Sept. 30, 1930. A. H. SCHAFFERT 1,777,228

ROOFING STRUCTURE

Filed Feb. 23, 1929

Fig. 2.

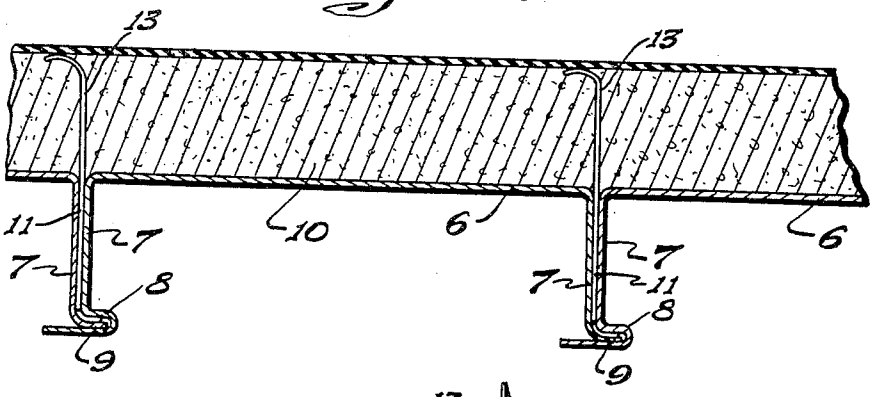


Fig. 1.

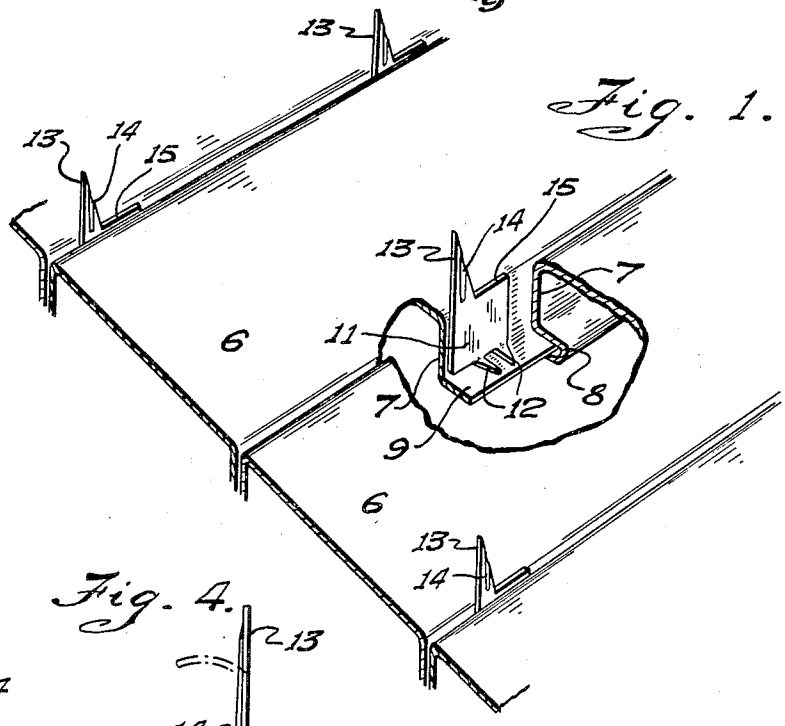


Fig. 3.

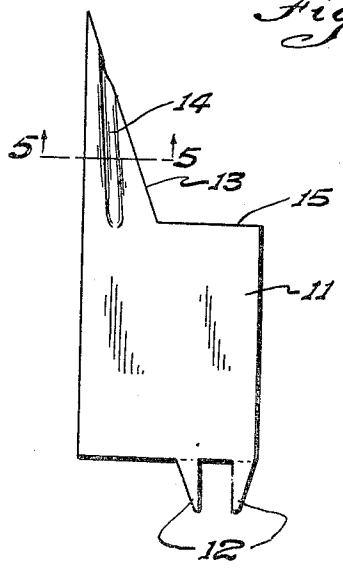


Fig. 4.

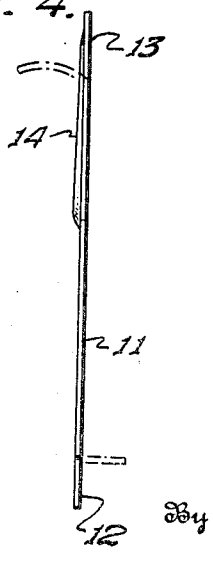


Fig. 5.



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1,777,228

UNITED STATES PATENT OFFICE

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ROOFING STRUCTURE

Application filed February 23, 1929. Serial No. 342,227.

The object of the present invention is to provide novel, simple and effective means for securing roofing material, such as insulation, to a metallic or other deck structure.

