

March 2, 1926.

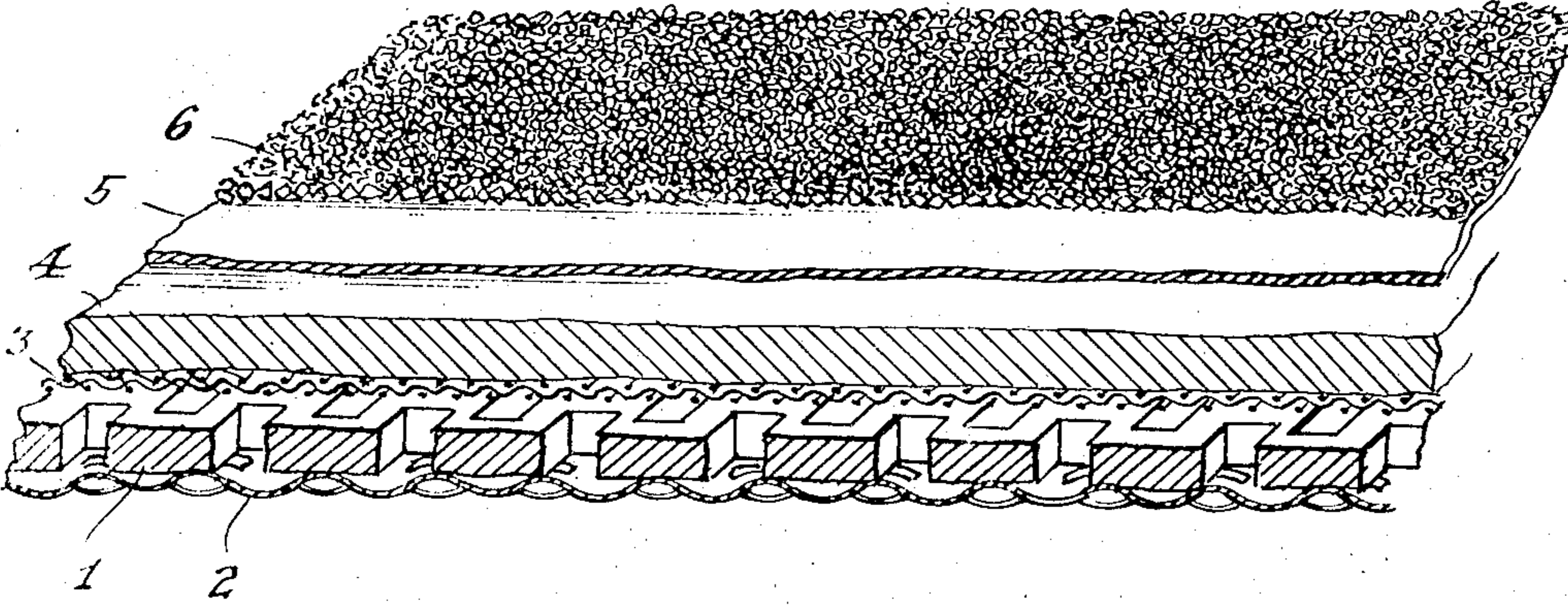
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O. A. HEPPES ET AL

