

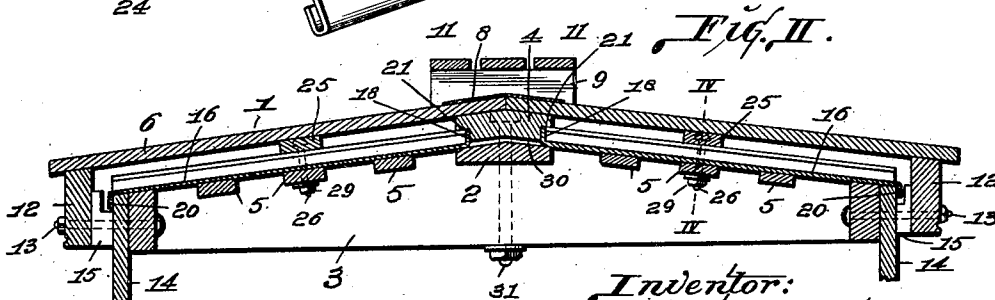
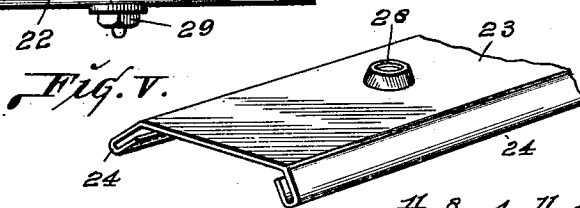
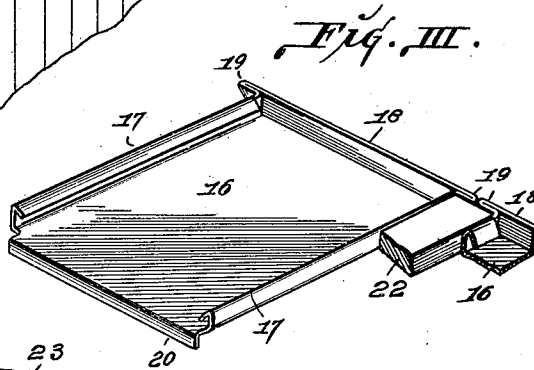
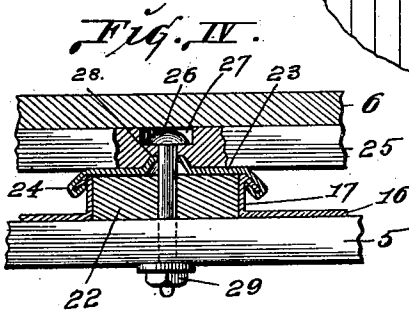
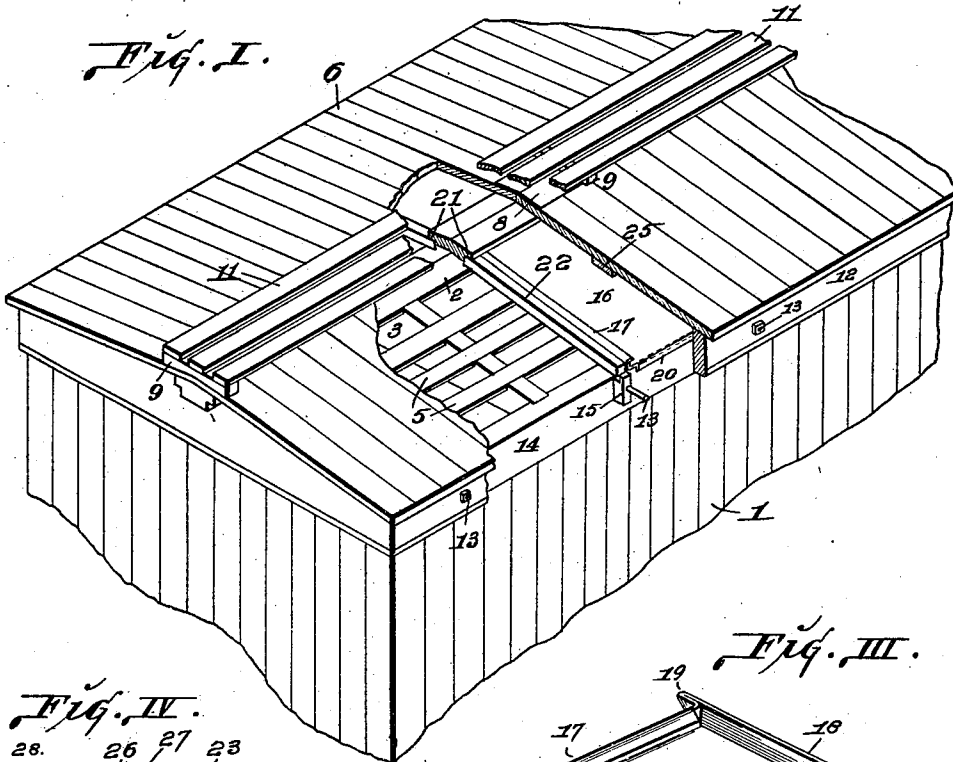
No. 665,642.

