A. C. FISCHER.

ROOFING CLEAT.

APPLICATION FILED MAY 18, 1918.

1,322,888.

Patented Nov. 25, 1919.

2 SHEETS—SHEET 1.

Fig. I.

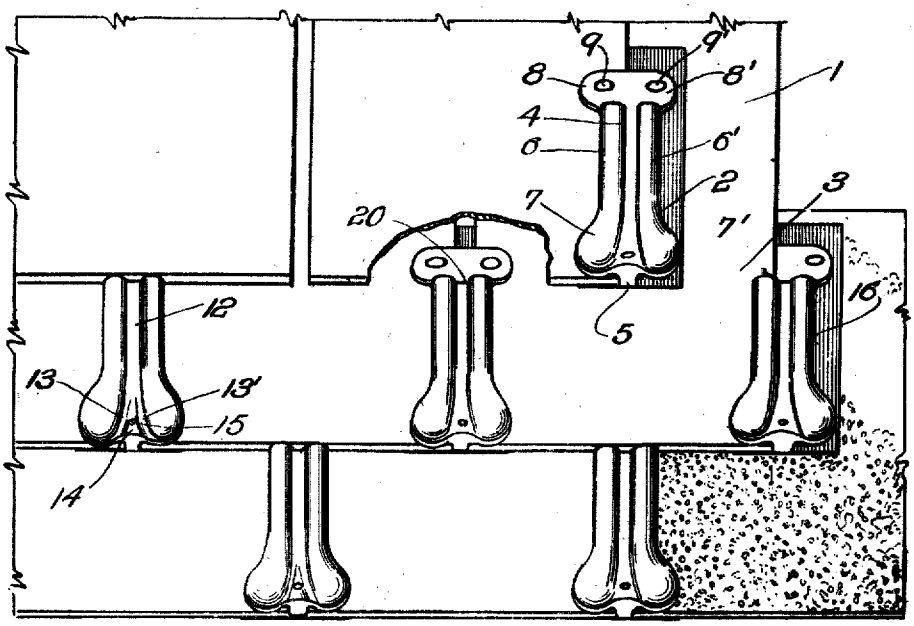


Fig. II.

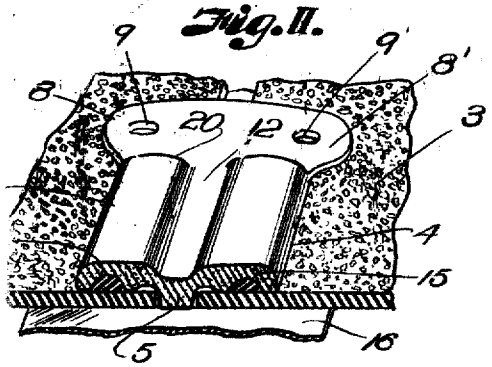


Fig. III.

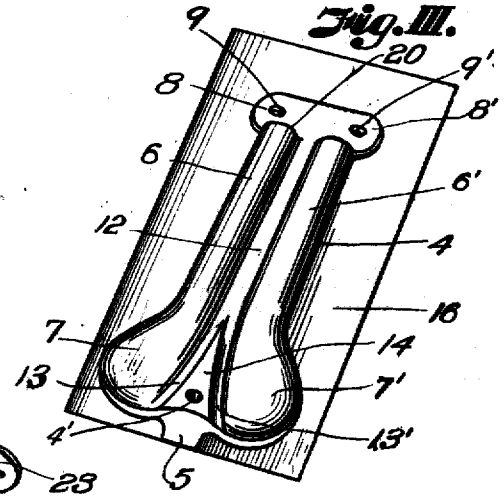
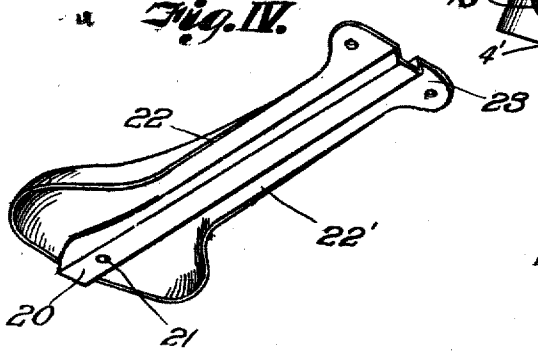


Fig. IV.