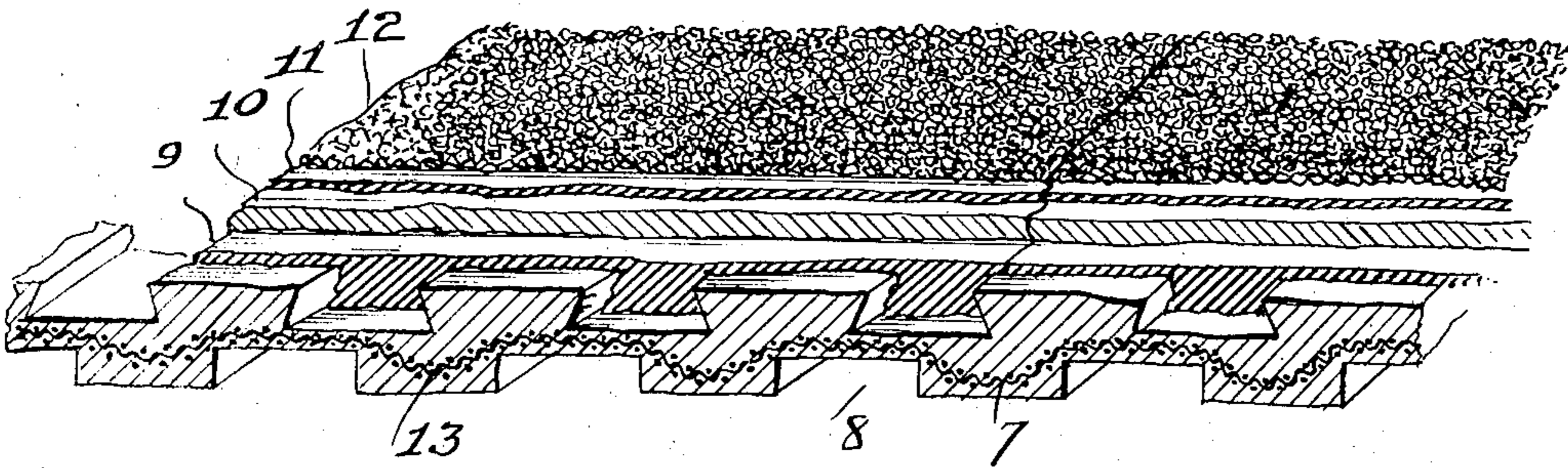
WATERPROOF COVERING

Original Filed Jan. 12, 1922

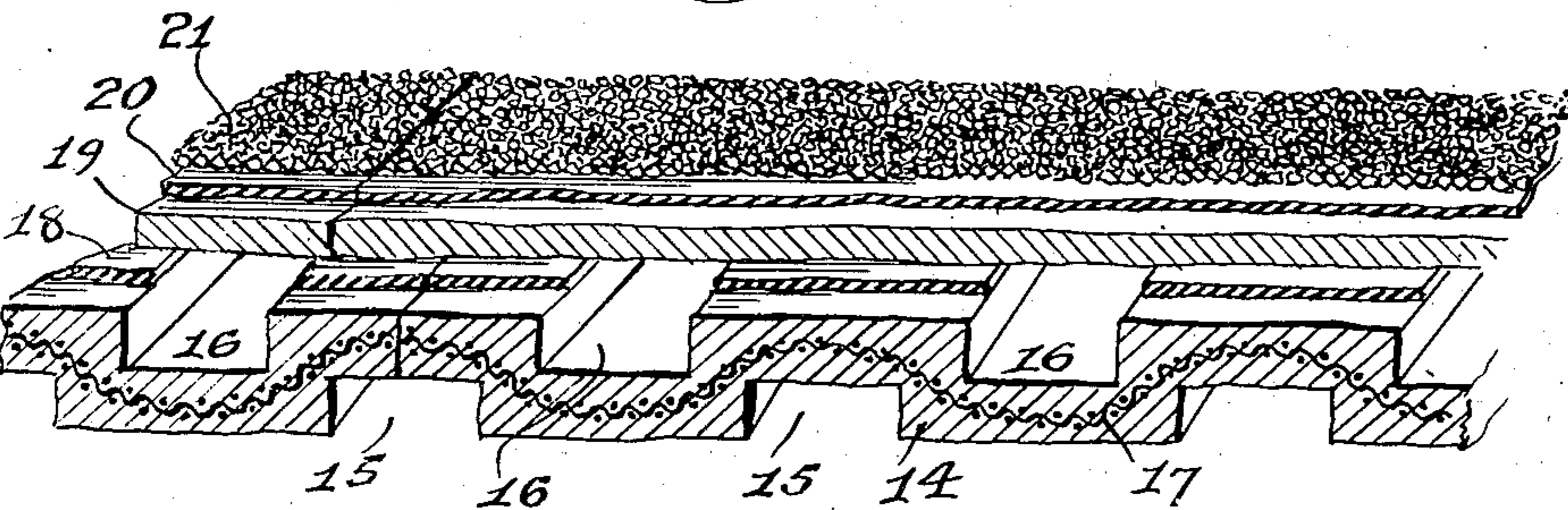
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



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# UNITED STATES PATENT OFFICE.

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## WATERPROOF COVERING.

Application filed January 12, 1922, Serial No. 528,880. Renewed July 27, 1925.

To all whom it may concern:

Be it known that we, OTTO A. HEPPES and WALTER H. CADY, both citizens of the United States, residing at Chicago, in the county of Cook and State of Illinois, and Boston, county of Suffolk, and State of Massachusetts, respectively, have invented certain new and useful Improvements in Waterproof Coverings, of which the following is a specification.

This invention relates to waterproof covering and refers more particularly to a board-like covering to be used where a stiff waterproof board would be applicable, as in siding, interior walls in place of plaster-board now in common use or for roof covering.

Among the important objects of the invention are to provide a waterproof covering which combined with its waterproof qualities, is lighter in weight and has an inherent stiffness of character which is necessary in its use as a siding or wall covering; to provide a covering which is cheaply made and easily laid and one which presents an attractive appearance, and due to the air spaces which are formed in its structure, prevent the accumulation of dampness which is objectionable in material of this character.

