

J. D. FELTHOUSEN.
Car Roof.

No. 231,220.

Patented Aug. 17, 1880.

Fig.1.

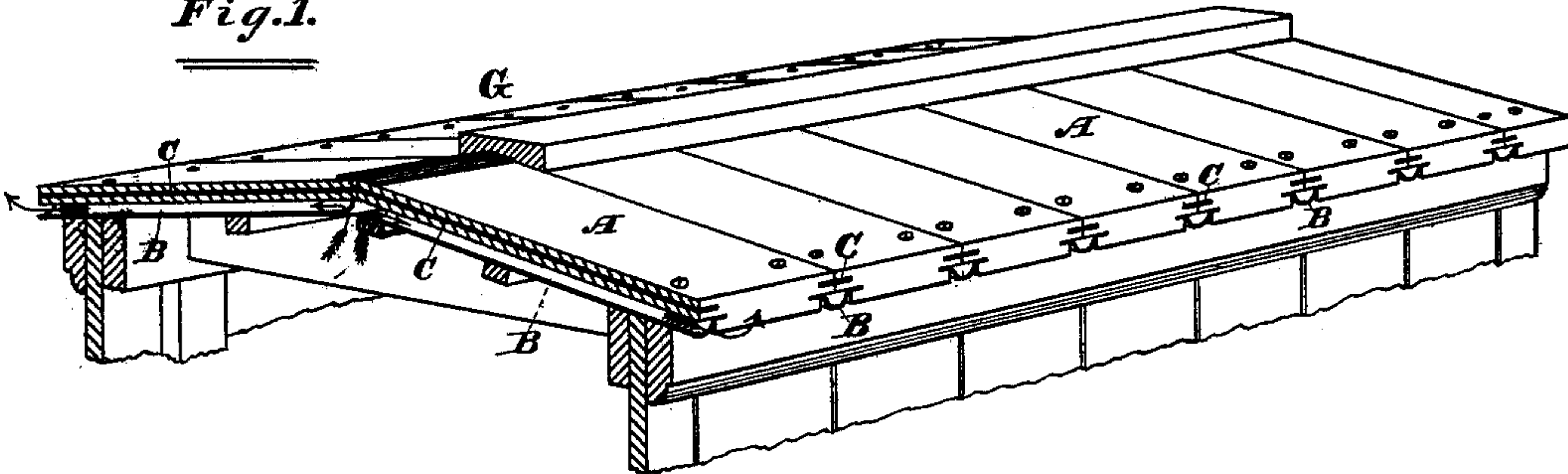


Fig.2.

