No. 871,179. PATENTED NOV. 19, 1907.

S. OTIS.

CAR ROOF.

APPLICATION FILED MAY 14, 1906.

FIG. 1.

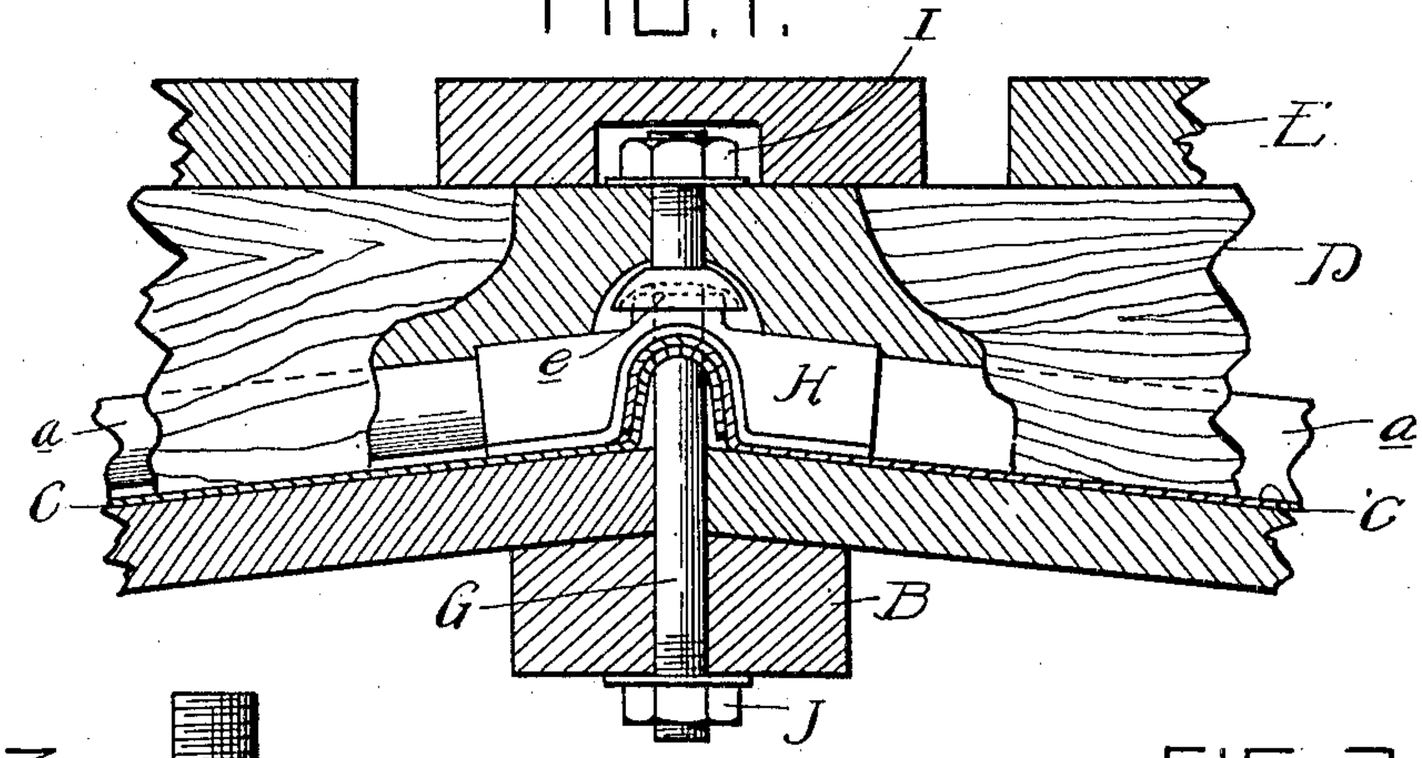


FIG. 3.

