

J. C. WANDS.  
WOODEN ROOF.

No. 175,796.

Patented April 4, 1876.

Fig. 1

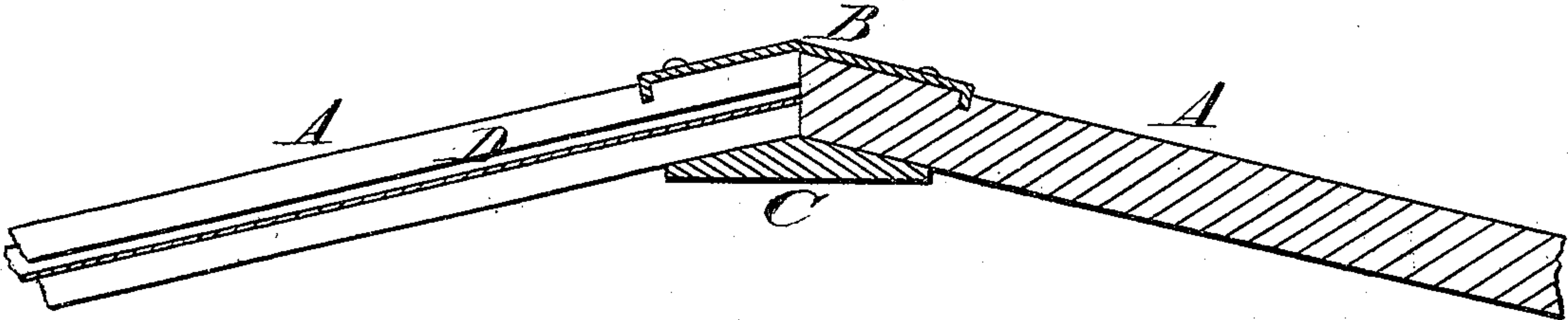


