

(No Model.)

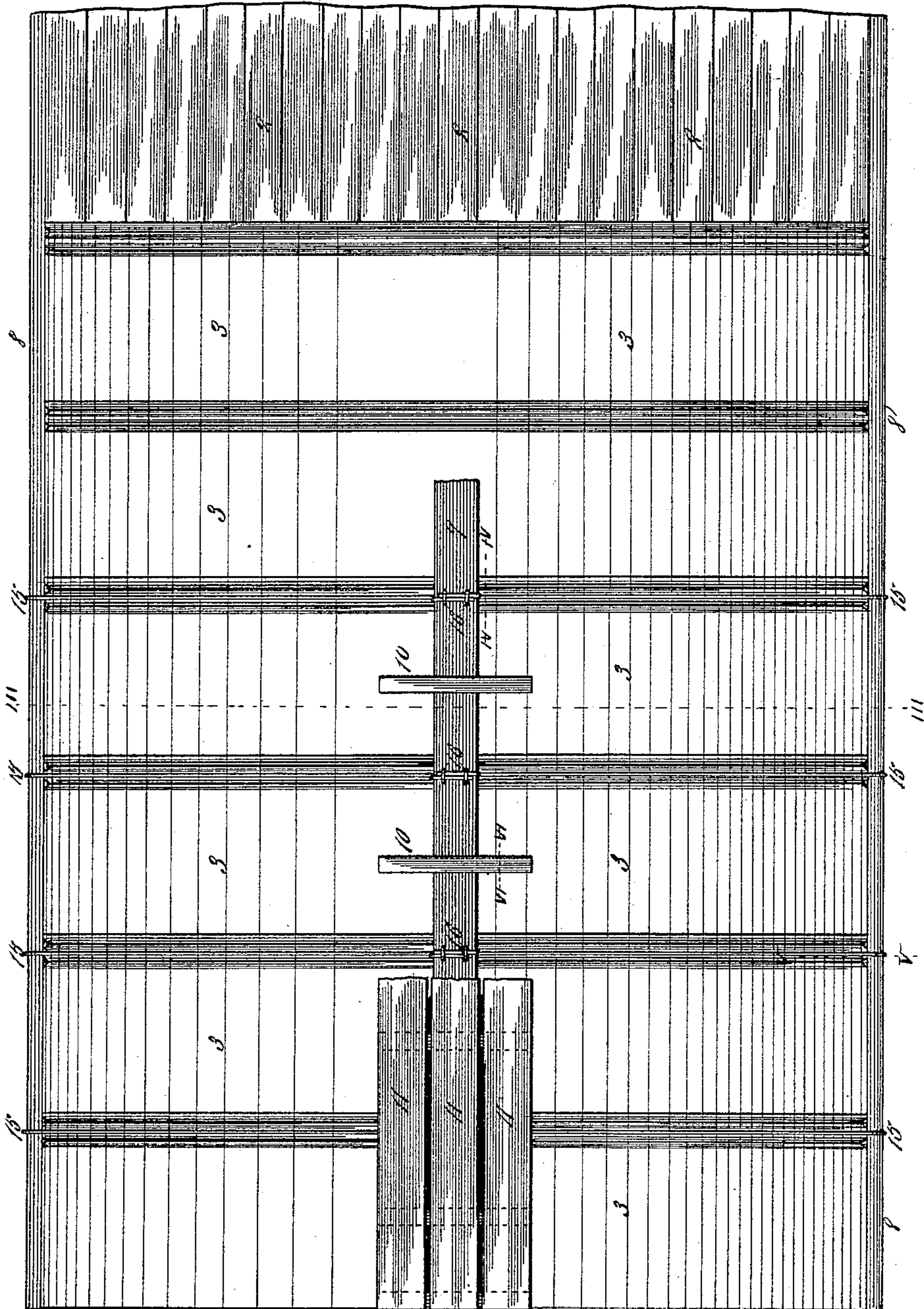
2 Sheets—Sheet 1.

J. C. WANDS.
CAR ROOF.

No. 459,664.

Patented Sept. 15, 1891.

Fig. 1



Attest;
S. H. Knight
G. E. C. Secy.

Inventor;
John C. Wands
By Knight Bros
Atty's

(No Model.)

2 Sheets—Sheet 2.

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Fig. II.

