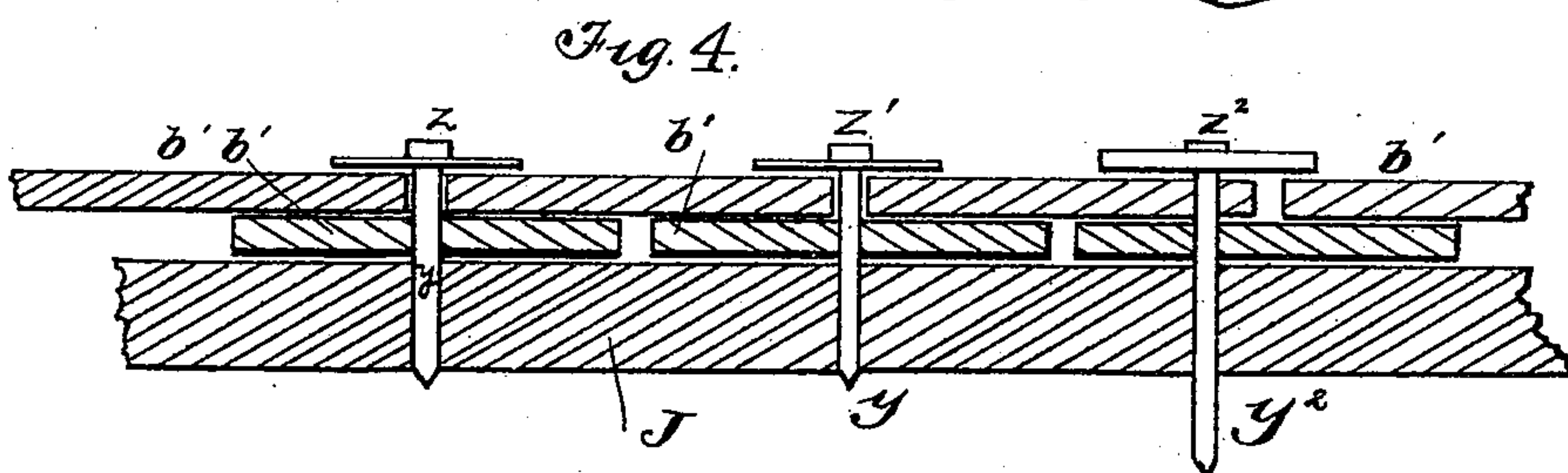
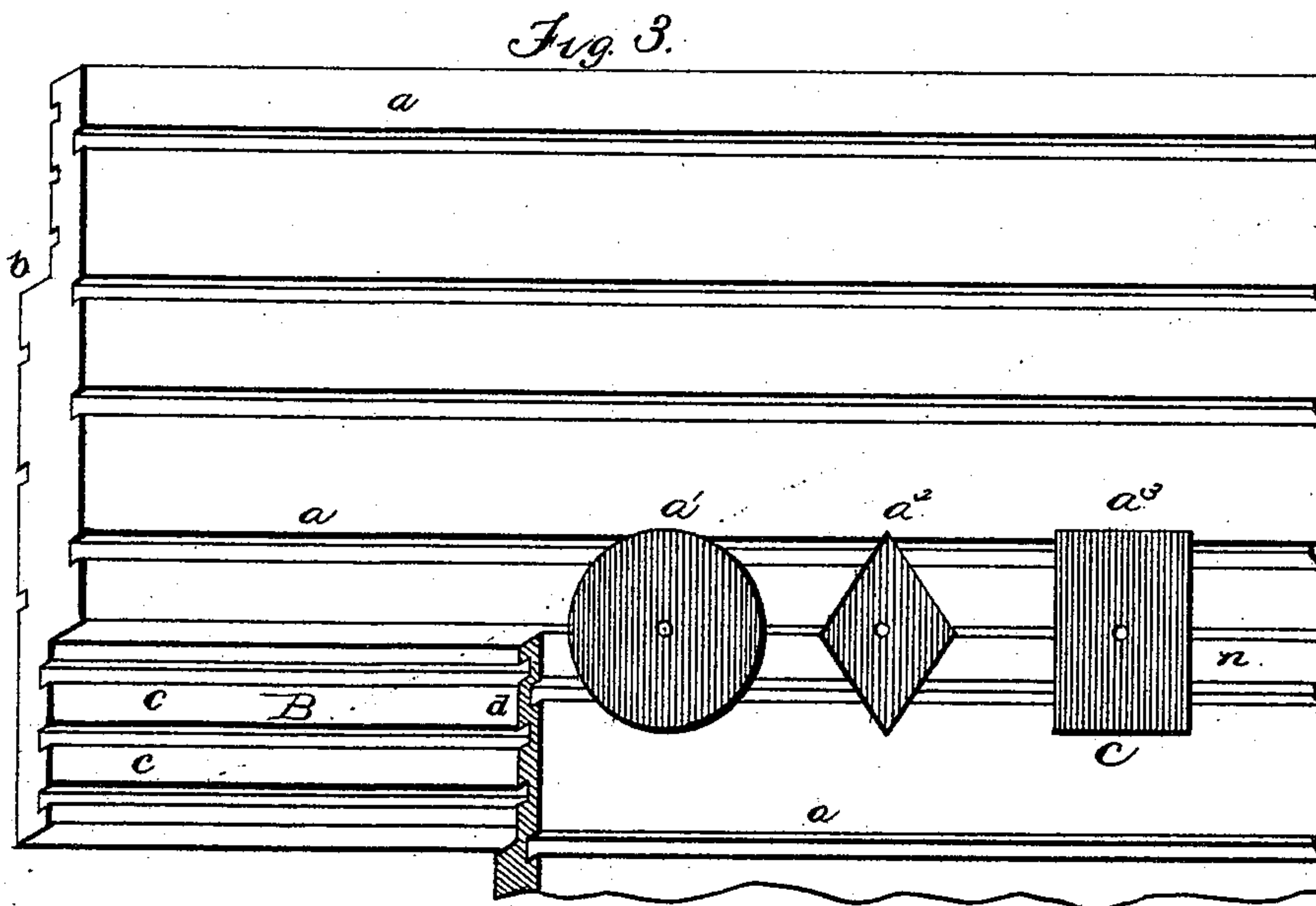
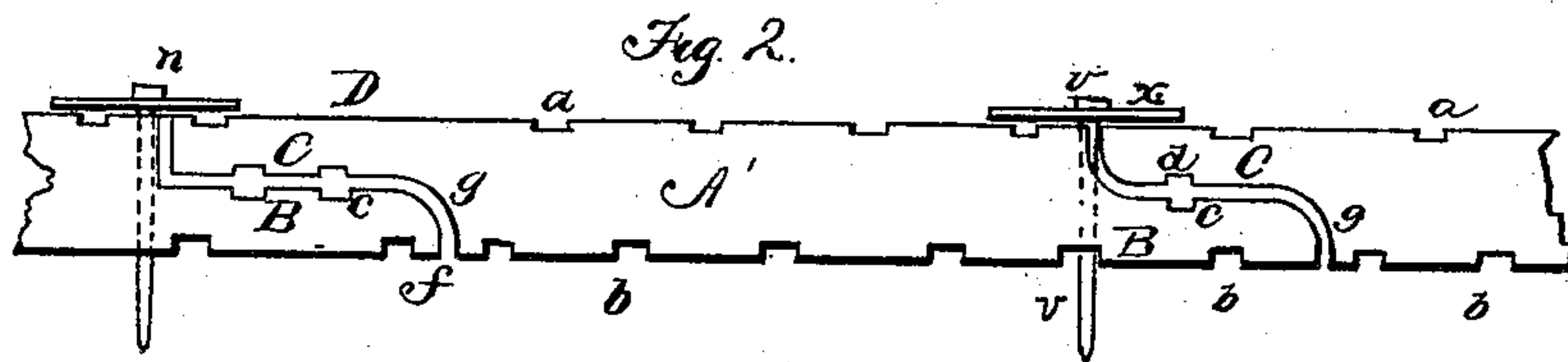