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2 SHEETS—SHEET 2.

Fig. V.

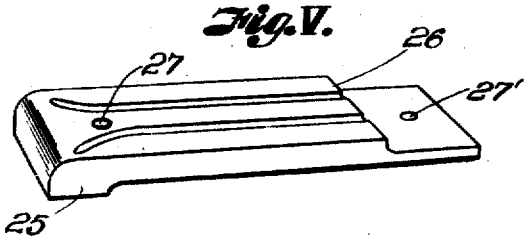


Fig. VI.

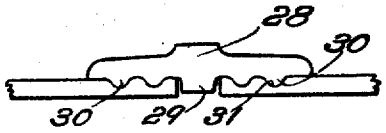


Fig. IX.

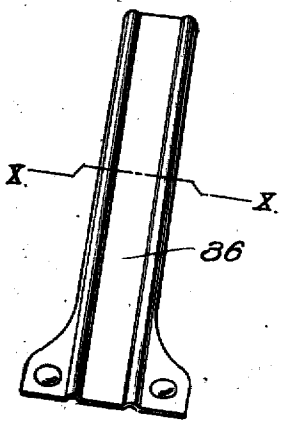


Fig. VII.

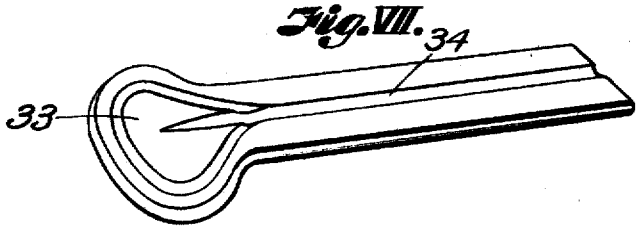


Fig. VIII.

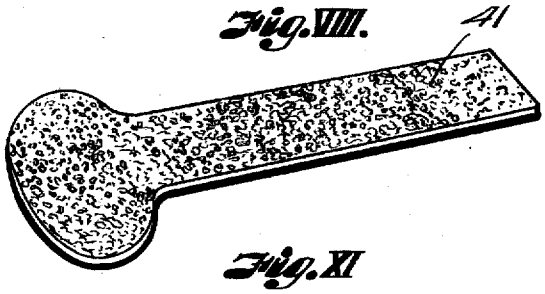


Fig. X

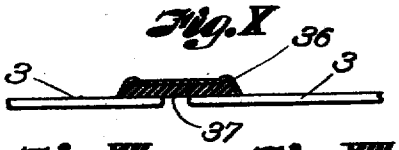


Fig. XI

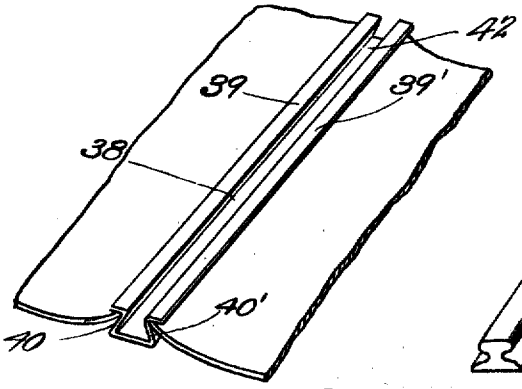


Fig. XII.

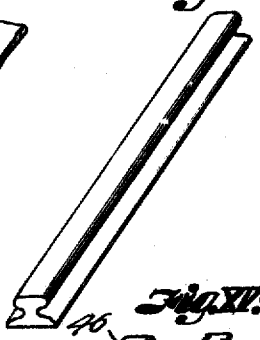


Fig. XIII.

