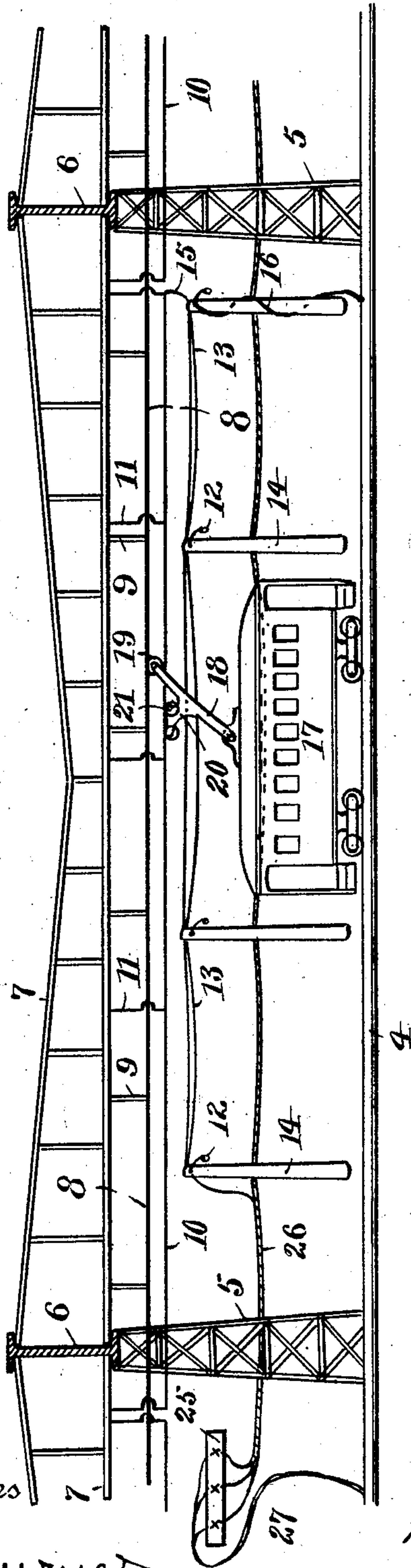


C. A. WARD.  
RAILWAY LIGHTING AND SIGNALING DEVICE.  
APPLICATION FILED JUNE 19, 1907.

933,802.

Patented Sept. 14, 1909.

Fig. 1.



Witnesses

Geo. R. Burnes.  
Ruth Raymond.

Fig. 3.

