(No Model.)

J. O. JONES.

Clamp for Slate Roofs.

No. 240,729. **Patented April 26, 1881.**

Fig. 1.

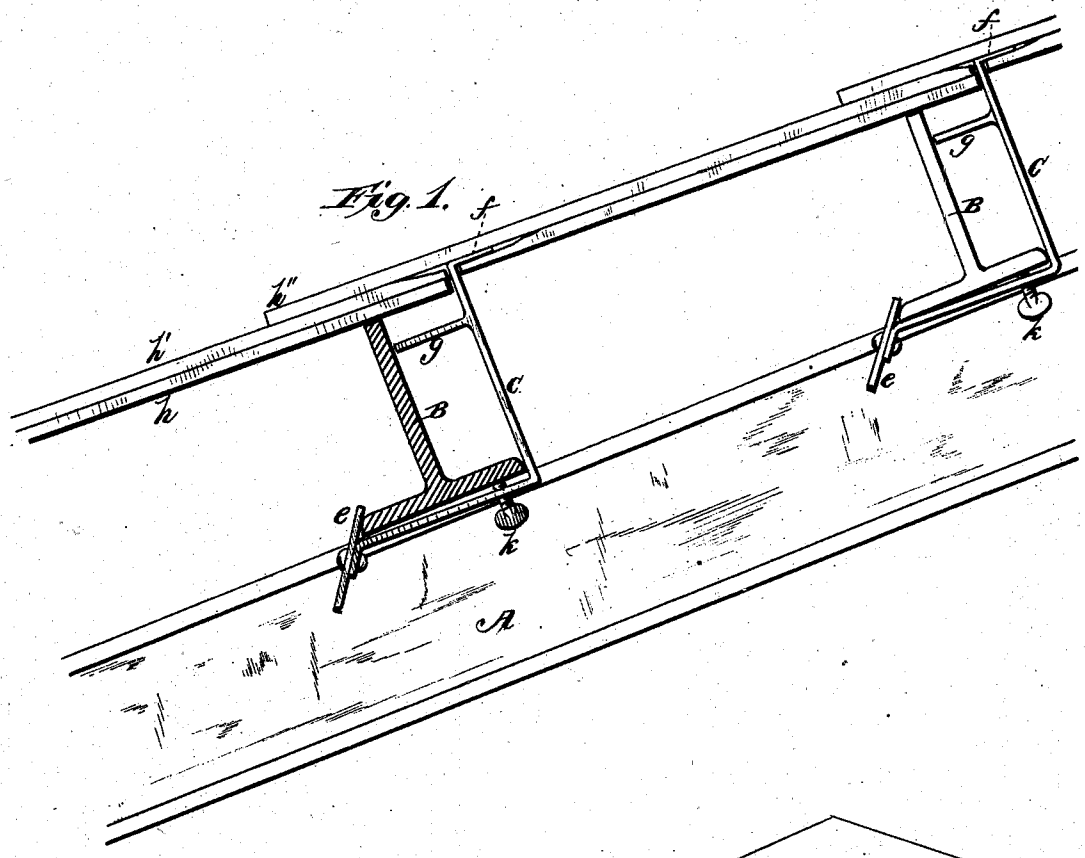
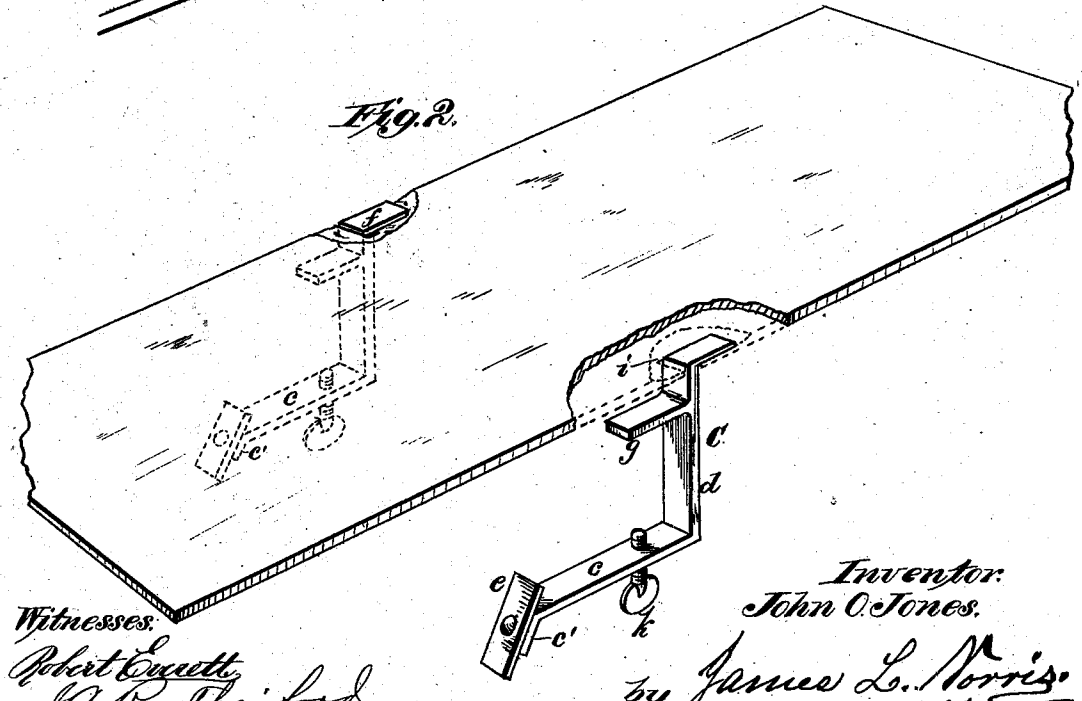


Fig. 2.