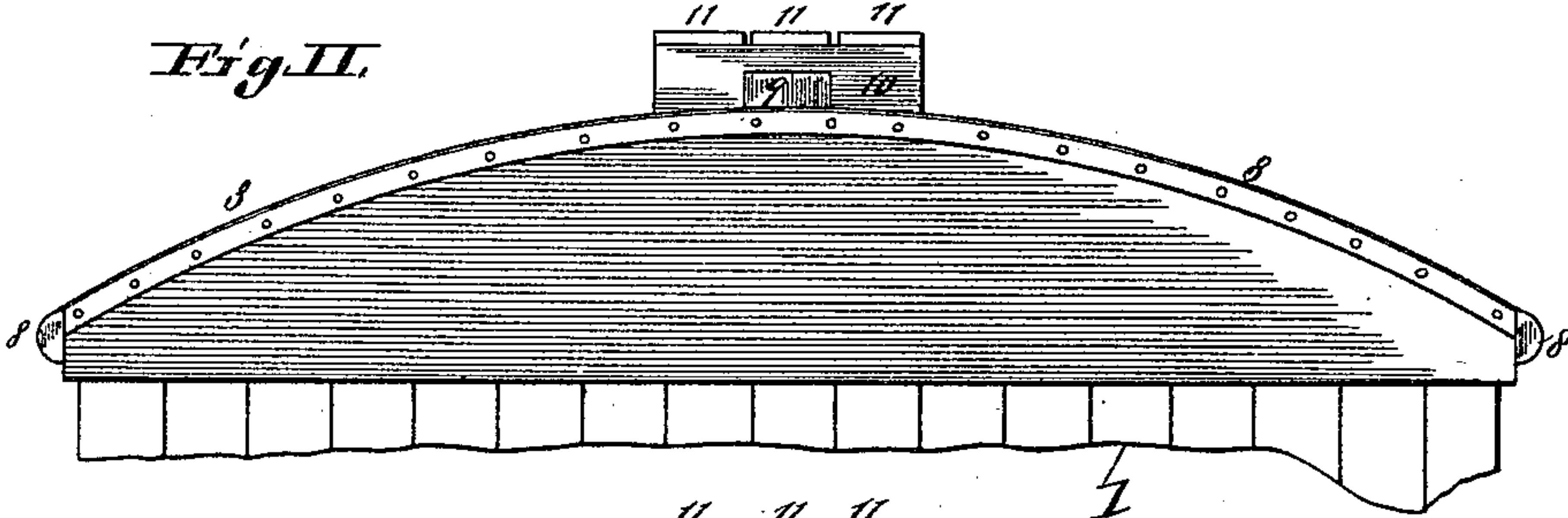


Fig. III.