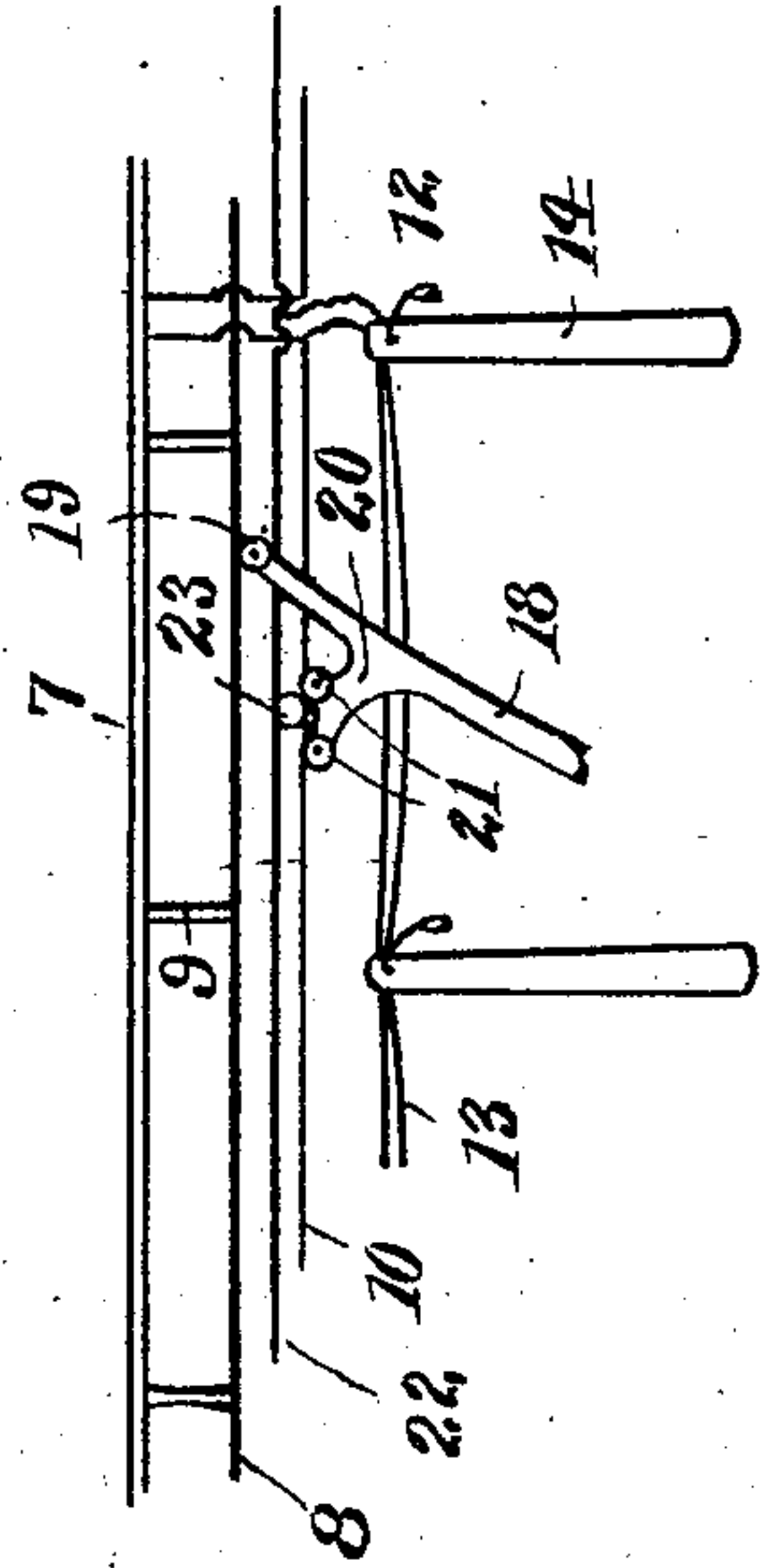
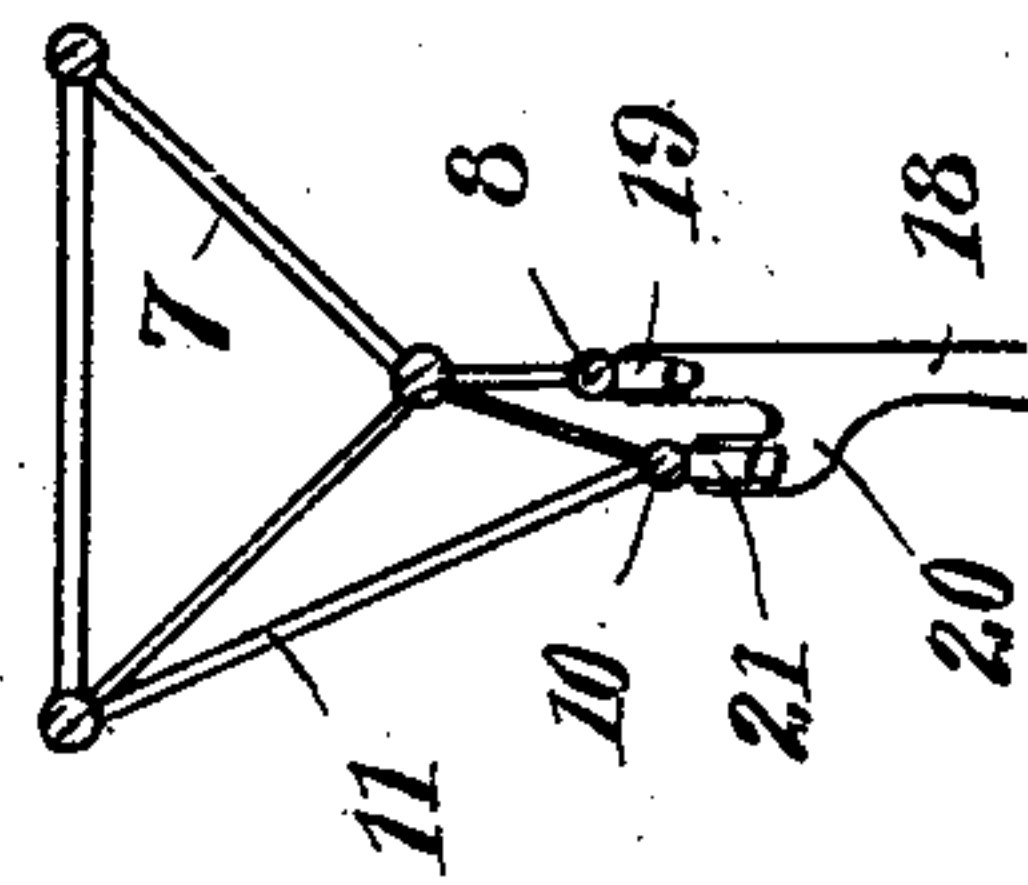


Fig. 2.



Inventor

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# UNITED STATES PATENT OFFICE.

CHARLES A. WARD, OF FORESTVILLE, CONNECTICUT.

RAILWAY LIGHTING AND SIGNALING DEVICE.

933,802.

Specification of Letters Patent. Patented Sept. 14, 1909.

Application filed June 19, 1907. Serial No. 379,710.

