

(No Model.)

H. ALDRIDGE.

CAR ROOF.

No. 248,905.

Patented Nov. 1, 1881.

Fig 1.

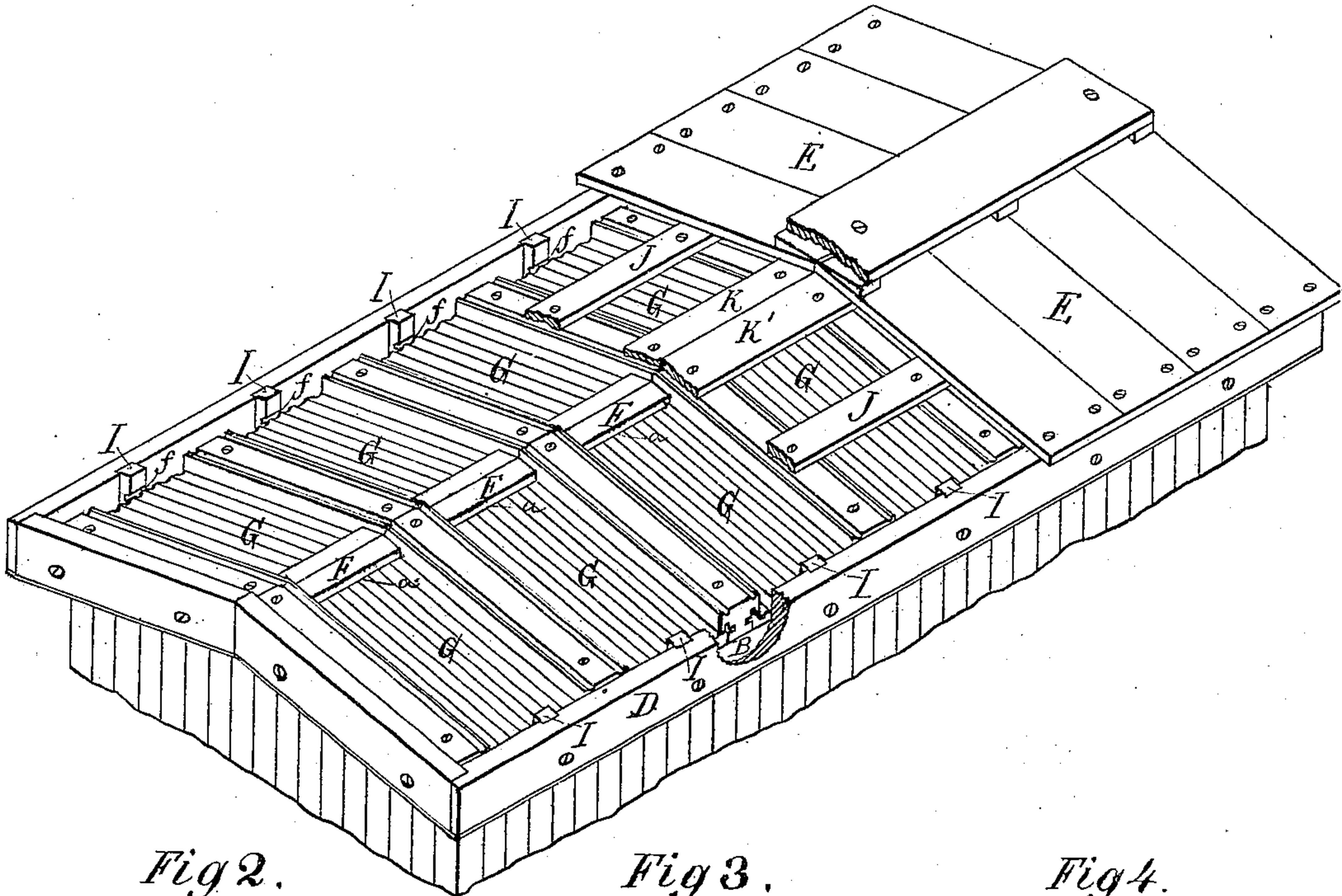


Fig 2.

