April 14, 1931. A. H. SCHAFFERT 1,801,240

METALLIC DECK STRUCTURE

Filed Nov. 23, 1928

Fig. 1.

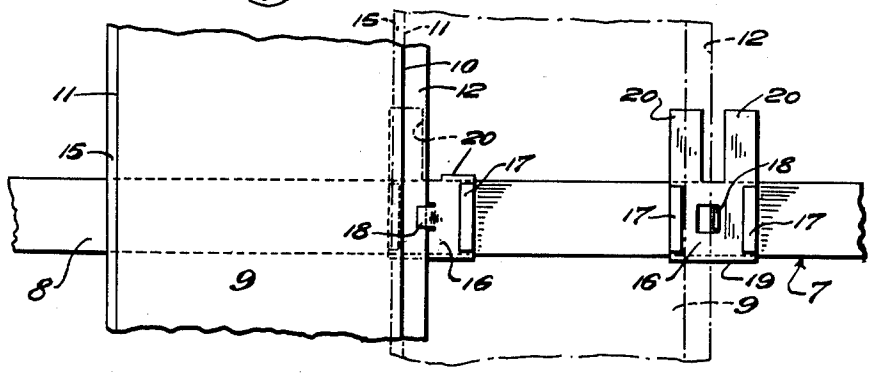


Fig. 2.

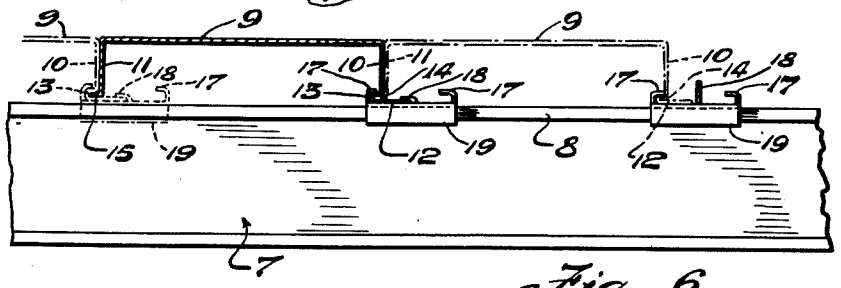


Fig. 3.

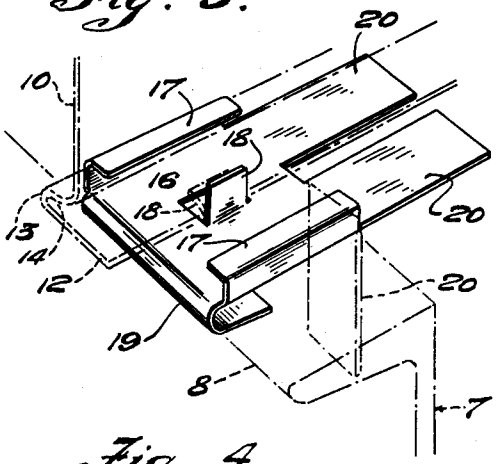


Fig. 4.

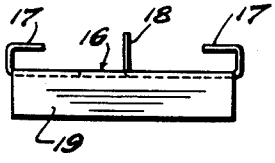


Fig. 6.

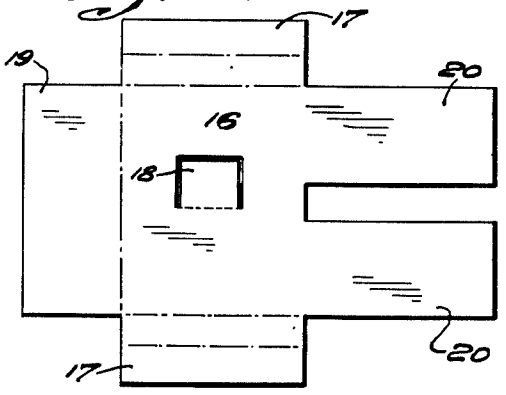
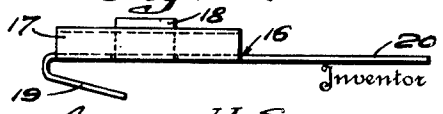


Fig. 5.



Inventor

ADOLPH H. SCHAFFERT

By

Attorney

Patented Apr. 14, 1931 1,801,240

UNITED STATES PATENT OFFICE

ADOLF H. SCHAFFERT, OF YOUNGSTOWN, OHIO, ASSIGNOR TO TRUSCON STEEL COMPANY, OF YOUNGSTOWN, OHIO, A CORPORATION OF MICHIGAN

METALLIC DECK STRUCTURE

Application filed November 23, 1928. Serial No. 321,451.

The object of the present invention is to provide novel and effective means for securing deck members to the purlins or supporting beams, the fasteners being readily applicable by workmen operating on the portion of the deck that is laid. A further object is to provide a fastener for the purpose that is readily reversible.

In the accompanying drawings:

Figure 1 is a plan view of a portion of a metallic deck structure illustrating one member in place on a purlin and a fastener in position to receive the next member.