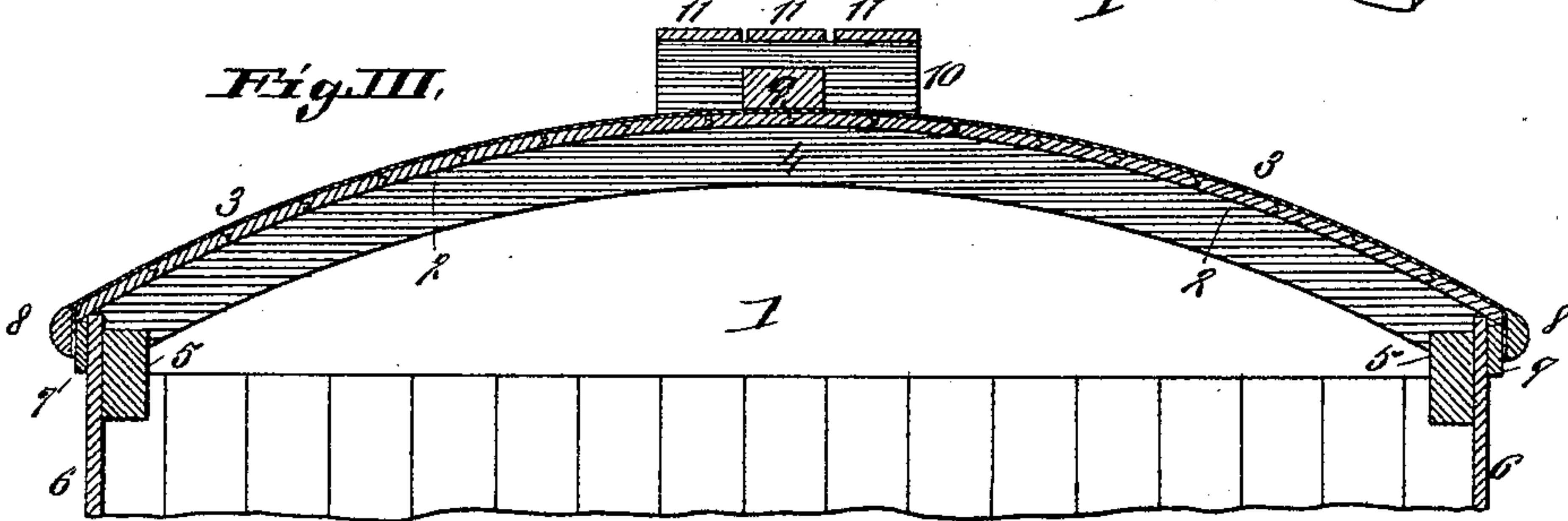


Fig. IV.