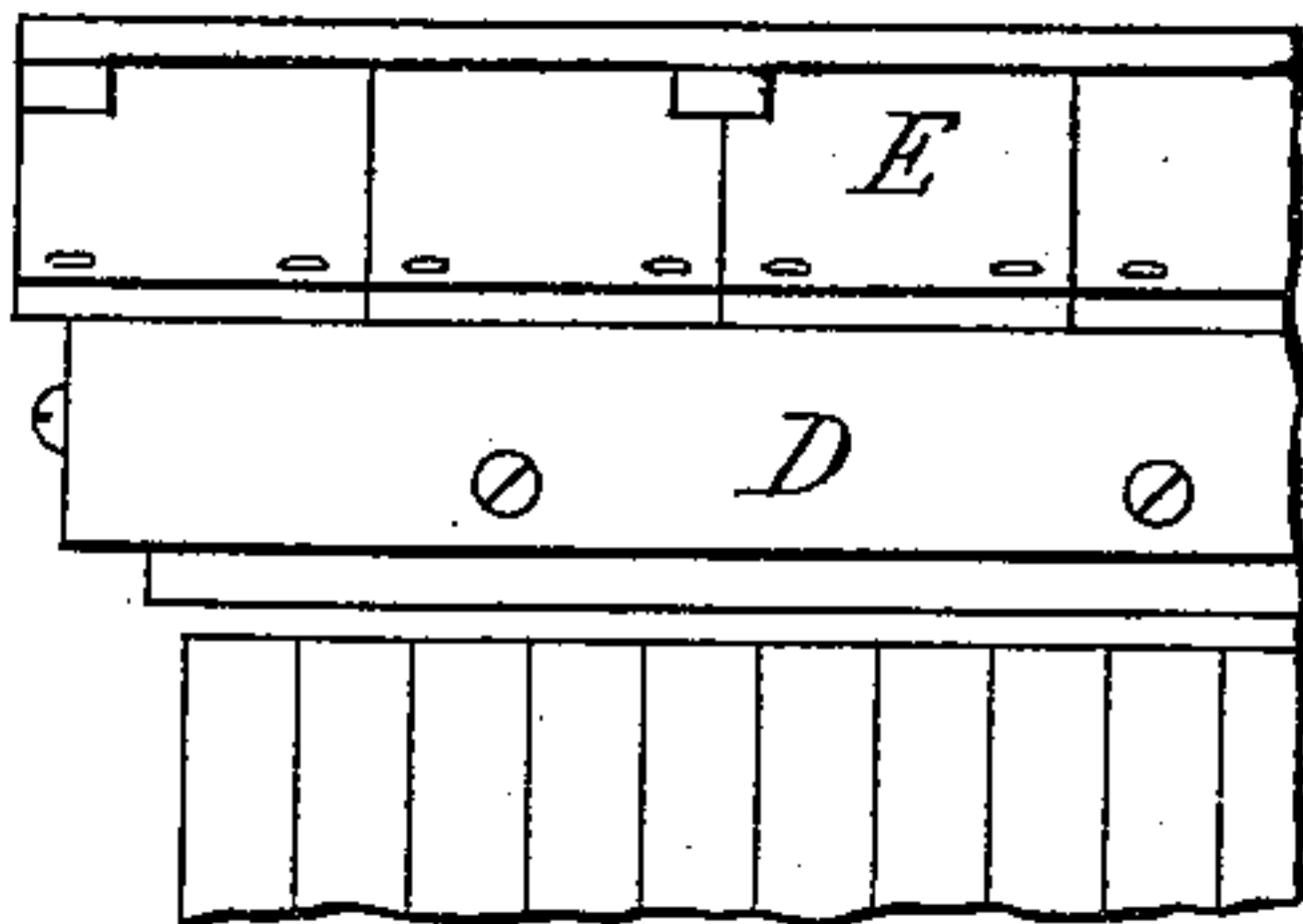


Fig 3.

