

E. POSSON.

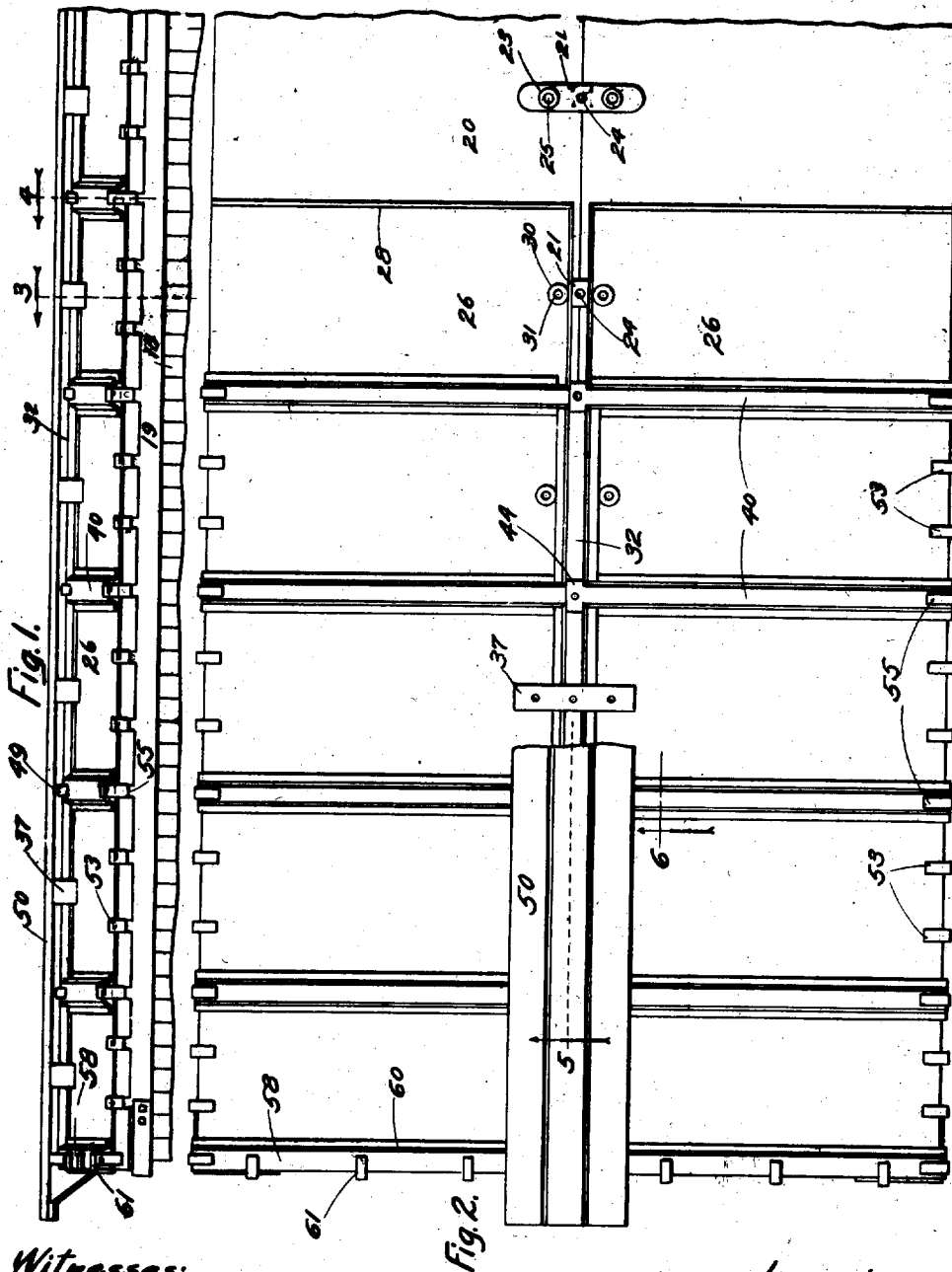
CAR ROOF.

APPLICATION FILED NOV. 27, 1908.

1,015,340.

Patented Jan. 23, 1912.