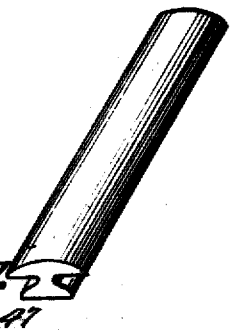


Fig. XIV.

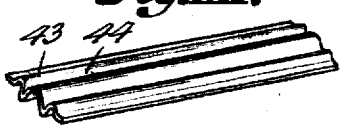


Fig. XV.



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UNITED STATES PATENT OFFICE.

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ROOFING-CLEAT.

1,322,888. Specification of Letters Patent. Patented Nov. 25, 1919.

Application filed March 18, 1918. Serial No. 223,204.

To all whom it may concern:

Be it known that I, ALBERT C. FISCHER, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Roofing-Cleats; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to roofing cleats and more particularly to cleats of that character for use with composition, tile, slate or other roofing shingles, whereby the latter may be substantially anchored to a roof; the principal object of the invention being to provide cleats of this character of tin or other metal, tile, or a flexible material, which may be provided at a small cost and may be easily applied as the shingles are laid, and which not only serve as anchors for the shingles but also serve to protect the edges thereof against wear and weather damage.

It is a further object of the invention to provide cleats of this character whereby substantially weather-proof joints may be effected between adjacent shingles, and which will enhance the appearance of the roof on which they are used.

In accomplishing these objects I have provided improved details of construction, the preferred forms of which are illustrated in the accompanying drawings, wherein:

Figure I is a perspective view of a portion of a roof whereon the shingles are anchored in place by cleats constructed and applied according to the present invention.

Fig. II is a transverse perspective sectional view through one of the cleats and portions of adjacent shingles particularly illustrating the asbestos keys and underlying felt strip for preventing leakage through the shingle joints.

Fig. III is a perspective view of a preferred form of cleat particularly illustrating the application of a felt strip thereto, a part of the latter being broken away for better illustration.

Figs. IV to XV inclusive, illustrate modified forms of cleats, all of which are applied in practically the same manner as the preferred form and serve in the same capacity although they differ somewhat in detail construction and in the manner of their application to the shingled roof.

Referring more in detail to the drawings—

1 designates a section of a shingled roof whereon roofing cleats 2 constructed and applied according to the present invention are used, the roof being covered with shingles 3 placed in horizontal rows in the usual manner and spaced slightly apart to receive the roofing cleat 2.

Each of the cleats comprises an elongated, relatively narrow body portion 4 provided on its under side with a longitudinally extending rib 5 and at opposite sides of the rib with laterally extending wings 6—6′ which are adapted to overlie the edges of adjacent shingles between which the cleat may be placed. The wings 6—6′ are provided at their upper ends with flattened anchoring plate 8 thin enough to lie beneath an intermediate portion of a succeeding roofing strip without undesirably raising the same from the general plane of the strip, said plate preferably having the form of laterally extending wings 8—8′ having apertures 9—9′ therethrough, to receive nails, or other anchor members, whereby the upper ends of the cleats may be fixed to the roof. The cleat drops abruptly from the greater thickness of its body portion to the thin attaching plate in order to provide a shouldered upper end to receive the ensuing strip of roofing material and serve as a gage in laying the same and present the cleat in relation to form a water-shed continuing from the abutting strip across the weather surface of the roofing layer to which the cleat is applied; the anchoring plate being thus left as a projection from the body portion beyond said shoulder and in position to underlie the ensuing and abutting strip of roofing, which thus seals the perforations for the nails or other anchoring means introduced through said plate. Extending centrally along the upper face of the cleat is a channel 12 which terminates at the lower end of the cleat into channels 13—13′ whereinto water from an overlying shingle may be drained; a central raised portion 14 being formed between the channels 13—13′ to receive the aperture 14′ for the nail or the like 15, so that while the lower

end of the cleat is anchored to the roof and the free ends of the shingles at opposite sides thereof will be held securely in place and closely against the roof, water will be diverted from said aperture 14'.

