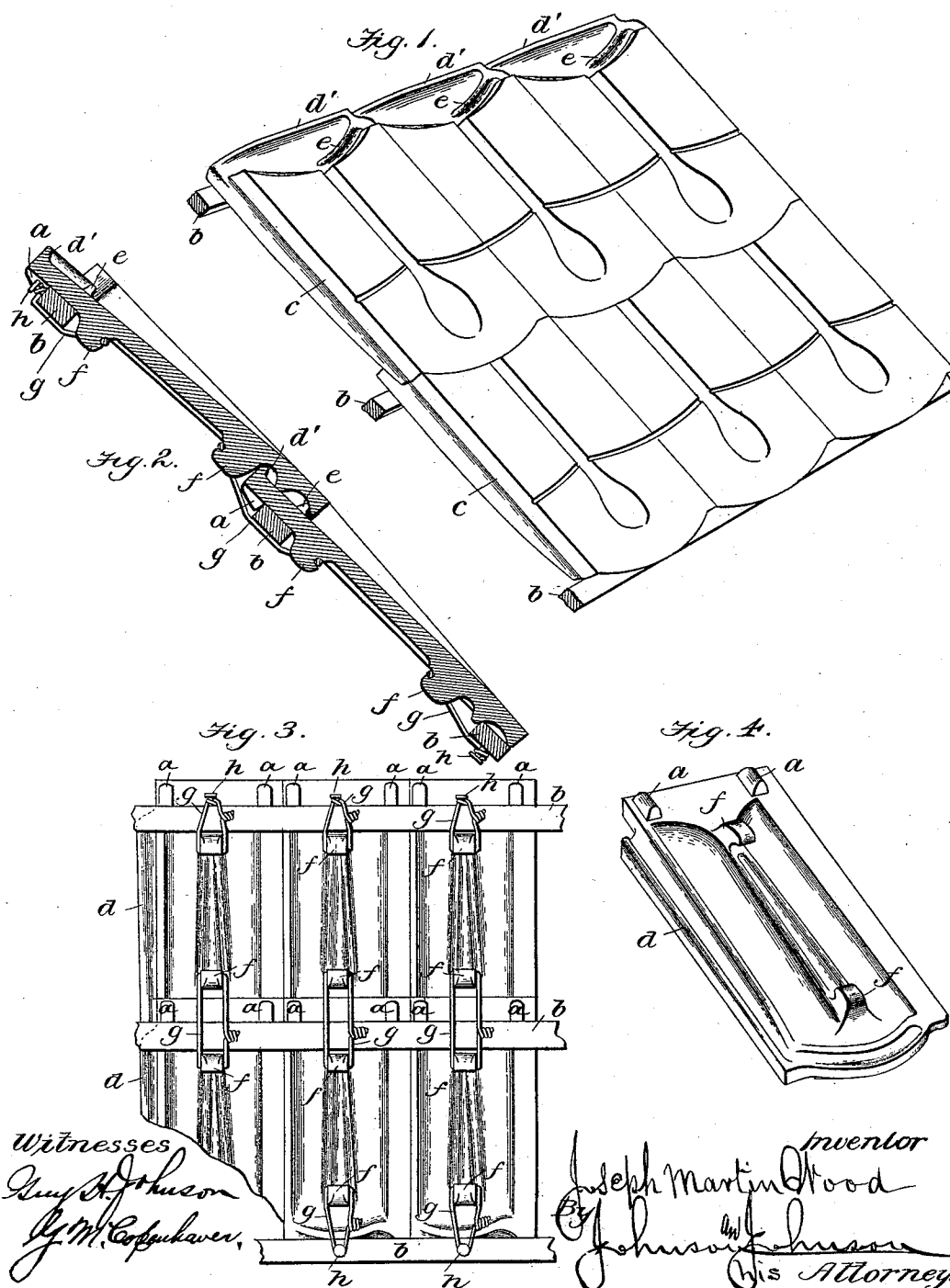


(No Model.)

J. M. WOOD.
TILE ROOFING.

No. 477,346.

Patented June 21, 1892.



UNITED STATES PATENT OFFICE.

JOSEPH MARTIN WOOD, OF BELLAIRE, OHIO, ASSIGNOR OF TWO-THIRDS
TO JULIUS SCHWAB AND WILLIAM BARNARD, OF SAME PLACE.

TILE ROOFING.

SPECIFICATION forming part of Letters Patent No. 477,346, dated June 21, 1892.

Application filed January 21, 1892. Serial No. 418,816. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH MARTIN WOOD, a citizen of the United States, residing at Bellaire, in the county of Belmont and State of Ohio, have invented certain new and useful Improvements in Tile Roofing, of which the following is a specification.