3 SHEETS—SHEET 1.



Witnesses:

E. Durnan
Lillian A. Kirby

Inventor:

Edward Posson
By Menden & Wilkinson
ATTYS

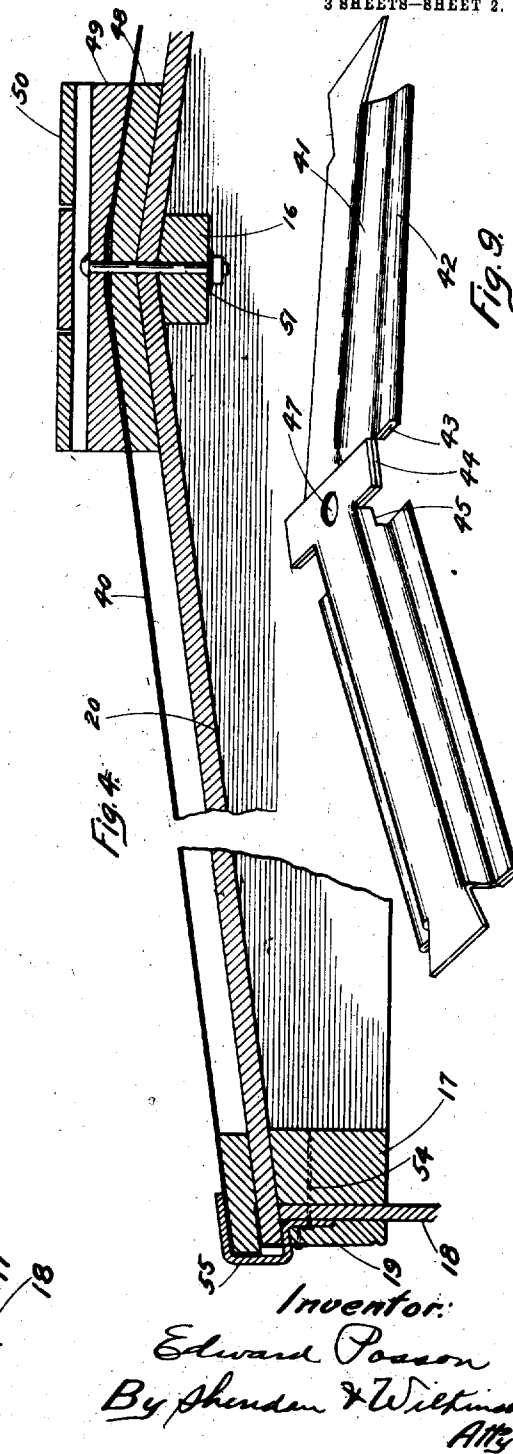