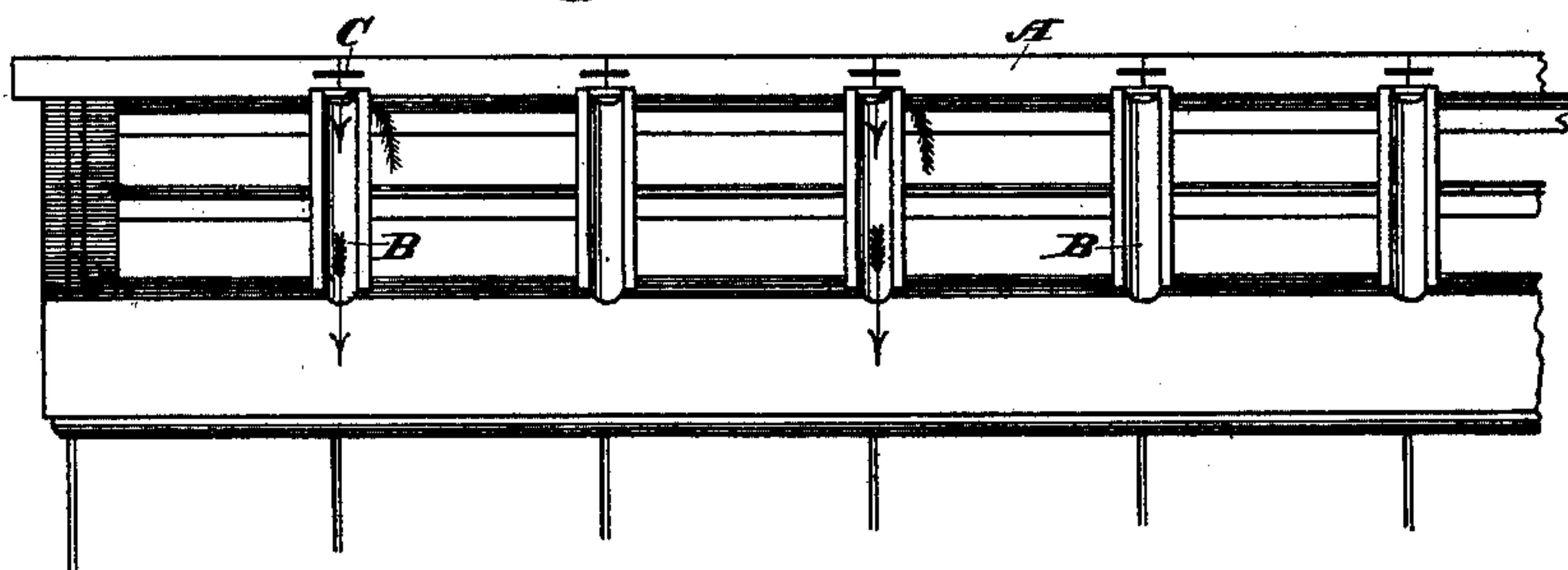


Fig.3.

