(No Model.)

N. MONSHAUSEN.

ROOF TILE.

No. 516,570. Patented Mar. 13, 1894.

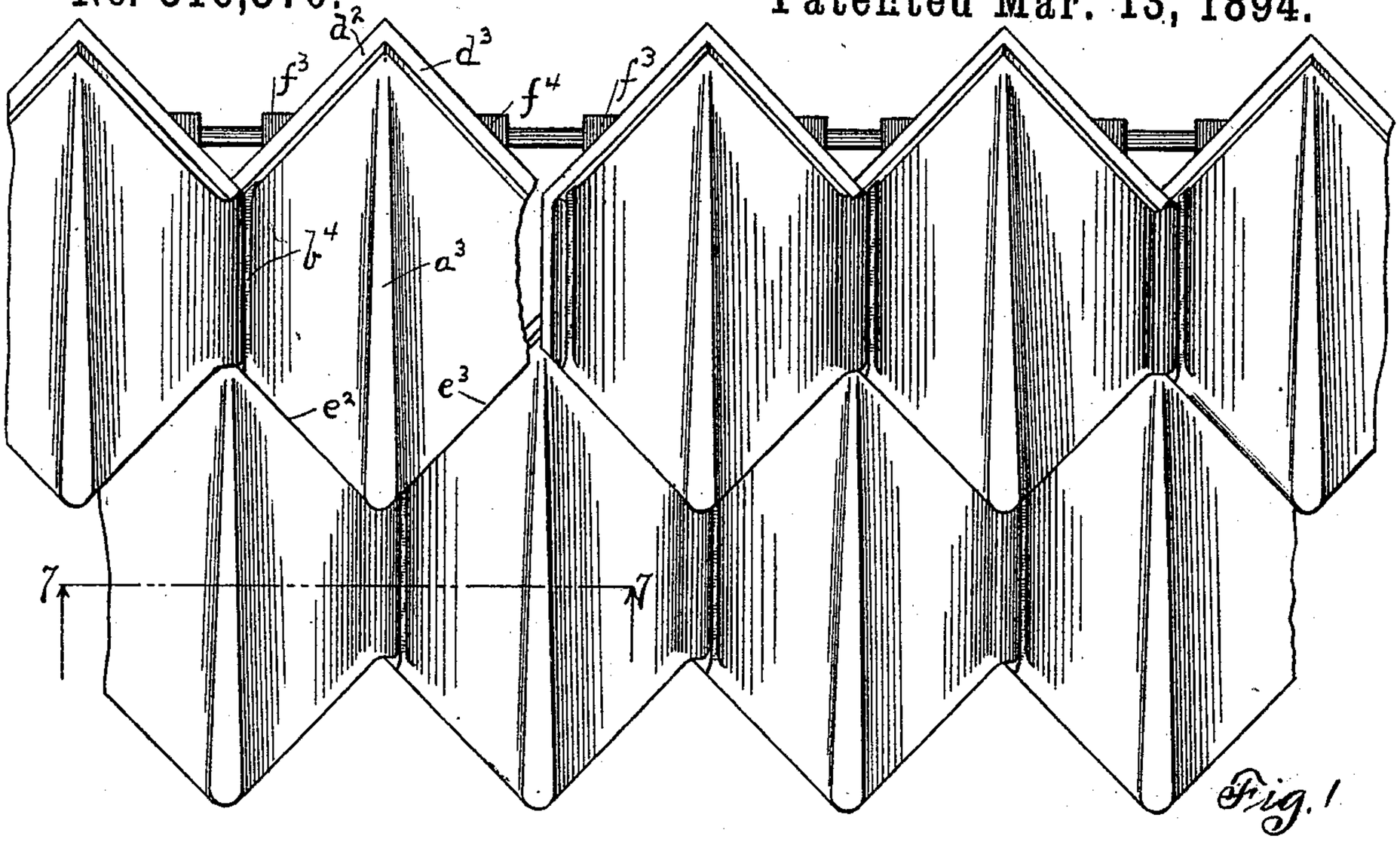

Fig. 1

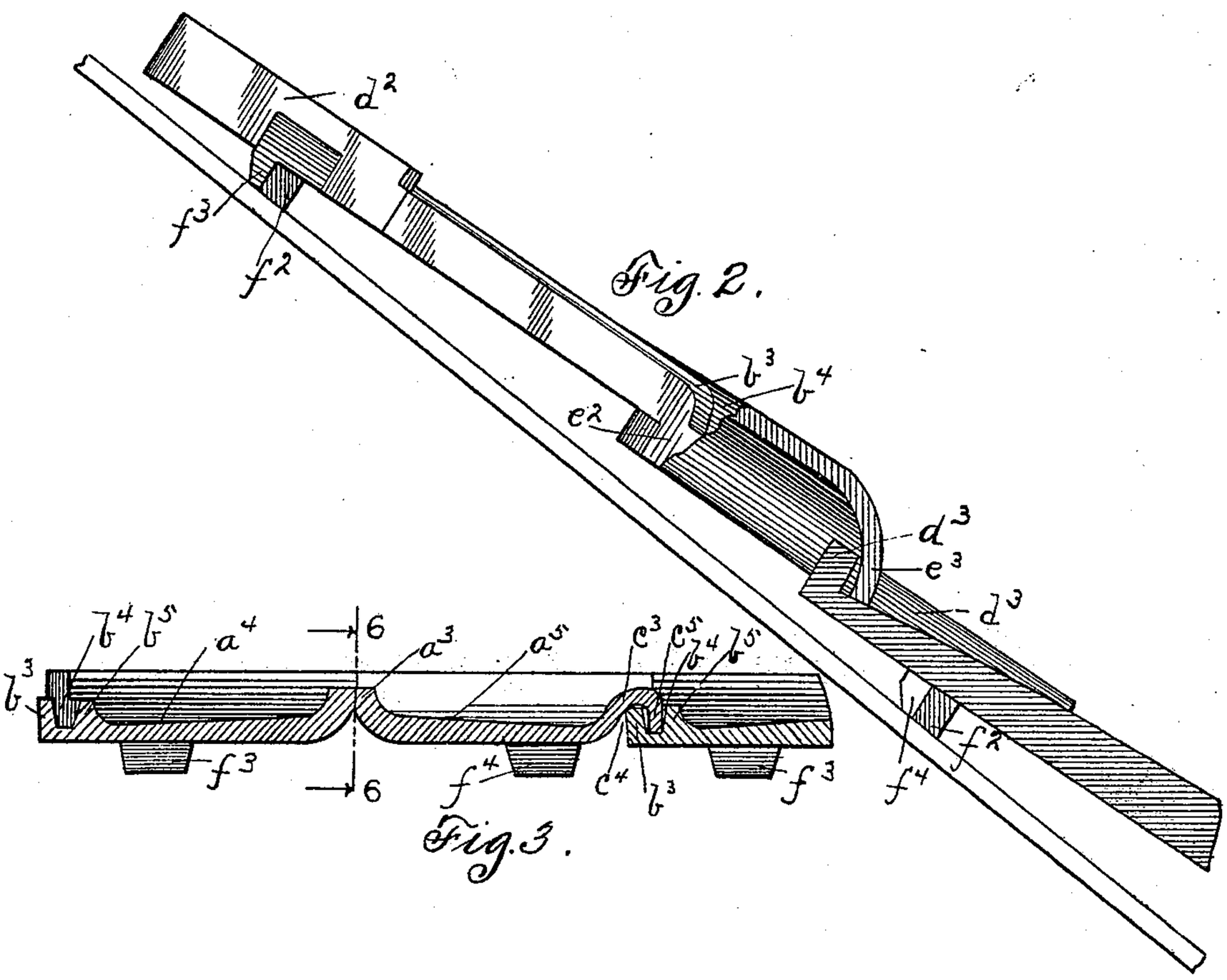

Fig. 2.

Fig. 3.

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NIC MONSHAUSEN, OF OTTAWA, ILLINOIS.

ROOF-TILE.

SPECIFICATION forming part of Letters Patent No. 516,570, dated March 13, 1894.

Application filed September 15, 1892. Serial No. 445,943. (No model.)

To all whom it may concern:

Be it known that I, NIC MONSHAUSEN, a subject of the Emperor of Germany, residing at Ottawa, in the county of La Salle and State of Illinois, have invented a certain new and useful Improvement in Roof-Tiles, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to roof tiles, and the object of my invention is to produce a tile that shall require no other connection to the roof than that afforded by the combined weights of the tiles, and to provide upon the tiles such connections that, when they are placed in position upon the roof, water and wind may be prevented from working through said connections, and to connect the tiles by such connections that the roof may act as one unit and a force tending to displace one tile may be distributed throughout the whole roof.

My invention will be more readily understood by reference to the accompanying drawings, in which—

Figure 1 is a plan view of my hexagonal roof tile, showing the tiles in position upon the roof. Fig. 2 is a side view of the hexagonal tiles, the lower end of the upper tile and the lower tile being shown in section in a plane corresponding to line 6—6 Fig. 7. Fig. 3 is a sectional view upon line 7—7 Fig. 5.