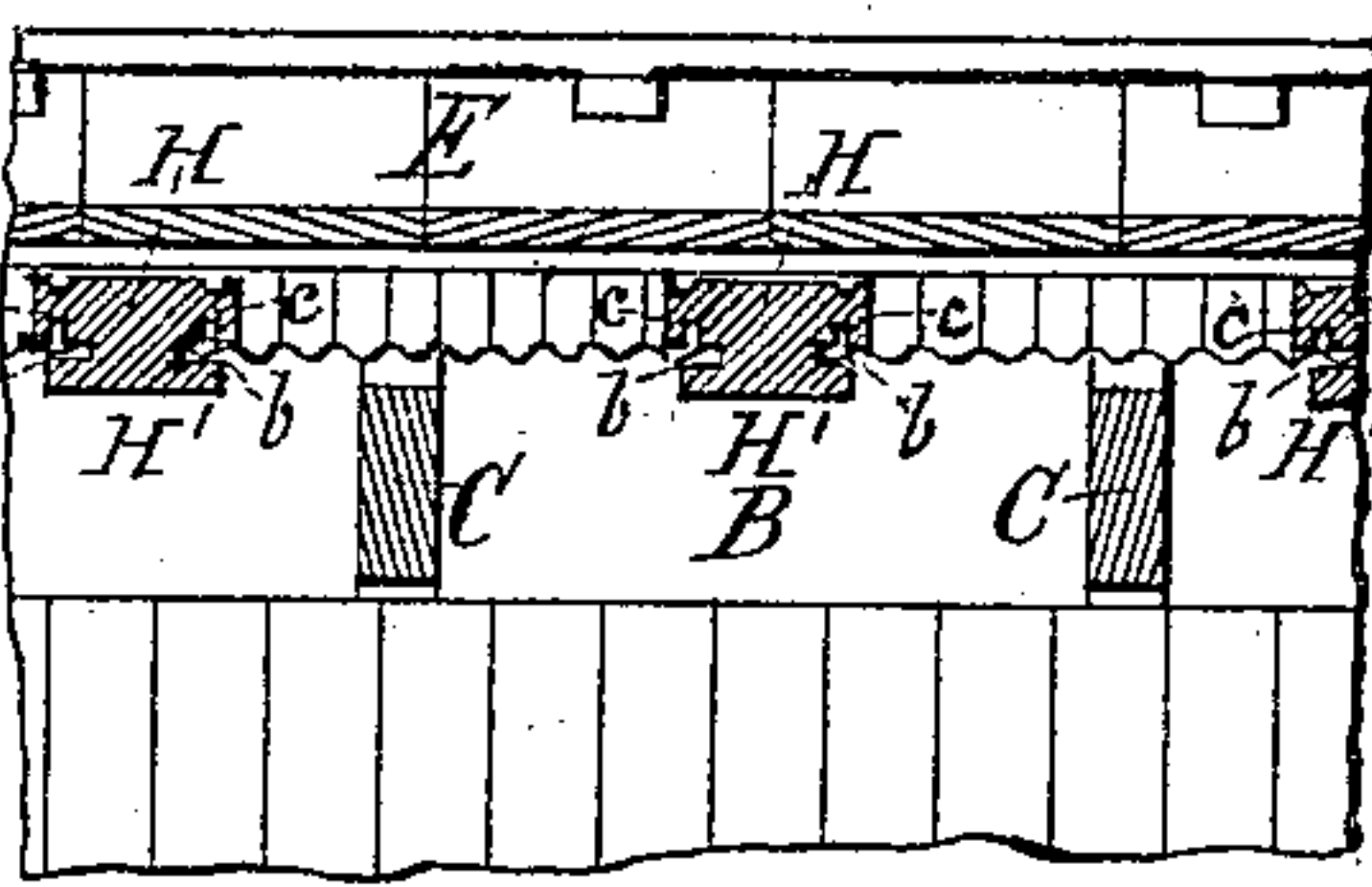


Fig 4.