J. O. ROLLINS.
BUILDING MATERIAL.

Patented Nov. 24, 1891.



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UNITED STATES PATENT OFFICE.

JOHN O. ROLLINS, OF FOREST RANCH, CALIFORNIA.

BUILDING MATERIAL.

SPECIFICATION forming part of Letters Patent No. 463,649, dated November 24, 1891.

Application filed July 18, 1888. Serial No. 280,270. (No model.)

To all whom it may concern:

Be it known that I, JOHN O. ROLLINS, a citizen of the United States, residing at Forest Ranch, in the county of Butte and State of California, have invented a new and useful improvement in shingles and boards and in the manner of fastening them together and in the manner of fastening them to buildings, of which the following is a specification.

My invention relates to improvements in shingles and boards in which rabbets and grooves and ridges are formed and to the manner of fastening them together and of fastening them to buildings; and the object of my improvement is to provide a fastening to secure the edges of boards or shingles together and to buildings, so that while they are held firmly in place their shrinkage and swelling may take place without danger of splitting them or of breaking the nails that hold them. I attain this object by the device illustrated in the accompanying drawings, in which—

Figures 1 and 2 are end views of the boards and shingles. Fig. 3 is a face view of the boards and shows the manner of fastening the joint. The joint-fastening is also shown in Figs. 1 and 2. Fig. 4 is a cross-section of a roof, showing the manner of fastening shingles to a roof or wall.

Similar letters refer to similar parts throughout the several views.