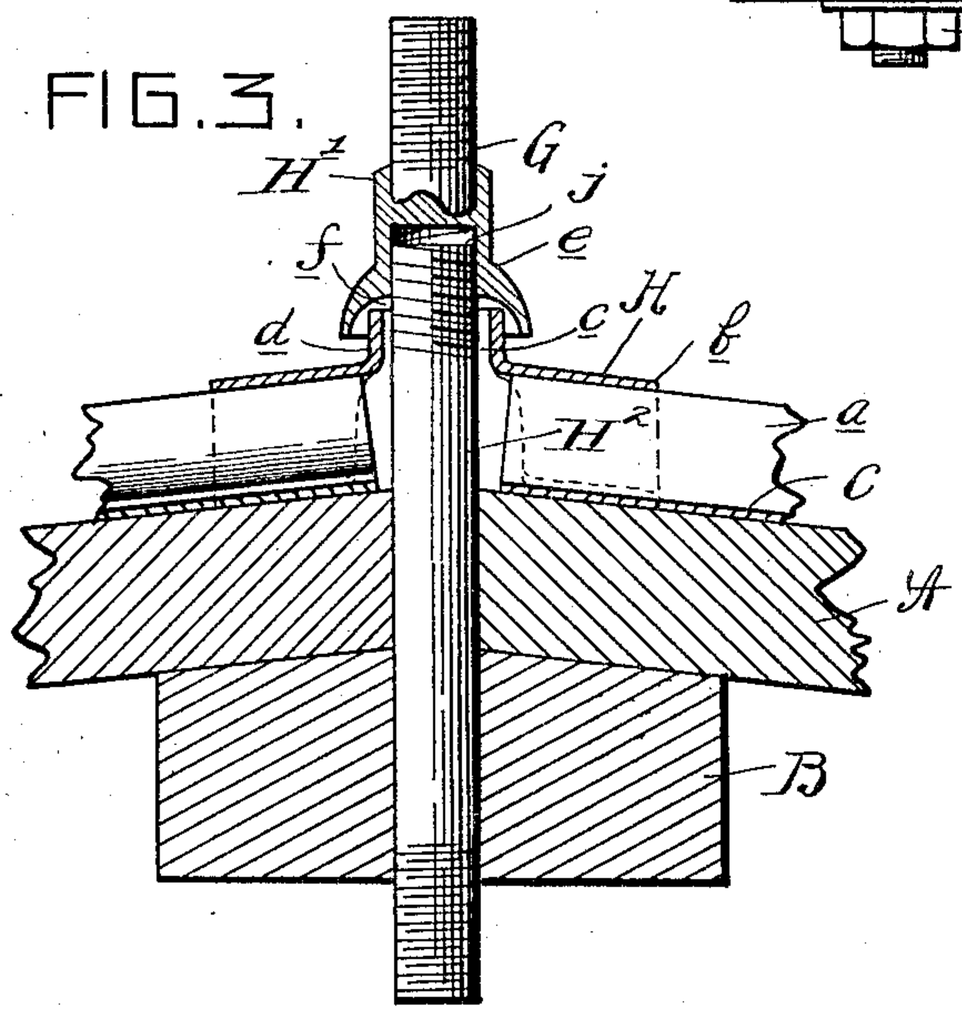


FIG. 2.

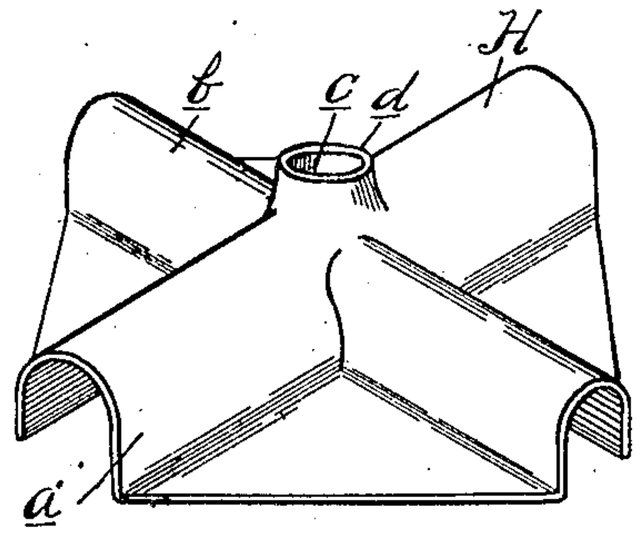


FIG. 4.

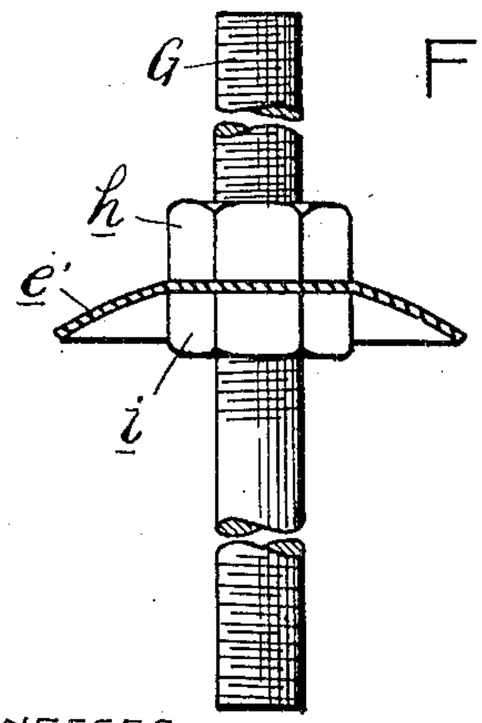
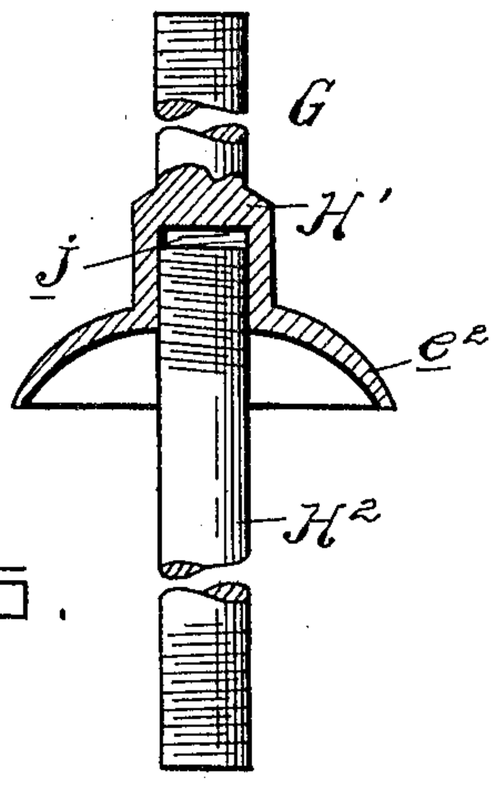