In order that the joints between the cleats and shingles may be sealed to effect a perfectly water-proof connection I provide each cleat on its under side and at opposite sides of the rib 5 with channels 15—15' which extend longitudinally adjacent the outer edges of the wings 6—6', and I fill the latter with a material such as asphalt, or tar which, after the cleats are applied, will form a tight connection with the shingles.

To further insure a water-proof roof, I have applied a felt strip 16 to the under face of each cleat, this strip is particularly shown Figs. II and III, the same being secured to the cleat by sticking the same to the rib 5 by a coat of asphalt or any other material. The strip extends at opposite sides of the rib and is adapted to underlie the edges of adjacent shingles and may be longer or may be of the same length as the cleat. It is apparent that when the cleat is properly applied the strip will effect a closed joint between the shingles and roof and will prevent rain or snow from being driven between the shingles.

Adjacent their upper end the cleats are shouldered, as is shown at 20, so that after the first row of shingles has been applied and the cleats properly placed thereon, the following rows of shingles may be alined and spaced by applying the lower edges of the shingles against the shoulders of the fixed cleats.

It is also apparent that by flattening the upper nail receiving portions of the cleats to a thin edge, the shingles that overlie the same will not be held in such a manner that an open joint would be formed at the exposed ends of the shingles.

Fig. IV illustrates a modified form of cleat which is pressed from a single piece of sheet metal. This cleat is similar to the preferred form and is applied in practically the same manner. It comprises a depressed central rib 20 provided at its lower end with a nailing aperture 21 and has laterally extending body portions 22—22' at opposite ends of the rib adapted to overlie the edges of adjacent shingles, and at its upper end has apertured nailing wings 23. When applied, this cleat fits tightly over the adjacent edges of the shingles and holds them tightly to the roof.

Fig. V shows another form of cleat, provided with a flat under face and a downturned end portion 25 which is adapted to overlie the ends of the shingles with which it is used to close the lower end of the joint therebetween. The upper end of the cleat is flattened to a thin edge which forms a shoulder 26 against which an overlying shingle may abut; the opposite ends of the cleat being apertured at 27—27' to receive nails whereby it may be fixed to the roof.

I also provide a cleat adapted for use with certain types of grooved slate or tile shingles. This cleat, illustrated in Fig. VI, is provided with longitudinally extending, centrally located ribs, 28—29, on their upper and lower faces respectively, and longitudinally extending beads 30, at opposite sides of the lower rib which are adapted to seat within grooves 31 formed in the upper face of the underlying shingles, whereby a water proof joint is effected.

In Fig. VII, I have shown another form of cleat of a design somewhat different than Fig. V, but which is applied in the same manner. This cleat has an enlarged lower end portion 33 and is provided with a central drainage groove 34 on its upper face which breaks the monotony of a perfectly flat cleat.

Fig. VIII is another modified form of cleat, similar in shape to the cleat shown in Fig. VII, but is composed of a flexible composition material, such as felt saturated with a water-proofing solution. This cleat is fixed to the roof by driving nails therethrough, and on its underside is provided with a coating layer of asphalt 41, which, after the cleat is applied, will set to the shingles and effect practically a water-proof connection.

In Figs. IX and X, I have illustrated a very effective form of cleat for securing the shingles to a roof and at the same time sealing the joints between shingles. Fig. IX shows the cleat in perspective and Fig. X is a cross sectional view on the line X—X, Fig. IX of the same as applied to the roof. The cleat comprises a cupped metal body portion 36 filled with asphalt or the like 37. After this cleat is applied, the asphalt filler runs within the joint between shingles and sets, making a closed and weather proof joint.

