

(No Model.)

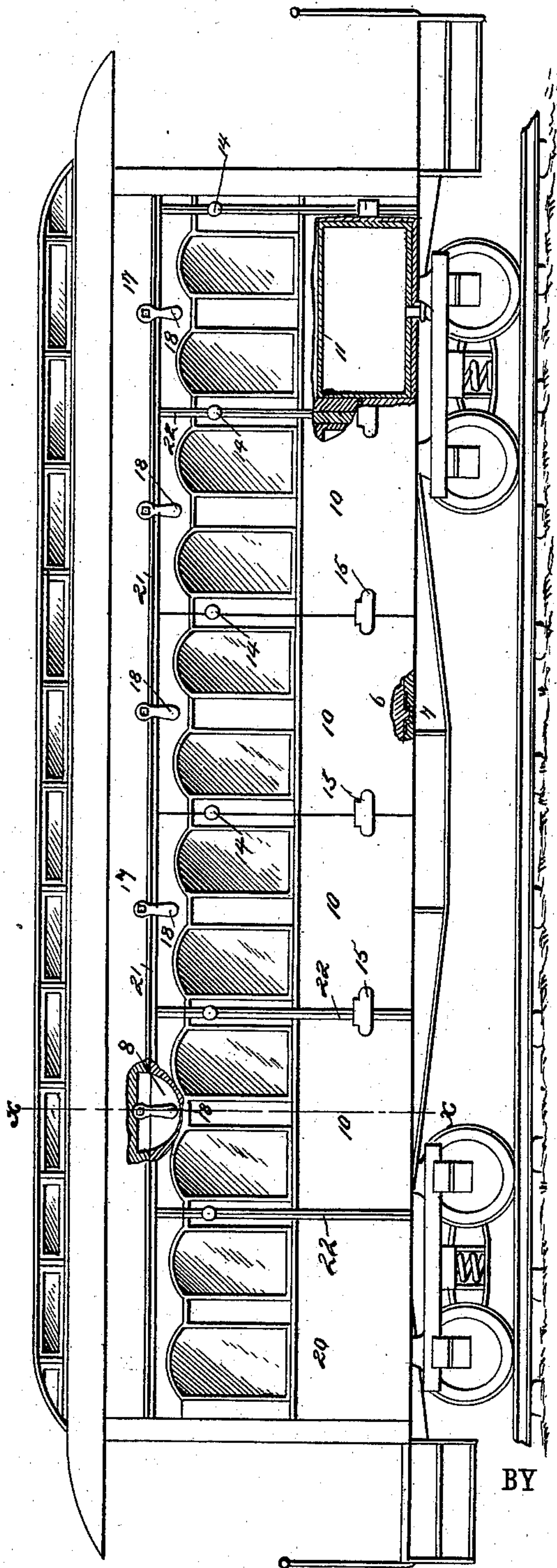
2 Sheets—Sheet 1.

H. NIEHOFF.  
RAILWAY CAR.

No. 382,434.

Patented May 8, 1888.

Fig. 1.



WITNESSES:

*W. R. Davis*  
*W. R. Davis*

INVENTOR:

*H. Niehoff*  
*Munn & Co*  
ATTORNEYS.

BY

(No Model.)

