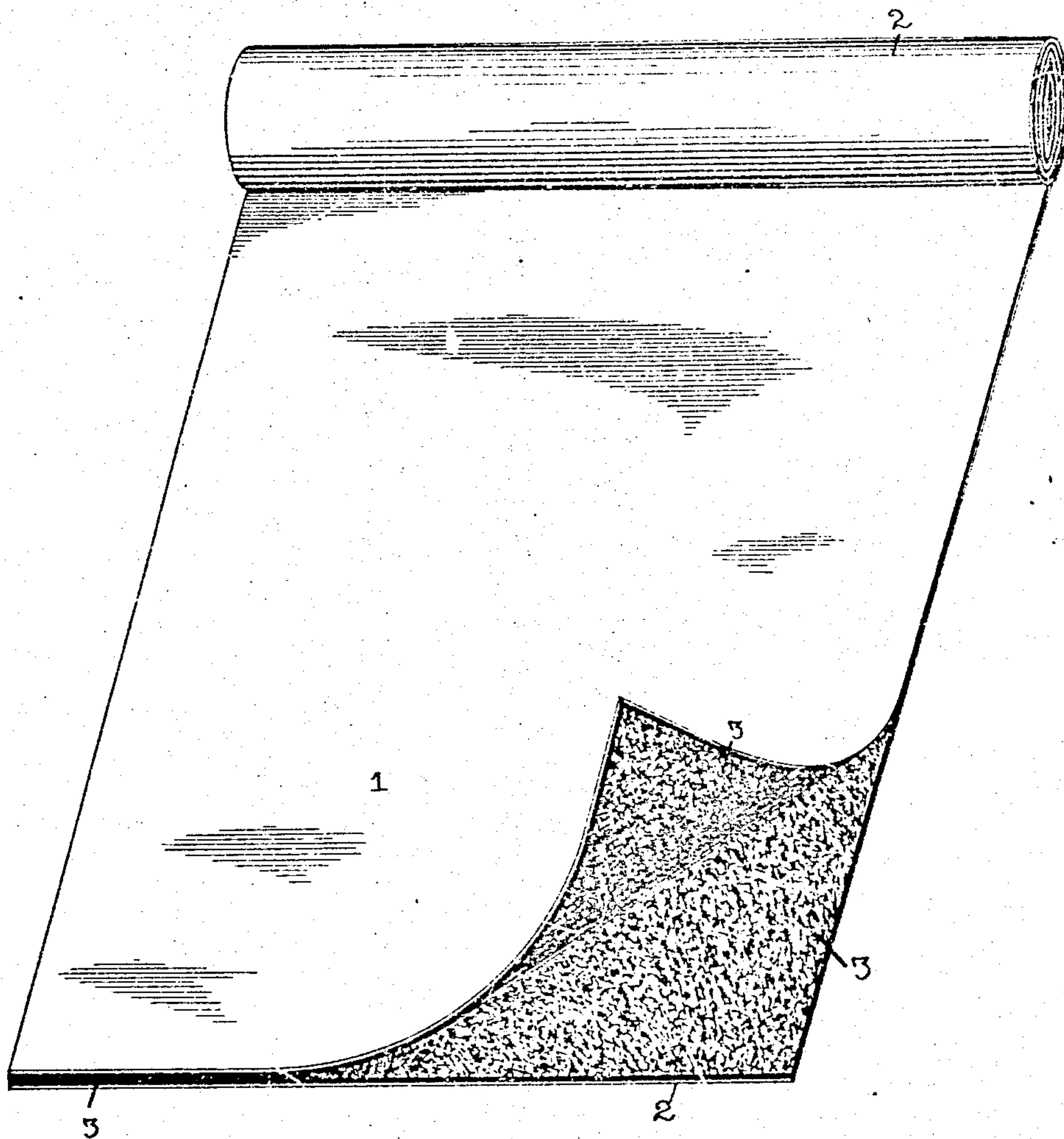


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A. GROSS.
WATERPROOFING SHEETING.
APPLICATION FILED NOV. 14, 1903.