Fig. 2

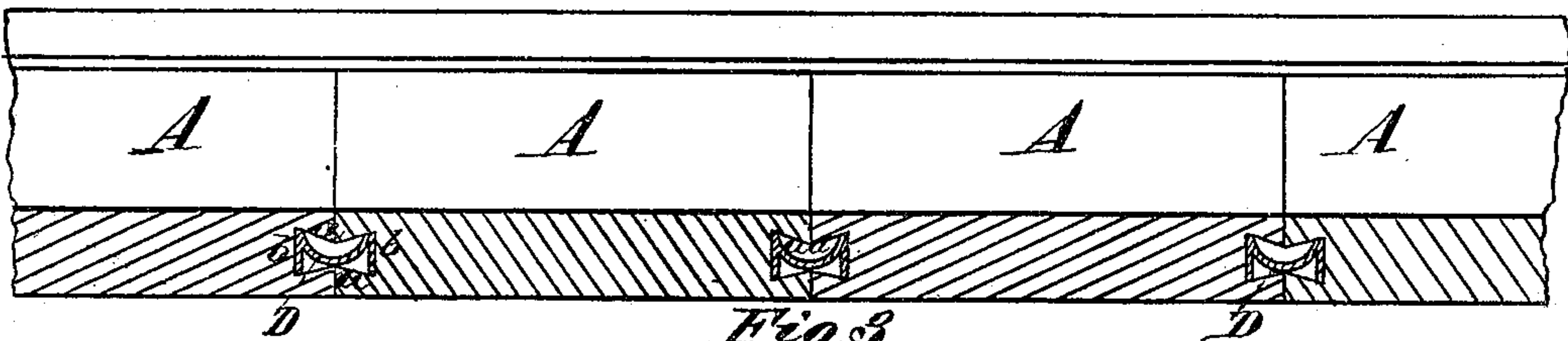


Fig. 3

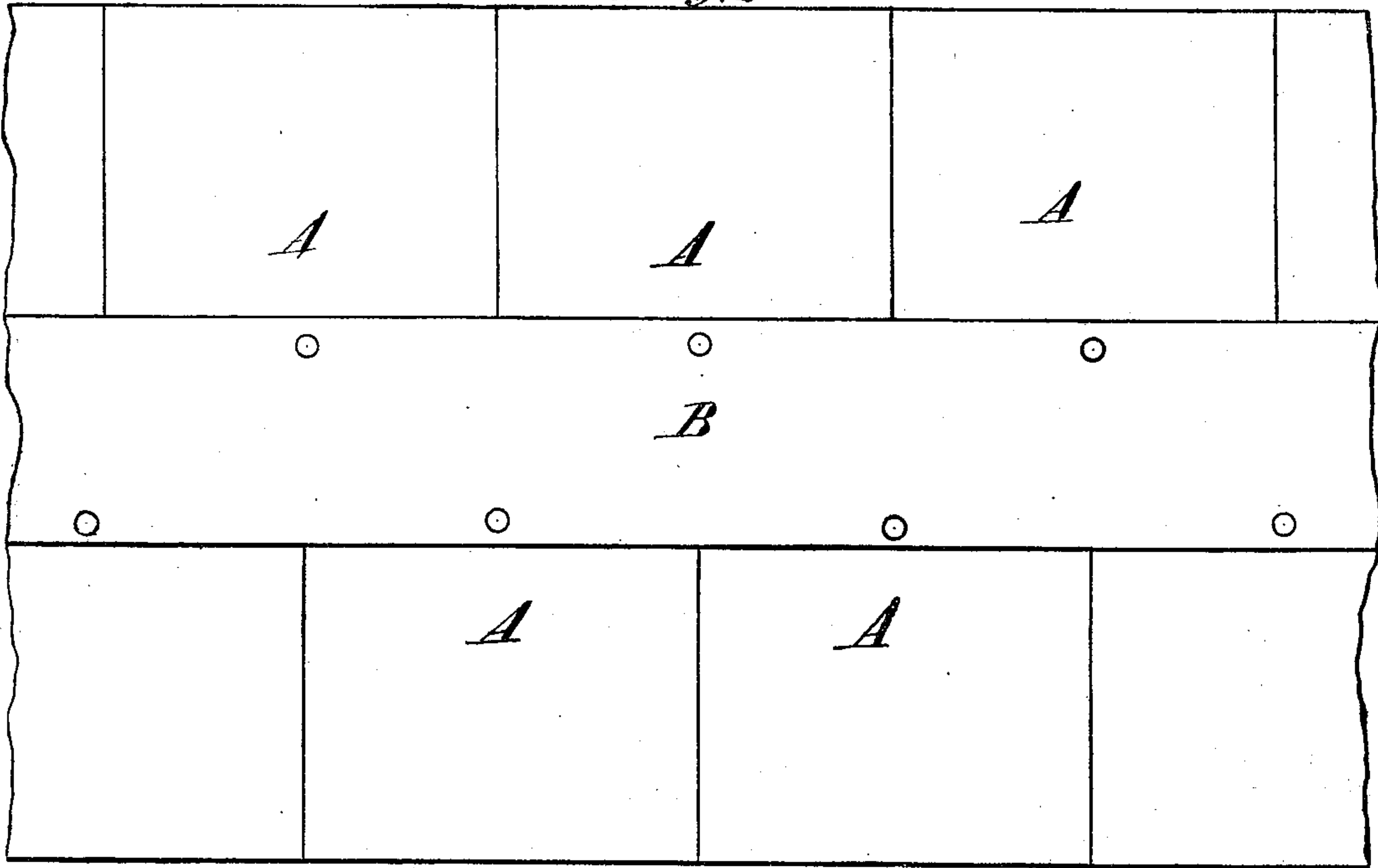