Figure 2 is a vertical sectional view of the same.

Figure 3 is a perspective view of the preferred embodiment of a fastener.

Figure 4 is an end view of the same.

Figure 5 is a side view.

Figure 6 is a plan view of the blank from which the fastener is formed.

In the embodiment disclosed, a purlin for a roof structure is illustrated at 7, and preferably is a metallic channel beam placed on edge, so that one flange, as 8, is uppermost and disposed in a horizontal position. It will be understood that a plurality of these purlins as usual are located in spaced relation and serve as joists or rafters for the overlying structure.

The deck consists of sheet metal members or strips 9 of channel form, thus providing side walls 10 and 11. The side wall 10 terminates in an outstanding flange 12 and is bent inwardly to form an inset rib 13. This rib provides in the outer side of the wall a groove or seat 14. The other wall 11 is provided with a narrower outstanding terminal flange 15. The arrangement is such that when the members 9 are placed side by side the flange 15 of one will enter the groove or seat 14 of the next adjacent and the two walls 10 and 11 located side by side form a relatively strong support for the deck.

For the purpose of securing the deck members 9 in place, a fastening clip is employed. This clip preferably comprises a single piece of metal with a rectangular body 16. Two of the opposite edges of the body are provided with upstanding overturned flanges or tongues 17. Centrally between these tongues there is cut from the body 16 a prong or tongue 18 that initially uprises from the body as shown in Figures 3 and 4. A third edge of the body 16 is provided with an underturned flange or tongue 19 constituting a hook. The opposite edge of the body to the tongue or hook 19 is provided with a pair of outstanding tongues 20 that initially lie in the plane with the said body 16.

In laying the deck one of the fastening clips is placed on each purlin at the proper point with its hook or tongue 19 engaged around or embracing the flange 8 of the purlin 7. The deck member is then located with the rib 13 of the side wall 10 hooked under one of the tongues 17. This brings the free edge of the flange 12 behind the upstanding tongue or prong 18. A blow of the workman's hammer bends said tongue 18 over the flange. This fastens the clip to the deck member. One of the tongues 20 is thereafter bent downwardly alongside the purlin. The clip is thus not only fastened to the purlin, but the deck member is fastened to the clip member so that the entire structure is effectively tied together. It is a decided advantage in having the tongue or prong 18 and the tongue 20 both exposed so that they can be bent in the sequence above noted, for if the tongue 20 is bent first around the flange (as would be necessary if the tongue were covered, and the prong 18 were afterwards bent) there is some tendency for the hook 19 of the clip that is around the flange of the purlin to be loosened by the blow on the prong 18 and thereby permit some play between the clip and purlin.

The reason for employing two hooks 17 and two tongues 20 is to permit the device to be reversed in case the flange 8 of the purlin is reversed. In any event it will be noted that these parts may be applied and the deck member fastened by a workman located on the portion of the deck already laid and that he does not have to lie upon the same and work beneath the deck, but the clips are always exposed for the above described operation. Having laid one member as above de-

scribed, the next is interlocked therewith and fastened in the same way.

From the foregoing, it is thought that the construction, operation and many advantages of the herein described invention will be apparent to those skilled in the art without further description and it will be understood that various changes in the size, shape, proportion and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

What I claim is:

1. In a metallic deck structure, a reversible clip plate having channeled flanges along opposite sides, an oppositely arranged channeled flange along a third side, an opposite bendable tongue struck from the plate and located between the first channeled flanges, and a plurality of bendable tongues at the fourth side of the plate.

2. In a metallic deck structure, a clip for securing deck members to flange supporting beams comprising a plate for interpositioning between the members and beam, said plate having upstanding hooked flanges along its opposite edges and an upstanding tongue between the flanges and oppositely bendable toward either, said plate having a depending hooked flange at one end and separate downwardly bendable tongues at the other end respectively in line with the spaces between the upstanding tongue and the upstanding side flanges.

3. In a metallic deck structure, a clip for securing deck members to flange supporting beams, comprising a plate for interpositioning between the members and beam, said plate having an upstanding hooked flange along one edge and an upstanding tongue between said edge and the opposite edge and coacting with the flange to clamp a deck member on the beam, said plate further having a depending flange along one of its other two edges and in angular relation to the first flange and tongue for engagement around a supporting beam, and a downwardly bendable tongue carried by the edge of the plate opposite the last mentioned flange and located wholly on the portion of the plate that is on the opposite side of the upstanding tongue to that carrying the first mentioned flange whereby said depending tongue is exposed beyond the deck member that overlies the plate between the first hooked flange and the upstanding tongue.

4. In a metallic deck structure, a clip for securing deck members to flange supporting beams, comprising a plate for interpositioning between the members and beam, said plate having means for securement to the beam and having upstanding hooked flanges along its opposite edges for engagement with the deck members, and an upstanding tongue between the flanges and oppositely bendable toward either over a portion of the deck member placed on the plate.

In testimony whereof, I affix my signature.

ADOLF H. SCHAFFERT.