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ROOFING.

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966,187.

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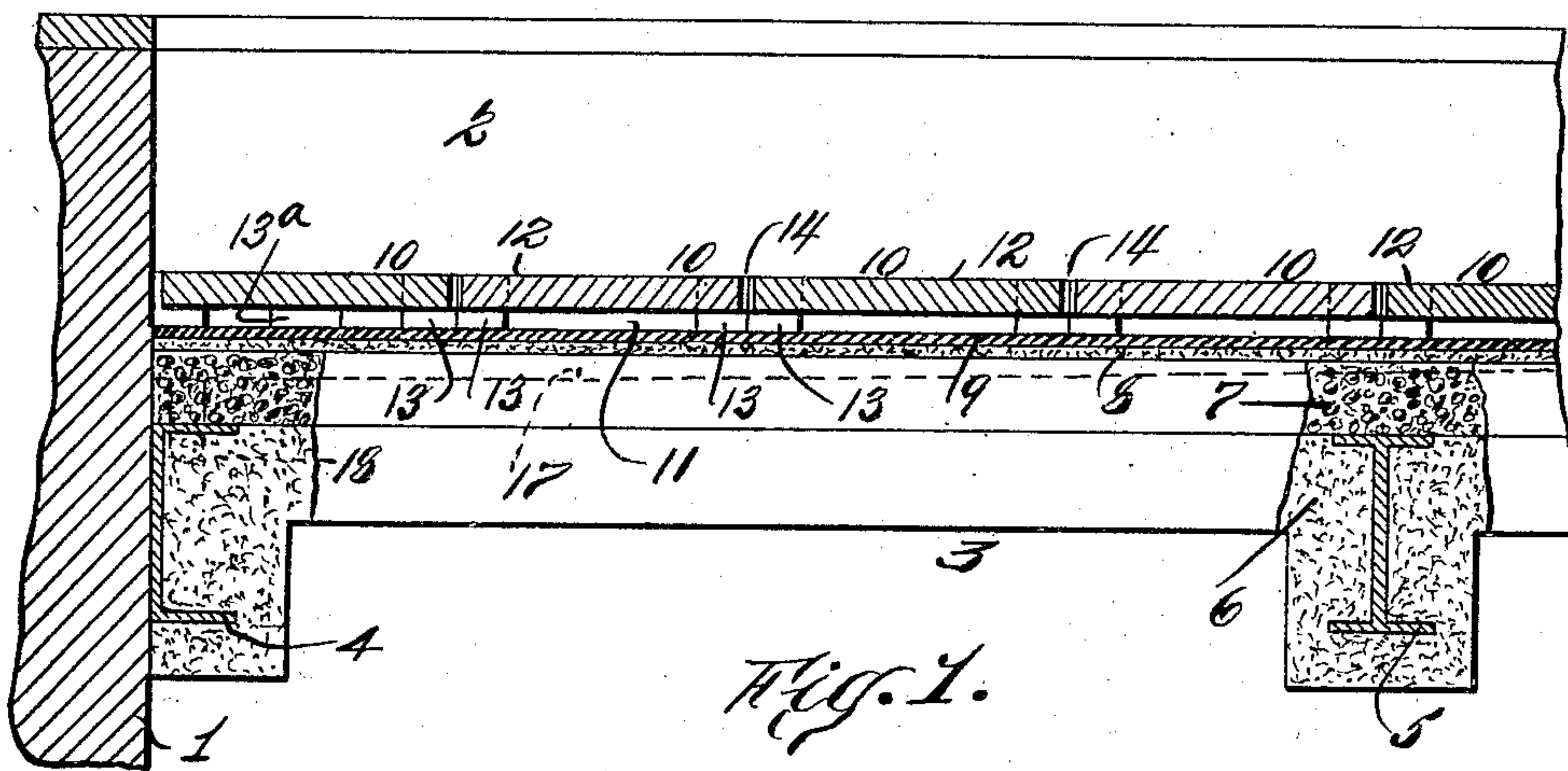
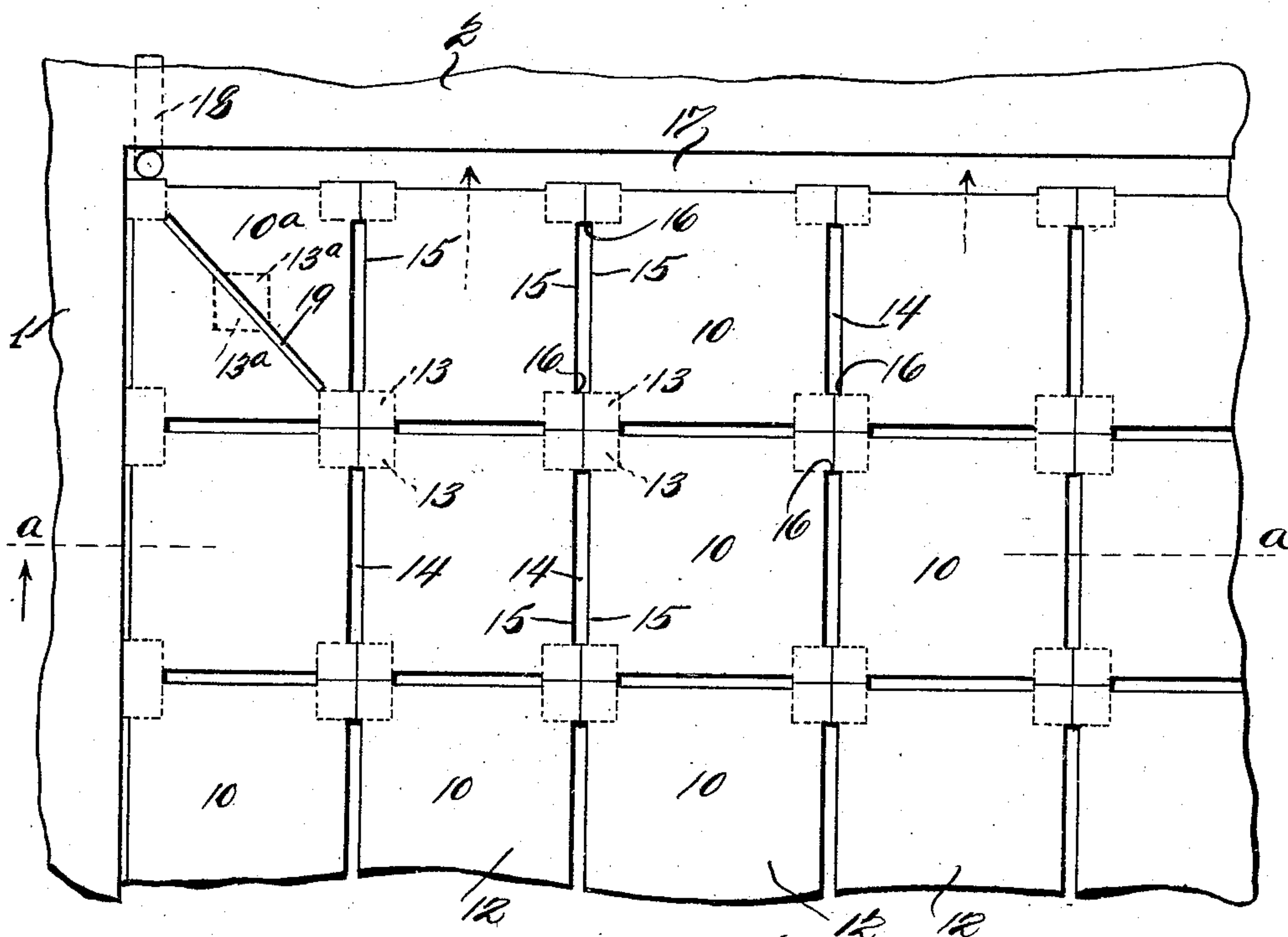