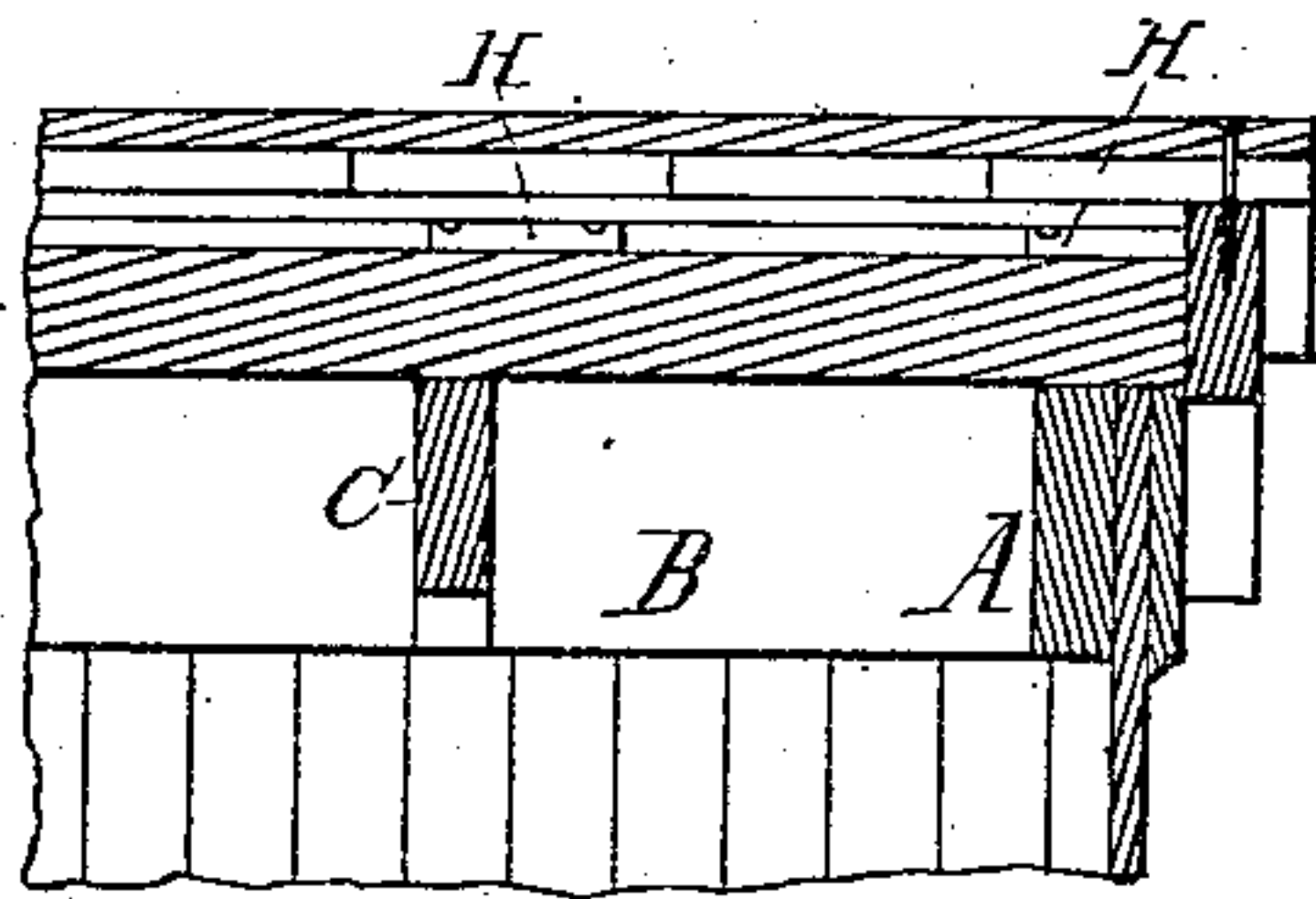


Fig 5.

