No. 747,120. PATENTED DEC. 15, 1903.

J. W. BEAUMONT.

CONSTRUCTION OF ROOFS AND WALLS OF BUILDINGS.

APPLICATION FILED OCT. 22, 1902. RENEWED MAY 23, 1903.

NO MODEL.

Fig. 1.

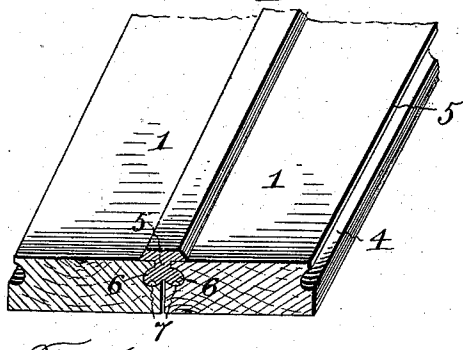


Fig. 2.

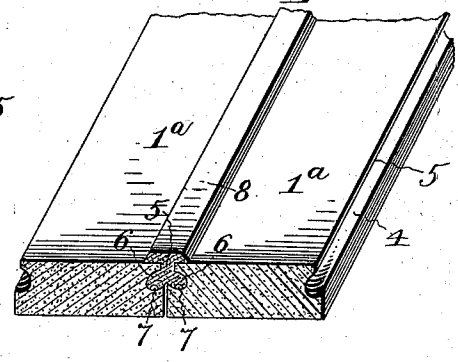


Fig. 4.



Fig. 3.

Fig. 5.

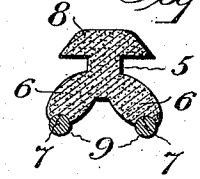
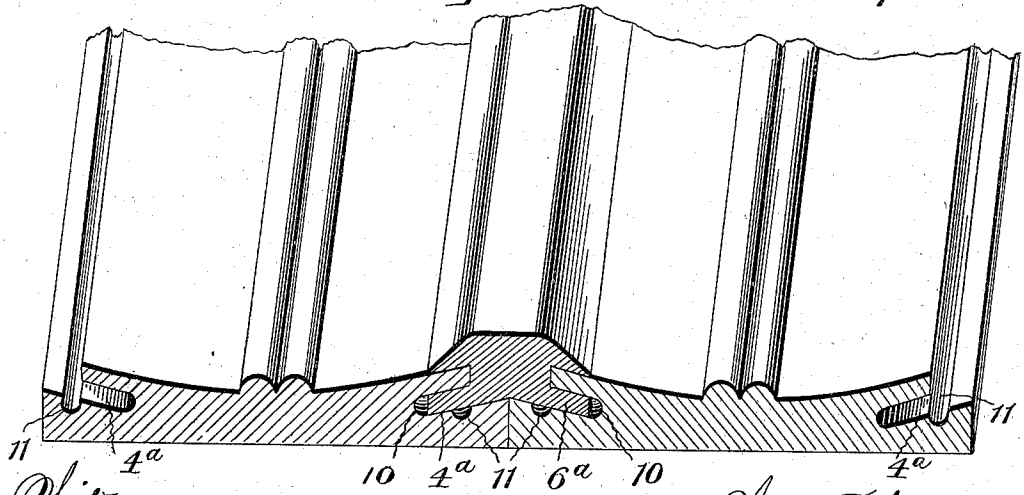


Fig. 6.



Witnesses:

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No. 747,120. Patented December 15, 1903.

UNITED STATES PATENT OFFICE.

JOHN W. BEAUMONT, OF LOS ANGELES, CALIFORNIA.

CONSTRUCTION OF ROOFS AND WALLS OF BUILDINGS.

SPECIFICATION forming part of Letters Patent No. 747,120, dated December 15, 1903.

Application filed October 22, 1902. Renewed May 23, 1903. Serial No. 158,545. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. BEAUMONT, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in Construction of Roofs and Walls of Buildings, of which the following is a specification.

This invention relates to the construction of roofs and walls of buildings, and has for its object to provide novel, inexpensive, and efficient means for tying together the sheathing, tiles, or planks forming the exterior of the roof or wall in a thoroughly efficient, secure, and water-tight manner.

