Oct. 4, 1932. F. H. FORD 1,880,429

PROCESS OF PREPARING ROOF COVERINGS

Filed July 13, 1929

Fig. 1.

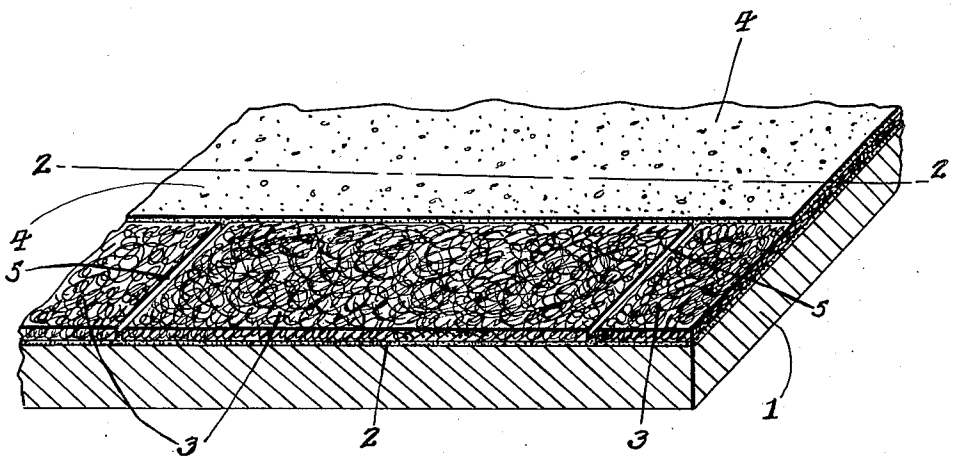


Fig. 2.

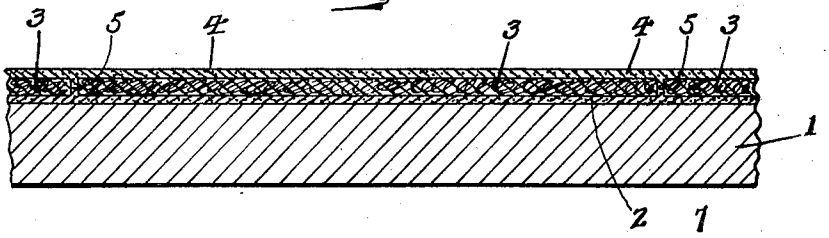
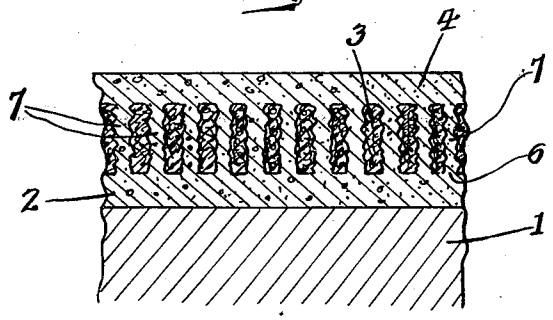


Fig. 3.



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UNITED STATES PATENT OFFICE

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PROCESS OF PREPARING ROOF COVERINGS

Application filed July 13, 1929. Serial No. 378,187.

This invention relates to a method of reclaiming and repairing surfaces described and claimed in my application, Serial No. 143,798, filed October 23, 1926 of which this application is a continuation in part.

It has been proposed to reclaim or repair old roofs by applying an asphalt to the old surface and then placing asphalt saturated papers or fabrics on the tar or asphalt after which a coating of tar asphalt is then directly applied over the asphalt saturated sheets with or without a solvent for the asphalt. By this means it is necessary to run the paper or sheets of material through a mill at points remote from the roof to be repaired and care must be exercised that the sheets thus saturated are free of adhesive material, otherwise the sheets would mat together during shipment or storage. It will be seen by this arrangement that the quantity of asphalt or bituminous material employed for the saturation of sheets must be limited. Furthermore the saturation of the sheets at points remote from the roof to be repaired entails considerable expense.

In the application of the saturated sheets to a roof by means of asphalt or any similar cementitious material, a perfect bond is not had between the outer and inner coatings of cementitious material through the asphalt with which the sheets have been previously saturated.

It is a further object of the present invention to eliminate the intermediate step of saturating the sheets of protecting material by the application of a cementitious and impregnating material directly to the sheets in situ where the cementitious coatings not only act as a binder but will operate to impregnate the unsaturated sheets and lock them securely together.

Another object of the invention is the provision of a process for repairing and reclaiming old roofs, walls or any kind of surface by the application of water proofing and fire proofing materials so that an additional protecting coat is not only provided but a new surface is had without necessitating the removal of any or all of the portions of old surfaces.

A further object of the invention is the provision of a process for reclaiming or repairing surfaces such as old roofs and for this purpose a cementitious fluid is applied to the old roof in which is impressed sheets of unsaturated asbestos, the cementitious material being applied to the outer exposed surface of the sheets in such a manner that the cement will not only act as a bond for the sheets and for filling the interstices between the sheets, but will thoroughly impregnate the sheets of asbestos so that the cementitious bond will extend from the outer surface through the sheets and have contact with the inner cementitious material which has been previously applied to the old roof, any number of sheets may be utilized for the purpose and cemented and impregnated directly on the roof as desired.

This invention will be best understood from a consideration of the following detailed description, forming a part of the specification taken in connection with the accompanying drawing wherein is shown, by way of example one embodiment of a reclaimed roof in accordance with the invention; nevertheless it is to be understood that the invention is not confined to the disclosure, being susceptible of such changes and modifications which shall define no material departure from the salient features of the invention as expressed in the appended claims.