Figs. XI, XII and XIII are further modifications in the preferred form of cleat which are used for the same purpose and are applied in practically the same manner but effect a different roof design. The cleat shown in Fig. XI comprises a single piece of sheet metal, bent to form a central channel 38 and side wings, 39—39', which form seats 40—40' at opposite sides of the channel for receiving the edges of adjacent shingles. When the shingles and cleats are properly assembled, the shingles are given a cupped effect which greatly enhances the appearance of the roof. This cleat is also provided with an underlying felt strip similarly as the preferred form of cleat which insures the joint against leakage.

Figs. XII and XIII show cleats similar to the cleat shown in Fig. XI but which are of

tile or similar material and are not provided with the central channel 42, but effect the same cupped design of the roof shingles.

Fig. XIV is another modified form of metal cleat, having longitudinally extending ribs 43 and grooves 44 therein which fit closely against the edges of the underlying shingles to effect a tight joint therewith.

Fig. XV shows a modified form of cleat or clip adapted to fasten the free ends of shingles to a roof. The cleat here shown comprises a plate 45 having off-set wings 46 and 47, the plate having a boss or projection 48 for the reception of the fastening device 49. In using cleats of the character described, particularly the preferred form as shown in Figs. I, II, and III, the lower row of shingles is first laid in proper alinement and the cleats are located in such a manner therebetween that the joints between the edges of adjacent shingles will be spanned on the underside by the felt strips 16 and on the upper sides by the bodies of the cleats, with the edges of the shingles abutted tightly against opposite sides of the ribs 5. Nails are then driven through the apertured portions of the cleats to secure the same to the roof and in this manner the edges of the shingles are held firmly in place.

A following row of shingles is then laid in place and the cleats applied thereto as were those of the first row; it being apparent that the shouldered upper ends of the first placed cleats will serve to aline the next row of shingles and the shingles of one row cover the nail openings at the upper ends of the cleats used to secure the next lower row so that leakage therethrough is prevented.

It is apparent that cleats of this character will effect a very tight joint, as the asphalt keys soon set to the underlying shingles and seal the joint therebetween while the felt strips prevent any possible leakage of water or snow that may be driven by wind under the lower ends of the shingles.

While the preferred form of cleat has been shown in its particular design, it is apparent that variations in its construction could be made without departing from the spirit of the invention and I therefore do not wish to be limited to this particular shape or design.

It is apparent that such cleats not only serve to make a tight and serviceable roof but substantially add to the life of the roof, as the cleats prevent drying out of the shingles at the edges or cracking or curling due to sun and weather.

Having thus described my invention, what I claim to be new therein and desire to secure by Letters-Patent is:

1. A cleat for anchoring lapped, transverse roofing strips comprising a body portion substantially corresponding in length to the width of the weather surface of the strip to be anchored, formed at its upper end with an abutting shoulder to receive the edge of the next strip above it, and having a thin anchoring plate extending from said body portion, beyond said shoulder, in position to underlie the succeeding strip of roofing material, and perforated to receive anchoring means beneath said succeeding strip; said cleat being thereby adapted, when used in numbers, to subdivide the roof surface into shingle-like areas and provide water-sheds from the edges of roofing strips abutting thereagainst across the weathering surfaces of the strips which they respectively anchor.

2. A cleat for anchoring lapped, transverse roofing strips comprising a body portion substantially corresponding in length to the width of the weather surface of the strip to be anchored, formed with a longitudinal draining channel, and on either side of said channel at its upper end, with an abutting shoulder to receive the edge of the next strip above it, and having a thin anchoring plate extending from said body portion, beyond said shoulders, in position to underlie an intermediate portion of the succeeding strip without materially deflecting said strip upward, and perforated to receive anchoring means beneath said succeeding strip; said cleat being thereby adapted, when used in numbers, to subdivide the roof into shingle-like areas, and provide water-directing sheds from the edges of roofing strips abutting thereagainst across the weathering surfaces of the strips which they respectively anchor.