Fig. 4

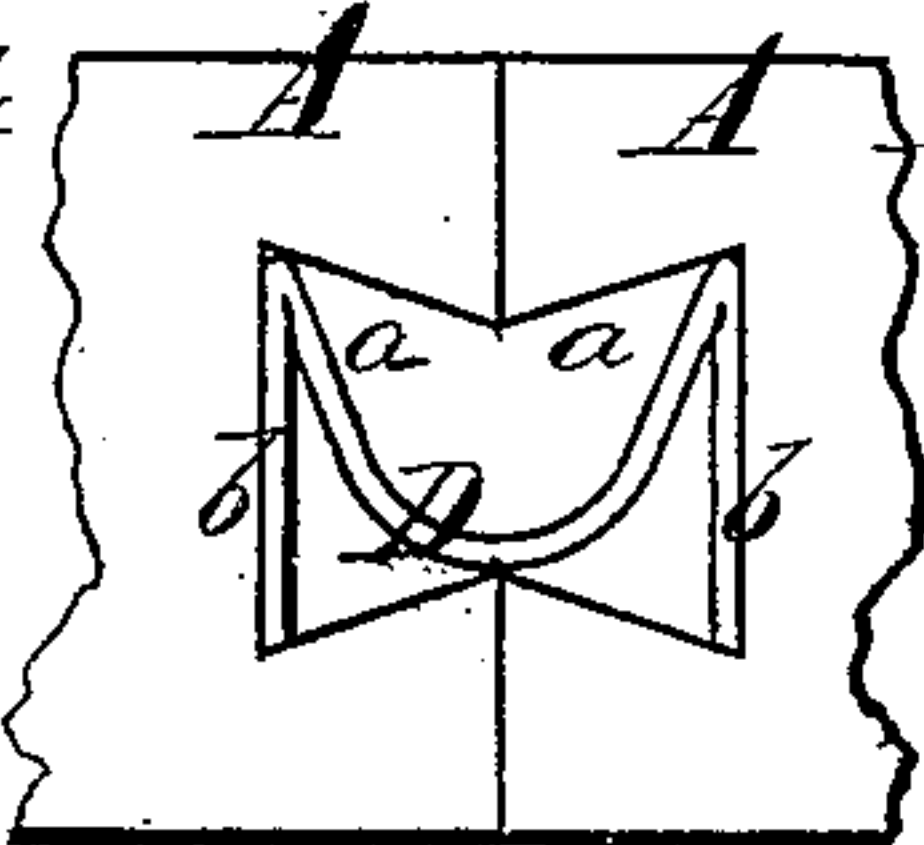
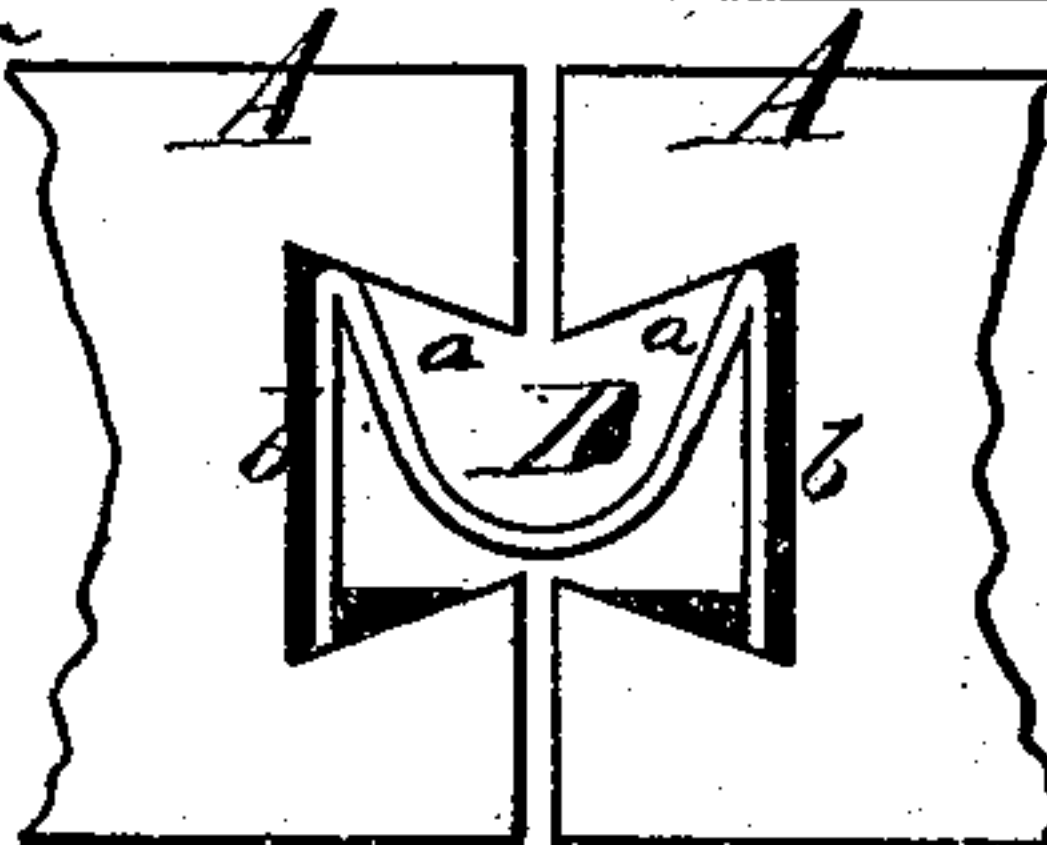