NO MODEL



Witnesses
Herman M. Schrag
B. C. Stickney

By

Inventor
August Gross
Attorney
Thos. A. Patterson

UNITED STATES PATENT OFFICE.

AUGUST GROSS, OF NEW YORK, N. Y.

WATERPROOFING-SHEETING.

SPECIFICATION forming part of Letters Patent No. 775,968, dated November 29, 1904.

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To all whom it may concern:

Be it known that I, AUGUST GROSS, a citizen of the United States, residing in Manhattan borough, city of New York, in the county of New York and State of New York, have invented certain new and useful Waterproofing-Sheeting for Buildings, of which the following is a specification.

This invention relates to means for waterproofing or damp-proofing buildings and other structures.

The invention consists in a sheeting which is made up of plies of fabric united by a compound that is adherent and waterproof and which, moreover, remains for an indefinite length of time in a plastic condition. This sheeting may be laid between the lower and upper portions of a floor or as a lining for a side wall or a roof of a building or in roofing over a tunnel and in a variety of other situations where it is desired to exclude moisture.

The accompanying drawing illustrates a roll of waterproofing-sheeting of the kind made the subject of the following description.

1 and 2 designate plies or sheets of unbleached muslin, paper, or other fabric, which are united by an adherent compound 3, which is waterproof and plastic and preferably forms a thin stratum between the plies of fabric. Said compound consists of asphalt or asphaltum mixed with sufficient pine-oil to render the compound plastic and preserve its plasticity and also with sufficient linseed-oil to flux the asphalt and the pine-oil. Preferably asphaltum of a high grade is boiled and refined, the heat required being about 400°. It becomes a thick liquid, into which linseed-oil is slowly poured. Then pine-oil is added, and the compound is stirred until it is thoroughly mixed. The compound is then applied to the fabric.

By the refining process the asphaltum is deprived of its impurities and as well of acids and oils. The addition of the pine-oil, which is preferably distilled from the *Pinus Australis*, renders the compound plastic, which quality it retains for an indefinite time. The pine-oil is non-drying. The linseed-oil favors the fluxing of the asphaltum and pine-oil, and the three ingredients may be employed in such

proportions as to produce when inclosed between fabric sheets a sheeting which is waterproof and plastic and which can therefore adapt itself to corners and irregular surfaces without danger of breaking or tearing. Since the sheeting retains its plasticity, it may be made up into rolls for the market and will be ready for use when required. Moreover, it can readily be applied by unskilled labor and without the necessity of heating it. It is recommended that the pine-oil and linseed-oil be in about equal proportions and form about one-third, by weight, of the compound. In practice five hundred pounds of asphaltum are compounded with one hundred and twenty pounds each of linseed-oil and pine-oil.

One of the principal advantages of my invention is that the compound is kept in a plastic condition, so that the sheeting may be bent around or into sharp corners without liability of breaking, even though a long time has elapsed since its manufacture, while the plies of fabric are nearly inseparable and are absolutely damp-proof. The use of this compound favors the making up of thin waterproofing-sheets, which because of their thinness may be readily adapted to corners and folds where required, while since the compound itself is waterproof it is not always, if ever, necessary to saturate the fabric therewith, thus leaving the sheeting clean, and consequently easy to handle. To some extent variations may be resorted to without departing from the scope of the invention.

The lining 3 between the sheets of fabric remains plastic for an indefinite length of time. The pine-oil is not only of advantage for the reasons already given, but is also itself waterproof. The sheeting is adapted to waterproof foundation-walls and other subterranean structures, where it is constantly attacked by water from springs and rainfalls, since it does not disintegrate under the action of water. The lining 3 is in the form of a thin stratum and is distinct from the fabric layers, although adhering thereto and perhaps filling the meshes of the latter. It is distinguished from a mere paint, because the paint hardens and at the most is only a coating or skin upon the fabric, so that when the latter is stretched, as often

occurs in bending the sheeting over sharp corners, the paint or skin is necessarily broken, whereas my lining 3 is distinct from the fabric, so that when the latter is stretched the lining does not break, but accommodates the stretching of the fabric and remains absolutely waterproof.

