

No. 813,336.

PATENTED FEB. 20, 1906.

H. R. WARDELL.
SHEET ROOFING MATERIAL.
APPLICATION FILED AUG. 7, 1905.

FIG 1

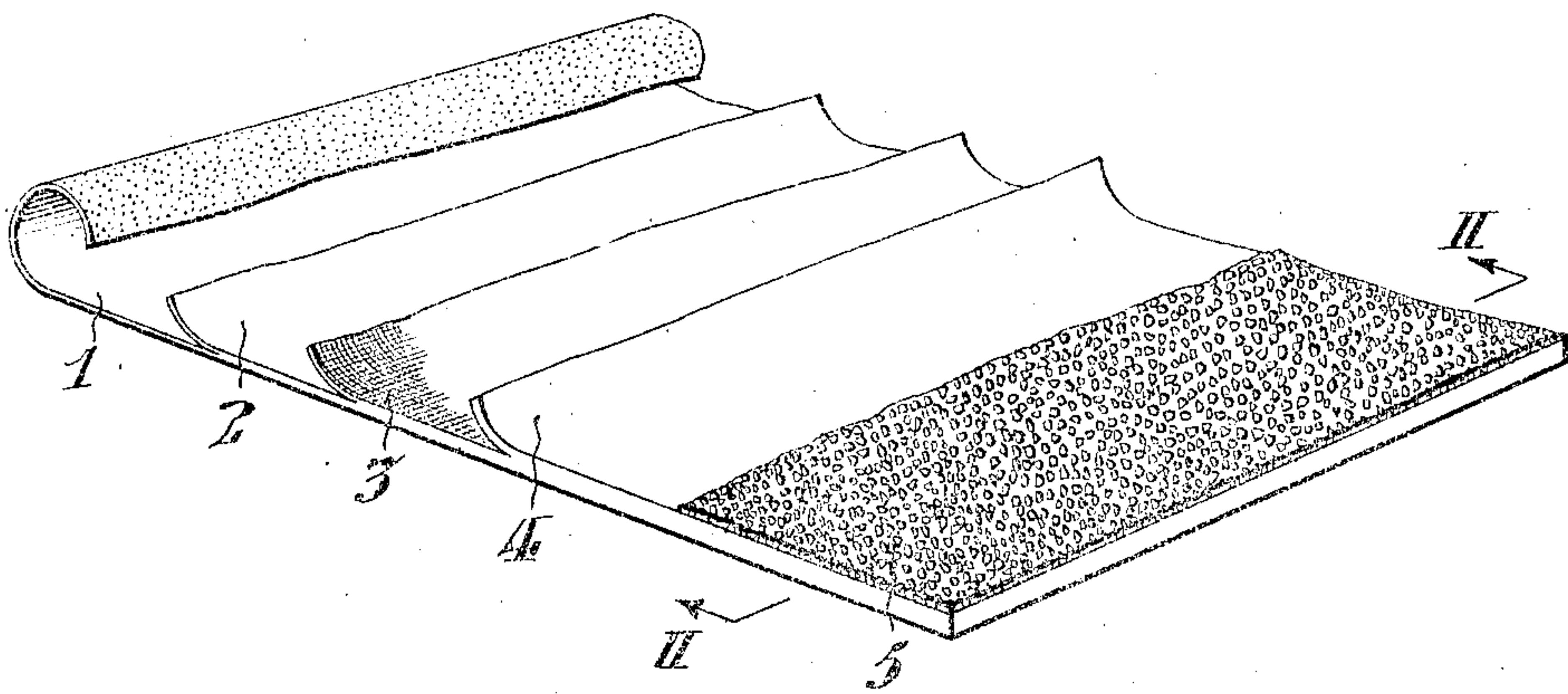
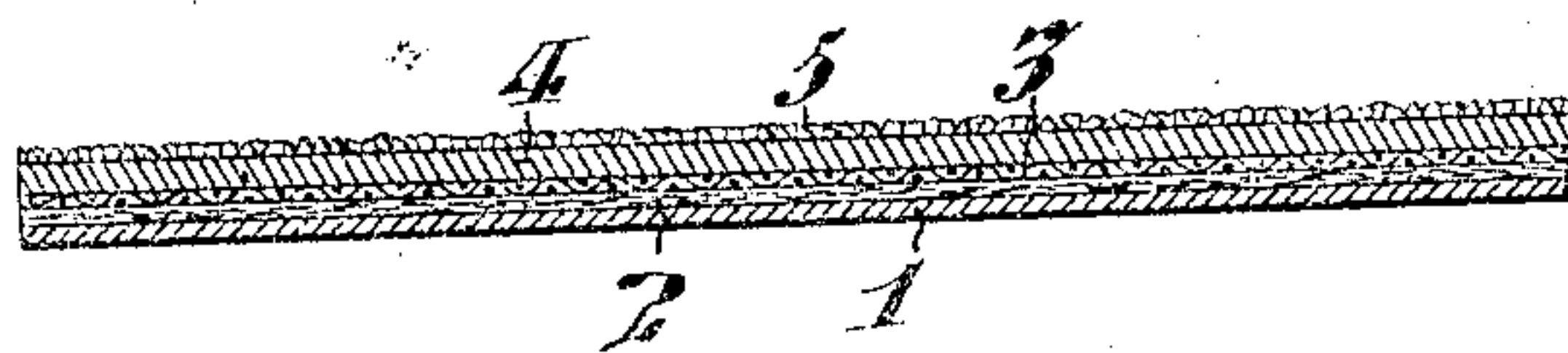


FIG. II.