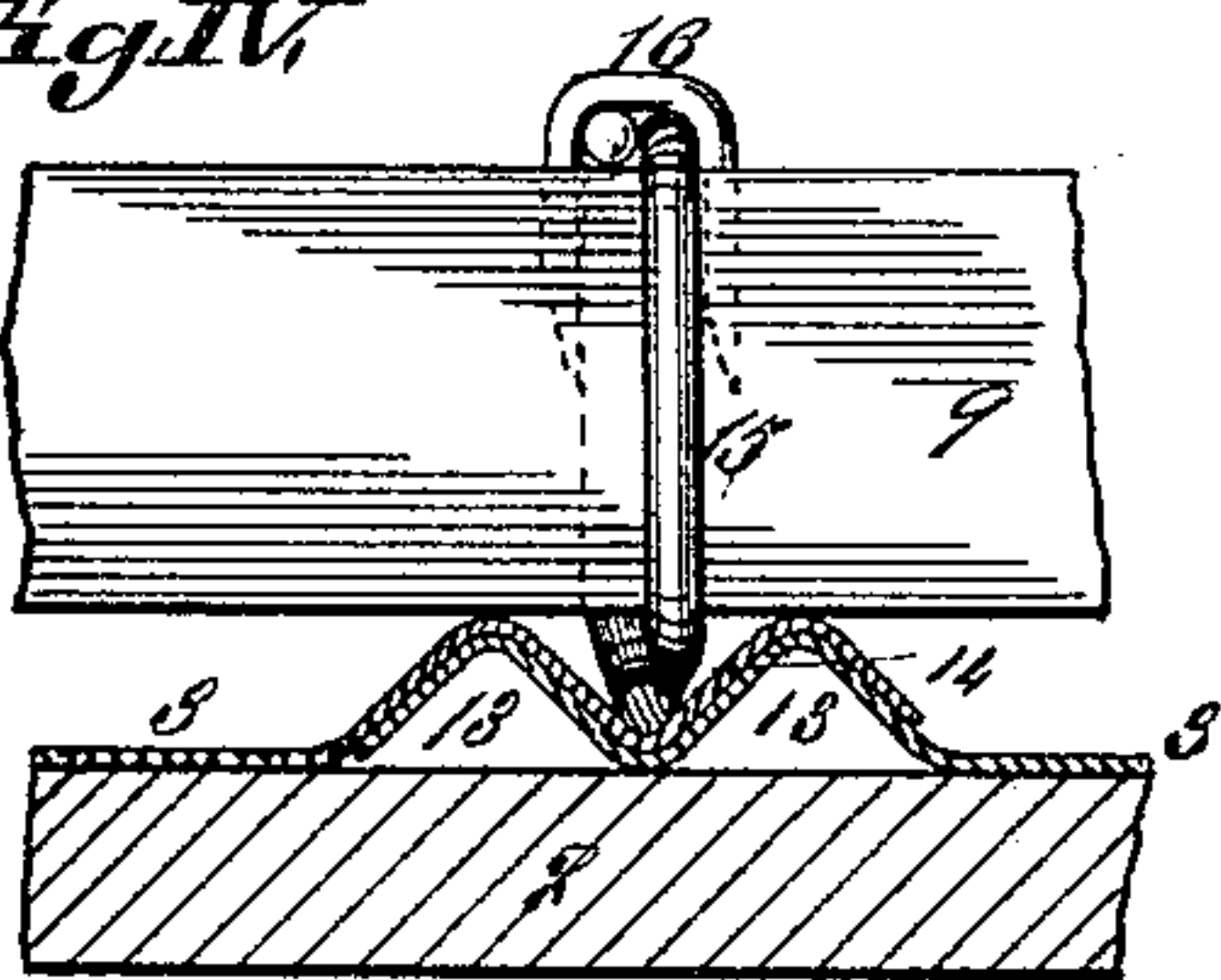


Fig. V.

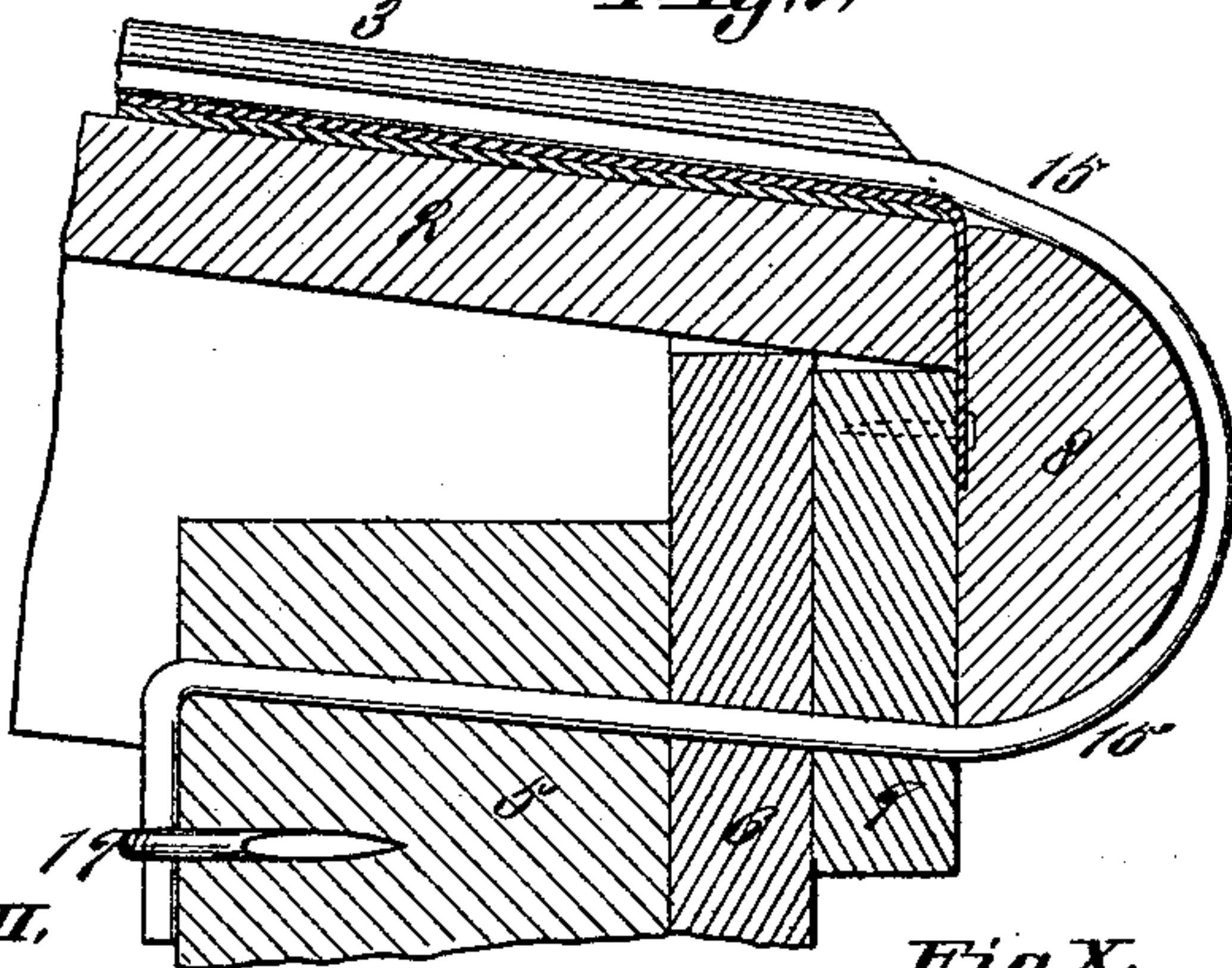


Fig. IX.