In the drawing:

Figure 1 is a fragmentary view in perspective and broken away illustrating one example of an old roof reclaimed in accordance with this invention.

Figure 2 is a section on line 2—2 Figure 1.

Figure 3 is a sectional detail upon an enlarged scale and with a porous asbestos sheet exaggerated to show the coating materials as extended through the sheet to provide a rigid bond between the coatings to lock the latter and sheet together in a solid mass and to the roof which is reclaimed.

Referring to the drawing, 1 indicates the old roof which is to be relaimed, 2 a combined cementitious and waterproof coating directly applied to and throughout the surface of roof 1, 3 designates a plurality of unsaturated

porous sheets of asbestos which are firmly pressed directly into the coating 2 and the latter secures sheets 3 with the roof, and 4 denotes a covering for the sheet 3. The covering 4 is a combined cementitious and waterproofing coating of a fluidity to completely fill the interstices 5 between, to thoroughly impregnate and to extend completely through the sheets 3, as at 6 to combine, as at 7 with the coating 2. This arrangement forms a rigid bond between the coatings to lock them and the sheets together in a solid mass to the roof.

In carrying out my invention, I propose to treat surfaces such as roofs or walls with certain materials and ingredients which will provide for a water proof and substantially fire proof covering so that the inner materials forming part of the old structure will be preserved against the action of the elements of the weather and against bacteria or other forms of life which tend to destroy the original wall or roof, while providing a unitary structure between the old and new structures.

I propose to accomplish such a result by applying a water proofing material as a binder, the same being made from a combination of oils, or an asphalt or coal tar base, or some other form of water proofing mixture to the old roof or such other surface which it is necessary to treat. Sheets of asbestos are then placed on the binder and water proofing and firmly pressed into the same after which a second coat of the water proofing or binder above described will be applied to the outer surface of the asbestos sheets. Sheets of asbestos are laid with an end of one sheet overlapped with an end of another sheet, the overlapping being of such extent that a watertight joint will be provided. In applying the second coat of water proofing or binder to the asbestos sheets a sufficient amount is applied to throughly water proof and bind the same into one solid mass, thereby forming the entire application and the surface to which it is applied into a unitary body. By this treatment the asbestos sheets are secured to the roof or other surface so that the roof is not only water proof and rot proof but the asbestos sheets render said roof fire proof.

It will be appreciated that in repairing surfaces in the manner described above that any form of composition may be employed for cementing the asbestos sheets to the surface which will not only prevent bacteria or other material-destroying vermin from reaching the old materials forming the original roof, but the cement also acts as a deterrent to such bacteria.

The specially prepared cementitious and impregnated material is first formed by dissolving an asphalt or tar base in anthracine or creosote or pine oil to which solvent may be added as a small quantity of China wood oil. This material is made sufficiently thin that it will be capable of impregnating the asbestos sheets so that it will not only form a protective coating exteriorly of the outermost sheets but it will permeate and impregnate the sheets in such a manner that it will extend entirely through the sheets and contact with the cementitious material beneath the sheets so that the unsaturated sheets of asbestos will not only be cemented together by the adhesive material between the sheets but the cementitious material will penetrate through the inner coating of cement and lock the sheets into a solid mass.

While this combination of oils, tar, asphalt or paint and unsaturated asbestos paper finds its most frequent and beneficial uses in connection with roofs, it may also be used to like advantage as a coating or covering for walls and doors of dry kilns, refrigerators and buildings or other objects.

When a cementitious material is applied to a roof and unsaturated sheets of asbestos are impressed in cementing material and a further coating of the same cementitious material is applied to the outer surface, some evaporation of the cementitious material will take place both above and below the sheets of asbestos which must escape to the atmosphere. Due to the porous condition of the asbestos sheets, while the cementing solution is impregnating said sheet, this vapor will escape through the sheets and will not in any way tend to force the sheets away from the roof or from each other when several layers are employed. If on the other hand, saturated sheets of material were employed, the oil vapors could not escape through the sheets and therefore must find exit at the end of the sheet, thereby preventing a secure bond throughout the entire area of the saturated sheet.

When saturated sheets of material are employed, these must be manufactured by treating them with a different compound which will prevent adhesion between portions of the sheets when they are formed into rolls. When such sheets are fixed to a surface a different kind of cementing material must be employed from that which saturates the sheets so that a rigid bond cannot be had between several layers of the sheets and the surface to which the sheets have been applied.

I claim:

1. A method of reclaiming old roofs comprising, the application of a combined cementitious and waterproof coating directly to and throughout the surface of the old roof, firmly pressing unsaturated porous sheets of asbestos directly into said coating to secure the sheets with the roof, and then covering the sheets throughout with a combined cementitious and waterproofing coating of a fluidity to completely fill the interstices between, to thoroughly impregnate and to extend com-

pletely through the sheets to combine with the first coating thereby forming a rigid bond between the coatings to lock the coatings and sheets together in a solid mass to the roof.

2. A method of reclaiming old roofs comprising, the application of a non-heated combined cementitious and waterproof coating directly to and throughout the surface of the old roof, firmly pressing unsaturated porous sheets of asbestos directly into said coating to secure the sheets with the roof, and then covering the sheets throughout with a non-heated combined cementitious and waterproofing coating of a fluidity to completely fill the interstices between, to thoroughly impregnate and to extend completely through the sheets to combine with the first coating thereby forming a rigid bond between the coatings to lock the coatings and sheets together in a solid mass to the roof.

FRANK H. FORD.