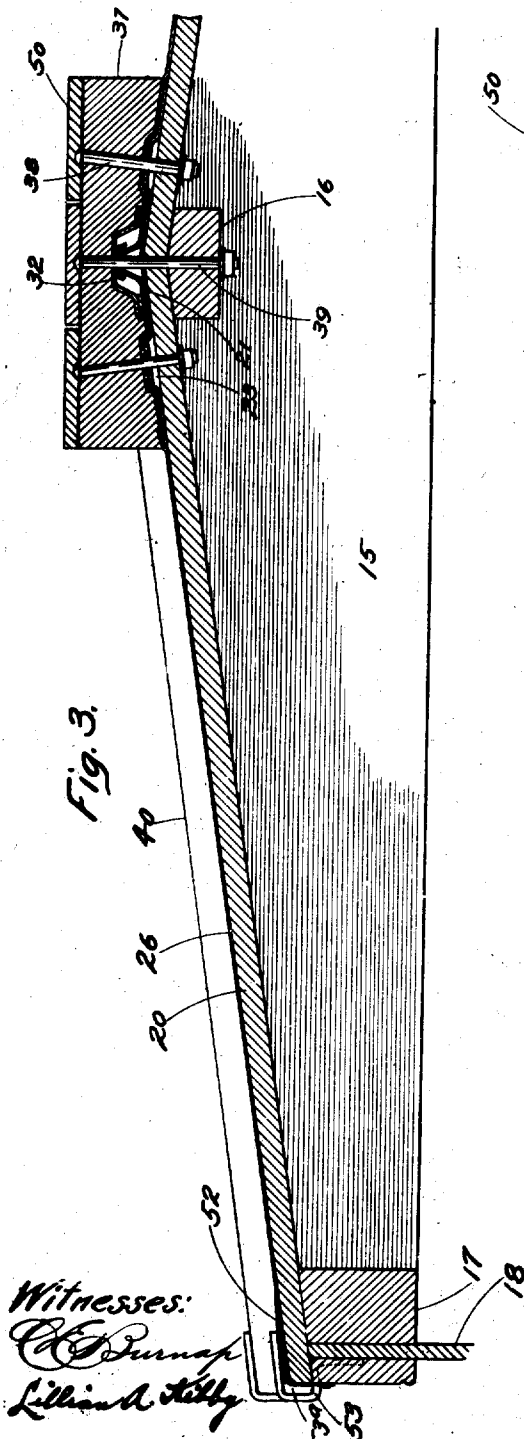
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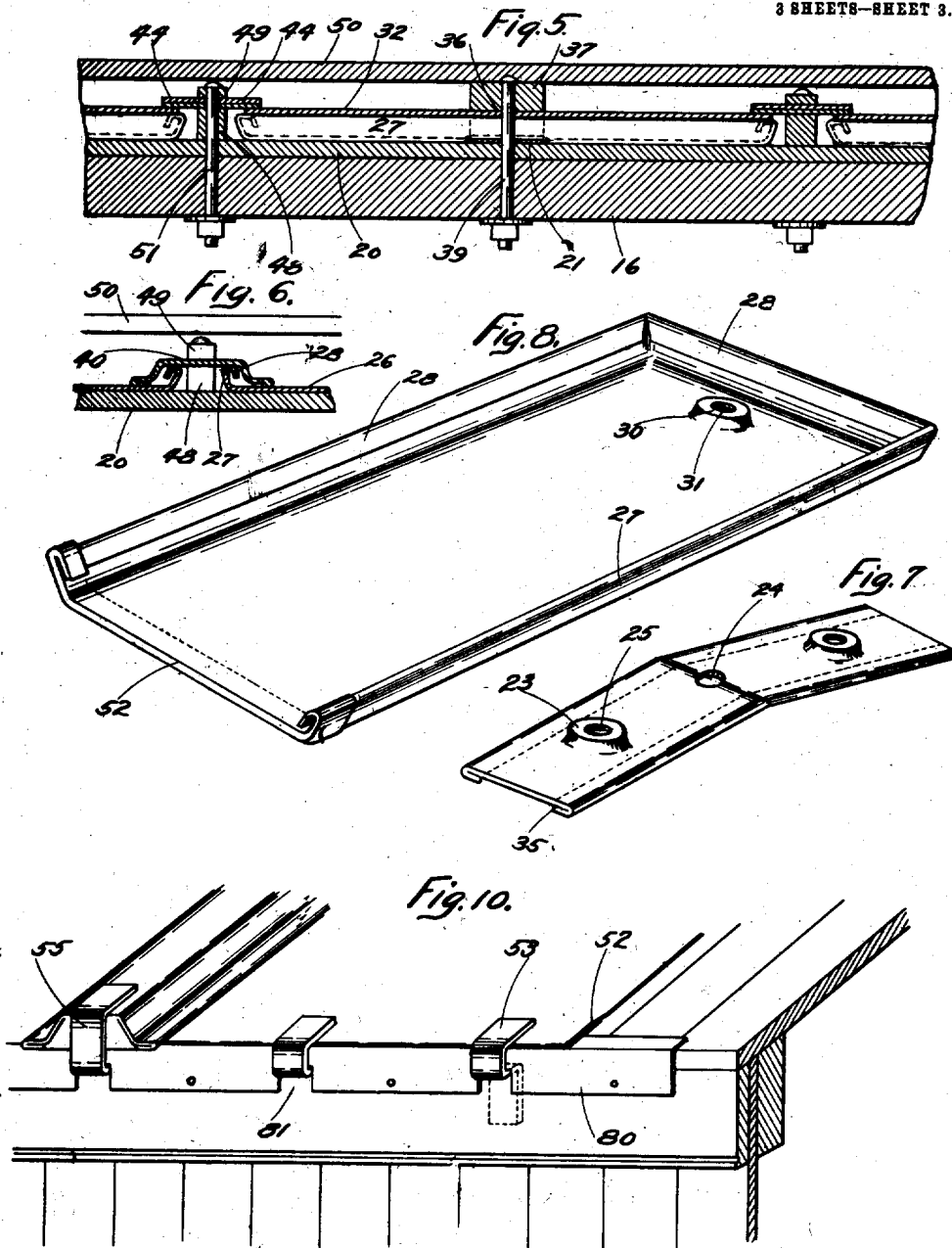