When used in foundation-walls, waterproofing sheeting is often subjected to enormous pressure, which of course is not relieved so long as the building stands. Such pressure would of itself crush and disintegrate the brittle paints or coatings heretofore employed in sheetings of this description, so that they would lose what slight capacity they originally had for withstanding the constant pressure of water that is met in foundation-work, whereas my sheeting withstands indefinitely such pressures and remains absolutely waterproof. The capacity of the lining for flowing is of great value when the sheeting is subjected to enormous pressures, since the destruction of the sheeting is avoided.

The alternation of heat and cold to which building and tunnel walls are subjected has the effect of expanding and contracting the walls. The plastic quality of the sheeting, and especially of the lining 3, lends it great value in this connection also, since it readily adapts itself to expansion of the wall and remains impermeable, whereas the waterproofing material used in former sheetings becomes brittle when cold and inevitably cracks during the expansion of the wall, thus making openings for the water to leak in.

Having thus described my invention, I claim—

1. A manufactured article of commerce, consisting of a pliant waterproofing-sheeting, which comprises plies of fabric, with an intervening distinct stratum of adhesive waterproof material which is in a condition of plasticity.

2. A manufactured article of commerce, consisting of a waterproofing-sheeting which is pliant when cold and comprises plies of fabric united by bituminous material which is in a substantially permanent plastic condition.

3. A manufactured article of commerce, consisting of a waterproofing-sheeting which is pliant when cold and comprises plies of textile fabric united by an adhesive waterproof mixture which is in a substantially permanent plastic condition; said mixture comprising asphalt and oil.

4. A manufactured article of commerce, consisting of a roll of waterproofing-sheeting which is pliant when cold and comprises plies

of textile fabric, with an intervening distinct stratum of adhesive waterproof material which is in a condition of plasticity and of which the base is asphalt.

5. As a new article of manufacture, a waterproofing-sheeting comprising plies of fabric united by a material comprising asphalt mixed with an oily substance that renders the mixture plastic and preserves its plasticity.

6. As a new article of manufacture, a waterproofing-sheeting comprising plies of fabric united by a material which comprises asphalt, an oil for keeping the mixture plastic, and an oil which serves as a flux for said asphalt and said oil.

7. As a new article of manufacture, a waterproofing-sheeting comprising plies of fabric united by a compound comprising asphalt and pine-oil.

8. As a new article of manufacture, a waterproofing-sheeting comprising plies of fabric united by a compound of asphalt, pine-oil, and a flux.

9. As a new article of manufacture, a waterproofing-sheeting comprising plies of fabric united by a compound of asphalt, pine-oil and linseed-oil.

10. As a new article of manufacture, a waterproofing-sheeting comprising plies of fabric united by a compound of asphalt, pine-oil and linseed-oil, the pine-oil and linseed-oil being in about equal proportions and forming about one-third by weight of the compound.

11. As a new article of manufacture, a waterproofing-sheeting comprising plies of fabric united by a compound of asphalt with sufficient pine-oil to keep the article in a plastic condition and with sufficient linseed-oil to flux the asphalt and pine-oil.

12. As a new article of manufacture, a waterproofing-sheeting comprising plies of fabric united by an adherent waterproof mixture whose base is a bituminous substance, such as asphaltum, tar, pitch or the like, which is kept in a plastic condition by an oily substance which is mixed therewith.

13. As a new article of manufacture, a waterproofing-sheeting comprising plies of fabric united by an adherent waterproof mixture whose base is a bituminous material, which is kept in a plastic condition by an oil, which oil is fluxed with the bituminous material by means of a fluxing-oil.

AUGUST GROSS.

Witnesses.

HERMAN M. SCHAAP,
NATHAN GREENBAUM.