3. A cleat for anchoring lapped, transverse roofing strips comprising a body portion substantially corresponding in length to the width of the weather surface of the strip to be anchored, formed with longitudinal ridges leaving a channel between them and terminating at the upper end of said body portion in abutting shoulders to receive the edge of the succeeding strip; said cleat having a thin anchoring plate extending from said body portion, beyond said shoulders, in position to underlie said succeeding strip without materially deflecting the same; said plate having anchoring perforations in position to lie beneath said succeeding strip; and said cleat having in the lower end of said channel a raised portion perforated to receive anchorage means for the lower end of the cleat.

4. A roof comprising a suitable supporting structure, flexible roofing material overlying said structure applied thereto in transverse strips lap-jointed to leave a portion of each strip as a weathering surface, and cleats spaced apart in transverse series along the exposed portion or weathering surface of each strip and secured thereto in position to sub-divide said surface into areas simulating

shingle effect; said cleats having an upper end adapted to abut the lower edge of an antecedent strip and having a flattened attaching wing extending beyond its said abutting end and beneath the said antecedent layer, said cleat being secured to the roof structure by securing means passed through said wing, and each cleat constituting a water-shed extending downwardly from the edge of the antecedent strip against which it abuts.

5. In a shingle roof comprising shingles in courses, the shingles of each course breaking joints with those of adjacent courses and each course being overlapped by the course thereabove, cleats having apertured end portions, applied to cover the joints between the exposed ends of adjacent shingles and extended at their upper ends beneath the shingles of the next course above and anchor members extended through the apertured ends of the cleats to secure the same to the roof.

6. In a shingled roof, the combination with adjacent shingles of a cleat having edge portions overlapping adjacent edges of the shingles, and having channels on its under side, mastic keys filling said channels to seal the joint between the cleat and shingles and anchor devices extended through the cleat to anchor the same to the roof.

7. In a shingle roof comprising shingles in courses, the shingles of each course breaking joints with those of adjacent courses and each course being overlapped by the course thereabove, and cleats applied to cover the joints between the exposed ends of adjacent shingles and extended at their upper ends beneath the shingles of the next course above a mastic key applied to the underside of the cleat at each side of the rib and anchor members extended through the lower and the upper covered ends of the cleats to secure the same tightly in position for the purpose set forth.

8. In a shingle roof, comprising shingles in courses, the combination with adjacent shingles of a cleat comprising a body portion adapted to extend across the joint between the shingles and having a rib on its under side adapted to extend between the edges of the shingles and having longitudinally extending channels at opposite sides of said rib, a mastic substance filling said channels and adapted to seal the joint between the cleat and shingles.

9. In a shingle roof comprising shingles in courses, a cleat comprising an elongated body portion adapted to overlie the joint between adjacent shingles and having a longitudinally extending rib along its under face adapted to extend within the joint between shingles and having longitudinally extending channels at opposite sides of said rib, a mastic substance filling said channels and adapted to seal the joint between the cleat and shingles.

10. A roof comprising a suitable supporting structure, a flexible material overlying said structure applied thereto in transverse strips, lap-jointed to leave a portion of each strip as a weathering surface, and cleats constructed to receive suitable anchoring means and spaced apart in transverse series along, and corresponding in length substantially to the width of, the exposed portions or weathering surfaces of the strips, and secured thereto in positions to subdivide the surface into areas simulating shingle effect.

11. A roof comprising a suitable supporting structure, a flexible material overlying said structure applied thereto in transverse strips, lap-jointed to leave a portion of each strip as a weathering surface, and cleats constructed to receive suitable anchoring means and spaced apart in transverse series along, and corresponding in length substantially to the width of, the exposed portions or weathering surfaces of the strips, and secured thereto in positions to subdivide the surface into areas simulating shingle effect; said transverse strips being subdivided along lines intermediate the cleats, and the cleats sealing the spaces between the meeting edges thereof.

In testimony whereof I affix my signature.

ALBERT C. FISCHER.