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3 SHEETS—SHEET 3.



Witnesses:

W. E. Durnap
Lillian A. Tibby

Inventor:

Edward Posson
By *Sheldon & Wilkinson*
Attys

UNITED STATES PATENT OFFICE.

EDWARD POSSON, OF CHICAGO, ILLINOIS.

CAR-ROOF.

1,015,340

Specification of Letters Patent.

Patented Jan. 23, 1912.

Application filed November 27, 1908: Serial No. 464,706.

To all whom it may concern:

Be it known that I, EDWARD POSSON, a citizen of the United States, 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.

The object of my invention is to provide a new and improved sheet-metal roof for freight cars.

Another object is to provide such a roof comprising metal sheets overlying the roof framework and secured thereto in a manner to permit straining of the roof framework without distortion of the roof sheets.

Still another object of my invention is to provide suitable means for holding the lateral edges of the roof sheets, at the same time permitting displacement thereof to a limited extent.

These objects and others will be made apparent in the following specification and claims, taken in connection with the accompanying drawings, in which—

Figure 1 is a side elevation of my improved car roof. Fig. 2 is a top plan view of the same showing the assembling of the roof in various stages. Fig. 3 is a transverse section of the car roof, taken on the line 3 in Fig. 1. Fig. 4 is a similar section, taken on the line 4 in Fig. 1. Fig. 5 is a central longitudinal section, taken on the line 5 in Fig. 2. Fig. 6 is a sectional detail, taken on the line 6 in Fig. 2. Figs. 7, 8, 9 and 10 are perspective details further illustrating my invention.

In the particular embodiment of my invention which I have chosen to illustrate in the drawings, the roof framework comprises the ordinary carlines 15, ridge beam 16, side plates 17 and roof boards 20. The upper ends of the boards 18, which comprise the side walls, are attached to the side plate 17 between the same and the fascia 19. The various elements which comprise the sheet metal roof will now be described in approximately the order in which they are applied to the ordinary board roof 20. Fig. 2 shows the roof in various stages of completion, the completed roof being shown at the left-hand end of the figure.

A sheet metal saddle 21 (Fig. 7) has its lateral edges 22 bent under and at each end a boss 23 is struck up, having a central hole 25. This saddle 21 is bent at an obtuse angle to conform to the angle of the roof

and is then laid across the ridge of the roof, as shown at the right of Fig. 2. A hole 24 through the middle of the saddle 21 registers with a hole extending down through the ridge beam 16 of the roof.

The roof sheets 26 (Fig. 8) are stamped in the shape shown in the drawings by means of a die. On three sides, the edges 27 are turned up obliquely and then the extreme edges 28 are rolled over (see Fig. 6). Near the end of the roof sheet 26, a boss 30 is struck up having a central hole 31. The sheets 26 are applied to the roof 20, so that the bosses 30 on the roof sheets shall register with the bosses 23 on the saddles.

