W. P. DUN LANY.

APPARATUS FOR PRODUCING ORNAMENTAL ROOFING.

APPLICATION FILED NOV. 6, 1915.

1,214,658.

Patented Feb. 6, 1917.

FIG. 3.

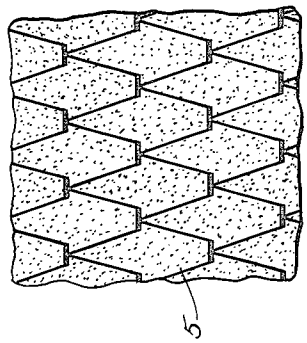


FIG. 2.

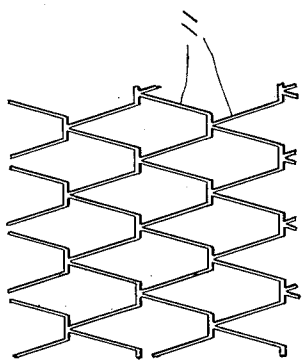
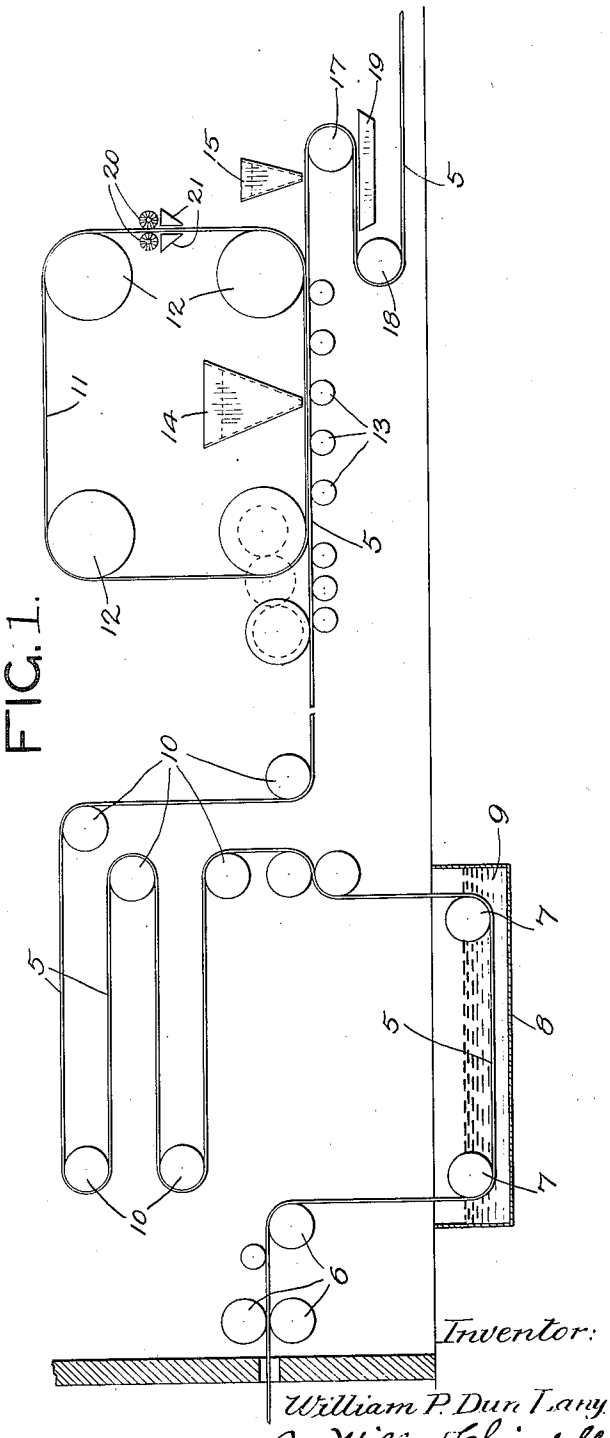


FIG. 1.