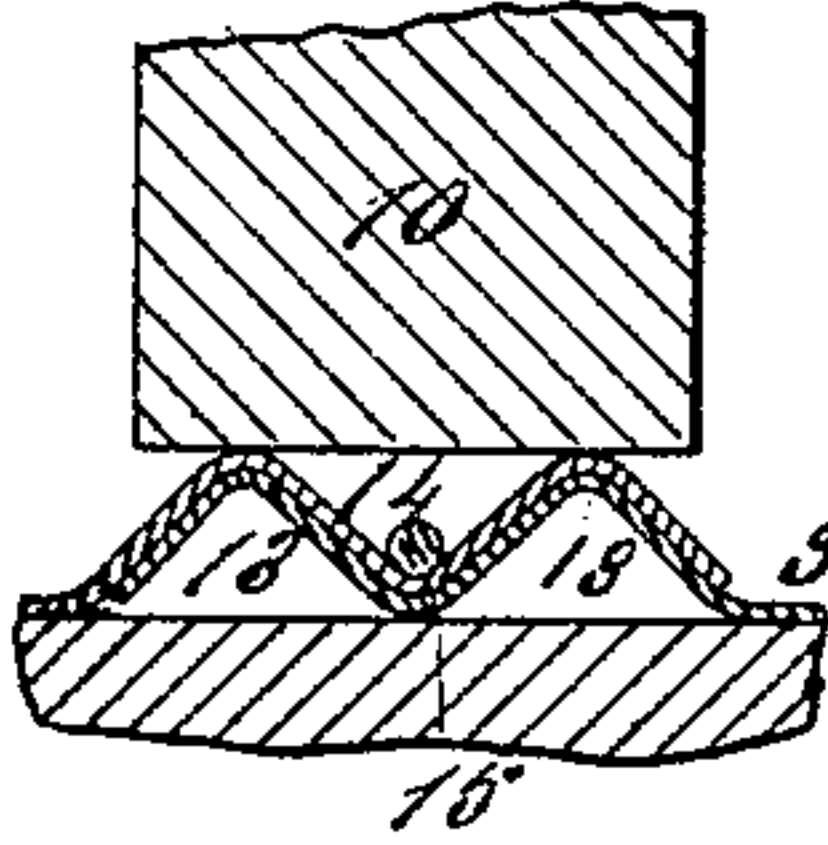


Fig. VI.

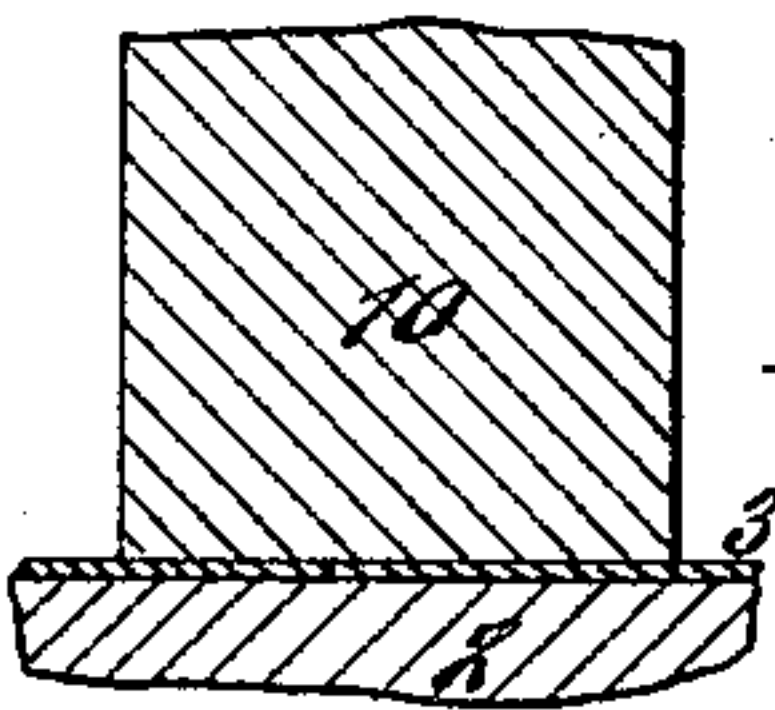


Fig. VII.

