A. CHRISTENSEN.

SUPPORT CLAMP FOR SHINGLING STRAIGHTEDGES.

APPLICATION FILED APR. 7, 1921.

1,435,698.

Patented Nov. 14, 1922.

Fig. 1.

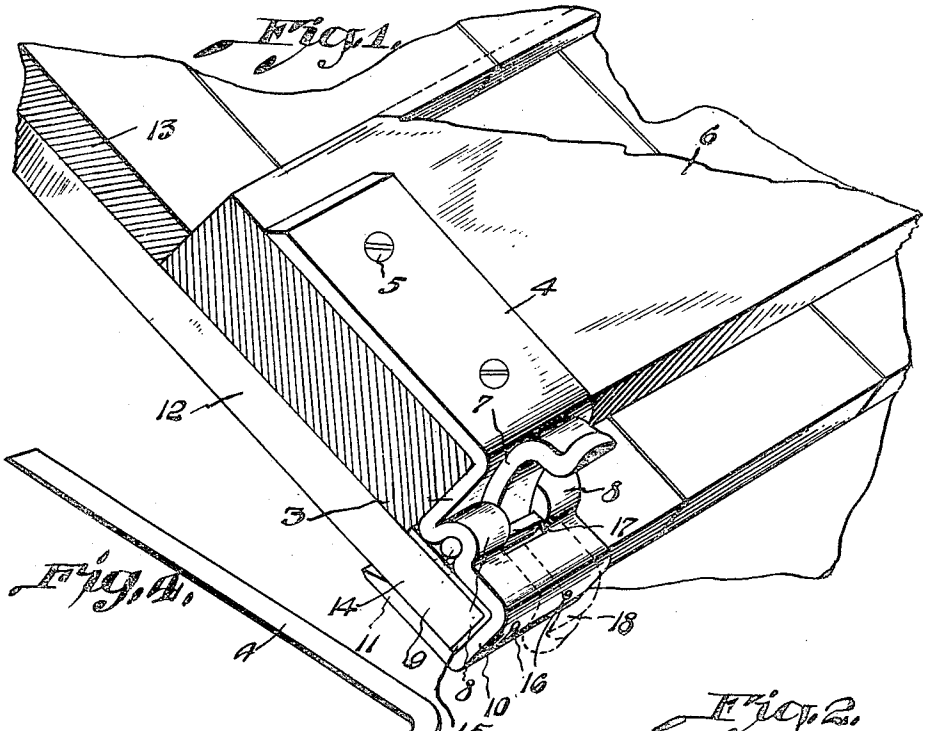
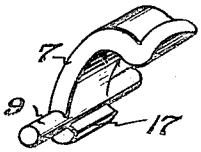


Fig. 4.

Fig. 3.

Fig. 2.



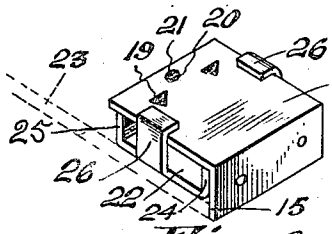
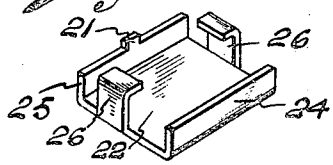


Fig. 6.

Fig. 5.



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UNITED STATES PATENT OFFICE.

ANDREW CHRISTENSEN, OF DANA COLLEGE, NEAR BLAIR, NEBRASKA.

SUPPORT CLAMP FOR SHINGLING STRAIGHTEDGES.

Application filed April 7, 1921. Serial No. 459,465.

To all whom it may concern:

Be it known that I, ANDREW CHRISTENSEN, a subject of Denmark, residing at Dana College, near the city of Blair, in the county of Washington and State of Nebraska, have invented certain new and useful Improvements in Support Clamps for Shingling Straightedges, of which the following is a specification.

My invention relates to a releasable fastening device to space and support a straightedge from the butts of a last course of shingles laid on a roof, to serve as a guide for laying and to support the butts of the succeeding course while being nailed.

One object of my invention is to provide means for readily changing such a device from its adjustment for thick wooden shingles, to the required adjustment for the thinner metal or composition shingles, such as asbestos.

Another object is to provide such broad elastically gripping jaws as will securely clamp to the free butt of a laid metal, composition or asbestos shingle, without the use of serrations or crooked jaw faces to mar the finished surface of treated metal or composition shingles.

A further object is to facilitate the production of a device that is efficient, durable and cheap, being made up of stock materials; and so designed as to be of the smallest possible size and weight, consistent with durability and service, so that a number of them may be readily carried in a carpenter's tool chest, ready for application when needed.

And a still further object is an assembled gage and clamp-support of separable easily-replaceable parts that will normally hang together when assembled for service or transportation, affording convenience and avoiding loss of parts at any time.

These and other minor objects of structure and service, are attained by the construction and mechanism illustrated by the accompanying drawings wherein like reference numerals indicate like parts in all the views, and in which—

Figure 1, is a perspective view of such a clamp-support attached to the end of a fragment of straightedge applied to a section of roof for laying thick wooden shingles.

Fig. 2, a perspective view of the cam-lever, detached from the other parts.

Fig. 3, a perspective view of the spring jaw of the clamp taken alone.

Fig. 4, a side elevation with the removable supplementary cheek attached to the spring jaw to reduce the span of the clamp for engaging the butts of thinner shingles.

Fig. 5, a perspective view of the removed supplementary cheek alone.

And Fig. 6, is a perspective view of the spring or elastic jaw detached from the clamp body and showing the removable supplemental cheek set in place thereon.