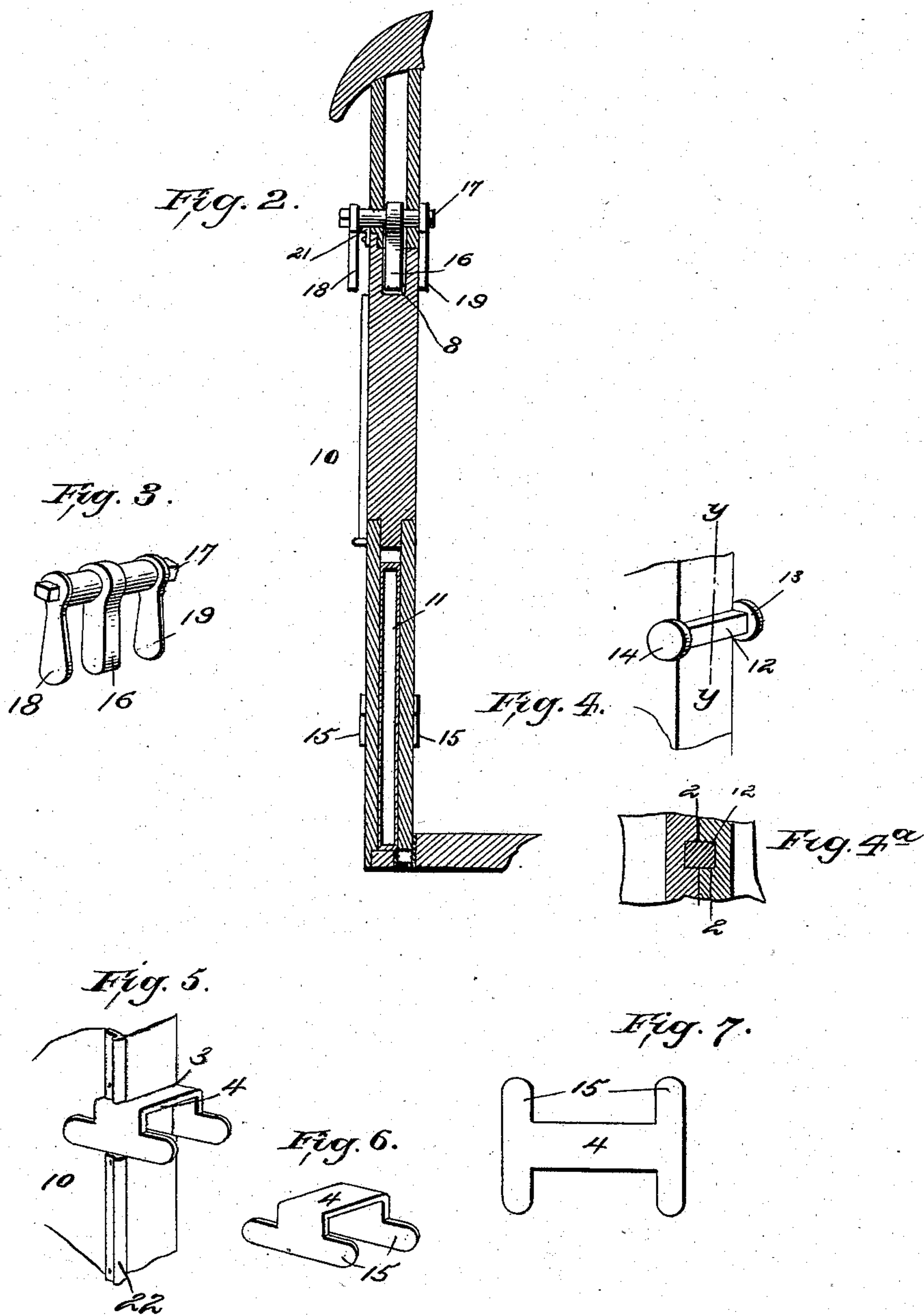
2 Sheets—Sheet 2.

H. NIEHOFF.

RAILWAY CAR.

No. 382,434.

Patented May 8, 1888.



WITNESSES:

W. R. Davis.  
C. Sedgwick.

INVENTOR:

BY *H. Nichoff*  
*Mun. & Co.*  
ATTORNEYS.

N. PETERS. Photo-Lithographer, Washington, D. C.



# UNITED STATES PATENT OFFICE.

HENRY NIEHOFF, OF NEW YORK, N. Y.

## RAILWAY-CAR.

SPECIFICATION forming part of Letters Patent No. 382,434, dated May 8, 1888.

Application filed October 7, 1887. Serial No. 251,704. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY NIEHOFF, of the city, county, and State of New York, have invented a new and Improved Railway Passenger-Car, of which the following is a full, clear, and exact description.

