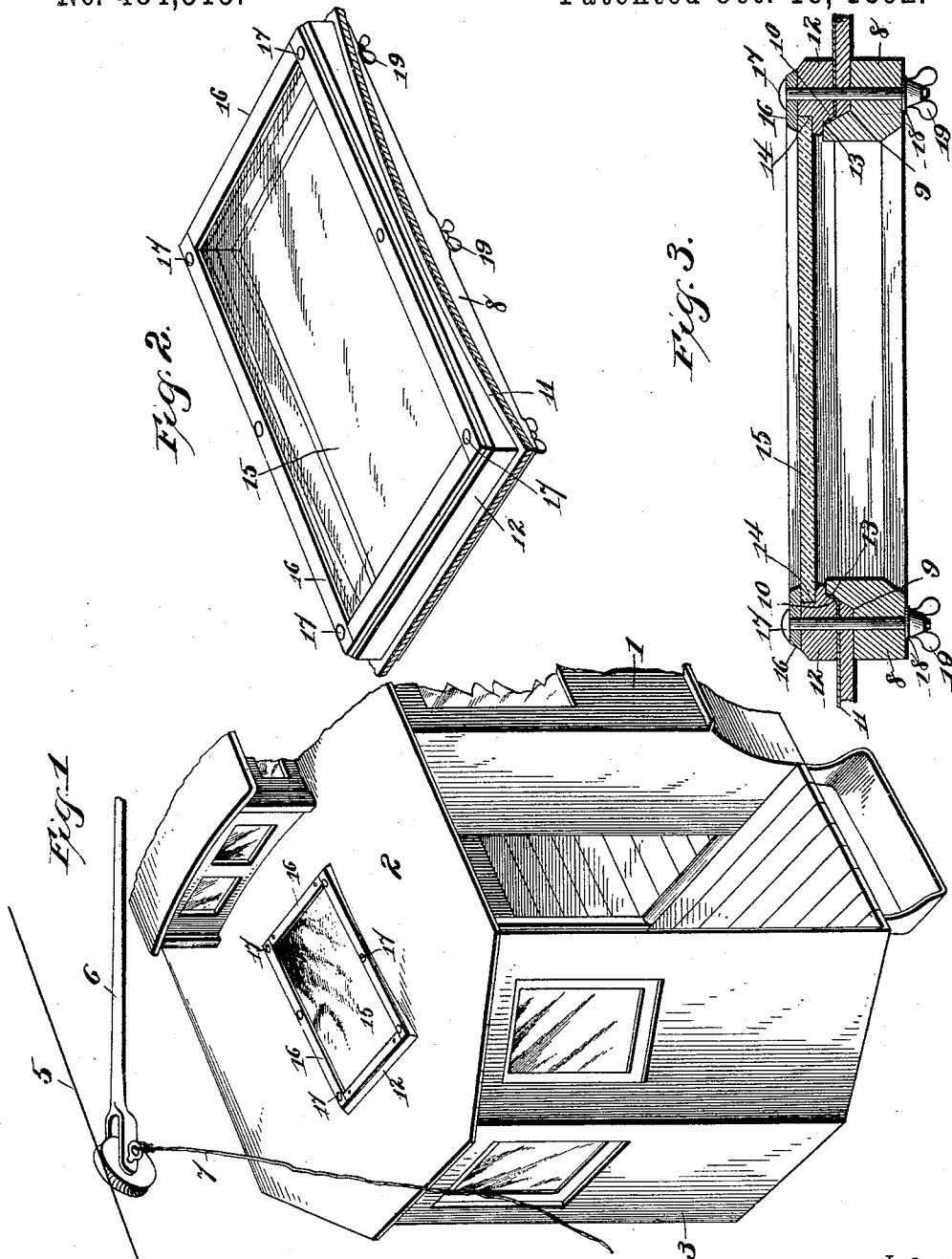


(No Model.)

H. COCHRAN.
SKYLIGHT FOR ELECTRIC CARS.

No. 484,515.

Patented Oct. 18, 1892.



Witnesses

E. H. Mendenhall
J. B. Liggers

Inventor

By *his* Attorneys,

Henry Cochran
Cashnow & Co.

UNITED STATES PATENT OFFICE.

HENRY COCHRAN, OF CHESTER, PENNSYLVANIA.

SKYLIGHT FOR ELECTRIC CARS.

SPECIFICATION forming part of Letters Patent No. 484,515, dated October 18, 1892.

Application filed March 23, 1892. Serial No. 426,121. (No model.)

To all whom it may concern:

Be it known that I, HENRY COCHRAN, a citizen of the United States, residing at Chester, in the county of Delaware and State of Pennsylvania, have invented a new and useful Skylight for Electric Cars, of which the following is a specification.