Witness:

J. C. Devick.

Inventor:

William P. Dun Lany

By Miller & Chindahl

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.

APPARATUS FOR PRODUCING ORNAMENTAL ROOFING.

1,214,658. Specification of Letters Patent. Patented Feb. 6, 1917.

Application filed November 6, 1915. Serial No. 59,932.

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 a certain new and useful Apparatus for Producing Ornamental Roofing, of which the following is a specification.

This invention relates to the art of roofing and refers more particularly to the production of ornamental flexible sheet roofing material of the character comprising a waterproofed sheet, coated with a granular or comminuted mineral substance to protect the waterproofing medium from the weather, and embodying an ornamental design.

One of the objects of the invention is to devise an improved apparatus by which a design may be created on the roofing without the application thereto of an additional coating of paint or coloring material to form the design.

Another object is to devise an apparatus such as just stated by which granular materials of different colors may be applied to the base in predetermined outline so that the design is formed by the relative arrangement of the granular materials themselves.

The invention further aims to provide an apparatus by which the application of different granular materials in predetermined designs may be accomplished rapidly and satisfactorily.

In the accompanying drawings, Figure 1 is a diagrammatic view of an apparatus embodying my invention. Fig. 2 illustrates a fragment of the stencil and Fig. 3 represents a fragment of roofing made in accordance with my invention.

In manufacturing roofing of this character a suitable base is selected, which base may consist of a strip or sheet of flexible and absorbent material such as paper, cloth, felt or other fibrous material. This strip is given a continuous traveling movement by means of suitable feeding and guide rolls and is coated on one or both faces, or wholly or partially saturated with a waterproofing medium. Said medium may be of a bituminous, asphaltic or resinous composition, and may be maintained in a fluid state by application of heat thereto. After the surface of the sheet has been coated or impregnated with the waterproofing medium, a layer of comminuted flaky or granular substance, or grit, such as silica, shale, crushed stone or slate, gravel, or the like, is deposited through a stencil traveling at the same speed as the sheet, the grit being thereby applied to certain definite spaces on one side of the sheet while the waterproofing material is in a fluid or viscous condition so that the grit will adhere to the base. Grit of a contrasting color is then deposited to fill the spaces of the sheet not occupied by the first layer, the second deposit of grit also adhering to the binder in the latter spaces. The relation of the spaces occupied by the two granular materials may be such that one forms a background and the other forms a design so as to give a highly pleasing appearance. For example, the design may be such as to simulate fancy tiling or shingles.

Referring to the drawings, the apparatus illustrated in Fig. 1 comprises a series of rolls between and about which the strip or sheet of felt or other base material 5 passes and by which the sheet is given a continuous traveling movement. 6 indicates the initial rolls, from which the sheet 5 passes down around rolls 7 located in a tank 8 which contains an asphaltic or other binding medium 9. Heat may be applied to the tank in any desired way to maintain the binder in molten condition. After being immersed in the binder, the sheet may be passed upwardly and, if desired, may be lapped back and forth around a number of rolls 10, allowing the binder to cool. The sheet is then guided into association with a stencil 11 which is preferably in the form of an endless strip or ribbon of the same width as the sheet and is supported upon four rolls 12, the rolls being driven at the proper speed so that the stencil and the sheet 5 move at the same rate. The sheet may be supported by suitable rolls 13 so that it will move in contact with the lower run of the stencil. Above the lower run of the stencil is mounted a hopper 14 containing a quantity of grit material which is fed from the lower end of the hopper onto the stencil and passes through the interstices therein and is deposited on certain spaces of the sheet 5. When the sheet passes beneath the succeeding lower roll which guides the stencil, said roll presses the grit against the sheet so that the grit firmly adheres to the binder. After the sheet moves out from beneath the stencil it passes beneath a second

hopper 15 containing grit of another color and this grit fills the spaces not occupied by the grit from the hopper 14. The thickness of the layer of grit deposited by either hopper may be controlled by placing the lower ends of the hoppers, or independent scrapers, close to the stencil or the sheet 5. Beyond the second hopper 15 the sheet passes around a guide roll 17 and is then lapped back around a roll 18. Beneath the guide roll 18 a receptacle 19 may be placed to catch loose flakes of the grit which were deposited on top of the first layer of grit and which do not adhere to the binder. The roll 18 will act to press the grit to the base.