The object of this invention is to provide a railway passenger-car which shall be so constructed that in case of accident the side panels of the car may be forced outward, thus clearing a space through which the passengers may escape, the panels being provided with air-tight compartments, or with compartments filled with cork, so that in case the cars should fall from a bridge or over an embankment into deep water the panels will float and have sufficient buoyancy to act as life-preservers.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a side view of a car constructed in accordance with the terms of my invention, portions of the panels being broken away to disclose the interior construction. Fig. 2 is an enlarged cross-sectional elevation of a portion of the car, the view being taken on line *x x* of Fig. 1. Fig. 3 is a perspective view of the panel-locking attachment. Fig. 4 is a perspective view representing the construction and position of one of the double-headed dowels employed to assist in holding the panels in position. Fig. 4<sup>a</sup> is a sectional view taken on line *y y* of Fig. 4, the abutting edge of a second cork panel being, however, represented in this figure. Fig. 5 is a perspective view of one of the H-shaped clips employed to assist in holding the panels in position, the clip being represented as it appears when arranged in connection with a single panel. Fig. 6 is a perspective view of the clip as it appears when removed from the panel, and Fig. 7 is a plan view of the blank from which the clip is formed.

In constructing such a car as the one illustrated in the drawings above referred to, I provide panels 10, in the lower portions of which there are air-tight vessels 11; or the lower part of the panels could be filled with cork or other light material. Each of the panels is provided with a recess, as 2, (see Fig. 4<sup>a</sup>,) the recesses formed in the abutting edges

of two adjacent panels registering to provide for the introduction of a double-headed dowel, 12, of which the heads 13 and 14 extend, the one upon the inside face of the panel and the other upon the outside face of the panel. Below the recesses 2 each panel is formed with a transverse slot, 3, in which there is fitted the connecting-web 4 of an H-shaped clip, 15, the said web 4 entering registering recesses in the abutting edges of the adjacent panels, the ends of the clips being bent down to bear against the outer and the inner faces of the panels, as represented in the drawings.

In constructing a car such as the one above described one of the end panels—such, for instance, as the one shown at 20—is permanently connected to the car-frame, and as many other panels 10 are employed as may be necessary to fill up and inclose that side of the car, the vertical edges of the panels being connected as above described, while each panel is supported at its lower edge by a pin, 6, which fits into a socket, 7, that is secured to the sill of the car. In the upper edge of the panels there is formed a slot, 8, that is entered by a tongue, 16, carried by a shaft, 17, that is mounted in the framing of the car above the space occupied by the panels, this shaft being provided with outer handles, 18, and inner handles or lever-arms, 19. Moldings 21 are secured to the upper edges of the panels, and these moldings serve to close all openings at the junction of the upper edge of the panels and the framing of the car, and to the side or vertical edges of the panels I connect other moldings, 22, which close the vertical openings between the panels, these moldings serving to prevent the entrance of dust, &c.

A car constructed as above described provides for the speedy and easy exit of the passengers in case of an accident, such as the overturning of a car, for if the tongues 16 be turned so that they will be carried upward and out of the slots or recesses 8 a slight push upon the panels will cause them to fall outward from the car-frame, thus clearing the whole side of the car, and this turning of the tongues may be brought about by parties on the outside, who have only to grasp the levers 18 and turn them in either direction to carry the tongues 16 out of the grooves or recesses 8; or the same movement of the tongues may



be brought about by parties on the inside, who have only to grasp the levers 19 in order to move the tongues.

5 In case the cars fall into water the air-tight or cork-packed compartments in the panels will make said panels exceedingly buoyant, and thus provide for their use as life-preservers.

10 From the construction described it will be seen that should the roof or the floor of the car be badly broken the panels will fall out, and thus provide for the easy escape of the passengers.

15 Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, with a railway-car

frame, of side panels, means for connecting the adjacent edges of said panels, tongues arranged to enter recesses in the upper edges of the 20 panels, and levers connected to the tongues, substantially as described.

2. A detachable railway-car panel formed with a compartment in which a buoyant material is confined, substantially as described. 25

3. A detachable railway-car panel, in combination with an air-tight vessel or chamber fitted within said panel, substantially as described.

HENRY NIEHOFF.

Witnesses:

J. L. MCAULIFFE,  
C. SEDGWICK.