Like letters refer to like parts in the several figures.

My tile consists, generally speaking, of a main body having at its upper end, or ends, upward projections or ridges upon its upper face, at its lower end, or ends, downward projections or lips upon its lower face, upon one of its sides a ridge and a channel adjacent thereto, and upon the other side a channel and a curved lip for engaging with the channel of the adjacent tile and overlapping the ridge of said tile. In the middle of each tile is a longitudinal ridge or watershed extending above the surface of the main body of the tile. Upon the under face of each tile and near the upper end thereof are provided projecting lugs to extend over and engage with the transverse beams upon which the tiles are placed. A middle longitudinal ridge a^3 is provided upon the upper face and, narrow at the top and flush with the face of the tile, it gradually widens and increases in height toward the lower end of the tile. This widening and increase in elevation tends to direct the currents of water as they leave the ends of the tile more nearly perpendicular to said ends.

Upon one side of the tile—the left in the drawings—a longitudinal ridge b^3 is provided, and to the right of this a second longitudinal ridge b^5; between the ridges b^3 and b^5 is formed a longitudinal channel b^4. The curved side of ridge b^5 in conjunction with that of the ridge a^3 forms the trough a^4. The ridge a^3 being narrowest at the upper end of the tile the trough is of maximum width at this point. Toward the lower end of the tile the ridge a^3 gradually increases in width, thus gradually decreasing the width of the trough and concentrating the water that may be flowing into a single stream. At the lower end of the tile the trough is narrowest, thus causing the water to leave the tile in a single narrow stream. Upon the other side of the tile—the right in the drawings—is a projection c^3, whose curved side in conjunction with that of the ridge a^3 forms the trough a^5. The under side of the ridge c^3 takes the form of a downwardly projecting longitudinal lip c^5 and a channel c^4, between said lip and the body of the tile. Near the middle of each of the upper oblique ends are projections f^3, f^4, having downwardly extending lugs to fit over the transverse beams of the roof and hold the tiles in position. At the upper oblique ends are ridges d^2 d^3 extending upward from the upper face, and at the lower oblique ends are downwardly extending lips e^2 e^3. The under face of the tile is made to conform in outline to the upper face, and the longitudinal and oblique ridges render the tile stiff, so that it may be made thin without impairing its strength.

To form the tiles into a roof a row is first laid by placing the tiles upon the transverse beams so that the projecting lugs f^3 may extend over and rest against the said beams and the lip c^5 of each tile is placed in the channel b^4 of the adjacent tile. A row having been built up thus a second row is built in the same manner with the lips e^2 e^3 of each

tile extending over the ridges d^3 d^2 of the two tiles beneath. The lips e^2 e^3 are cut away at their intersection so that a close fit may be made between the adjacent ends thereof and the ridge c^3 of the tile of the next row beneath. Thus the lower end of the central longitudinal ridge a^8 will lie in a line with the ridge c^3, and will extend over and overlap the upper end of the joint between the two tiles below. The ridge a^3 also serves to direct the water flowing upon the tile away from the connection between the tiles beneath. The channel c^4 is closed at its lower end to prevent the back flow of water due to the pressure of the wind. Thus a rigid and firm roof structure is obtained. It will be observed that continuous troughs are formed for the flow of the water; the water flowing from the trough a^4 of one tile into the trough a^5 of the next, then to the trough a^4 of the next, &c. Water falling into channel b^4 will flow out at the lower end thereof and rain or wind driven back against the lips e^2 e^3 will fail to make entry. It will be noticed that each tile rests upon part of two tiles below it and tends to hold them in position while it is itself held in position by two tiles of the next row above and by an adjacent tile. Thus a roof may be constructed such that each tile is held in position by the combined weights and connections of the adjacent tiles, which themselves are held in position by others, thus rendering the roof, as a whole, a unit.

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

In a roof tile, the combination with a main body of hexagonal outline, of a downward extending ridge at one side, an upwardly extending ridge and a channel adjacent thereto upon the opposite side, upwardly extending ridges at the upper oblique sides and downwardly extending lips at the lower oblique edges, and a central elevation upon the upper surface of said tile, said elevation being narrow and flush with the surface near the upper end of the tile, and gradually increasing in height and width toward the lower end, thereby forming a trough of continuously curved cross section and of maximum width at the top, but gradually decreasing in width toward the lower end; whereby the water is caused to leave the tile in a single narrow stream, substantially as described.

In witness whereof I hereunto subscribe my name this 30th day of August, A. D. 1892.

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Witnesses:

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