Fig. 1.



UNITED STATES PATENT OFFICE.

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966,187.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, GEORGE FISCHER, residing in the borough of Bronx, city, county, and State of New York, and CHARLES E. STANTON, residing at West Hoboken, county of Hudson, and State of New Jersey, both citizens of the United States, have jointly invented certain new and useful Improvements in Roofing, of which the following is a full, clear, and exact description.

This invention relates to an improvement in tiling or top covering for roofs, floors and the like.

The chief object of our invention is to provide a covering or tiling for roofs or floors that is not only adapted to protect the same, but is also designed to permit water to readily run off in order that it will not soak into those elements of a roof or floor that are beneath the top covering or tiling.

Our improved covering is also adapted for facings of buildings, tunnels, bridges, &c.

One of the chief features of our improvement is that it is so designed as to permit of its being readily applied and removed as well as to permit of the free passage of air between the under surface thereof and the adjacent element to which it is attached.

As our improved covering is designed to permit of the free circulation of air under the same, it acts to prevent the heat from the sun, for instance, from striking through and heating the adjacent elements of the structure to which it is attached. For the same reason it protects the structure from extreme cold.

When used for roofs, our improved covering prevents the accumulation of water thereunder and also prevents water from remaining upon the adjacent element under the covering long enough to soak into the same. Our improved covering is particularly adapted for roofing, part of which consists of water-proofing that is liable to be injured by being water soaked.

As our improved covering is designed to permit a free circulation of air, under the same, it is rendered still more valuable for roofs employing a water-proofing element.