Patented Jan. 8, 1901.

O. LINK.
CAR ROOF.

(Application filed June 27, 1900.)

(No Model.)



attest:—
W. Smith,
W. H. Wright

Inventor:
O. Link,
By Wright Bros.
attys.

UNITED STATES PATENT OFFICE.

OLIVER LINK, OF ST. CHARLES, MISSOURI, ASSIGNOR TO THE ST. LOUIS
CAR ROOF COMPANY, OF SAME PLACE.

CAR-ROOF.

SPECIFICATION forming part of Letters Patent No. 665,642, dated January 8, 1901.

Application filed June 27, 1900. Serial No. 21,777. (No model.)

To all whom it may concern:

Be it known that I, OLIVER LINK, a citizen of the United States, residing at St. Charles, in the county of St. Charles and State of Missouri, have invented certain new and useful Improvements 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 roof construction, and more particularly to a roof designed especially for railway-cars.

An object of my invention, among others, is to provide a roof of the character specified which shall possess great efficiency and durability, combined with simplicity, at a minimum cost.

A further object of my invention is to so construct and combine the several parts constituting my improved roof that any one of said parts may be readily removed and replaced as desired.

A further object is to provide a roof which shall practically consist of two parts slightly separated from each other, thereby providing an air-chamber between said parts, which will be conducive to keeping the temperature of the interior of the car at a uniform point.

The advantages and details of construction will be made fully apparent from the following specification, considered in connection with the accompanying drawings, in which—

Figure I is a perspective view of my improved car-roof, showing parts thereof broken away or removed. Fig. II is a transverse section of Fig. I. Fig. III is a perspective illustrating the removable roof-plates. Fig. IV is an enlarged section taken on line IV IV, Fig. II. Fig. V is a perspective detail view of a portion of one of the finishing strips or plates designed to connect two of the roof-plates that are illustrated in Fig. III together and also house and protect a parting-strip of wood disposed between said plates.

The several parts of my invention and their cooperating accessories will be designated by numerals, of which 1 indicates a car-body, made substantially in the usual or any preferred way and provided longitudinally, near its central part, with the ridge-pole proper, 2, and with the cross-beam 3, designed to be

located at suitable intervals for the purpose of supporting said ridge-pole in its operative position. The ridge-pole proper, 2, is reinforced by the auxiliary ridge-pole 4, as I prefer to form said pole in two parts in order that they may slightly yield independently of each other, and thereby compensate for vibrations incident to use. I also provide one or more purlin-plates 5, which extend from end to end of the car and rest at intervals upon the cross-beams 3 in order to provide a rigid support for the roof.