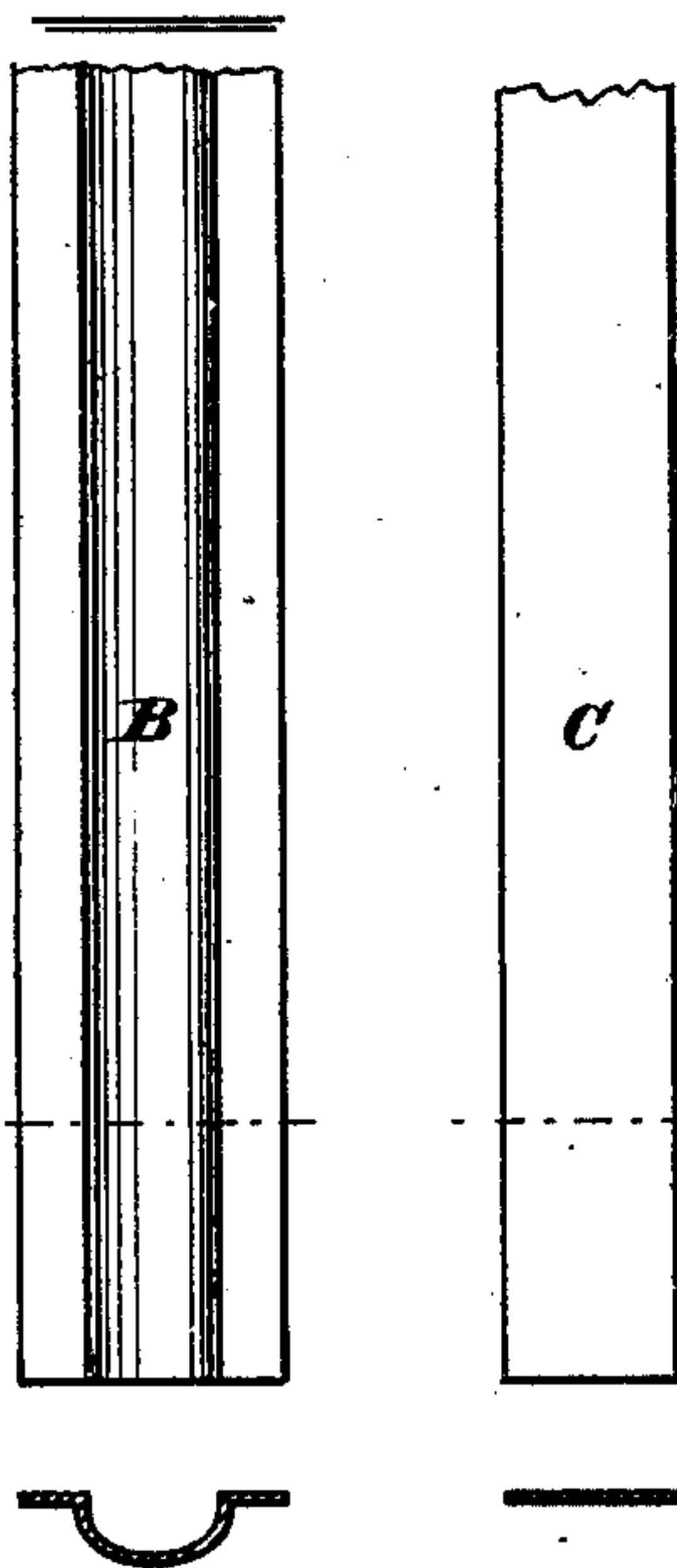


Fig.4.

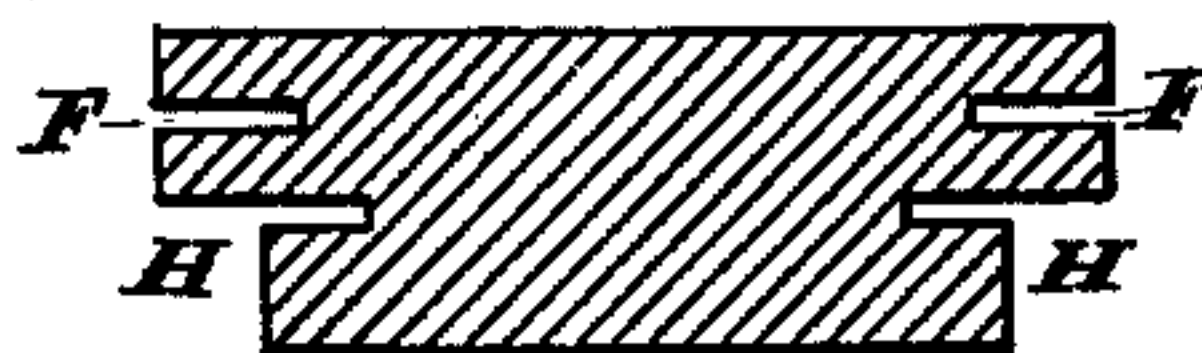
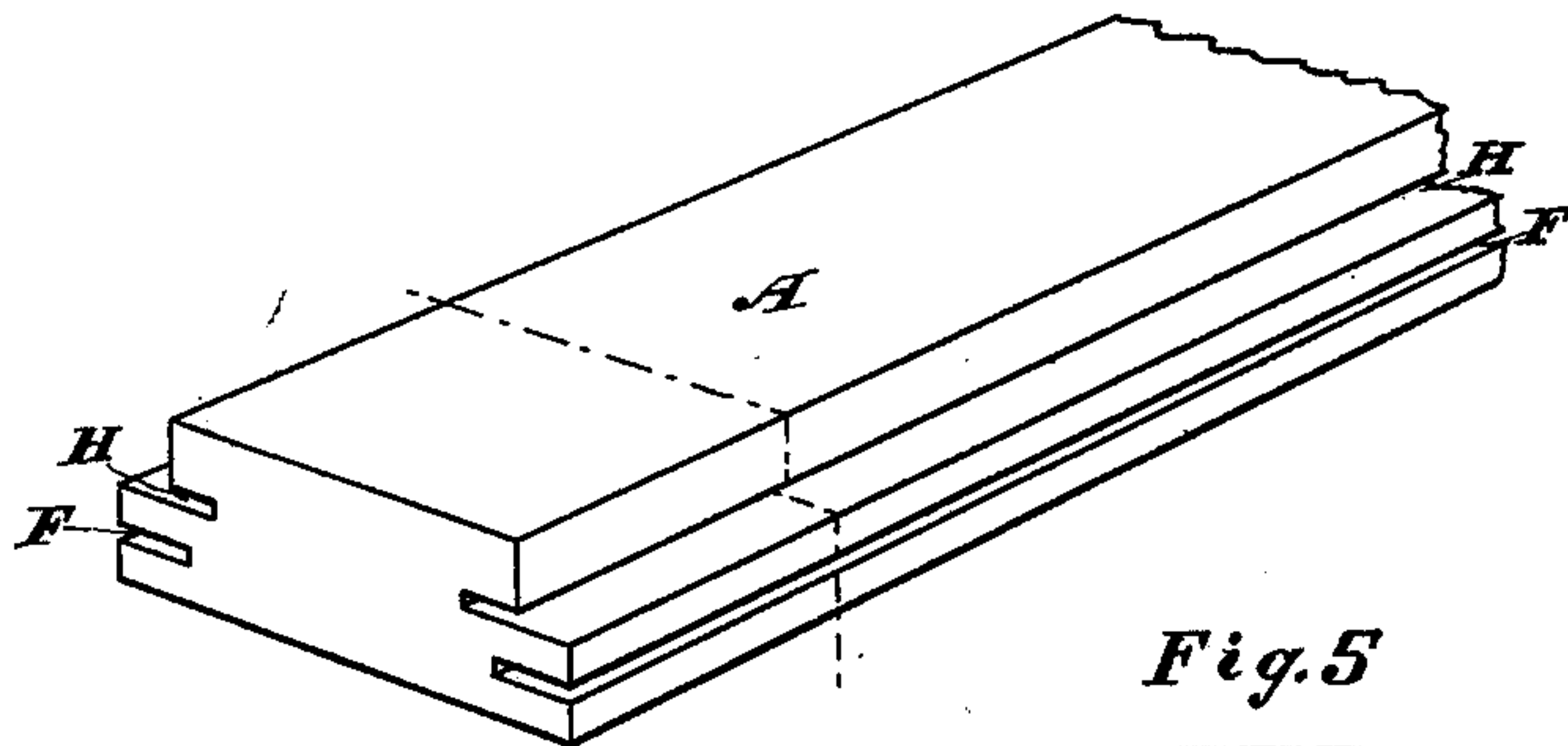


