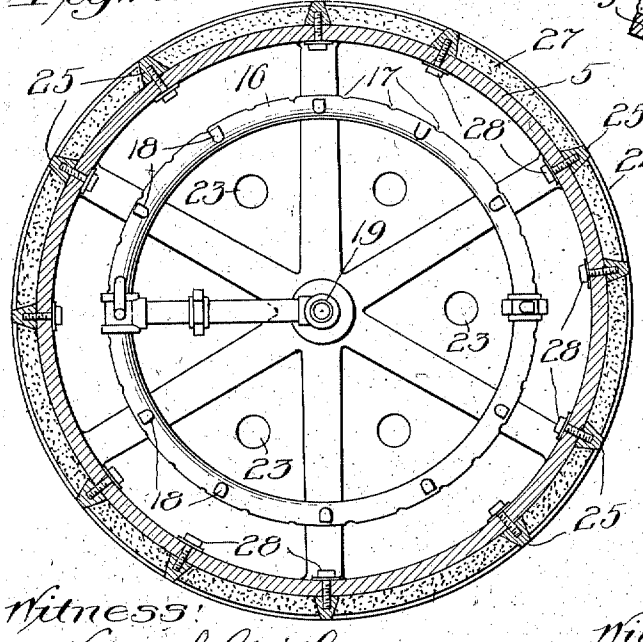


Fig. 4.

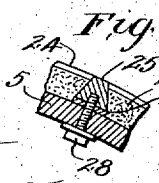
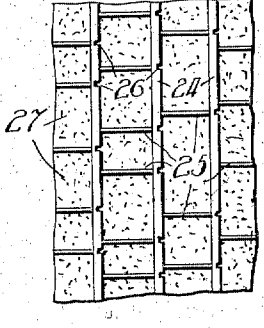


Fig. 3.



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attys

UNITED STATES PATENT OFFICE.

WILLIAM P. DUN LANY, OF CHICAGO, ILLINOIS, ASSIGNOR TO SEARS, ROEBUCK AND COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF NEW YORK.

MEANS FOR ORNAMENTING PREPARED ROOFING.

1,228,191. Specification of Letters Patent. Patented May 29, 1917.

Application filed September 5, 1916. Serial No. 118,403.

To all whom it may concern:

Be it known that I, WILLIAM P. DUN LANY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Means for Ornamenting Prepared Roofing, of which the following is a specification.

This invention relates to the art of making prepared roofing which consists of a flexible sheet or strip of felt or other fibrous material impregnated with molten asphalt or the like and coated on one side with a layer of granular material or grit, such as crushed stone, slate, gravel or other like substance.

The appearance of such roofing may be greatly enhanced by creating a design upon the grit coating. According to the present invention such a design is created by means of a rotary heated cylinder having upon its periphery bars arranged in suitable configuration, the sheet of grit-coated roofing being fed by suitable means close to the periphery of this cylinder and at the same speed as the surface speed of the rotating cylinder, the heat from the said bars on the cylinder causing the asphalt coating of the sheet to liquefy along definite lines and be drawn up through the grit so as to appear on the surface of the latter in the form of a design corresponding to the configuration of said bars.

The general object of the invention is to produce a cylinder of improved construction for the purpose described.

A special object is to provide a structure in which the design bars are mounted on the body of the cylinder in such a manner that the set of bars may be maintained in true cylindrical contour even though the cylinder body becomes warped by the extreme heat, so that the proper coöperative relation between the bars and the sheet of roofing being fed thereto may be insured, and uniformity in the appearance of the lines of the design on the roofing attained.

The invention further refers to improved means for heating the cylinder and for minimizing the radiation from the surface thereof, except along the lines of said design bars.

In the accompanying drawings Figure 1 is an axial section through a cylinder and its mounting means embodying the features of my invention. Fig. 2 is a transverse section. Fig. 3 is a fragmental elevation of the periphery of the cylinder, showing one design in which the bars may be arranged to imitate shingles on the roofing material. Fig. 4 is a sectional detail view illustrating a means of adjusting the design bars on the cylinder.