To this end my invention consists in the features and in the construction, combination, and arrangement of parts hereinafter more particularly pointed out in the claims following the description, reference being had to the accompanying drawings, forming a part of this specification, wherein—

Figure 1 is a sectional perspective view of a portion of a wooden roof constructed according to my invention. Fig. 2 is a similar view of a portion of the concrete roof. Fig. 3 is a transverse sectional view of the roof shown in Fig. 1. Fig. 4 is an end view of the key shown in Fig. 1. Fig. 5 is a similar view of the key shown in Fig. 2 before the mandrels have been removed. Fig. 6 is a view similar to Fig. 1, illustrating a slight modification.

In describing my invention I will explain it as being applied to the construction of a roof. The roof comprises a series of sheathings 1, which are arranged edge to edge and tied together by the means hereinafter described, the sheathing resting on rafters 2, as shown in Fig. 3 of the drawings. As shown in Figs. 1 and 3 of the drawings, the roof is constructed of wood, and consists of a plurality of planks 1, which are arranged edge to edge upon the rafters 2 and may be secured thereon in any suitable manner. As shown in Fig. 3 of the drawings, cleats 3 are attached by any suitable means to the under sides of the planks 1, resting against the upper sides of the rafter 2 to prevent the planks from slipping endwise from off said rafters. Cleats 3 may, if desired, be attached to the rafters by any suitable means. Each of the planks 1 is provided on its opposite edges with a groove 4, said groove being preferably formed near the upper surface of the plank. As shown, the groove forms the major portion of an ellipse the major axis of which is inclined downwardly away from the edge of the plank. When the planks are fitted together edge to edge, the grooves 4 on the adjacent edges of the planks will coincide or register with one another, and the edges of the planks above said grooves are cut away, as at 5, so that when the planks are arranged edge to edge in the manner described there will be formed a channel between said cut-away portions of the planks. When two planks have been arranged side by side in the manner set forth, they are tied together by a key, which may be constructed either of wood or metal and comprises a shank 5, terminating at its lower end or edge in two oppositely-extending flanges 6, each of said flanges having approximately the cross-sectional shape of the major portion of the ellipse, the longitudinal axis of said flanges, or, in other words, the major axis of said elliptical-shaped flanges, extending downwardly in opposite directions at an obtuse angle to each other. Formed on the under side of each of said flanges at its lowermost point is a longitudinal groove 7, which extends throughout the entire length of the flange. On the upper end of the shank 5 is formed a cap 8, said cap projecting laterally in opposite directions on each side of the shank. When two of the roofing-planks 1 have been arranged side by side and in contact with each other, the key is inserted in the grooves 4 and cut-away portions 5 by slipping the key therein endwise and forcing it in the grooves until it extends throughout the entire length of the planks. The flanges 6 tightly fit the grooves 4 and draw the two planks closely together, and owing to the fact that said flanges and grooves extend downwardly in opposite directions at an obtuse angle to each other they resist any tendency that the planks may have to separate and securely prevent any such separation. The grooves 7, in connection with the adjacent walls of the grooves in the plank, constitute ducts or channels for the purpose