FIG. 5.



WITNESSES

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CAR-ROOF.

No. 871,179. Specification of Letters Patent. Patented Nov. 19, 1907.

Application filed May 14, 1906. Serial No. 316,844.

To all whom it may concern:

Be it known that I, SPENCER OTIS, a citizen of the United States of America, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Car-Roofs, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates more particularly to the means employed for securing the running board supporting saddles to the ridge purlin of the roof.

The invention consists in the peculiar construction of the securing bolts, and further in the peculiar construction of the cap in the joint between corners of the roof plates, as hereinafter set forth.

In the drawings, Figure 1 is a cross section through the ridge of a car roof, and Fig. 2 is a perspective view of the cap. Fig. 3 is a view similar to Fig. 1, with a section in a different plane and illustrates a modified construction of the bolt; Fig. 4 illustrates a modified construction of the bolt; and Fig. 5 illustrates on larger scale the modification as shown in Fig. 3.

A are roof boards, B the ridge purlin, C the metal roof plates, D the saddles, and E the running board of a car roof of known construction. The saddles D, which support the running boards, are secured to the purlin B by bolts G, extending through the same, and these saddles are preferably arranged to cover the flange joints *a* between adjacent roof sheets C.

It is customary to protect the joint between adjacent roof sheets at the ridge by a cap, which is usually formed of cast metal. In the present construction, this cast metal cap is replaced by a sheet metal stamping, which cheapens the cost of the construction. This cap H, as shown in Fig. 2, is fashioned to form cross channels *a'* and *b*, which embrace the flanges of the adjacent roof sheets, both at the ridge and at the side. The cap is further centrally apertured at *c*, and is struck up to form an upwardly projecting annular flange *d* surrounding the said aperture, and adapted to be sleeved upon bolt G.

To prevent possible leakage between the bolt and the cap H, the former is provided with a larerally projecting annular flange *e*, preferably turned downward to form a recess *f* on its upper side, with which the flange *d* of the cap is engaged. The saddle D is cut away on its under side to receive this flange *e*, and the threaded upper end of the bolt G has a nut I in engagement therewith, by which the saddle may be clamped against the flange *e*. The lower end of the bolt G is also threaded, and provided with nuts J for clamping against the under side of the ridge purlin.

With the construction described, when the parts are assembled, an absolutely watertight joint is formed between the bolt G and the cap H, while said cap protects the joints between the roof plates.

In place of making the flange *e* integral with the bolt, it may be made of a separate piece *e'* secured to the bolt by clamping nuts *h* and *i*, as illustrated in Fig. 4, or, as illustrated in Fig. 5, the bolt may be formed in two sections H' and H², one having the flange *e*² integral therewith and the other threaded to engage a threaded socket *j* in the flange section.

What I claim as my invention is:

1. In a car roof, the combination with the roof boards and the ridge purlin, of the roof sheets having flanged engagement with each other, a running board supporting saddle, a bolt passing through said saddle, roof boards, sheets and ridge purlin, and rigidly clamping the same together, a metallic cap having cross channels for engaging the flanged joints of the sheets and apertured for the passage of said bolt, and a flange adjustable in relation to one end of said bolt for covering the joint with said cap.

2. In a car roof, the combination with roof sheets having a flanged engagement with each other, roof boards, a ridge purlin, and the running board supporting saddle, of a bolt comprising detachable sections passing through said sheets, boards, saddle and purlin, and rigidly clamping the same together, a metallic cap having cross channels for embracing the flanges of the sheets, said cap being centrally apertured for the passage of said bolt, an apertured annular flange on said cap, and a down-turned annular flange on one section of said bolt embracing said cap flange, for the purpose described.

3. In a car roof, the combination with the roof boards, roof sheets, ridge purlin, and running board supporting saddle, of a me-

tallic cap covering intersecting joints in the sheets, and a bolt formed in two sections, one of said sections passing through said purlin, roof boards, sheets, and cap, and the other section having a down-turned screw threaded cap engaging the end of said first section, said second section passing through the saddle, whereby said purlin, roof boards, sheets, cap, and saddle are rigidly clamped together.

In testimony whereof I affix my signature in presence of two witnesses.

SPENCER OTIS.

Witnesses:
W. L. De Remer,
G. G. Johnson.