Fig. 1 is a fragmentary sectional view of one type of a covering.

Fig. 2 depicts a modified form, and in

Fig. 3 is shown a further modification of the covering in section.

Referring to the drawings in Fig. 1 is shown a perforated paper board 1 which is of considerable thickness and is underlaid by expanded metal screening as shown at 2. Within the body of the structure is positioned a wire mesh 3 overlaid by a felted sheet 4 which may or may not be saturated with asphaltic bituminous or other waterproofing material. Above this is a coating or layer 5 of an adhesive substance such as asphalt or other bitumens and this coating is overlaid with a surfacing 6 of stone, gravel or lighter granular material.

In Fig. 2 is shown a similar type of covering comprising a lower base 7, having in its lower face a plurality of formed ducts 8 and a keystone design produced on its upper face. Into the keystone design is laid a mastic waterproofing substance such as as-

phalt or other mastic material as shown at 9 and upon this is placed a felted fibrous material 10 which may or may not be saturated or impregnated with a waterproofing substance. The felted sheet is overlaid with an adhesive substance 11 which serves to coat the felted sheet 10 and cause the granular surfacing material 12 to adhere to the structure. Through the body of the base 7 is a wire mesh 13 which while permitting more or less flexibility of the covering at the same time gives the structure an inherent strength and stiffness which prevents cracking or disrupting the covering and produces a firmer bond between the base material.

In Fig. 3 the base 14 is somewhat similar to the base shown in Fig. 2, the material being formed to produce a series of lower grooves or passages 15 and upper ducts 16, the mesh wire 17 improving to a marked degree the strength and stiffness of the base. In the latter figure the keystone design is replaced by a rectangular construction and instead of filling the upper ducts or passages 16 with a waterproof mastic substance, a fibrous felted sheet 18 impregnated with waterproofing material or having a waterproofing material bonded in the body of the felt, overlays the upper surface of the base. About the waterproof fibrous sheet is a second felted sheet 19 which may or may not contain a waterproofing substance, and the upper surface of this sheet is coated with an adhesive substance 20 and surfaced with a stone or gravel surfacing 21 as previously explained. In place of granular surfacing material where the covering is to be used for interior work, a paint surface or any other type of decoration may be used.

The base of a building board, siding or roofing material of this character may be rolled or pressed from any cheap paper stock or felted fibrous substance, and during the forming thereof, the wire mesh positioned within the body of the stock. In fitting the sheets together, the particular type of coverings for such a base and the mode of overlaying them will vary with the purpose for which the covering is to be used. It is understood, of course, where there are two felted fibrous sheet materials, either waterproofed or otherwise, overlaying each other or laying next to the base material, it will be necessary to interpose therebetween

an adhesive substance such as one of the common bitumens or pitch substance well known in this art. When the upper surface of the material is to be covered with a design or color other than the granular surfacing, the upper surface of the exposed sheet may be sized or covered with a covering such as stearine pitch or numerous other coatings susceptible of taking colors.

In Fig. 3 is shown a mode of abutting the edges and ends of the covering so as to present when finally laid, a unitary structure. The covering may be used as explained, for siding, interior wall board, roofing and innumerable other building purposes where a light, stiff, strong, waterproof covering is desired.

In addition to its strength and waterproofing qualities, the feature of an air circulation in the body or structure of the covering, improves materially adaptation of this covering to interior and exterior work, as dampness is readily carried off by the air circulation.

We claim as our invention:

1. A waterproof covering, comprising a relatively heavy fibrous board, having air circulating ducts shaped therein, a plurality of overlaying plies of fibrous material and waterproofing substances imposed upon the base to form a unitary structure.

2. A waterproof covering, comprising a

relatively heavy base of reinforced fibrous board having channelled ducts formed in its surfaces, a plurality of superimposed layers of sheeted material and waterproofing substance overlaying the base and forming therewith a relatively stiff unitary structure.

3. A waterproof covering, comprising a relatively heavy base of reinforced fibrous board having channelled ducts formed in its surfaces, a plurality of superimposed layers of sheeted fibrous material and waterproofing substance alternately laid to form a compact resilient waterproofing board.

4. A waterproof covering, comprising a relatively heavy base of reinforced fibrous board having channelled ducts formed in its surfaces, a plurality of layers of waterproof saturated material and relatively resilient waterproofing substances incorporated with the base to form a stiff unitary structure.

5. A waterproof covering, comprising, a relatively heavy base of reinforced fibrous board having channelled ducts formed in its surfaces, a plurality of layers of waterproof saturated material and relatively resilient waterproofing substances, the top layer surfaced with an adhesive coating and a granular surfacing and the entire bonded into a unitary structure.

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