hereinafter explained. The cap 8 overlaps the adjacent edge portion of the two planks and effectually covers the joint between the two. The cap prevents water from gaining entrance to the joint between the two planks; but should any water in a heavy rain, for example, beat under said cap and gain access to the joint it will be collected by the ducts 7, which being open at their lower ends will drain such water off, thus preventing it from passing to the under side of the roof. Instead of the sheathing consisting of wooden planks 1 it may consist of tiles or slabs 1^a, as shown in Fig. 2, molded out of concrete, the shape of the tiles or slabs being identical with that described in referring to Fig. 1 of the drawings. After two such slabs have been arranged side by side they are tied together by molding the key between them out of concrete. In molding the key in place rods 9 are placed in the bottoms of the grooves 4, and the concrete in a plastic state is inserted in the grooves and is shaped on the adjacent top edges of the slabs or tiles to form the cap 8, and before the plastic mass hardens or sets the rods are withdrawn, leaving the ducts or channels 7 as shown in Fig. 2 of the drawings. After the key thus constructed becomes perfectly hard and set it is identical in configuration to the wooden or iron key before described and shown in Fig. 1, and its function is the same as said key in every respect. In molding the slabs or tiles from concrete, as above described, the cleats 3 may be molded at the same time on the under sides of the slabs or tiles. In Fig. 6 of the drawings I have shown a slight modification. As shown in said figure, instead of imparting to the grooves formed in the edges of the planks or tiles a shape partially elliptical from the cross-section said grooves 4^a have flat parallel walls, which extend oppositely and downwardly in opposite directions at an obtuse angle to each other, and the flanges 6^a of the key will be correspondingly shaped. The flanges 6^a are preferably shorter in cross-section than the grooves, whereby ducts or channels 10 are left in the lowermost portions of said grooves after the key has been fixed in place, and channels 11 are also formed in the lower walls of said grooves, as shown. In the construction thus described should any water beat under the cap it will flow down between the edges of the planks or tiles and be collected in the channels 10 and by the latter will be conveyed off to the eaves, and should such channels 10 be insufficient to accommodate all the water that might gain entrance under the cap such surplusage will be collected in the ducts 11 and by the latter will be conducted harmlessly to the eaves in the same manner as by the ducts or channels 10.

I have described the invention as being applied to the construction of a roof; but it will be manifest that the vertical walls of a building may be constructed in the same manner, the planks or tiles being arranged vertical and tied together in the manner described, such water as may beat beneath the caps being conveyed downward to the bottom of the walls by the ducts or channels and carried off from the foundation of the building by suitable gutters. As before stated, the parts may be made of wood or molded concrete—that is to say, may consist of planks or slabs or tiles—which may be employed either for the purpose of constructing a roof or the walls of a building, and hence in referring to such parts I have used the term "sheathing" to denote that it is the outer protecting-covering to exclude the rain, weather, and the like, and by such term I wish it to be understood as including planks, tiles, slabs, blocks, and the like which may be suitable for the purpose.

Having described my invention, what I claim is—

1. In sheathing for buildings, the combination with slabs arranged edge to edge and having downwardly-inclined longitudinal grooves formed in their adjacent edges, of a key comprising a shank disposed between the upper adjacent edges of the slabs and provided with two oppositely and downwardly inclined flanges fitted in said grooves, and a cap formed on the outer end of said shank and overlapping the adjacent edges of the slabs, substantially as described.

2. In sheathing for buildings, the combination with slabs arranged edge to edge and having downwardly-inclined longitudinal grooves formed in their adjacent edges, of a key comprising a shank disposed between the upper adjacent edges of the slabs and provided with two oppositely and downwardly inclined flanges fitted in said grooves, and a cap formed on the outer end of said shank and overlapping the adjacent edges of the slabs, longitudinal ducts being formed between the lower ends of said flanges and the lowermost portions of the grooves, substantially as described.

3. In sheathing for buildings, the combination with slabs arranged edge to edge, and having downwardly-inclined longitudinal grooves formed in their adjacent edges, said grooves each having the cross-sectional shape of the major portion of an ellipse, of a key comprising a shank disposed between the upper adjacent edges of the slabs and provided with two oppositely and downwardly inclined flanges corresponding in shape to and fitted in said grooves, and a cap formed on the outer end of said shank and overlapping the adjacent edges of the slabs, substantially as described.

4. In sheathing for buildings, the combination with slabs arranged edge to edge, and having downwardly-inclined longitudinal grooves formed in their adjacent edges, said grooves each having the cross-sectional shape of the major portion of an ellipse, of a key comprising a shank disposed between the upper

adjacent edges of the slabs and provided with two oppositely and downwardly inclined flanges corresponding in shape to and fitted in said grooves, and a cap formed in the outer end of said shank and overlapping the adjacent edges of the slabs, the said flanges having longitudinal grooves formed in their lowermost end portions forming, in conjunction with the adjacent edges of the slabs, ducts for the escape of water, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOHN W. BEAUMONT.

Witnesses:
GEO. W. REA,
VINTON COOMBS.