*To all whom it may concern:*

Be it known that I, CHARLES A. WARD, a citizen of the United States, and resident of Forestville, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Railway Lighting and Signaling Devices, of which the following is a specification.

This invention relates to safety devices for electric railway systems and refers more particularly to an electric lighting and signaling system for the purpose of lighting a roadway adjoining a track during the travel of a train or car thereover.

It is the purpose of the invention to adopt a lighting system of the class described to an overhead electric railway system whereby the current for operating and lighting purposes may be simultaneously taken from an overhead wire and the lighting current returned by means of one of the rails over which the car passes or if preferred by a separate independent overhead wire; further to construct the device in a modern, efficient and practical manner with special reference to the production of a modern electric construction and equipment of an overhead system; to provide in connection with a railway lighting system means for designating at a distant point as for instance in a dispatcher's office or railway station, the location of the car or cars upon the roadway or in other words, the particular block in which the car or train is traveling.

Upon the accompanying drawings forming a part of this specification, similar characters of reference denote like or corresponding parts throughout the several figures and of which,

Figure 1, shows a side elevation of a section of track illustrating an overhead electric railway system with my improvements applied thereto. Fig. 2, is a detail cross sectional view through the frame and suspended wires showing the trolley wheel connected therewith. Fig. 3, is a detail side elevation of a portion of the construction shown in Fig. 1, and illustrating a modified form of device.

Referring in detail to the characters of reference marked upon the drawing, 4 represents one of the rails of the track. 5 posts upon either side of the track. 6 a beam which extends across the track from post to post. 7 a supporting frame arranged intermediate of the several cross beams 6

and preferably directly over the center of the track.

8 indicates the main electric wire which is supported from the frame 7 by hangers 9 that may obviously be attached to both the wire and frame in any suitable or preferred manner. This main wire may extend the length of the track and obviously be connected to a source of electrical supply in the usual way.

10 indicates what I term a lighting wire and is arranged in sections. These wires are also hung from the frame 7 by means of insulated hangers 11 and may be placed either below or to one side of the main wire 8. The length of these wires may be that of the length of a block, representing a mile more or less, and are so connected as to control the lighting of the lamps along side the roadway for an equal distance. The ends of these wires are brought close enough together to insure the travel of the trolley wheel from one end to the other at the same time to prevent an electrical connection therebetween. A series of lights 12 are arranged along the track either upon posts 14 at the side as shown, or suspended in any suitable manner from overhead. They are connected as by means of a wire 13 and feed through the end connection 15 from the lighting wire 10 and provided with a return wire 16 which is brought down the post and connected with one of the rails of the roadway. If preferred a separate wire connection may be made from the wire 10 to the individual lamps and from there to the rail or they may be connected in series as shown in the drawing. 17 represents an electric car which may be of any preferred type and upon it is mounted a trolley pole 18 having a wheel 19 for engagement with the main wire 8 whereby the electricity is taken from the wire for the purpose of propelling the car. This trolley pole 18 is provided with a bracket 20 having a pair of wheels 21, one in front of the other, and connected together for engagement with the electric wire 10 as indicated in the drawing. These wheels 21 are sufficiently far apart to insure the engagement of one, when passing from one block into the other, with the forward lighting wire before the back wheel leaves the rear wire, thus insuring the lighting of the forward series of lamps before the last series are extinguished.

In case a separate and continuous wire 22



as indicated in Fig. 3, was employed in lieu of the rail for the return current from the lamps a third wheel 23 would be connected to the bracket 20 for the purpose of engaging said wire 22, it being of course understood that the several wheels 19, 21 and 22 would all be electrically connected so as to insure the completion of the closed circuit.

The connection for the indicator board 25 which may be located in a despatcher's office or other suitable place, is made through the cable 26 which obviously comprises a series of wires one of which is designed to be connected with the respective blocks of the railway system as at one end 27 and with a light on the board 25 at the end of cable, to represent the particular block, the connections being such as to insure the lighting of the different lamps upon the board as the respective blocks are traversed by the car upon the roadway, thus affording a positive and reliable means of showing the location of the car as it travels and is propelled by means of the over head electric system.

25 Having thus described my invention what

I claim and desire to secure by Letters Patent is:—

In an overhead electric railway system, the combination with a supporting structure, of a main feed wire, a series of separate longitudinal lighting wires arranged along side of the main wire and having their ends spaced apart, a series of lights electrically connected with each of said sectional lighting wires, a track, a motor mounted thereon, a trolley pole connected with the main feed wire and having additional wheels for engaging the lighting wire, a rail and connections for returning the current from the lighting wires, and indicating board, and a cable having one wire connected intermediate each block, and said indicating board.

Signed at Forestville, in the county of Hartford, and State of Connecticut, this 15th day of June, A. D. 1907.

CHARLES A. WARD.

Witnesses:

S. P. WILLIAMS,  
MARGARET G. BABIN.