In the exemplary embodiment of my invention which is illustrated in the drawings, the cylinder proper is indicated at 5 and is provided with a plurality of spiders, in this instance three in number, designated 6, 7 and 8, two being positioned near opposite ends and the third in the middle. The spiders and the cylinder may, if desired, be formed of an integral iron casting. The cylinder is supported through the hubs of the end spiders 6 and 8 by suitable means herein shown as comprising a journal 9 keyed in the hub of the spider 8 and mounted in bearings 10 on a support 11, and a tubular journal 12 keyed in the hub of the spider 6 and rotatably mounted in a bearing 13 in a support 14. Suitable means may be provided for rotating the cylinder, for example, a gear wheel 15 fixed on the journal 9.

The cylinder is arranged to be heated in the present instance by gas. A suitable number of gas burners, in this instance two, are fixed within the cylinder and each may comprise a ring 16 having peripheral apertures 17 therein and a plurality of spaced jets 18 extending therefrom, said apertures and jets providing suitable outlets for the gas. The rings are fed by a valved pipe 19 communicating therewith, said pipe passing out through the tubular journal 12 and terminating within a stuffing box 20 on the support 14. 21 indicates a pipe also extending into said stuffing box and communicating with a supply of gas or combustible mixture. The ends of the cylinder 5 are closed by suitable means such as plates 22, and these plates are provided with openings 23 of suitable number and size to permit escape of the products of combustion.

Upon the periphery of the cylinder 5 are mounted a set of bars which are composed of material which is a good conductor of heat,

the material preferred being copper. These bars are at all times in good heat-conducting relation to the cylinder, and may be arranged in any configuration desired, according to the design to be applied to the roofing. In the present instance I have shown, by way of example, an arrangement of the bars calculated to give an imitation of shingles upon the roofing. This may be done by providing continuous circumferential bars 24 to make relatively broad stripes running parallel to the strip of roofing, and irregularly spaced short bars 25 extending parallel to the axis of the cylinder between the adjacent circumferential bars, the short bars being preferably narrower than the circumferential bars. The circumferential bars may have notches 26 therein alined with the short bars 25. The short bars 25 at one end of the cylinder may be cut down as at 25^a so that their active faces terminate short of the end of the cylinder, this being for the purpose of leaving a plain portion along one edge of the strip of roofing, which portion is overlapped by the edge of the next strip when laid on the roof.

The strips of roofing are laid on the roof horizontally and the broad longitudinal stripes thereon made by the circumferential bars 24 imitate the shadow thrown by the lower edge of a row of shingles on a shingle roof, while the narrower stripes made by the bars 25 and the notches 26 imitate the spaces between the side edges of adjacent shingles.

In order to minimize radiation from the cylinder in the spaces between the bars, I preferably apply to said spaces a coating of heat-insulating material 27, such as asbestos cement in suitable thickness.

It sometimes happens that the body of the cylinder will warp on account of the extreme and continuous heat applied to its interior, and this warping, if means were not provided to offset it, would cause irregularity in the application of the design to the roofing. I have taken care of this difficulty by mounting the bars 24 and 25 in such a manner that they may be adjusted with respect to the periphery of the cylinder body so as to maintain true cylindrical contour of the network of bars as a whole, irrespective of the warping of the cylinder body. In the present instance the bars are secured to the cylinder by cap screws 28 which are inserted from the interior of the cylinder and pass outwardly loosely through holes therein, the tips of the screws being threaded into the bars. Adjustment of the bars with respect to the cylinder surface may be effected by placing shims 29 at suitable points between the bars and the cylinder surface, the shims being held in place by tightening the screws 28.

Various modifications falling within the scope of my invention will be apparent to those skilled in the art, and I therefore do not limit the invention to the present disclosure except as recited in the appended claims.