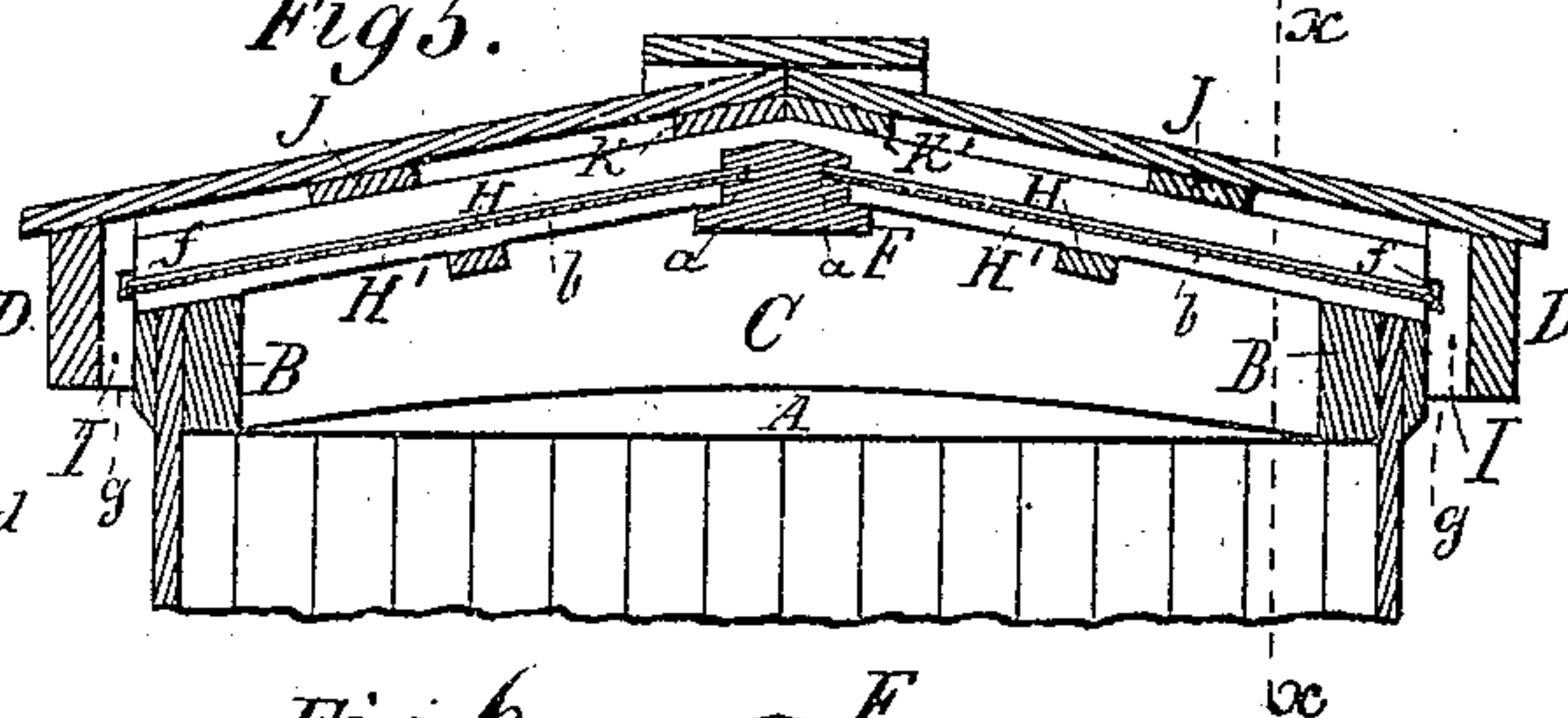


Fig 8.

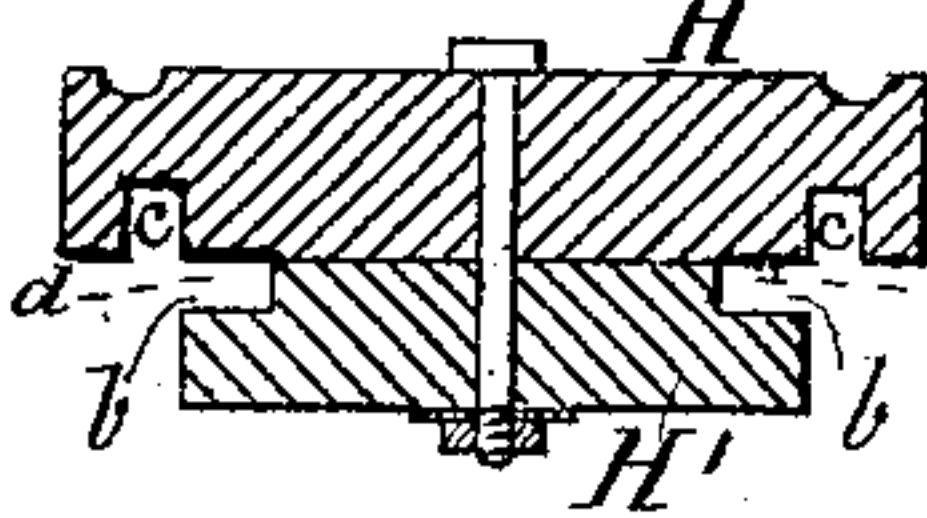


Fig 6.