Referring to Fig. 3, the heavy black lines represent an exemplary design, and the intervening stippled spaces the background which is ordinarily of much greater area than the design. The stencil shown in Fig. 2 is of reticulated character and in the present instance the grit for the background is contained in the first hopper 14 and is deposited through the stencil. It will be obvious, however, that, if desired, the order of steps may be reversed, the design being first applied through a suitably constructed stencil and the background affixed afterward. The stencil may be kept from fouling with adhering grit, etc., by a pair of rotary brushes 20 contacting opposite faces of the stencil. 21 indicates receptacles for catching any matter loosened by the brushes.

The foregoing detailed description is not intended as a limitation of my invention to the present disclosure. The scope of the invention is pointed out in the appended claims.

I claim as my invention:

1. An apparatus for producing ornamental sheet roofing, comprising means for applying a binding medium to a flexible sheet, means for causing the sheet to travel, an endless stencil associated with the sheet and arranged to travel at the same speed, a hopper containing grit located above one run of the stencil and said sheet, and another hopper containing grit of a contrasting color, beneath which latter hopper the sheet is caused to pass after leaving the stencil.

2. An apparatus for producing ornamental sheet roofing, comprising means for applying a binder to a flexible sheet, means for causing the sheet to travel, an endless flexible stencil having a horizontal lower run beneath and close to which said sheet is guided after having the binder applied thereto, a hopper located above the lower run of said stencil and arranged to deposit grit through the spaces in the stencil onto said binder, and a second hopper containing grit of a contrasting color, beneath which second hopper the sheet is caused to pass after leaving said stencil.

3. An apparatus for producing ornamental roofing, comprising means for causing a sheet to travel, a stencil arranged to travel in proximity to the sheet, stationary means for depositing grit through said stencil onto said sheet, means for thereafter depositing grit over the sheet to fill unoccupied spaces, means for doubling the sheet back in its travel, and means arranged to catch the surplus grit which does not adhere to the sheet after the second deposit.

4. An apparatus for producing ornamental sheet roofing, comprising an endless flexible stencil, a plurality of rollers about which said stencil travels, means for causing a flexible sheet to travel in association with the lower run of said stencil, means located above said lower run for depositing grit through the stencil onto said sheet, cleaning means contacting the face of the stencil to prevent fouling thereof, and a second means for depositing grit on the sheet after it leaves the stencil to fill the unoccupied spaces.

5. An apparatus for producing ornamental sheet roofing comprising an endless traveling ribbon stencil, means for causing a flexible base to travel close to said stencil, stationary means for applying an element to the base through said stencil, means for causing said stencil to travel around said stationary means, and means outside of the stencil for applying a second element to the base after leaving said stencil.

In testimony whereof, I hereunto set my hand in the presence of two witnesses.

WILLIAM P. DUN LANY.

In the presence of—

STEPHEN G. WOOD,

ALICE M. K. O'BRIEN.

Correction in Letters Patent No. 1,214,658.

It is hereby certified that in Letters Patent No. 1,214,658, granted February 6, 1917, upon the application of William P. Dun Lany, of Chicago, Illinois, for an improvement in "Apparatus for Producing Ornamental Roofing," an error appears in the printed specification requiring correction as follows: Page 2, line 45, claim 1, after the word "endless" insert the word *flexible;* 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 6th day of March, A. D., 1917.

[SEAL.]

F. W. H. CLAY,

Acting Commissioner of Patents.

Cl. 91—16.