My improved roof consists of the outer section or roof proper, 6, formed of a series of boards the edges of which are properly dovetailed or otherwise united together, it being understood that a proper pitch is given to the roof and that the joint formed by the union of the ends of said boards should be covered by a metal plate 8, upon which at intervals may be located the cleats or brackets 9, upon which the running-board 11 is secured, as is usual, the metal plate 8 being designed to close the joint between the meeting ends of said boards and prevent all leakage at this point.

By reference to Fig. II it will be observed that the inner ends of the boards 6 rest upon the auxiliary ridge-pole 4, while the outer ends thereof are supported by the longitudinally-disposed rail 12, properly secured in position, preferably by the bolts 13, in order that said rail may be readily removed, if desired, it being understood that said rail is to be held slightly separated from the frame proper, 14, of the car by the brackets 15, which correspond in number to the number of bolts 13 employed to hold the rail in place.

Located beneath the roof proper formed by the boards 6 is the auxiliary roof, which is designed to rest directly upon the purlin-plates 5, and consists of a series of plates 16, one of which is fully illustrated in Fig. III. By reference to said view it will be observed that said plate 16 is provided upon each edge with an upwardly and inwardly directed flange 17 and upon its upper end with a continuation of said flange, as indicated by the numeral 18, the point of union between the flanges 17 and 18 being shaped so as to form the laterally-extending ears 19, the purpose

of which is to more securely hold the plate 16 in its adjusted position, as will be herein-
after more clearly set forth. The lower end of
the plate 16 is bent downward at right angles
5 to the plate, thereby forming the depending
flange 20, which is designed to extend down-
ward between the frame 14 and the rail 12.

By reference to Fig. II it will be seen that
the auxiliary ridge-pole 4 is provided upon
10 each of its lower edges with longitudinally-
disposed recesses 21, designed for the recep-
tion of the upper ends of the parting-strips
22 and the plates 16 and their accompanying
flanges 18.

15 The ears 19 extend laterally and preferably
contact with the ears of the next adjacent
plate, while designed to hold said plates sepa-
rated a proper distance from each other are
the parting-strips 22, (most clearly illustrated
20 in Fig. IV,) said strips being of the same
height as the flanges 17, and each of them is
completely covered by the cap 23, (fully illus-
trated in Figs. IV and V,) consisting of the
central or body portion designed to cover
25 the parting-strips 22 and of the depending
downwardly and inwardly directed flanges 24,
said flanges being designed to engage the
flanges 17 of the plates 16 and thereby bind
said plates together and firmly hold them in
30 their operative positions without the necessity
of employing any nails for this purpose.

The middle portion of the series of boards 6
is supported by the auxiliary purlin-plate 25,
which is designed to rest over the central
35 plate 5 and directly upon the parting-strips
22 and their interposed cover 23, as shown in
Fig. IV, said auxiliary plate 25 being secured
in place by a locking-bolt 26, which passes
through said plates 5 and 25 and the strip 22
40 and cover 23.

The upper end of the bolt 26 is preferably
seated in a recess 27 in order that it may rest
flush with the surface of the plate 25, and
thus enable said end to be wholly inclosed
45 when the boards 6 are placed in position. The
covers 23 are provided with an aperture for
the reception of the bolt 26, and surrounding
said aperture is the upwardly-directed and in-
wardly-converging flange 28, it being under-
50 stood that an aperture of proper size to snugly
receive the bolt is thus formed. The object
of the flange 28 is to insure that any leakage
which may take place between the boards 6
and extend into the recess 27 and thence
55 around the bolt 26 will be directed by said
flange, so that the water thus escaping will be
directed off of the flanges 20. After the part-
ing-strip 22 and the plates 5 and 25 have thus
been locked into coöperative relationship by
60 means of the nut 29 it will be seen that said
parts will be in such position as to reliably
perform their office, and the metal plates 16
will be firmly held in position by the strips
22 bearing against the ears 19. The plates
65 16 not only provide an air-space between
themselves and the roof proper formed by
the section 6, but will reliably receive any

water which may leak through said section
6 and direct it downward adjacent to the sides
of the car by the flange 20.