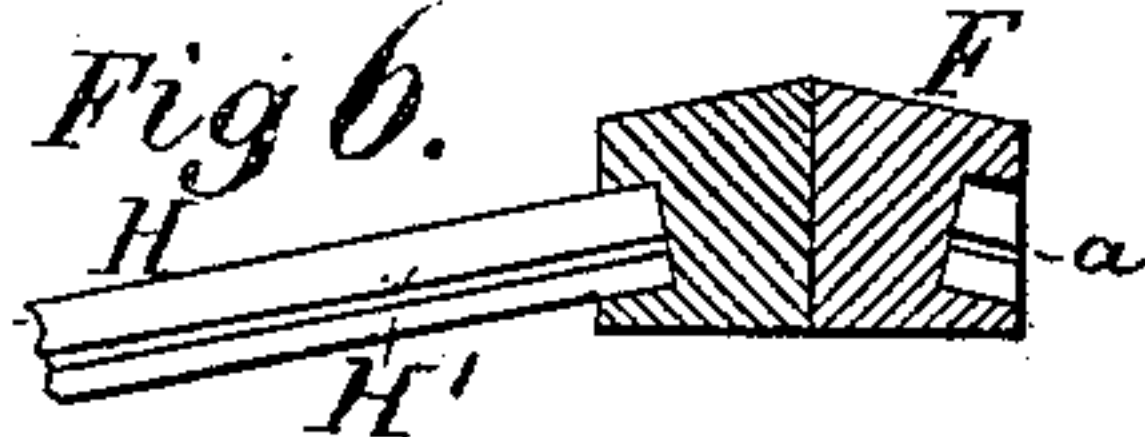
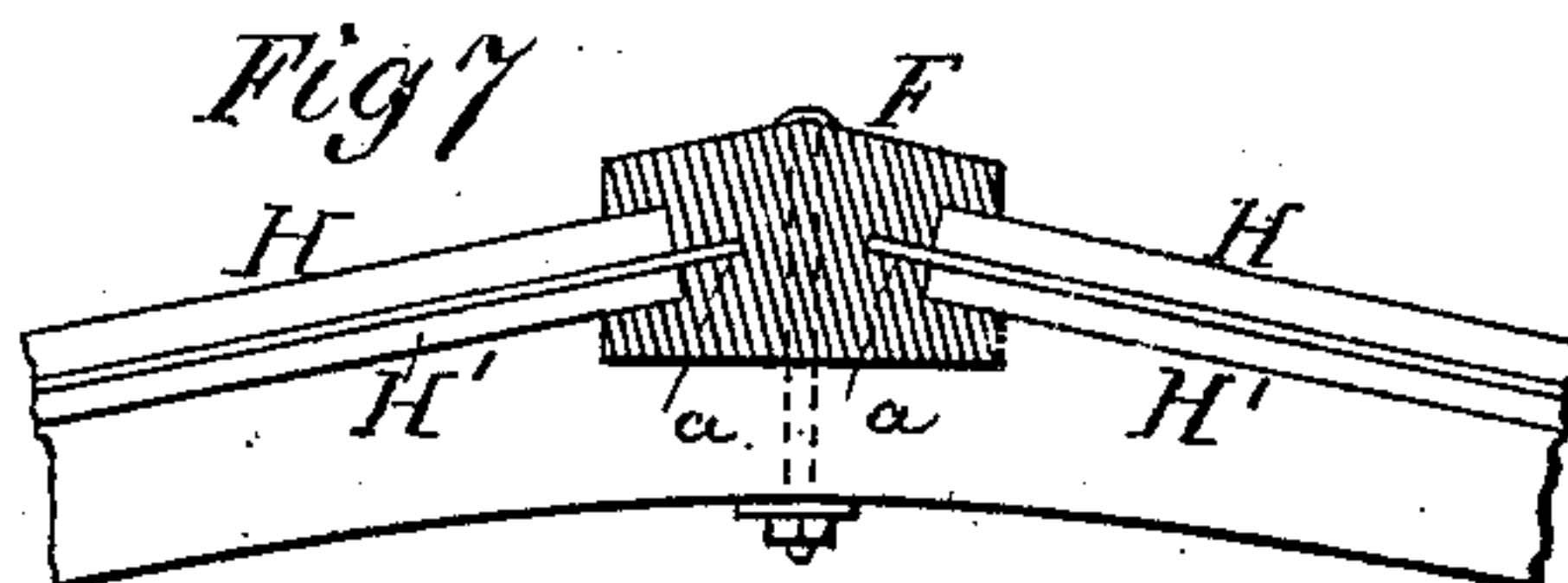