In Figs. 1 and 2, A A' are end views of a shingle or board; B, an under tongue, and C an upper tongue, and when in use they lap each other, as shown at D. The channels *a a* are for the purpose of guiding the water straight down the roof or wall and to prevent it from passing across the face of the boards or shingles and in at the joint *e*. The channels *b b* are for the purpose of guiding any water that might pass through the joints between the shingles and adhere to their under surfaces straight down their lengths and prevent it from passing across their undersides, following the ridges made by the saw in their manufacture to the joint of the layer beneath them and causing a leak. Roofs that are comparatively flat, on which shingles or shakes are used, which are from two to four feet long or longer, are frequently found to leak from this latter cause when the cause to those in-

vestigating it appears quite mysterious. As grooves *a a* are made close to the joint, but little water can pass into it. To provide for the safe carrying off of this there is a tongue B, provided with channels *c*. The grooves *d* in the upper tongue C are for the purpose of guiding any water that might adhere to the under side of the tongue C straight down their lengths, which but for the said grooves might pass across the under surface and leak at *f*. Each layer of these shingles or boards makes a water-proof covering, while two layers are required in common shingles or boards. Two layers of these give two thicknesses over all the joints, while with the common shingles but one layer over the joints is obtained by two thicknesses. By forming the grooves in both sides of the shingles another advantage is gained, that of making the shingles reversible, which is a great convenience in laying them, in addition to the benefit derived from this device, as above set forth. There may be one or more grooves in the tongues B and C, and they may be rounded or square-edged, as preferred.

In Fig. 2 the shoulders *g* are rounded, instead of the square ones shown in Fig. 1, and the edges of the tongues are made to correspond. The rounded shoulders give the tongues greater strength than the square ones, as a split or break will start from a square corner with less strain than from a rounded surface.

Fig. 3 is a face view of a board formed as shown in the end view in Fig. 1, and the tongues B and C lap each other in the same manner. Plates or washers, through which nails pass, are shown at *a' a² a³*, Fig. 3, and show different shapes that would be practicable for the purpose for which they are used. Nails are passed through the washers or plates *a' a² a³*, as shown, and then driven through at the joint *u*, passing through but one board, and either bent down and clinched, as shown in Fig. 1, *a⁷*, on the opposite side on another plate placed on over the point of the nail, when it is either bent down or riveted, as at *a⁵ a⁶*, Fig. 1. The washers or plates *a' a² a³* hold the unnailed tongues C to the nailed ones B. This permits the boards, as they shrink or swell, to slide under the washers or plates *a' a² a³* without splitting them or

breaking the nails, as is often the case when battens are nailed onto boards or boards nailed together. The rivets and plates or washers fastening is also shown at $a^4 a^5 a^6$, Fig. 1. Two plates to each nail are shown at $a^5 a^6$. In applying this device a plate is passed on over the point of the nail after being driven through the board, and then the end is either cut off and riveted or bent down.

At a^4 , Fig. 1, is shown the manner of fastening the joint with the use of but one washer to the nail, which is sufficient in most cases.

The manner of fastening the joints, above described and shown in the drawings, is intended for use in holding the edges of boards together in cases where there is considerable distance between the nailing-places—as, for example, in boarding the walls of a building where one end of the board is nailed to the plate and the other to the sill, with few or no girts between.

In Fig. 2 is shown the manner of using the nail and plate device for fastening shingles and boards to buildings. The nail V is passed through the plate X, which holds the adjoining boards on, as shown. The opposite edge of the board A' is held on by the plate W, as shown, the nail being driven through the board near the edge or joint. By putting but one nail through a board it is left free to contract as it dries, the plates W X holding it firmly to the building, though allowing it to slide under them, and thus the splitting of the board is prevented.

Fig. 4 is a view of a cross-section of a roof, showing the manner of holding shingles or shakes to a building with the nail and plate device. $b' b'$ are end views of shingles. J is a board to which they are nailed. The nails, on which are placed the plates Z, are driven in between the shingles $b' b'$ in the upper course and through the shingles in the under course, but one nail passing through each shingle in the under course, and the upper course where they are exposed to the weather

having no nail in them, but are held down by the plates Z. This manner of fastening permits of the free expansion and contraction of the shingles and prevents them from splitting. A nail may be driven through one side of the shingles or boards near the edge in the outside course, if desired, as shown at Z^2 , Fig. 4, and at W, Fig. 2, and still leave the shingle free to contract and expand, the other edge of it being held down by the plate Z' , and as shown elsewhere. By this manner of fastening the danger of splitting is reduced to a minimum and the nails are less liable to break off, work loose, or draw out, or gouge out holes in the shingles, all of which are caused mainly by the continual contraction and expansion that is ever going on as the boards become wet and dry by turns. This manner of fastening shingles to buildings is intended more particularly for use when using long shingles or shakes, which it is necessary to nail at the lower ends.

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

1. The herein-described means for fastening shingles or boards to buildings and the edges of such boards together, consisting of metallic plates placed outside of and upon the meeting edges of said boards or shingles, and nails driven through said plates and through one of said meeting edges, the other edge being free to expand or contract, as set forth.

2. The herein-described means for fastening shingles or boards, consisting of metallic plates placed outside of and upon the meeting edges of said boards or shingles, nails driven through said plates and through one of said meeting edges, and a plate, as a^6 , secured upon the point of the nail, substantially as described, and for the purpose set forth.

JOHN O. ROLLINS. [L.S.]

Witnesses:

J. F. KINGWELL,
ALBERT MCALESTER.