I claim as my invention:

1. Means for applying a design to prepared roofing comprising, in combination, a cylinder having a series of heat-conducting bars arranged peripherally thereon in a configuration according to a design to be applied to the roofing, means for heating the bars, and heat-insulating material in the spaces between said bars.

2. Means for applying a design to prepared roofing comprising, in combination, a hollow cylinder having means for rotatably supporting it, means for interiorly heating the cylinder, a plurality of heat-conducting bars on the periphery of the cylinder arranged in a configuration according to the design to be applied to the roofing, the cylinder and said bars being of good heat-conducting material, and heat-insulating material filling the spaces between said bars on the periphery of the cylinder.

3. Means for applying a design to prepared roofing comprising, in combination, a cylinder having on its external periphery a series of heat conducting bars arranged in a configuration according to a design to be applied to the roofing, the bars being in intimate heat-conducting relation to the periphery of the cylinder, means for heating the cylinder and the bars, and means for minimizing radiation from the periphery of the cylinder except through said bars, the latter means consisting of heat-insulating cement applied to the periphery of the cylinder in the spaces between said bars.

4. Means for applying a design to prepared roofing comprising, in combination, a hollow iron cylinder having means for rotatably supporting it, means within the cylinder for heating it, a plurality of heat conducting bars on the periphery of the cylinder arranged in a configuration according to the design to be applied to the roofing, and means for mounting said bars in such a manner that they may be adjusted to maintain a perfect cylindrical contour of the set of bars irrespective of any irregularity in the shape of the cylinder caused by warping thereof.

5. Means for applying a design to prepared roofing comprising, in combination, a rotatably mounted cylinder, means for heating the cylinder, a plurality of separate bars mounted on the exterior periphery of the cylinder and arranged in a configuration according to the design to be imparted to the roofing, and means for adjustably securing said bars to the cylinder and allowing the adjustment of the bars to maintain the cylindrical contour of the set of bars as a whole irrespective of any irregularity in the cylinder.

6. Means for applying a design to prepared roofing comprising, in combination, a cylinder having means for rotatably supporting it, means for heating said cylinder, bars mounted on the exterior periphery of the cylinder and arranged in a configuration according to the design to be imparted to the roofing, said bars being of good heat-conducting material, means for adjustably mounting the bars on the cylinder so that a set of bars may be maintained in true cylindrical form irrespective of any irregularity in the cylinder, and a heat insulating cement filling the spaces between said bars on the exterior periphery of the cylinder.

7. Means for applying a design to prepared roofing comprising, in combination, a cylinder, spiders at opposite ends of the cylinder for supporting it, journals in the hubs of said spiders and mounted in suitable supports, one of said journals being tubular, a gas pipe passing through said tubular journal and communicating at its outer end with a gas supply, gas burners mounted in the cylinder and fed by said pipe, plates closing the ends of the cylinder and having apertures therein, heat-conducting bars mounted on the exterior periphery of the cylinder and arranged in a suitable design, and heat-insulating cement filling the spaces between said bars.

8. Means for applying a design to prepared roofing comprising, in combination, a cylinder, a plurality of heat-conducting bars mounted on the periphery thereof and arranged in a configuration according to a design to be applied to the roofing, means for heating the bars, and means for adjusting said bars with relation to the cylinder so as to maintain true cylindrical contour of the bars.

In testimony whereof, I have hereunto set my hand.

WILLIAM P. DUN LANY.

Correction in Letters Patent No. 1,228,191.

It is hereby certified that in Letters Patent No. 1,228,191, granted May 29, 1917, upon the application of William P. Dun Lany, of Chicago, Illinois, for an improvement in "Means for Ornamenting Prepared Roofing," an error appears in the printed specification requiring correction as follows: Page 2, line 106, claim 4, strike out the word "iron"; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 26th day of June, A. D., 1917.

[SEAL.]

R. F. WHITEHEAD,

Acting Commissioner of Patents.

Cl. 91—67.9.