The ridge caps 32 have the edges 33 bent down to form channels. The extreme edges are bent out in the same plane and folded under, as shown in Fig. 3. These caps 32 are laid over the ridge of the car roof, overlapping the adjacent turned edges of opposite roof sheets 26 on either side of the car (see Fig. 3). Each ridge cap 32 has a central hole 36 which registers with a hole in the ridge beam 16. A block 37 having the shape shown in Fig. 3 is laid across the ridge cap 32 at its center. This block has pockets 30^a which fit down over the bosses 30. The block 37 forms a support for the running board. The weight of the running board on the block 37 is transmitted through the bosses 23, but inasmuch as these are at a pivotal point, no considerable obstruction is afforded to the displacement of the roof sheets 20 about the bosses 23 as pivots. The bolts 38 pass through the block 37 and the registering bosses 30 and 23, the nuts being applied inside the board roof 20. The bolt 39 passes down through the center of the block 37, the ridge cap 32, the sheet metal saddle 21 and the ridge beam 16.

The transverse caps 40 (Fig. 9) have their sides 41 bent down to form a channel, the extreme edges 42 being bent out in the same plane and doubled under, as indicated by the reference numeral 43. Each transverse cap 40 is made in two sections with overlapping ends at the center, as indicated by the reference numeral 40^a. The meeting ends of the sections of the transverse cap 40 are notched as shown in the drawings and as indicated by the reference numeral 45, so that they shall make a close fit with the longitudinal caps 32. The overlapping ends 40^a of the transverse caps have holes 47. The block 48 having the shape shown in Fig. 4

is placed across the ridge of the roof between the edges of adjacent roof sheets 26. The transverse cap 40 is laid down across the adjacent edges of the roof plates 26 and over the blocks 48 (see Fig. 6). The projections 44 overlap the ends of the ridge caps 32 and the notches 45 abut against the edges 34 of the roof caps 32. After being applied as described, the ends 46 are bent down, thus closing the ends of the transverse caps. Next, the saddle blocks 49 are placed on top of the transverse caps 40 directly over the blocks 48. The bolts 51 are passed down through the two blocks 48 and 49, having the transverse cap 40 between them, and through the ridge beam 16.

The lower or outer edges of the roof sheets 26 are simply doubled under, as indicated by the reference numeral 52. Clips 53 are fastened by means of spikes 54 to the side walls 18 and the side plates 17. These clips hook up over the outer side edges of the plates 23, as shown in Fig. 3, but do not bind the roof 26 down; that is, the roof sheets may shift laterally under the clips 53. It will be noticed that a clearance space 53^a is provided so as to facilitate relative displacement between the roof sheets 26 and the clips 53. Other similar clips 55 each have a prong that reaches up over the outer end of the transverse cap 40. After the clips 53 and 55 are applied, the fascia board 19 is nailed or bolted in place, thus covering the lower ends of the clips 53 and 55 and also covering the heads of the spikes 54 which secure the clips in place.

It is to be observed that the parts are so assembled that the upturned edges 27-28 of the roof sheets 26 are given a certain amount of clearness (see Figs. 3 and 6). Thus, it will be seen that each plate 26 is pivotally attached to the board roof 20 by means of the interlocking bosses 23 and 30, and that it is possible to rotate each plate 26 within narrow limits about the bolt 38, as an axis. It accordingly follows that if the car roof is strained from any cause, whether this is due to sagging at the center or to diagonal stresses, or any other cause, such distortion of the board roof 20 will not be communicated to the metal roof sheets 26. Thus it will be seen that I have provided a sheet metal car roof which will not become broken and bent by reason of strains to which the roof support may be subjected.

Of necessity, in carrying out the aim stated in the foregoing paragraph, I have been obliged to provide for relative displacement between adjacent roof sheets 26, but it will be seen on referring to Fig. 6 that this has been done without affording any access for rain water. The caps 32 and 40 fit over the adjacent edges of the roof sheets so as to practically exclude rain water. Then if any water should drive under

the edges of these caps, it will be caught by the hooked edges 28 of the roof sheets 26 and no water will succeed in getting between the edges of adjacent roof sheets 26.

It will be observed that the blocks 37 with their sockets 30^a engaging the bosses 30 give a very secure pivotal support for the roof sheets 26. The running board is supported on the blocks 37, which in turn rest upon the bosses 23. Inasmuch as these are pivotal points in the displacement of the sheet metal roof plates relatively to the board roof beneath them, it will be at once apparent that the weight of the running board does not obstruct the relative movement of the roof sheets with respect to the board roof beneath. The clips 53 and 55 at the edges of the roof simply keep those edges down in place, but do not prevent a slight displacement of the roof sheets under the clips.

