

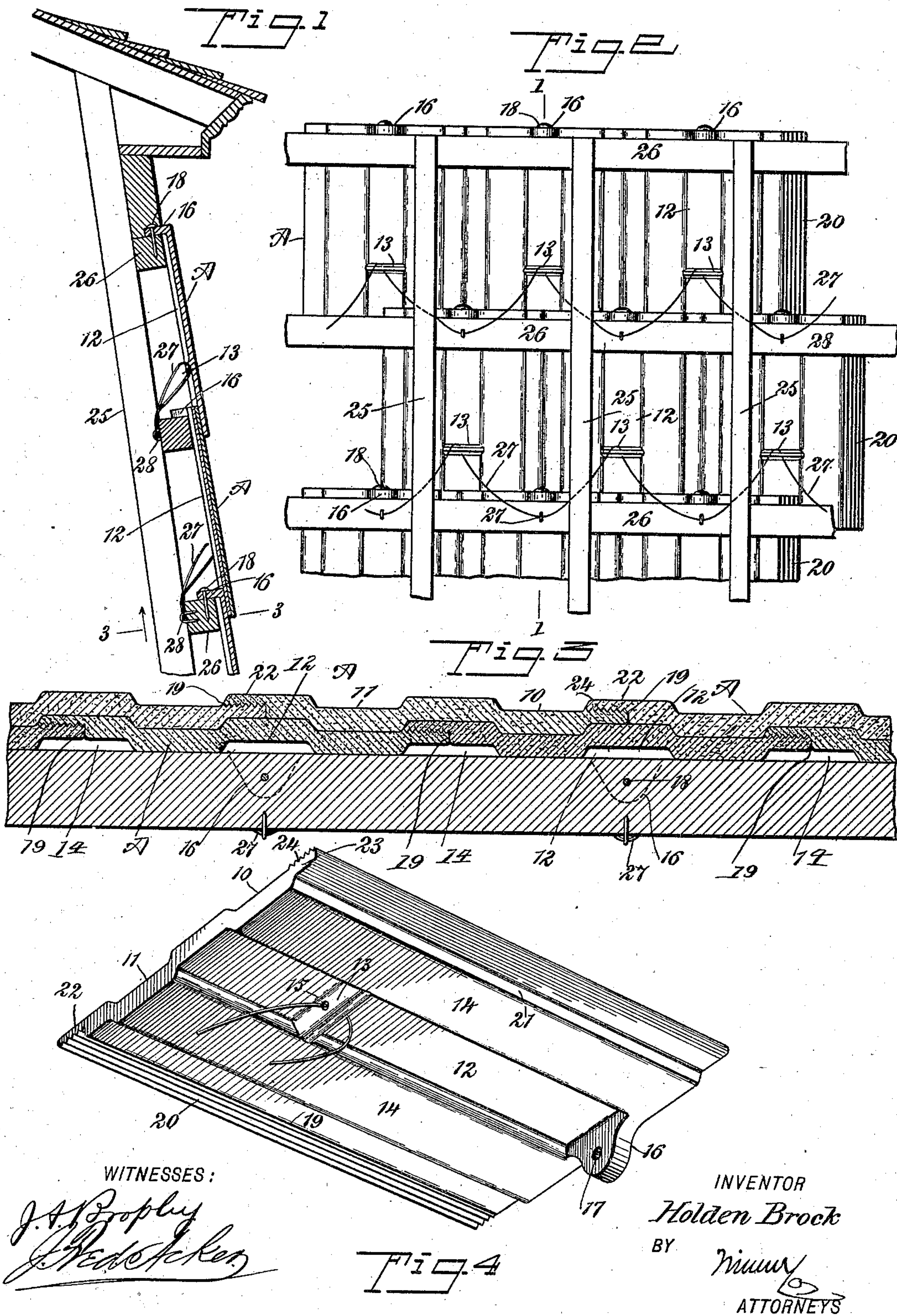
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H. BROCK.
CEMENT ROOFING.

(Application filed Mar. 18, 1902.)

(No Model.)



WITNESSES:

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HOLDEN BROCK, OF ST. PAUL, MINNESOTA.

CEMENT ROOFING.

SPECIFICATION forming part of Letters Patent No. 708,307, dated September 2, 1902.

Application filed March 18, 1902. Serial No. 98,711. (No model.)

To all whom it may concern:

Be it known that I, HOLDEN BROCK, a subject of the King of Denmark, and a resident of St. Paul, in the county of Ramsey and State of Minnesota, have invented a new and Improved Cement Roofing, of which the following is a full, clear, and exact description.

The purpose of the invention is to provide cement roofing-panels of such construction that opposing panels will have overlapping interlocking connection and so that longitudinal gutters will be formed therein to promote the ready discharge of water.