My invention relates to electric cars of that class employed in what is known as the "overhead" or "trolley" systems. In this class of cars the trolley often requires adjustment or reapplication to the overhead electrical-wire conductors, and the attendant is required under the present system to step from the car in all sorts of weather—snow-banks, mud, &c.—for the purpose of readjusting said trolley.

The objects of my invention are to provide a skylight or transparent sight-panel above the vestibule or head of the conductor or attendant, whereby he can readily perceive by an upward glance when the trolley is in position, and by simply extending his arm from the vestibule and through the window therein may accomplish the reapplication of the trolley without exposure of his person to the elements.

A further object of the invention is to provide a tight joint between the sight-panel frame and the roof of the car, whereby leakage therethrough is absolutely prevented, and yet at the same time to so construct the joint as to readily permit of the removal of any broken particles of glass when the panel becomes broken by accident and the insertion of a new glass.

With these objects in view the invention consists in certain features of construction hereinafter specified, and particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a perspective of the vestibule end of an electric car. Fig. 2 is an enlarged detail in perspective of the skylight or sight-panel. Fig. 3 is a transverse section thereof.

Like numerals of reference indicate like parts in all the figures of the drawings.

1 designates a car-body, 2 the arched roof, and 3 the usual vestibule located at the end or ends of the car and provided with the usual windows.

5 denotes the overhead wire, and 6 the trol-

ley-arm, carrying the trolley-wheel and having the depending cord 7, by which said arm is lowered when applying the same to the wire. 55

My invention may be applied to the roofs of cars already constructed or may be built in the cars at the time of their manufacture. In either instance, however, the curved roof 2 of the vestibule has formed therein a square or oblong opening, as shown, the same being directly above the head of the conductor or attendant when in position to manipulate the car. Encircling the inner edge of the opening thus formed and taking under the roof adjacent to said edge is a lower clamping-frame 8, the outer edge of which is rabbeted at 9, so as to provide an outer inclined face or shoulder 10, that extends above the upper surface of the roof. This frame 8 is curved so as to conform to the curvature of the roof, as best shown in Fig. 2. 11 designates a strip of canvas, rubber, felt, or other packing material, which is tacked to the roof 2, adjacent to the edge of its opening, and is laid against and tacked to the inclined face 10 of the frame 8, so that the crevice or joint between the edge of the opening and the inclined face 10 of the frame 8 is covered. Upon this canvas or other packing-strip 10 and the upper side of the frame 8 there is laid an upper clamping-frame 12. The frame 12 has its inner lower corner rabbeted so as to form a surrounding recess 13, conforming to and adapted to receive the upwardly-projecting edge of the frame 8. The upper inner corner of the clamping-frame 12 is provided with an L-shaped recess 14 for the accommodation of the glass sight-panel or light 15, the upper face of said panel being flush with the upper face of the frame 12. This structure has mounted thereon clamping-strips 16, arranged at the sides and ends of the structure and overlapping the frame 12 and glass 15, covering the seam thereinbetween. 95

At intervals the strips 16, frames 12 and 8, and roof 2 are perforated in alignment, and downwardly through the same are passed binding or clamping bolts 17. The lower ends of these bolts are threaded, as is usual, extend below the frame 8, and are there provided with washers 18 and with clamping-nuts 19. From this it will be seen that a snug joint is formed adapted to repel water, sleet, and 100

snow and to prevent the same from being driven therethrough.

Other forms of joints may be readily substituted for the one herein shown, and I therefore do not limit my invention to the specific construction herein shown and described, holding that I may make immaterial variations thereof.

Having described my invention, what I claim is—

1. The combination, with the roof of an electric car provided with an opening, of a lower clamping-frame fitting within said opening and extending above the roof, a packing laid upon the roof and against the outer side of the thus-extended portion of the frame, an upper clamping-frame mounted upon the packing and having its lower inner corner recessed to fit the lower frame, a glass surmounting the upper frame, means for securing the glass, and means for securing the frames together, substantially as specified.

2. The combination, with the roof 2, having the opening, the frame 8, located within the

opening and having its outer upper corner recessed to receive the edge of the roof and to form an inclined shoulder 10, extending above the roof, of the packing-strip 11, located upon the roof and secured to the same and to the outer face of the inclined shoulder aforesaid, the upper clamping-frame 12, having its inner lower corner recessed, as at 13, to receive the inclined shoulder, and its upper inner corner recessed, as at 14, the glass panel 15, mounted in the latter recess, the strips 16, overlapping said panel and frame 12, the bolts 17, passing downwardly through the strips, roof, and frames, the washers 18, and the clamping-nuts 19, mounted on the bolts, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

HENRY COCHRAN.

Witnesses:

C. C. COBOURN,

H. L. DONALDSON.