F. C. OVERBURY.

ROOF.

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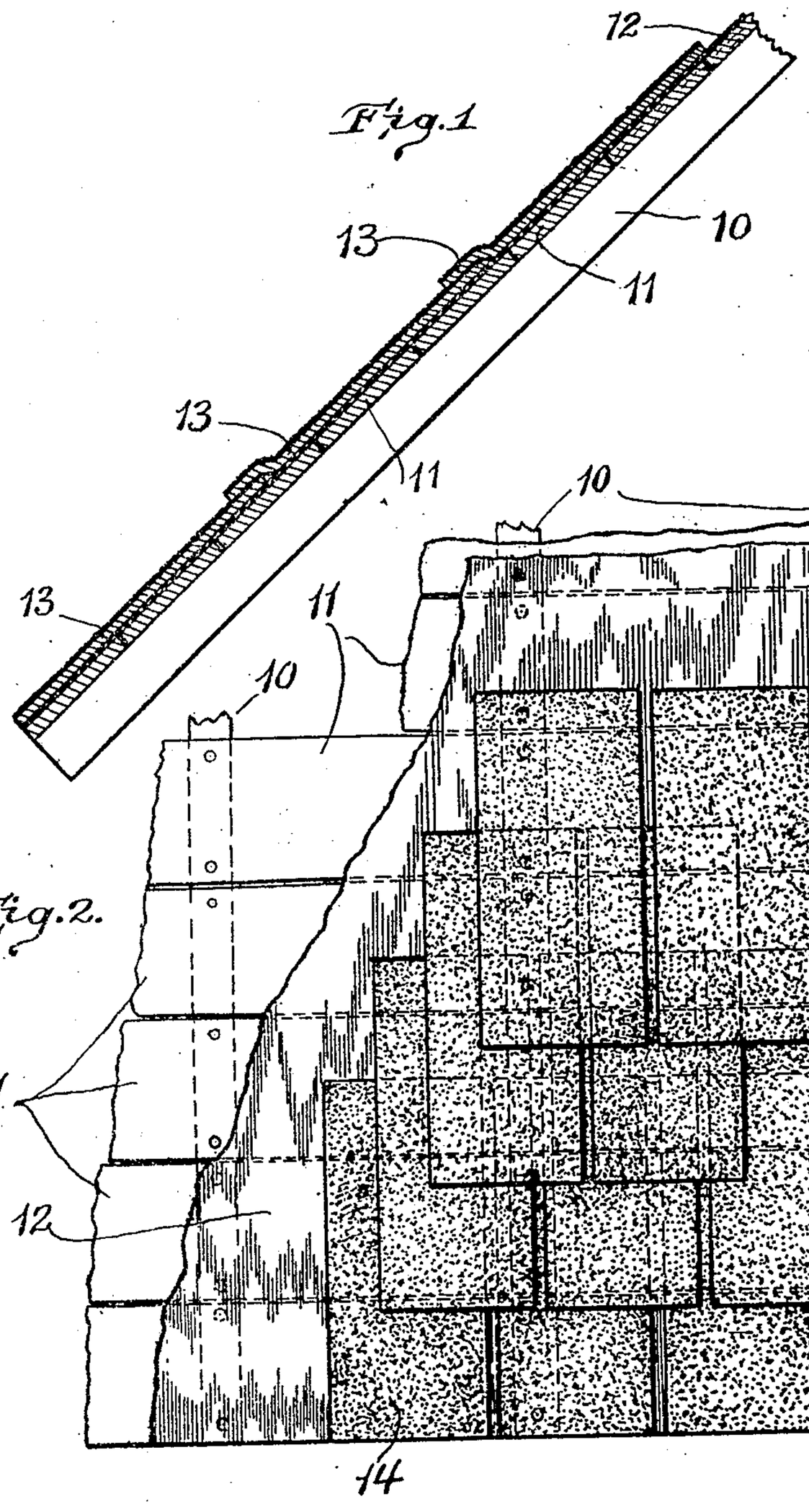

Fig. 1.

Fig. 2.

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UNITED STATES PATENT OFFICE.

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ROOF.

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To all whom it may concern:

Be it known that I, FREDERICK C. OVERBURY, a citizen of the United States, and a resident of Montclair, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Roofs, of which the following is a specification.

This invention has relation to roof structures and more particularly to those involving the use of prepared roofing papers and fabrics either in the form of sheets or shingles.

In the ordinary building, where prepared roofing material is used, the roof comprises the usual timbers upon which are secured wooden boards to serve as a structure or base for the reception of roofing material. These boards contain usually more or less resinous matter, and, on the other hand, are absorbent, particularly after they become dry. Ordinarily the prepared roofing consists of a sheet or foundation of felt or other like fibrous material which is saturated or impregnated with a low melting point asphalt or hydrocarbon compound containing more or less oil. On the saturated foundation is usually a layer of relatively harder pitch or asphalt, in which, in some instances, is embedded a layer of crushed mineral such as slate, granite or the like for improving the waterproof and fireproof qualities of the roofing.