Fig.5



Attest:

W. L. Baker
F. F. Warner

INVENTOR:

Jacob D. Felthousen

UNITED STATES PATENT OFFICE.

JACOB D. FELTHOUSEN, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF
OF HIS RIGHT TO JOHN WREN, OF SAME PLACE.

CAR-ROOF.

SPECIFICATION forming part of Letters Patent No. 231,220, dated August 17, 1880.

Application filed February 6, 1880.

To all whom it may concern:

Be it known that I, JACOB D. FELTHOUSEN, of Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Roofing for Railway-Cars, which improvements are fully set forth in the following specification and accompanying drawings, in which—

Figure 1, letters A, B, C, and G represent a perspective view of the roof in place, A being the roof-boards, B a flanged gutter between the boards, and C a metallic tongue, the darts showing the course of ventilation.

Fig. 2, letter B, is a view of the roof-frame of the car, showing top of center and side purlin-ribs and frieze, with gutters B lying thereon in place, the roof-boards A being removed, and the darts showing the course of ventilation from the center purlin through the gutter B to the outside of the car.

Fig. 3, letter B, shows a top view of the flanged gutter and an end or sectional view of said gutter.

Fig. 4, letter C, shows flat side of metallic tongue for groove F of roof-boards A and a sectional end view of the same.

Fig. 5 is a view of board A on the bottom side, showing groove F for tongue C and rabbet and groove H for gutter B and its flange, F and H showing a sectional or end view of said roof-board A.

Letter G in Fig. 1 shows perspective view of running-board on top of center of roof.

Like letters represent like parts.

The object of my invention is to make a car-roof that will keep the freight dry and not become leaky by the vibrations or wrenching and twisting of the parts, as is common with the ordinary wooden tongue and groove, by splitting off the tongue, and that will exclude the rain and the snow in storms, and at the same time give ventilation to the inside thereof.

In constructing my roof the frame thereof may be made in any of the known and approved forms, with suitable center and side purlin-ribs, rafters, &c., and good substantial frieze around the same, properly bolted to the frame of the car, it being understood that I claim no particular kind of roof-frame to support the roof-boards.