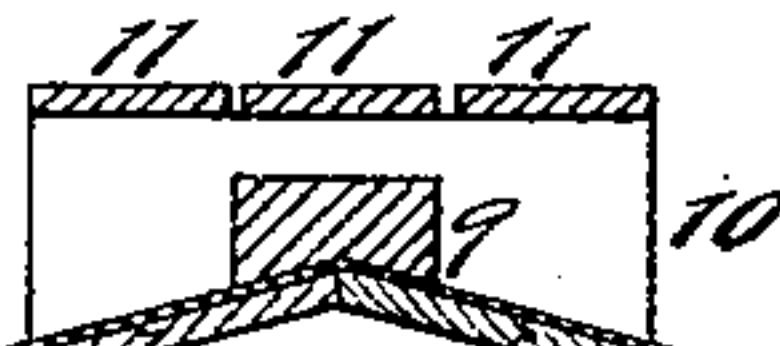


Fig. X.

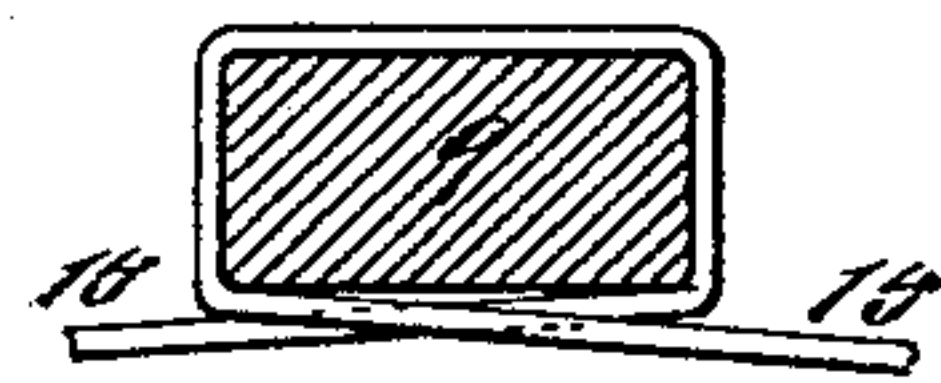
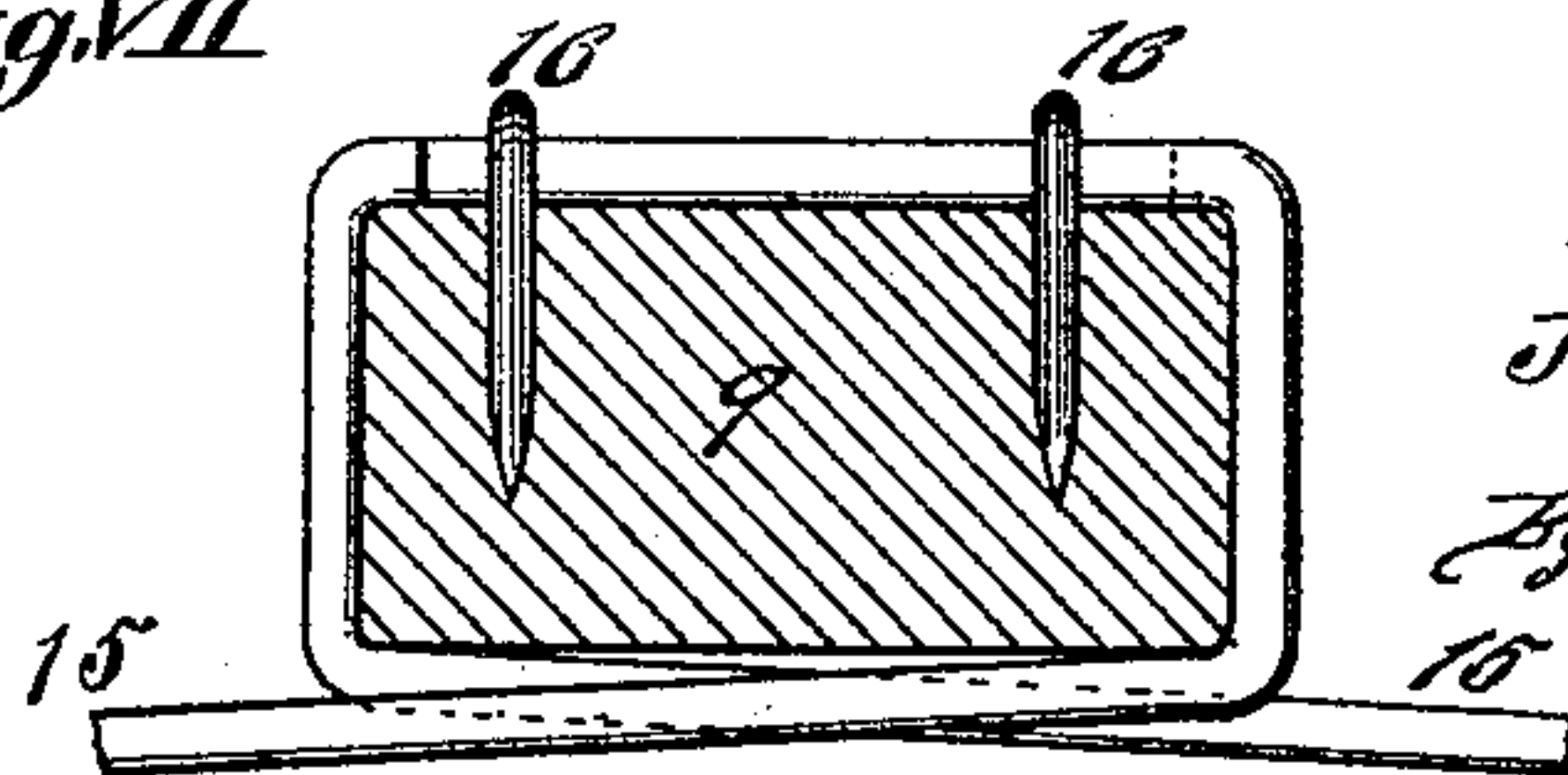