The roof-tile now largely used is known as the "French" pattern, in which the lapped portions at the ends and at the sides of the plates are formed with ribs and corresponding grooves to provide close jointing to exclude water. At the upper end on the under side the plate is provided with two lugs or studs, which abut against stringers or strips on which the tiles rest, and thus serve to hold them in position on the roof. My improvement is directed to provision for fastening these tiles to the roof cross-bars or stringers to prevent them being blown off by storms or hard winds and to securely lock them to the roof-frame against forcible removal by burglars. In this fastening provision the tiles are securely locked together in pairs on their under sides at their lapping ends and by direct connection with each by the same fastening which binds and locks them to the roof-stringers, thereby rendering the roof both safe and secure, using therefor means which add little cost and labor in obtaining such important advantages.

The accompanying drawings illustrate my improvement in tile roofing, wherein—

Figure 1 shows a portion of a roof formed by the well-known French tile; Fig. 2, a section of the same in the line of the pitch of the roof, showing my invention in locking and securing the tile to each other and to the roof. Fig. 3 shows the under side of the same, and Fig. 4 shows in inverted view one of the tiles and the provisions thereof which form part of and co-operate with the roof locking and fastening device.

It will be understood that the tile are made and laid in the usual manner now practiced in French tile roofing, each tile being held in position by lugs or studs *a a*, which abut or catch over the cross-bars or stringers *b* of the roof-frame, the lugs for this purpose being formed at the upper end, on the under side,

at the corners of the tile to seat it in proper line. Each tile is formed with a groove *c* on one of its side edges, on its outer face, while another tile to be laid alongside is formed on its inner face with a matching tenon *d*, whereby the tiles laid in horizontal rows will be interlocked with a lapped close joining at each side. At the upper end, on its outer face, each tile is formed with a recess, having suitable surface-tenons *d'* and *e* for matching corresponding grooves and tongues formed at the lower end on the under face of another tile to be laid in vertical rows, whereby the tiles laid in vertical rows will be interlocked with a lapped close joining, so that the tile, when laid to form a roof, will be jointed together on all sides, so as to shed the rain and prevent it from penetrating the roof. At their lapping ends the grooves on the outer face of each tile is intersected by a surface-groove in the line of the pitch to allow the water which may collect under the lapping ends to pass off. This is the French roofing-tile.

Near each end on the under side of each tile as improved by me it is formed with a lug or stud *f*, preferably of hook shape, and engaging with these lugs is a buckle, link, or loop *g*, arranged to cross the under side of the roof bar or stringer, and thereby directly connect or lock the lapping ends of the tile plates together in pairs in vertical rows and directly lock and secure each tile at each end to the stringers or cross-bars of the roof-framing.

The link or loop I prefer to make of wire, so that it can be readily applied and tightened in engaging it with the lugs, so that it spans the joint at the lapping ends of the tile and locks and binds them firmly together and to the roof-timber, which intervenes between the said locking and binding loop and the lapping ends of the tile. In this locking provision both ends of the tile are secured to the roof-timbers by a fastening, which has a direct attachment to each tile and is adapted to be bent or sprung over and across the under side of the roof-timbers. When made of wire, the buckle or loop can be twisted one or more times around the tile-lugs and twisted together at their ends to fasten them. At the ridge

and eaves of the roof the buckles or loops are fastened over nails *h* to the roof-timbers by one or more coils or wrapping around the nail.

The construction of fastening device which I have explained gives the important advantage of a clamping and binding action upon each tile in opposite direction in the length of the tile and at right angles to such lengthwise direction, whereby the tiles are bound hard together at their intermatching joints and firmly upon the roof-timbers, so as to make a durable and dry roof.

It is obvious that the tile lugs may be made with eyes or of any suitable form of hook, so long as they are adapted for engagement with a buckle or tie-loop which spans the joining of the ends of the tile and has its locking and binding function rendered operative by crossing beneath a roof-timber, so that the latter acts as a bridge over which the buckle is tightened.

I claim as my improvement in tile roofing—

1. A fastening device for tile roofs, comprising, in combination, tiles formed with lugs or studs on the inner face near each end and a buckle or loop engaging the lugs or studs at the lapping ends of a pair of tiles in spanning or crossing relation to said lapping ends and beneath a roof stringer or timber, substantially as described, for the purpose stated.

2. Roofing-tile formed at their side and end edges with intermatching lapping grooves and tenons and at their inner faces near each end with hook lugs or studs, in combination with a wire tie looped at each end over and around said lugs in spanning or crossing relation to the lapping ends of said tile and beneath and in contact with a roof-timber intervened between the said connected or engaged lugs, substantially as described.

3. A tile roofing comprising, in combination, tile formed with lapping intermatching grooves and tenons in their side and end edges and at their inner faces at the upper end with abutting corner-lugs and near each end with hook-lugs, wire ties spanning or crossing the roof-timbers at the eave and at the ridge and engaging the tile-hook lugs and nails in said timbers, and wire ties locking and binding the lap-joined ends of the tile in spanning or crossing relation to said lapped ends and beneath and crossing a roof-timber between the said engaged lugs, substantially as described.

In testimony whereof I have signed this specification in the presence of witnesses.

JOSEPH MARTIN WOOD.

Witnesses:

JOHN PARKS,
JULIUS WEILL.