Fig. 5



WITNESSES  
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# UNITED STATES PATENT OFFICE.

JOHN C. WANDS, OF NASHVILLE, TENNESSEE.

## IMPROVEMENT IN WOODEN ROOFS.

Specification forming part of Letters Patent No. 175,796, dated April 4, 1876; application filed March 4, 1876.

*To all whom it may concern:*

Be it known that I, JOHN C. WANDS, of Nashville, in the county of Davidson and State of Tennessee, have invented a new and valuable Improvement in Wood Roofs; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a transverse vertical section of my roof, and Fig. 2 is a longitudinal vertical sectional view of the same. Fig. 3 is a plan view thereof, and Figs. 4 and 5 are detail views.

This invention has relation to the construction of roofs which are especially designed for railroad-cars, but which may be employed for other purposes.

The nature of my invention consists in dovetailed grooves which are formed in the meeting edges of the roof-boards, in combination with flanged gutters which will seal the joints water-tight, and at the same time allow free expansion and contraction of the boards, as will be hereinafter explained. Prior to my invention the joints of roofing-boards have been closed by curved strips of metal let into the edges of the boards, and therefore I do not claim broadly this mode of sealing a board roof.

In the annexed drawings, A A designate the roof-boards, which are capped at their abutting ends by an angle-plate, B, the edges of which are bent down and fitted in grooves or saw-kerfs, as shown in Fig. 1. Beneath the angle-plate or water-shield B is a beam, C, to which the boards A are all suitably secured. The joints or abutting edges of the boards on one side of the water-shield are arranged so as to break with the joints on the opposite side of the shield, for a purpose hereinafter explained. The edges of the boards A have dovetailed grooves made

longitudinally in them, as indicated at *a a*, which grooves receive flanged gutters D, shown clearly in Figs. 2, 4, and 5. These gutters are made so that when the roof-boards are secured in their places they can be slid endwise into the grooves *a a*, the perpendicular or flanged portions *b b* being embedded in a suitable cement, as shown in Fig. 5, and the intermediate portion, which is trough-shaped, crosses the joint between two boards, and carries off any water which may pass through said joint. The peculiar form of the gutter D, combined with the dovetail grooves in the edges of the boards, prevents this gutter from displacement by expansion and contraction of the boards, and also admits of the use of a cement which will hermetically seal the joint.

Another very important feature of my invention is the arrangement of the boards, as shown in Fig. 3 and above referred to. This allows me to drive the ends of the gutter-strips on one side of the roof into the ends of the boards on the opposite side of the roof, thus making the roof water-tight along its ridge.

What I claim as new, and desire to secure by Letters Patent, is—

1. The boards A, having dovetailed grooves *a a* in their edges, in combination with the curved expansible gutters D, provided with vertical flanges *b*, embedded in cement, substantially as described, and for the purposes set forth.

2. The angle-plate B, flanged and fitted to kerfs in the roof-boards, in combination with boards having the gutters driven into their ends, as described.

In testimony that I claim the above, I have hereunto subscribed my name in the presence of two witnesses.

JOHN C. WANDS.

Witnesses:

D. N. MYLAN,  
JAMES THOMPSON.