Fig. VII.

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UNITED STATES PATENT OFFICE.

JOHN C. WANDS, OF ST. LOUIS, MISSOURI.

CAR-ROOF.

SPECIFICATION forming part of Letters Patent No. 459,664, dated September 15, 1891.

Application filed February 5, 1891. Serial No. 380,341. (No model.)

To all whom it may concern:

Be it known that I, JOHN C. WANDS, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Car-Roofs, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to certain improvements in car-roofs, the object being to construct a strong, durable, cheap, and light roof, and one which will permit a larger area of available space to the interior of the car; and my invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

Figure I is a detail plan or top view of my improved roof. Fig. II is an end view of the roof, showing also a portion of the body of the car. Fig. III is a vertical transverse section taken on line III III, Fig. I and showing but a portion of the body of the car. Fig. IV is an enlarged vertical longitudinal section taken on line IV IV, Fig. I. Fig. V is an enlarged vertical transverse section taken on line V V, Fig. I. Fig. VI is an enlarged vertical longitudinal section taken on line VI VI, Fig. I. Fig. VII is an enlarged vertical transverse section of the ridge-pole, showing my preferred manner of connecting the binding wires or rods to the pole. Fig. VIII is a vertical transverse section similar to Fig. III, but showing a different shape of the roof. Fig. IX is an enlarged detail longitudinal section showing the bridge-piece placed over the joints of the sheets, instead of between the joints, as shown in Figs. I and VI. Fig. X is a vertical transverse section of the ridge-pole, illustrating a different manner of securing the binding wires or rods to the pole from that shown in Fig. VII.

Referring to the drawings, 1 represents the body of the car; 2, the sheathing of the roof; 4, the carlings; 5, the longitudinal plates placed at the upper corners of the car-body; 6, the siding; 7, the frieze-boards; 8, the molding; 9, the ridge-pole; 10, the bridge-pieces, and 11 the running-boards. No invention *per se* is claimed in any of these parts, and they may be of any desired shape, form, or size that may be desired.

3 represents metal plates covering or placed over the sheathing 2. These plates may be of any desired width and the adjacent edges of the sheets are joined by overlapping corrugations 13, formed in the edges of the sheets, as shown in Figs. IV and IX. The joints thus formed are thoroughly water-proof and afford grooves or depressions 14, in which the binding-wires rest.