A further purpose of the invention is to so construct the panels that they may be securely held to the roof-lathing each by a single nail and so that a row of panels when in place may be tied to the roof-lathing by a simple system of wiring applied from the inside of the structure, all fastening devices being invisible from the outside.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claim.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a vertical section through a portion of a Mansard roof and through the improved panels applied to its sloping side substantially on the line 1 1 in Fig. 2. Fig. 2 is an inside elevation of a portion of a roof structure and panels laid thereon, illustrating how the panels are held in place. Fig. 3 is an enlarged horizontal section taken substantially on the line 3 3 of Fig. 1; and Fig. 4 is a perspective view of a panel, displaying its inner face in full.

The panels A are of a cement material and may be of any size, and each panel is provided upon its upper or exposed surface with two longitudinal gutters 10 and 11 and a corresponding central depression 12 in its under or back surfaces, and the gutter 10 extends to the adjacent longitudinal edge of the panel. Between the ends of the depression 12 a transverse rib 13 is formed, whose rear edge is preferably flush with the plain under or back surface 14 of the panel at each side of the de-

pression. This rib has an aperture 15 made therein, as indicated in Fig. 4. At one end of the depression 12 a lug 16 is formed upon the under or back surfaces of each panel, and the lug 16 extends horizontally or at right angles to the under or back surface of a panel, as is best shown in Fig. 4. Each lug 16 of a panel is provided with an aperture 17, through which a nail or a screw 18 is adapted to be passed. A longitudinal recess 19 is produced in the under or back surface of each panel at one longitudinal edge, and in the depressed wall of this recess longitudinal teeth 20 are made, which extend from end to end of a panel and are practically in the same plane with the bottom of the gutters 10 and 11, as is shown in Fig. 3. At the opposite longitudinal edge of each panel, also at its back surface, a second longitudinal recess 21 is produced, whose face-wall is more or less transversely inclined or curved. At the upper or exposed surface of each panel that portion 22 over the toothed recess 19 is flat and flush with the exposed surface between the gutters 10 and 11, while the corresponding exposed portion 23 of the panel at its opposite side or that portion over the plain recess 21 is substantially flush with the bottom surface of the gutter 10 and is provided with longitudinal teeth 24. The side walls of the gutters 10 and 11 and likewise the side walls of the depression 12 are preferably made inclined to increase the stability of the panel.

The structure of the roof upon which the panels are to be laid may consist, as illustrated, of uprights 25 and beams 26 laid horizontally upon the uprights and secured to the same. The lugs 16 of the panels are at their upper ends, and the panels are laid in horizontal rows upon the roof-frame, the lower ends of the panels in the upper row overlapping the upper portions of the panels in the next row below, as is shown in Fig. 1. Each line of horizontal beams 26 supports a horizontal row of panels, and the lugs of the panels rest upon the upper edges of the beams 26, being secured thereto by the nails or screws 18, heretofore referred to, and as is particularly shown in Figs. 1 and 2.

In laying a row of panels A the teeth 20 of one panel are brought into locking engage-

ment with the teeth 24 of the next panel, so that there is an overlapping and locking connection between the panels, rendering the connections water-tight and forming at the 5 outside of the combined panels a series of regularly-spaced gutters to direct the discharge of water and a series of ventilating-channels between the panels and roof-framing. When a row of panels has been placed 10 and secured in position by means of the screws or nails 18, said panels are attached to the next beam 26 below through the medium of a wire 27, which wire is passed through staples 28, located on the beams 26, and through 15 the apertures 15 in the ribs 13 at the rear of the panels, as is best shown in Fig. 2. In this manner the panels may be secured to the roof-framing at the top and at their bottom edges, and, as stated, an upper row of 20 panels may overlap the row below.

It is obvious that the attachment of the panels to the roof-framing can be expeditiously and conveniently effected and that none of the attaching devices will be visible at the exterior of a roof so constructed. 25

It will be observed by reference to Figs. 3 and 4 that the plain under or back surfaces 14 are in the form of ribs extending beyond the plane of the under surface of the panel 30 at its side edge portions and that the plain under or back side surfaces are substantially

in the same plane with the bottom of the channel 12.

Having thus described my invention, I claim as new and desire to secure by Letters 35 Patent—

A cement roofing-panel, provided with longitudinal gutters in its exposed surface, one at each side of the center and corresponding offsets in its back or under surface, together 40 with a central longitudinal channel between the offsets, an apertured lug at one end of the channel, and an apertured rib crossing the channel at its opposite end, the said panel being also provided at its under or back sur- 45 face with a longitudinal toothed recess at one side edge and a longitudinal plain recess at its opposite side edge, transversely inclined, the front exposed surface of the panel at one longitudinal edge being beyond the plane of 50 the bottom of the gutters and the corresponding exposed surface of the opposite side edge of the panel being in the same plane with the bottom of the gutters and provided with longitudinal teeth, substantially as described. 55

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HOLDEN BROCK.

Witnesses:

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