During the summer, in some localities in this country, and during the greater part of the year in the Southern States, the heat of the sun greatly softens the impregnating compound of the roofing and tends to permit the separation and flow of the contained oils; so that, when the roofing is laid upon wooden boards as I have described, the oil is gradually to a greater or less extent absorbed by the wooden supporting structure and produces two results:—first, it detracts from the durability and waterproof qualities of the foundation, and, second, it renders the boards more highly inflammable. I have seen instances where the roofing boards, under the conditions stated, have become black with the absorbed oils and highly inflammable. When, on the other hand, the roof is exposed to heat, as because of its proximity to a burning building or to the presence of fire brands dropping thereon, the saturating compound is very materially softened, and the absorption by the wooden structure of the contained oils is greatly increased. In any case, the danger from fire is increased. Again, when the resinous content of the wood works to the surface and makes contact with the impregnated fabric, it is, as is well known, destructive of the integrity of the fabric. Anyone familiar with the conditions which appertain to the use of prepared roofing has seen the damage done to prepared roofing material by the resinous matter which collects upon or oozes from the roofing boards on which such roofing is usually laid.

My invention has for its object remedying the evils incident to such roof structures as I have described, and moreover to safeguard such structures against destruction by fire, and this is accomplished according to my invention by providing between the wooden support and the prepared roofing a layer of such substances as will be affected neither by the resinous content of the wooden support nor by the oily content of the prepared roofing, and, preferably, it will be fire resistant. Various substances for this purpose may be used, but, for the sake of cheapness and ease of application, I prefer some fluid or plastic material which may be applied by a brush or other implement, such for example as sodium silicate. Such substance may be applied to the wooden support before the roofing material is laid thereon, and it may be permitted to harden before the roofing material is positioned, or such roofing material may be laid while the substance is soft and plastic, so that, when the latter hardens, it serves in assisting to secure the roofing material in place. It is possible to use for the purpose a substance which is soluble in water, since it is covered by the waterproof roofing and rain water or water from melting snow or ice cannot obtain access thereto. I prefer to employ a fire resistant material and one which will not melt or be destroyed by moderate heat, and which will afford an impermeable layer between the absorbent boards and the oily or hydrocarbonaceous matter contained in the impregnated foundation of the roofing material.

On the accompanying drawing, Figure 1 represents a section through a roof embodying the invention and in which the prepared roofing is in the form of sheets. Fig.

2 represents a portion of a roof in which the prepared roofing is in the form of shingles.

On the drawing, 10, 10 indicate the usual timbers which form a portion of the roof structure, and 11, 11 indicate the ordinary wooden boards which are nailed thereon to support the prepared roofing material. According to my invention, after the supporting structure has been erected, the boards are covered with an impermeable layer 12 of sodium silicate (either alone or with other substances added thereto) or other equivalent fire resistant material which is not acted upon by resinous matter contained in the boards, or by the asphalt, oil or other compound used in saturating or impregnating. This layer may be applied by any suitable means, and, if desired, permitted to harden. Then upon the layer is placed the roof covering. This roof covering may be laid in sheets or strips as indicated in Fig. 1 at 13, in which case the lower margin of each sheet overlaps and is cemented or otherwise secured to the next lower sheet, all in such manner as to cover the layer 12 completely and protect it from the weather. In Fig. 2, the roofing boards are shown as having the layer of protecting substance, sodium silicate or its equivalent, applied to a portion of the surface thereof, and the prepared roofing cut into the shape of shingles or tiles 14, *i. e.* laid on the layer. The roofing material in each instance is preferably made of wool felt or its equivalent fibrous material impregnated with a low melting point hydrocarbon, such as asphalt, and coated on one or both of its faces with a harder pitch or asphalt. On the upper or outer faces the prepared roofing elements may have mineral pigment mixed with the pitch-like coating, or crushed mineral may be embedded therein.

Having thus explained the nature of my said invention, and described a way of making and using the same, although without attempting to set forth all of the forms in which it may be made or all of the modes of its use, what I claim is:—

In a roof structure, the combination with the roof boards, and an outer covering of prepared roofing material consisting of a fibrous foundation impregnated or coated with a waterproofing hydrocarbon compound, of an interposed coating of a fire resistant substance which is impermeable to and not affected by the resinous content of the boards or by the said impregnating compound, substantially as set forth.

In testimony whereof I have affixed my signature in presence of two witnesses.

FREDERICK C. OVERBURY.

Witnesses:
PETER SEMLER,
BENJAMIN HARTMAN.