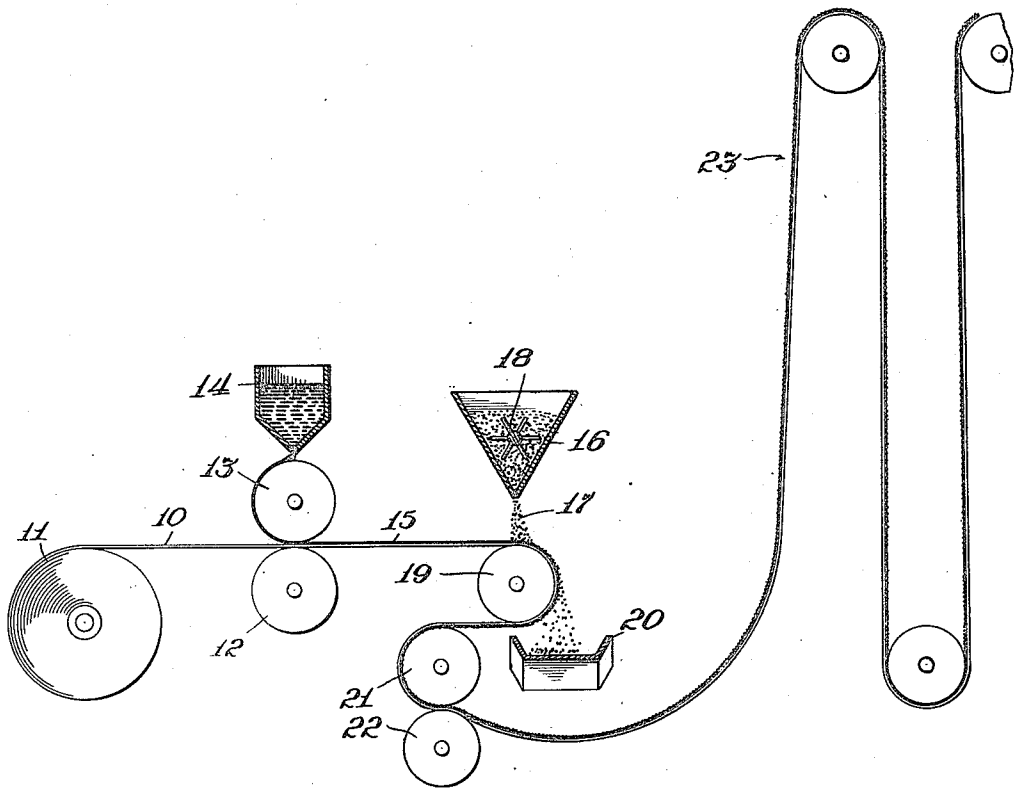
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METHOD OF MANUFACTURING PREPARED ROOFING.

APPLICATION FILED MAY 9, 1918.

1,289,328. Patented Dec. 31, 1918.



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METHOD OF MANUFACTURING PREPARED ROOFING.

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To all whom it may concern:

Be it known that I, HENRY R. WARDELL, a citizen of the United States, and resident of Yonkers, county of Westchester, and State of New York, have invented certain new and useful Improvements in Methods of Manufacturing Prepared Roofing, of which the following is a specification, and which are illustrated in the accompanying drawings, forming a part thereof.

The invention relates to the manufacture of prepared roofing and more especially the so-called grit surfaced prepared roofing and shingles. In the production of this material, a coating layer of asphalt is applied to to the roofing body and, while this asphalt coating is still hot, particles of grit, usually crushed slate, are permitted to fall upon the same in sufficient quantity to completely cover the asphalt. Under these circumstances, it is intended that the grit particles should permanently adhere to the asphalt and thereby provide a protecting and ornamental surface layer for the resulting roofing or shingles.

In practice, it is found that difficulty is frequently experienced in securing a proper adhesion of the grit particles to the asphalt coating. Furthermore, if these particles are not firmly held, they become dislodged in time, thereby marring the appearance of the roofing and directly exposing the asphalt coating to the weather.

As the grit surfacing materials most commonly employed are obtained by crushing and screening, the resulting particles are each coated with a film of dust and the presence of this dust coating upon the particles is largely responsible for the failure of the asphalt coating to securely hold the particles. Furthermore, washing and drying of the crushed materials prior to their use is not wholly effective for the reason that while the washing operation may serve to remove the existing dust film, a new one is formed by the abrasion of the particles upon each other during the subsequent handling of the material.

Another circumstance believed to contribute to the failure of the asphalt coating to securely hold the grit particles, is the local chilling of the asphalt coating by the contact of the grit particles with the same during the application of the grit surfacing material. That part of the asphalt coating which is immediately adjacent each grit particle is thereby hardened and a proper adhesive contact is not obtained.

The present invention accordingly contemplates an improved method of manufacturing prepared roofing and shingles, the object being to provide a process of manufacture which will result in the production of grit surfaced goods wherein the grit particles are securely held by the asphalt coating. Apparatus which may be employed in carrying out the improved process is conventionally represented in the single figure of the accompanying drawing.

In accordance with the usual practice in the manufacture of prepared roofing, a web 10 of saturated felt, supplied from a roll, as 11, is passed between the coating rolls 12, 13. One of these rolls, as 13, is associated with a fountain 14 for the supply of the asphalt coating material in a heated condition. While the asphalt coating, as 15, thus applied is still hot, the web passes beneath the grit hopper 16. To insure a continuous delivery of the grit, as 17, upon the hot asphalt coating of the traveling web, the hopper 16 is preferably equipped with an agitator 18.

In carrying out the present invention the grit 17 is moistened with a fluid which serves both to remove the film of dust from the grit particles and to soften that part of the asphalt coating 15 which comes into immediate contact with each grit particle as it falls upon the traveling web. There is accordingly no opportunity for the solid portions of the grit particles to be separated from the adhesive asphalt by enveloping films of dust and instead of local hardening of the asphalt by contact therewith of the grit particles, that part of the asphalt coating which comes in contact with each particle is softened by the fluid. A perfect adhesion of the grit surfacing material to the asphalt coating is thereby obtained.

While the fluid employed for moistening the grit particles should be a solvent for the asphalt constituents of the coating 15, a volatile fluid is preferably used in order that permanent softening of the asphalt coating may not result. If desired either naphtha or gasolene may be employed. It is most con-

veniently applied to the grit 17 while being agitated in the hopper 16, as from a spray nozzle, not shown.

The drawing also shows the usual guide roller 19 located directly below the grit hopper 16. As the web 10 turns about this guide roller, surplus grit delivered from the hopper 16 is recovered by falling into a transverse chute 20. After leaving the guide roller 19, the web passes between pressure rollers 21, 22, and thence to the drier 23. Instead of naphtha or gasolene, carbon tetrachlorid, carbon bisulfid, a light kerosene or industrial alcohol may be used as the moistening fluid.

I claim as my invention:

1. The method of manufacturing prepared roofing which consists in applying to an asphalt surface grit particles moistened with an asphalt solvent.

2. The method of manufacturing prepared roofing which consists in applying to an asphalt surface grit particles moistened with a volatile asphalt solvent.

3. The method of manufacturing prepared roofing which consists in applying to a hot asphalt surface grit particles moistened with an asphalt solvent.

4. The method of manufacturing prepared roofing which consists in applying to a hot asphalt surface grit particles moistened with a volatile asphalt solvent.

HENRY R. WARDELL.