An embodiment of the invention that is at present considered the preferable one is illustrated in the accompanying drawings, wherein:

Figure 1 is a perspective view of a portion of a metallic roof deck showing the fastening means in place.

Figure 2 is a sectional view with a layer of insulation upon the deck and such insulation being secured by the novel means.

Figure 3 is a view in face elevation of one of the fasteners.

Figure 4 is an edge view of the same.

Figure 5 is a detail sectional view on the line 5—5 of Figure 3.

In modern deck structures, there are employed channel members of sheet metal that are interfitted side by side to produce the foundation or deck. As shown each of these members consists of a top wall 6 and side walls 7. One of these side walls is provided with a reversely turned flange 8 forming a groove, while the opposite wall is provided with an outstanding flange 9. When these members are assembled into a deck, the side walls 7 are located alongside each other and the flange 9 of one member engages in the groove formed by the reversely formed flange of the adjacent member. The members are thus effectively interlocked. Upon this deck structure is usually placed a layer of heat insulation 10 and it is the object of the present invention to provide novel means for securing this insulation or other overlying roofing material in place.

For this purpose fasteners are employed that are preferably formed of sheet metal. Each fastener consists of a rectangular body plate 11, the length of which is made substantially the width of the side walls 7. Projecting from one of the end edges of this body plate 11 is a pair of relatively short spurs 12 that are located adjacent to one corner of the plate. Extending from the opposite end edge of the plate is a longer spur 13 that is located at the diagonally opposite corner to the spurs 12. This spur 13 is pointed and preferably is provided with a longitudinal rib 14 that stiffens the same, said rib however, preferably terminating short of the point so that the end can be readily bent.

Because of the relation of the spurs it will be evident that an extended flat edge 15 is provided directly opposite the spurs 12.

In using these devices, they are driven into the joints between the side walls 7 at desirable intervals. When so driven by hammering upon the edge 15, the spurs 12 are caused to be bent into the groove between the flanges 8 and 9, and as a matter of fact actually bite into the metal of the flanges so that the fasteners are effectively anchored in place, said spurs 12 when in place constituting offset anchoring elements. The spurs 13 are left in upstanding relation and the insulation 10 or other fabric roofing material is then placed upon the deck and hammered down over the spurs by wooden mallets. The spurs are thus caused to pierce the material 10, after which the free ends are bent over or clinched as illustrated in Figure 2, and thereafter the waterproofing is laid over the insulation and the ends of the fastening devices.

This structure not only produces an effective fastening means, but obviously it is applied by a workman on the deck and no workman has to operate beneath the deck. One of the disadvantages of fasteners heretofore employed has been that they pass through the deck, requiring a workman beneath the same. More than that in cold weather these fasteners which project below the deck will cause a condensation of moisture. They therefore require special treatment. This is entirely obviated with the present structure.

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. A roof structure comprising a deck formed of deck members having top walls, meeting side walls and interfitted flanges at the bases of said side walls, roofing material lying on the deck, and fasteners for the roofing material located between the meeting side walls of the deck members and having offset anchoring elements interposed between the flanges.

2. A roof structure comprising a deck formed of deck members having top walls, meeting side walls and interfitted flanges at the bases of said side walls, roofing material lying on the deck, and fasteners for the roofing material comprising body plates located between the meeting side walls of the deck members and having offset anchoring spurs interposed between the flanges.

3. A roof structure comprising a deck formed of deck members having top walls, meeting side walls, and interfitted flanges at the bases of said side walls, roofing material lying on the deck, and fasteners for the roofing material comprising body plates located between the meeting side walls of the deck members, said plates having upstanding spurs engaging the overlying roofing material and having at their lower ends, offset spurs interposed between the interfitted flanges.

4. A fastener of the character set forth comprising a body plate for insertion in the joint of a roof or like structure, said plate having bendable spurs projecting from its opposite end edges, and disposed out of alignment to permit one portion of one edge to be utilized for hammering upon, and the spur projecting from the other edge being in line with such portion.

5. A fastener of the character set forth comprising a body plate for insertion in the joint of a roof or like structure, said plate having a tapered spur projecting from one edge and having a longitudinally disposed rib that extends to one of the side edges of the spur to stiffen the same, leaving the free pointed end substantially flat to be bent.

6. A fastener of the character set forth comprising a plate for insertion in the joint of a deck structure or the like, said plate having short bendable spurs projecting from one end edge adjacent one corner thereof, and a longer roofing piercing spur projecting from the opposite end edge of the body adjacent the diagonally opposite corner to the first spurs, the end edge alongside the longer spur and opposite the first spur constituting a part to be hammered on to drive the shorter spurs.

In testimony whereof, I affix my signature.

ADOLF H. SCHAFFERT.