The body of this support clamp is shaped from flat bar iron, having one end portion bent flatwise to an L-shape the terminal long attaching leg 4 having holes 5 for the reception of wood screws by which it is fastened on the flat top of the straightedge 6; the lower edge of the straightedge abutting the short leg 3 of the L. Adjoining the lower end of the short leg of the L-shaped seat, the bar is slotted lengthwise, to receive the cam-lever 7. The edge portions at each side of the slot are bent to form the upwardly-curved bearings or boxes 8 to receive the cam and lever stud journals 9. The remaining end portion is bent to a rectangular open hook-shape having a right angled connecting web 10 and a terminal point or jaw 11 lying in a plane parallel with the attaching end part 4, and spaced below the opposed body part far enough to receive the butt of an ordinary wooden shingle 12, of a last course laid; upon which course the attached straightedge is imposed to receive the next course of shingles 13. The point of the hook or nether jaw 11 being tapered, wedge-shaped as shown, for insertion up under the last course of shingles that have been laid and nailed and thus seating the butts thereof in the hook and against the rectangular connecting web 10.

The opposed upper spring jaw 14, is made from a single rectangular piece of resilient sheet metal; given a single flatwise bend to form the right-angularly standing base flange 15; which is fitted to seat against the inside of the web 10 of the hook, where it is fastened by the rivets 16. This spring jaw 14 thus standing normally parallel with and opposed to the rigid jaw 11 closes the mouths of the boxes 8 to retain the stud journals 9 of the cam seated therein and is sprung downwardly toward the rigid jaw, to grip the inserted butt of the shingle 12, by the cam 17, when the cam-lever 7 is swung downwardly onto the base or web of the hook, as indicated by the dotted lines 18. Teeth 19

to bite into the top of wooden shingles, are formed on the face of the spring jaw by striking down integral triangular portions of the plate, as shown in Figures 3 and 6. At the center of its free end the spring jaw has the latch perforation 20, to receive the retaining lug 21 on the supplementary cheek 22.

The supplementary cheek is to reduce the open space between the jaws of the clamp for thin shingles,—as indicated by the dotted lines 23 in Figures 4 and 6,—and to shield composition and metal shingles from the action of the spurs or teeth used on wooden shingles. It is shaped from a single rectangular sheet of metal, bent flatwise at one edge to form the base flange 24; likewise bent at the opposite edge to form the mouth-lip flange 25, having the retaining lug 21 shaped at the center of its upstanding edge. Seated with its base flange 24 standing reversely against the attached base flange 15 of the elastic jaw, and its opposite edge flange standing against the inner face of the free end of the jaw, as shown in Figures 4 and 6, this cheek fills up the excess space between the jaws to adjust the device for clamping onto the butts of thin shingles; and also affords a doubly elastic grip: by the resiliency of both the jaw and the supplemental sheet-metal plate filler cheek. To complete this supplemental cheek, it is provided at its sides with the integral hooked studs 26 to overlap and engage the lateral edges of the spring jaw; these hooked ends overlap the jaw in the mouths of the bearing boxes 8, between the jaw and the stud journals 9 of the cam-hub. The elasticity of both cheek and jaw allows them to unitedly readily yield to seat the retaining lug 21 in the catch perforation 20 of the jaw and to as readily yield for detaching the cheek when the full space between the jaws is required. It is obvious that these hooked studs are readily bent to the forms shown, from integral rectangular tabs at the sides of the sheet-metal blank from which the supplemental cheek is bent.

When the clamp is adjusted for the thin shingles, an accordingly thickened straightedge is use, or by furring or blocking up between the top of the straightedge and the attaching arm 4 of the support clamp screwed thereon; the bottom or flat underside of the straightedge being thus alined with the gripping face of the supplemental elastic cheek.

If the amount of weather given the courses of shingles is to be five inches the straightedge would be sized to four inches wide; the depth of the hook clamp being one inch and the lower edge of the straightedge is abutted against the short leg of its seat, the shoulder 3 of the support attaching arm.

While the body of this support-clamp is described as made of wrought iron bar, by very slight changes it may be made of cast metal. And other simple modifications may be readily made without departing from the elements and their functions as set forth in this disclosure of my invention.

What I claim is:

1. A support clamp for shingling straightedges, comprising an integral U-shaped body having one leg pointed for insertion under the butts of a laid course of shingles the other leg centrally slotted lengthwise, the edge portions flanking said slot looped outwardly to form bearings open inwardly toward the opposite leg, the connecting web between the legs disposed to abut the lower ends of said laid course of shingles and an offset terminal attaching extension on said slotted leg, a spring-plate jaw attached to normally lie against the inner face of the slotted leg and yieldingly close said inwardly open bearings, and a cam-lever disposed through said slot and having lateral stud journals mounted in said bearings and a hub cam to bend said jaw toward the opposite leg.

2. A support-clamp for shingling-straightedges, comprising a U-shaped body having one leg pointed for insertion under the butts of a laid course of shingles, an integral attaching extension on the terminal of the opposite or base leg, an elastic jaw disposed to normally stand against the inner face of said base leg, a cam-lever journaled on the base leg to bend the elastic jaw toward said pointed leg, and a supplemental cheek detachably supported on said elastic jaw to temporarily reduce the space between it and said pointed leg.

3. In a support-clamp for shingling-straightedges, the combination of a rigid bas jaw, a fixed pointed jaw in opposed parallel relation thereto, an elastic plate jaw disposed to stand flat against the face of said base jaw, means on the base jaw to bend the elastic jaw toward said opposed fixed jaw, and a supplementary cheek detachably supported on the face of said elastic jaw.

In testimony whereof I have hereunto affixed my signature.

ANDREW CHRISTENSEN.