WITNESSES:

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UNITED STATES PATENT OFFICE.

HENRY ROBBINS WARDELL, OF ARDMORE, PENNSYLVANIA, ASSIGNOR
TO THE BARBER ASPHALT PAVING COMPANY, OF PHILADELPHIA,
PENNSYLVANIA, A CORPORATION OF WEST VIRGINIA.

SHEET ROOFING MATERIAL.

No. 812,223.

Specification of Letters Patent.

Patented Feb. 20, 1906.

Application filed August 7, 1905. Serial No. 273,097.

To all whom it may concern:

Be it known that I, HENRY ROBBINS WARDELL, of Ardmore, in the county of Montgomery and State of Pennsylvania, have invented certain new and useful improvements in Sheet Roofing Material, whereof the following is a specification, reference being had to the accompanying drawings.

In said drawings, Figure I represents conventionally the several layers constituting the sheet indicated as though removed successively at one portion thereof. Fig. II is a similar one in transverse section on the line II II in Fig. I.

My invention belongs to the class of manufactures known as "sheet roofing material," many of which comprise a backing or support of organic fabric; and the object of my improvement is to provide a most permanent and resistant sheet which shall not only afford the quality of protection necessary in roofing material, but shall reduce to a minimum the danger of decay or disintegration within the sheet itself.

Heretofore various composite roofing sheets have been devised containing a backing or support of organic fabric—such as paper, felt, or burlap—usually saturated for protective purposes with a bituminous compound. This saturating compound, however, is not in itself sufficient to protect the fabric from decay or disintegration, for in order to saturate the fabric the bituminous compound must be fluxed with a considerable excess of oil. In use such a saturated fabric unless further protected according to my inventions is rapidly deteriorated in character by reason of the action of the sun and air effecting volatilization of the saturating compound, whereby moisture is admitted and decay set up. The only way whereby this can be effectually prevented is to completely incase the saturated sheet or sheets of fabric with separate layers of bituminous material on both sides, forming thus both a backing and a facing for the composite sheet. Layers thus entirely incasing the fabric protect it from the volatilizing effect of the atmosphere and maintain the saturating compound for the fabric or fabrics unchanged within, so that their full preservative action is realized and rendered lasting.

Proceeding for the purpose of convenient

description from the under side of the sheet as the same would be laid in the formation of a roof, the sheet comprises a backing layer of bituminous material 1, upon the exterior of which a slight coating of very fine sand is preferably applied to prevent stickiness. Next to this is a sheet of heavy paper 2, individually saturated with bituminous material. Next to this is a sheet of burlap 3, also individually saturated with bituminous material. Next to this is a thick layer or body 4 of bituminous material, which may be called the "facing" layer, and finally the exterior surface 5 consists of granulated stone, preferably feldspar or sea-washed gravel crushed with substantial regularity and preferably of a fineness between the limits of six to twenty meshes. This exterior coating of mineral is applied in the usual manner known to the art and of course should be substantially continuous and of nearly uniform character in all parts of the sheet, although the particles may vary, as above indicated.

I have specified bituminous material generally for the purpose of saturating the various layers; but I prefer to employ asphalt as the most efficient agent.

Heretofore bituminous layers have been employed in connection with various fabrics in the manufacture of roofing material; but they have usually been employed either in the interior of the structure where they impart strength and cause the various sheets of fabric to adhere to each other, or else they have only been used on only one of the outer surfaces of the sheet. It does not seem to have been realized that any organic fabric, even though thoroughly saturated with bituminous material, soon begins to disintegrate and decay under atmospheric influences unless both sides of the sheet are thoroughly coated with a separate bituminous layer.

It will be noted in the structure which I have invented that the organic material is of a composite character to give both strength and closeness of texture and that it is completely inclosed on both sides by an impervious and waterproof coating which effectually prevents decay.

Having thus described my invention, I claim—

A composite roofing sheet comprising a woven fabric and a felted fabric, both satu-

rated with bituminous material, placed in juxtaposition and united together to form a composite sheet; and independent layers of bituminous material on both outer surfaces
5 of the composite sheet, completely incasing the same and protecting it from atmospheric influences, substantially as set forth.

In testimony whereof I have hereunto signed my name, at Philadelphia, Pennsylvania, this 4th day of August, 1905.

HENRY ROBBINS WARDELL.

Witnesses:

JAMES H. BELL,

E. L. FULLERTON