Fig 7.



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CAR-ROOF.

SPECIFICATION forming part of Letters Patent No. 248,905, dated November 1, 1881.

Application filed September 1, 1881. (No model.)

To all whom it may concern:

Be it known that I, HIRAM ALDRIDGE, of Chicago, in the county of Cook and State of Illinois, and a citizen of the United States;
5 have invented a new and useful Improvement in Car-Roofs, of which the following is a specification.

This invention relates to car-roofs formed of metal and wood, the metal portion being of
10 sheets having independent movement, respectively, and the several sheets on one side of the ridge-pole being removable in a direction at right angles to the ridge-pole and in a direction the reverse of that in which the sheets on
15 the other side of said pole are removable.

My invention consists, first, in separate metal sheets which extend from the eaves of the roof to the ridge-pole, in combination with under and upper carling-timbers, between which the
20 edges of the respective sheets are inclosed, and with slotted, notched, or grooved framing-blocks of the car-roof, and eave plates or strips and a grooved ridge-pole, whereby each sheet on the respective sides of the ridge-pole is
25 provided with a supporting-sash, which holds its side edges and both its ridge and eave ends in relief from the frame proper of the car, and being thus held, and at the same time allowed freedom under extraordinary strains to move
30 in its sash, it is not liable to be damaged by the wrenching of the car-frame proper when the car is heavily loaded and traveling at a rapid speed. This obviates the danger of the sheets being chafed and worn through by the
35 constant friction of the wood of the framing proper upon the metal sheets. With metal-roofed cars this chafing and wearing through is a great difficulty, as great loss and inconvenience from leakage is experienced when this
40 chafing and wear are permitted.

My invention consists, second, in the upper carling-timbers provided with channels from or nearly from their ridge to their eave ends, said channels being on the under side and near the
45 edges of the carling-timbers and underlapped by the corrugated metal sheets of the roof, whereby water, which may possibly leak through the board covering of the metal roof and insinuate itself between the top carling-timbers and the
50 metal sheets, is prevented from passing to the

edges of the sheets and leaking down into the car. It will be understood that this leakage-water will first pass into these channels in crossing to the edges of the sheets, and thus will be conducted by these channels to the
55 spaces between the eave-plates and the eave-edges of the roof before it has a chance to reach said edges of the sheets.

In the accompanying drawings, Figure 1 is a perspective view of a car-roof, illustrating one
60 plan of employing my invention. Fig. 2 is a side elevation of part of the roof shown in Fig. 1. Fig. 3 is a longitudinal section of a part of the same roof shown in Fig. 1 in the line *xx* of Fig. 5. Fig. 4 is a longitudinal section of
65 a part of the same roof in the line of the ridge of the roof, and Fig. 5 is a transverse section of the same roof. Figs. 6 and 7 are transverse sections of parts of a car-roof, and showing two different constructions of the ridge of the
70 roof to which my improvements are applied. Fig. 8 is a detail section of one of the grooved and channeled carlings.

The end timbers, A, side timbers, B, and the cross-timbers, C, of the roof, as well as the
75 eave plates or strips D, are constructed in the usual or any approved manner, and upon the frame thus formed an ordinary board covering, E, is applied in the usual manner.