By forming the ridge-pole, in two parts a
very slight space, if desired, may be left be-
tween said parts, as indicated by the numeral
30, thereby insuring that when said parts are
drawn together, as by the bolt 31, the ends of
75 the plates 16 and the strips 22 will be tightly
clamped in position, while at the same time
compensation will be provided for vibrations
of the car.

By the construction which I have just de- 80
scribed it is obvious that the several metallic
plates and the covers 23 may be very reliably
secured in their operative positions without
the necessity of puncturing the same with a
nail, thereby insuring that the roof thus 85
formed will not leak around the nail-holes
usually formed. It is further obvious that
by removing a portion of the boards 6, which
are merely nailed in position, and afterward
removing the side rails 12 by taking off the 90
nuts upon the bolts 13 any of the plates 16 or
the covers 23 are rendered accessible and may
be quickly removed and replaced.

By providing the upwardly-directed flanges
18 any leakage escaping through the boards 95
6 cannot find a way over the upper ends of
said plates, while the ears 19 will hold said
plates properly separated for the reception of
the parting-strips 22.

By reference to the construction which I 100
have just described it is obvious that the outer
roof proper formed by the sections or boards 6
may be even carelessly or imperfectly con-
structed, inasmuch as all leakage is provided
for by the series of plates 16, and it may there- 105
fore be said that said outer roof is designed
primarily for the protection of the inner metal
roof and also to provide that an air space will
be formed, as set forth. While I have de-
scribed the preferred construction which may 110
be adopted in forming the several parts of my
invention, it will be understood that I wish to
comprehend in this application the substan-
tial equivalent thereof.

I claim as my invention—

1. In a car-roof, the plates 16 provided with
laterally-extending ears at their upper ends, in
combination with the strips 22, acting to hold
the plates in position and keep them spaced
apart, substantially as set forth. 115

2. In a car-roof, the combination of the
plates 16 having laterally-extending ears at
their upper ends, strips 22 fitting between the
plates and engaging said ears to hold the plates
in position, and a cap 23 covering said strip 120
and the edges of which interlock with said
plates on opposite sides of the strip, substan-
tially as set forth.

3. In a car-roof, the combination of the
plates 16 provided with laterally-extending 130
ears 19 and flanges 18 at their upper ends,
strips 22 fitting between the plates and hold-
ing them in position, caps 23 covering the
strips and interlocking with the edges of said

plates on opposite sides of said strips, a ridge-pole 4 recessed to receive the upper ends of said plates, strips and caps, and a rail 12 secured to the body of the car at the outer ends of said plates, strips and caps, substantially as and for the purpose set forth.

4. The herein-described roof comprising an outer cover; in combination with an inner roof slightly separated from the outer roof and formed of a series of plates 16 provided with flanges 17, 18 and 20 and with ears 19, in combination with a series of parting-strips 22 and a cover 23 for each of said strips having the flanges 24 designed to cooperate with the flanges 17 on said plates, a ridge-pole formed in two parts designed to clamp the ends of said plates, cover and strip and suitable means to bind and secure said parts together in their operative relationship, in the manner specified and for the purpose set forth.

5. The herein-described roof comprising an outer cover in combination with an inner roof slightly separated from the outer roof and formed of a series of plates 16 provided with flanges 17, 18 and 20 and with ears 19, in combination with a series of parting-strips 22 and a cover 23 for each of said strips having the flanges 24 designed to cooperate with the flanges 17 on said plates and further provided with an upwardly-converging bolt-receiving flange 28, a ridge-pole formed in two parts designed to clamp the ends of said plates, cover and strip and suitable means to bind and secure said parts together in their operative relationship, in the manners specified and for the purpose set forth.

OLIVER LINK.

In presence of—

E. S. KNIGHT,
N. V. ALEXANDER.