15 represents the binding wires or rods. My preferred manner of arranging these rods is to pass them through the plates 5, the siding 6, and the frieze-boards 7, as shown in Fig. V. From here the rods pass around the moldings 8, and then are extended over the plates 3, along the depressions 14, to the ridge-pole 9, around which they are passed in opposite directions, as shown in Fig. VII, and to which they are held by staples 16. The inner ends of the wires are held to the plates 5 by means of staples 17, as shown clearly in Fig. V. In this my preferred construction separate rods are used for each side of the car—that is to say, one set of rods passes from one of the plates 5 to the ridge-pole 9, and the other set of rods passes from the other plate 5 to the ridge-pole 9, there being a rod for each joint of the plates 3, as shown in Fig. I. If preferred, however, the rods may be continuous, and instead of being connected to the ridge-pole, as explained, and as shown in Fig. VII, may extend from one side of the car to and around the ridge-pole, as shown in Fig. X, and then be extended onto the other side of the car, or it is obvious that the rods need not be wrapped around the ridge-pole at all, but may simply pass over or beneath it; but I prefer to pass the wires around the ridge-pole, either as shown in Fig. VII or as shown in Fig. X, for in this way the rods are utilized to hold the ridge-pole in place and avoid other means of attaching or holding the ridge-pole. As I have already stated, the wires or rods fit in the grooves or depressions 14, formed by corrugating the adjacent and overlapping edges of the sheets, and these wires or rods hold the sheets in place without the necessity of any other attachment and avoiding the necessity of nail-holes or the necessity of perforating or puncturing the sheets in any manner, and the sheets can thus be secured in

place in a much quicker and cheaper manner than by the use of any other method known to me. The wires or rods also serve to hold the moldings 8, which cover the lower ends 5 of the sheets in place and tie the plates 5, siding 6, frieze-boards 7, and moldings 8 permanently together and hold them much more effectually than could be done by the use of nails or screws, which are liable to work loose 10 under the constant motion and racking of a moving car.

The bridge-pieces 10 may be placed between the joints of the sheets, as shown in Figs. I and VI, or they may be placed on the joints, 15 as shown in Fig. IX.

A car-roof thus made is very strong and durable, can be cheaply produced, and, owing to the roof being tied together by the wires or rods 15, avoids the necessity of an inside 20 structure, which detracts from the size of the interior of the car.

I claim as my invention—

1. In a car-roof, the combination of the sheets having joints at their adjacent edges, 25 and the binding wires or rods extending through the plates of the car-body and over the joints of the sheets, substantially as set forth.

2. In a car-roof, the combination of the 30 sheets joined at their adjacent edges, moldings covering the lower ends of the sheets, and rods secured at their lower ends to the car-body and passing around said moldings and over said sheets, substantially as set forth.

35 3. In a car-roof, the combination of the sheets joined at their adjacent edges, and rods fitting over the sheets at their joints, the lower ends of said rods being passed through the frieze-boards, the siding of the car, and

the plates 5 and serving to hold the parts together, substantially as set forth. 40

4. In a car-roof, the combination of the sheets having overlapping corrugated edges, a ridge-pole, and rods secured to the body of the car and to the ridge-pole and fitting in 45 the corrugations of the overlapping edges of the sheets, whereby the sheets and the ridge-pole are held in place by said rods, as specified.

5. In a car-roof, the combination of the 50 sheets having corrugated overlapping edges, a ridge-pole, and rods extending through the plates, siding, and frieze-boards of the car-body and being extended along the joints of said sheets to said ridge-pole, to which they 55 are secured, substantially as and for the purpose set forth.

6. In a car-roof, the combination of the sheets having corrugated overlapping edges, a ridge-pole, moldings, and rods extending 60 through the plates, siding, and frieze-boards of the car-body and around said moldings and fitting in the joints of the sheets and secured to said ridge-pole, substantially as and for the purpose set forth. 65

7. In a car-roof, the combination of the sheets having corrugated overlapping edges, forming grooves 14, a ridge-pole, and rods passing through the plates, siding, and frieze-boards of the car-body and extended along 70 the joints of the sheets and secured to said ridge-pole by being wrapped therearound and by staples 16, substantially as and for the purpose set forth.

JOHN C. WANDS.

In presence of—

A. M. EBERSOLE,

THOS. KNIGHT.