The ridge-pole F is grooved, as at *a*, from
80 end to end, or as far as necessary, to permit the insertion of the necessary number of metal sheets G for forming the metal portion of the roof which lies under the wood covering. This groove may be adapted, as in Fig. 3, for re-
85 ceiving into it only the upper edges of the sheets, or only the upper ends of the upper and lower carling-timbers, H H', or both said upper ends of the carling-timbers and upper extended ends of the metal sheets, as illus-
90 trated in Figs. 6 and 7 of the drawings. The carlings may consist, as shown in Fig. 8, of an upper timber, H, and an under timber, H', and the under timber may have rabbets *b* formed in its edges at the upper side, while the upper
95 timber may have channels *c* formed in it on its under side and near its edges. The two timbers thus constructed will, when screwed or bolted together, form side grooves, as at *b*, for the reception of the edges of the metal
100

sheets G, and also outside of these grooves
 the channels *c* will overhang the said sheets
 after the edges of the sheets have been inserted
 into the grooves. In order to have the grooves
 5 *b* commence inside of the range of the grooves
c, the upper timbers, H, of the carlings are made
 wider than the lower timbers. I however shall
 in most cases construct the carlings of one tim-
 10 ber, as shown in Figs. 1 and 3, and form the
 grooves, as at *b*, and channels *c*, by appropri-
 ate machinery. Both modes of making the
 carlings will be substantially the same, so far
 as my invention is concerned, and in both my
 invention is embraced or embodied.
 15 Upon the side top beams or framing of the
 car grooved blocks I are applied, and to these
 the eave plates or strips D are fastened, so as
 to form the drip and air spaces *g* at the eaves
 of the roof. The blocks I are higher than the
 20 ordinary stop-blocks, and they are grooved at
f, in order to receive and support the lower or
 eave edges of the metal sheets G, as shown in
 the drawings. The groove in these blocks and
 the grooves in the carlings and ridge-pole are
 25 all on the same incline plane, and this plane
 is above the frame-work of the car-body prop-
 er, and thus each of the metal sheets, when
 placed in these grooves, is supported on its
 four edges, sides, and ends in a sash-like
 30 structure, and on a plane which isolates it from
 the wrenching strains of the car-body in rapid
 motion and heavily weighted. The carlings are
 surmounted by the usual longitudinal strips or
 timbers, J, and also by the timbers K K', for
 35 forming the ridge of the roof, and upon these
 and the eave-plates and grooved stops or blocks
 I the wood covering-boards E are fastened by
 screws or suitable clamping devices, which do
 not form holes in the metal sheets G.
 40 A roof constructed in accordance with my

invention, as herein described, will be far less
 liable to leakage, while it will be more durable
 and cost for its construction about five dollars
 less than any approved car-roof with which I
 am familiar. The saving thus effected will be 45
 about equal to fifteen per cent. on the usual
 cost of each roof.

The metal sheets are made of corrugated
 metal; but they may be of any form of metal
 found practicable. 50

I make no claim upon the wood covering,
 nor does it form necessarily a part of my in-
 vention and combination.

What I claim as my invention, and desire to
 secure by Letters Patent, is— 55

1. A combined metal and wood car-roof hav-
 ing its metal sheets fitted loosely in grooves
 at their side edges and ridge and eave ends,
 such grooves being formed in the ridge-pole,
 eave-blocks, and carlings, and on a plane which 60
 isolates the metal sheets from the frame-work
 proper of the car-body, and places them as far
 as practicable beyond the wrenching strains
 of said body, substantially as described.

2. The combination of the carlings provided 65
 with grooves and with water arresting and con-
 ducting channels, the metal sheets, and the
 drip-passage between the eave-plates and the
 edges of the roof, substantially as and for the
 purpose described. 70

3. The carlings H, provided with water arrest-
 ing and conducting channels *c*, which are in
 laterally-extended upper portions of the car-
 lings, in combination with a metal roof for a car,
 the sheets of which extend under and beyond 75
 the channels *c*, substantially as described.

HIRAM ALDRIDGE.

Witnesses:

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