One of the chief annoyances in roof or floor maintenance is the warping of the top covering thereof (which is usually cement, brick or wood) by the water soaking through the covering onto the water-proofing which is usually in contact therewith throughout its

entire surface. When water lies upon the water-proofing, it is soaked up by the top covering in contact therewith, which results in the warping of the same.

In practice we preferably apply our improved covering in sections or blocks which are cemented to the water-proofing and to each other. Should any one or a number of the sections become damaged they can be readily removed and replaced by others.

Our improved sectional covering may be made of wood, cement, hard clay or vitrified brick; they are preferably molded and applied in the manner of bricks. Our improved covering in roof or floor construction adds an important feature, the said feature being an air insulation between the covering and adjacent element of the roof or floor structure. For application in sections our improved covering can be molded into desired formation, flat or curved.

A further advantage of our improvement is that it can be applied in cold weather as well as in warm weather, as it is set before application.

When applying concrete or cement for a roof or floor covering in cold weather there is a great danger of the covering becoming damaged, by freezing before it becomes set, whereby its efficiency is greatly lessened. By using our improved covering such danger is obviated.

We will now proceed to describe our invention in detail and finally claim the novel features thereof, reference being had to the accompanying drawing, forming part hereof, wherein:—

Figure 1 is a cross-sectional view of a portion of a roof construction, certain parts being shown partly in elevation, the section being taken on a line *a—a* in Fig. 2; and Fig. 2 is a top plan view thereof.

The particular roof construction herein illustrated is but one of the many forms used and our covering is not limited to the particular form shown.

Referring to the drawing, 1 indicates (for instance) a portion of a side wall of a building, while 2 indicates the rear wall thereof.

To support the roof structure, indicated in a general way by 3, I have herein illustrated a channel beam 4 and an I beam 5. As roof construction is well-known regarding the supporting elements thereof, it is thought that the herein illustration is suffi-

cient. In this instance, the roof construction comprises a concrete arch 6, having a cinder concrete covering 7, which in turn is provided with a concrete finish 8. A water-proofing element is placed upon the finish 8 and indicated by 9.

Upon the water-proofing 9 we place our improved covering which consists, in this instance, of a plurality of sections, or blocks, 10, there being enough blocks 10 to cover the entire water-proofing element 9 of the roof structure. The numeral 11 (Fig. 1) indicates a space that is provided by our improved covering, for the free circulation of air between the body portion 12 of the blocks and the water-proofing 9. The space 11, which is provided by the construction of our improved covering, adapts the covering for the free passage of air between the covering, or blocks 10, and the adjacent member of the roof structure, which in this instance is the water-proofing 9. The space 11 forms a duct between the covering and water-proofing for the escape of rainwater or melted snow.

Due to the fact that air can freely circulate between the under side of the covering or blocks 10, and the water-proofing 9 an insulation of air, for the main body of the roof structure is provided. The air insulation, due to the fact that the air is free to circulate, will absorb any heat that may pass through the covering, thereby keeping the roof structure much cooler than if the covering was in contact therewith.

As has been stated, we preferably apply the covering in the form of blocks in which instance we preferably form, integral with the blocks, projections or supports 13, one at each corner thereof. To permit surface water to pass into the space 11, we provide openings or channels 14 which are formed by recesses 15 in the sides of each block 10. As the recesses 15 do not extend the full length or width of the blocks, there will be a portion of the side of each block in relief,

as at 16. The supports 13 are each a continuation of the relief portions 16, as shown.

To set the blocks upon the roof structure, we cement the bottom surfaces of the supports 13 to the water-proofing 9, and to each other at the meeting surfaces of the supports 13 and relief portions 16. We have illustrated a gutter 17 for the escape of surface water, the said gutter being in communication with a leader 18.

In Fig. 2 the corner block 10^a is provided with an opening 19 in the body portion thereof, the said block being provided with central supports 13^a.

It is quite apparent that any water that may strike the upper surface of the roof covering will run off through the openings 14, into the space 11, thence to the gutter.

While we have, throughout this specification and appended claim used the term roof structure we wish it to be understood that we consider a floor structure the equivalent thereof, for the purpose of our invention.

Having now described our invention, what we claim and desire to secure by Letters Patent is:—

In combination with a roof structure, a covering therefor consisting of a plurality of blocks, a plurality of projections carried by each of said blocks at the edges thereof and adapted to abut one with the other whereby a plurality of openings are provided in said covering, and integral supports carried by each of said blocks adapted to keep the under surface thereof out of contact with the adjacent element of the roof structure whereby a space is formed thereunder, the outer surfaces of said supports being flush with the outer surfaces of said projections.

GEORGE FISCHER.
CHAS. E. STANTON.

Witnesses:

H. S. MULLIGAN,
R. E. CULLIBOW.