The roofing-boards A should be made at least one and a quarter inch in thickness, of good, sound, well-seasoned and kiln-dried lumber about six or eight inches in width.

At three-eighths of an inch from the top of the board A, in the edge thereof, I cut or saw a narrow groove, as shown at F, Fig. 5, full one-half inch deep, to admit the metallic tongue C in the joints of all the roof-boards, which metallic tongue must fit tightly in and be of sufficient width to be driven a little into the solid lumber at the bottom of the groove F, and shown in the perspective view, Fig. 1, letter C.

Three-eighths of an inch below the said tongue C and groove F, I cut a rabbet about three-eighths of an inch deep and wide, so that when two of the boards are edge to edge there will be a groove extending upward as space for the center of the flanged gutter B, and in each corner of said rabbet I cut or saw a second groove, (to admit the flange of the gutter B,) as shown in Fig. 5, letters H H.

Letter B, the flanged gutter, is to be made of sheet-zinc, or galvanized iron, of sufficient width to fill the groove and rabbet H of the roof-boards A; and letter C, the tongue, may be of same material, the last mentioned to be of full length of the roof-boards A.

In putting the parts together one of the roof-boards A should be screwed to the center purlin-rib and to the frieze at the ends and at the side of the car-frame; but in no case must the screws come within the walls of the car, except in the center, where they are covered with a metallic cap. Then insert metallic tongue C in the groove F. Then insert the flange of the gutter B in the lower groove, and the gutter will be in rabbet H, said gutter extending from outside of frieze to within one inch of the center of the car, so as to allow the circulation of air and ventilation around the end and by the sides of the gutter in the rabbet H, as shown by the darts in Fig. 2. Next put another roof-board A in place, letting the tongue C and flange of gutter B in grooves F and H, put a block of wood against opposite edge of board A, and drive the boards closely and tightly together, screwing the same down at the ends in the center purlin-rib and in the frieze outside the wall of the car, and so continue to con-

struct until the whole roof is in place. Next, from the inside of the car put screws through the side purlin-ribs and into the roof-boards about three-fourths of an inch; but in no case
5 or under any pretext allow the screws to pierce within one-half an inch clear through the roof-boards A, nor allow any nails to be used within the walls of the car. Next cover the screw-heads at the center purlin of the car with metallic cap about five inches in width, properly
10 fastened to prevent moisture from entering in the center joints or screw-holes in the boards A; and next place the running-board G in place. This may be fastened by large screws
15 or bolts at the ends of the car to the frieze, and with smaller screws into the roof-boards at the center, but not through the roof to cause leakage.

When the roof is constructed as above described it will be water-tight and remain so,
20 the metallic tongues C in the grooves F allowing the roof to vibrate and yet remain tight, while the gutters B B will carry off any seepage or leakage that may ooze through the joint above, the gutters B also allowing the
25 air to pass through them and around their ends, and through the rabbets H by their sides, to give ventilation to the car sufficient for grain and produce cars, and at the same time prevent
30 rain or snow from entering.

It will be observed that I do not depend entirely upon the tongue C and groove F to make a water-tight joint, though it will when not injured be water-tight, but that I have the flanged gutter B to carry off any leakage or seepage
35 that may be made from the joint above, and thus have all the benefits of a double roof with a single roof, and at the same time from forty to sixty small ventilators that will not expose the cargo to the elements. 40

I do not claim tongues and grooves merely, nor gutters or corrugated iron roofing, as such inventions have been used in various ways, nor do I claim metallic covering for the apex of the roof; but 45

What I do claim is—

1. The roof-boards A, with sawed groove F, and the rabbet and sawed groove H, in combination with the metallic tongue C and the flanged gutter B, the latter being arranged
50 with its interior end open, for making a water-tight and ventilating car-roof, as above described.

2. The flanged gutter B and the rabbet H, for the purposes of ventilation, as above set forth. 55

JACOB D. FELTHOUSEN.

Witnesses:

JOHN WREN,

MICHAEL HASSETT.