A flashing 80 is applied, as shown in Figs. 3, 4 and 10. This flashing consists of a long strip of sheet metal bent so that one edge lies flat upon the top of the board roof at its lateral edges, while the other edge lies against the ends of the boards of the roof lapping down upon the outside of the fascia 19. This flashing 80 is notched as indicated by the reference numeral 81, so as to accommodate the clips 53 and 55. It performs two functions, namely, (1) it helps to prevent rain water from driving under the metal roof or between the fascia and the board roof; and (2) it affords a smooth surface upon which the lateral edges of the roof sheets rest beneath the clips 53, thus facilitating relative displacement of the roof sheets 26 with respect to the wooden roof 20 beneath them.

I claim:

1. A car roof comprising a supporting framework, metal sheets laid thereon side by side, means to hold said sheets approximately in place but permitting slight adjustment thereof relatively to each other and to said framework, said means comprising clips each having one end fastened between the side wall of the bar and the fascia and the other end reaching up over the lateral edge of the roof sheets.

2. A car roof comprising a supporting framework, metal sheets laid thereon side by side, and means to hold said sheets approximately in place but permitting slight adjustment thereof relatively to each other and to said framework, said means comprising clips each having one end attached to the car underneath the fascia and the other end extending up over the lateral edge of the roof sheet, each clip being bent out to provide clearance for the edges of the roof sheets.

3. A car roof comprising a supporting framework, metal sheets laid thereon side

by side, a flashing bent over the eaves of the car roof and extending under the eaves edges of said metal sheets, and means to hold said sheets down upon said flashing while permitting lateral displacement relatively thereto.

4. A car roof comprising a supporting framework, metal sheets laid thereon side by side, a flashing under said sheets at the eaves of the car roof, and clips attached to the side wall of the car below the edge of the roof and extending up above the eaves edges of the metal sheets and holding the same down upon the flashing, but permitting relative displacement.

5. A car roof comprising a supporting framework, metal sheets laid thereon side by side and having their lateral edges

folded under, and clips attached to the side wall of the car underneath the fascia and extending up over the folded edges of said roof sheets.

6. A car roof comprising a supporting framework, metal sheets laid thereon side by side, a flashing on the roof under the lateral edges of said sheets, clips attached to the side wall of the car and extending up over the lateral edges of the roof sheets, and a fascia fastened to the side wall of the car outside the lower ends of said slips.

In testimony whereof, I have subscribed my name.

EDWARD POSSON.

Witnesses:

ANNA L. WALTON,
LILLIAN A. KIBBY.

Correction in Letters Patent No. 1,015,340

It is hereby certified that in Letters Patent No. 1,015,340, granted January 23, 1912, upon the application of Edward Posson, of Chicago, Illinois, for an improvement in "Car-Roofs," an error appears in the printed specification requiring correction as follows: Page 3, line 30, for the word "slips" read *clips*; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 27th day of February, A. D., 1912.

[SEAL.]

C. C. BILLINGS,

Acting Commissioner of Patents.

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4. A car roof comprising a supporting framework, metal sheets laid thereon side by side, a flashing under said sheets at the eaves of the car roof, and clips attached to the side wall of the car below the edge of the roof and extending up above the eaves edges of the metal sheets and holding the same down upon the flashing, but permitting relative displacement.

5. A car roof comprising a supporting framework, metal sheets laid thereon side by side and having their lateral edges

folded under, and clips attached to the side wall of the car underneath the fascia and extending up over the folded edges of said roof sheets.

6. A car roof comprising a supporting framework, metal sheets laid thereon side by side, a flashing on the roof under the lateral edges of said sheets, clips attached to the side wall of the car and extending up over the lateral edges of the roof sheets, and a fascia fastened to the side wall of the car outside the lower ends of said slips.

In testimony whereof, I have subscribed my name.

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