Witnesses:
Robert Everett
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UNITED STATES PATENT OFFICE.

JOHN O. JONES, OF WASHINGTON, DISTRICT OF COLUMBIA.

CLAMP FOR SLATE ROOFS.

SPECIFICATION forming part of Letters Patent No. 240,729, dated April 26, 1881.

Application filed March 16, 1881. (No model.)

To all whom it may concern:

Be it known that I, JOHN O. JONES, a citizen of the United States, residing at Washington, in the District of Columbia, have invented new and useful Improvements in Clamps or Fasteners for Slate Roofs, of which the following is a specification.

My invention relates to clamps or fasteners for supporting and securing the slates of slate roofs in position above the rafters, its object being to facilitate the laying of the slates, and to provide for the ready replacement of broken slates by new ones.

In the accompanying drawings, Figure 1 is a section of a portion of a slate roof, taken on a line at right angles to the comb. Figure 2 is a detached view of a single slate, with the fasteners arranged in relation thereto as they are in a roof.

Referring to Fig. 1, the letter A designates one of the rafters, and B B the purlins which are laid transversely thereupon. These purlins are inverted-T-shaped iron bars, the broad head lying upon the rafters.

The letter C designates a bracket, usually made of hoop-iron, the base *c* of which has a length equal to the width of the bases of the purlins, while its upright arm *d* has a height a little greater than the height of the purlins and the thickness of two slates added. The inclined tip *c'* of the base of the bracket C is pivoted to a turn-button, *e*, which, when its longitudinal edges are parallel with the edges of the base, extends above said base, but when the button is turned transversely its upper edge is about even with the base. When the base *c* of the bracket is placed crosswise under and against the base of the purlin, and the button turned to the position shown in Fig. 1, the bracket is secured to the purlin, with its upright arm parallel with the rib or upright portion of said purlin. At its top the arm *d* of the bracket is provided with a lip, *f*, extending in the opposite direction to its base, and below its top it has an arm, *g*, which extends toward, and has its end against, the upright part of the purlin, this arm being to brace the arm *d* and prevent it from yielding toward the purlin. While the head of one slate, *h*, (Fig. 1,) rests upon a purlin with its edge projecting a little above it, as shown, the middle, or about the middle, of the next or lapping slate *h'* comes directly over the purlin, and in its edge, about even with the upper edge of the lower slate, is cut a notch, *i*, which embraces the arm *d* of the bracket, directly under the lip *f*, while the head of this slate *h'* rests upon the purlin next above. Through the base *c* of the bracket passes an adjusting thumb-screw, *k*, the tip of which bears against the base of the purlin; and now, if this screw is turned in, it will draw down the arm *d*, causing the lip *f* to clamp the plate *h'*. In cutting the notches *i* a chip flies off the surface of the slate and leaves a slight cavity, into which the lip *f* sets about flush, so that the top slate, *h''*, lies practically flat upon those under it, it being understood that the slates break joints, or one slate covers the joint between two under it. Each slate is secured in position by two brackets, which are opposite each other and each in a notch, as shown, and each slate has its head resting upon a purlin, its middle above the next purlin below and over the head of another slate, and its tail over a third purlin and over two slates under it, so that over each purlin are three lapping slates.

As each slate is secured by two brackets, independent of all other slates, when any slate is broken it may be readily taken out by removing its brackets by turning the buttons *e*, and a new one can then be placed in position and secured by the brackets, as was the first.

What I claim is—

1. The combination, with the rafters, of the purlins having broad bases, the brackets having their bases secured to the bases of the purlins, and their upright arms provided with lips *f*, and the slates having notches to receive said arms directly under said lips, substantially as described.

2. The combination, with the purlins B, having broad bases, of the brackets C, having bases secured under the bases of said purlins, and upright arms provided with lips, substantially as described.

3. The combination, with the purlins having broad bases, of the brackets C, having their bases extending crosswise under said purlins, and provided with the turn-buttons and thumb-

screws, and also having the upright arms provided with lips *f* and brace-arms *g*, substantially as described.

4. The bracket C, having its base *c* provided with the turn-button and thumb-screw, and its upright arm provided with a lip at its top, substantially as described.

5. The bracket C, having its base *c* provided with the turn-button and thumb-screw, and its upright arm provided with the top lip and the brace-arm, substantially as described.

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

JOHN O. JONES.

Witnesses:
JAMES L. NORRIS,
JAMES A. RUTHERFORD.