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No. 760,643. PATENTED MAY 24, 1904.

V. M. NEWMAN.

# THIRD RAIL GUARD FOR ELECTRIC RAILWAYS.

APPLICATION FILED FEB. 16, 1904.

NO MODEL.

Fig. 1.

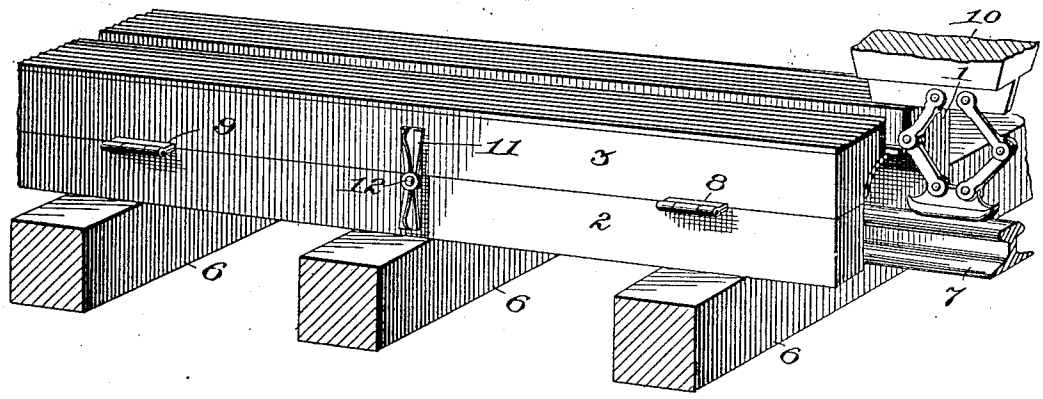



Fig. 2.

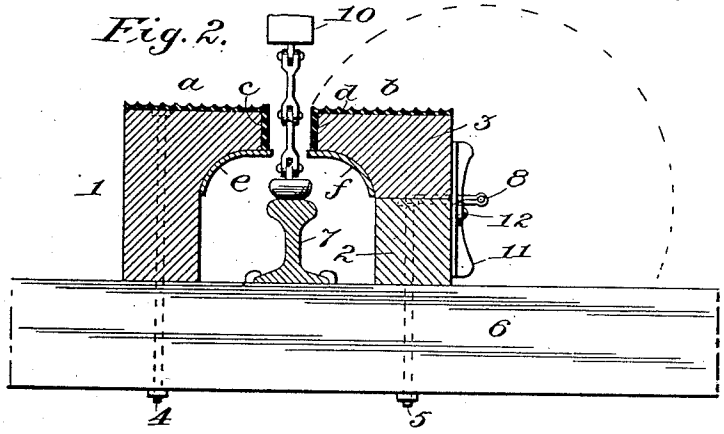
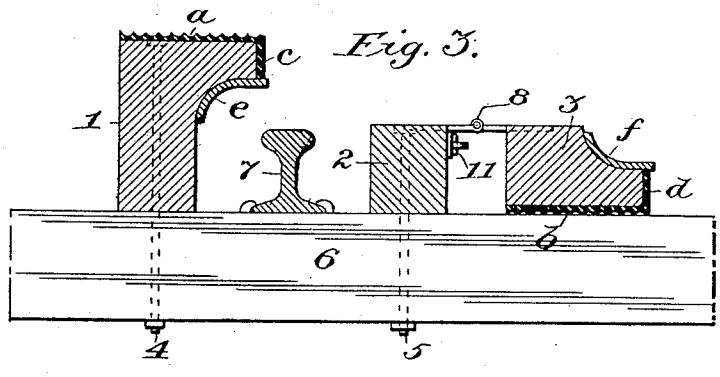



Fig. 3.




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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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# UNITED STATES PATENT OFFICE.

VINCENT M. NEWMAN, OF BAYSIDE, NEW YORK.

## THIRD-RAIL GUARD FOR ELECTRIC RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 760,643, dated May 24, 1904.

Application filed February 16, 1904. Serial No. 193,831. (No model.)

*To all whom it may concern:*

Be it known that I, VINCENT M. NEWMAN, a citizen of the United States of America, and a resident of Bayside, Long Island, in the State of New York, have invented a new and useful Improvement in Third-Rail Guards for Electric Railways, of which the following is a specification.

This invention relates to means for rendering it safe to cross electric railways constructed on the "third-rail" system, or, in other words, to prevent fatalities at the crossings of such railways due to accidental contact with the third rail. The crossings at present in use leave the highly-charged third rail almost entirely exposed, and fatal accidents at such crossings have been numerous.

One excuse for leaving the third rail exposed at the crossing as elsewhere has been the necessity for keeping the rail free from any accumulation of snow in winter and the difficulty of accomplishing this result and at the same time preventing accidental contact with the rail.

The present invention consists in a third-rail guard of novel construction whereby the two results above stated are accomplished by simple and practical means.

The invention consists in said third-rail guard as a novel structure and in certain novel combinations of parts therein, as hereinafter set forth and claimed.

A sheet of drawings accompanies this specification as part thereof.

Figure 1 is a perspective view of one end of the improved third-rail guard and of the plow of an electric locomotive or trolley-car entering its conduit or escaping therefrom. Fig. 2 represents a cross-section with the conduit closed. Fig. 3 represents a cross-section with the conduit open for the removal of snow from within it.

Like reference numbers and letters refer to like parts in all the figures.

The principal parts of the improved third-rail guard are three longitudinal timbers, (marked, respectively, 1, 2, and 3 in the drawings.) The timbers 1 and 2 are fixedly secured by vertical bolts 4 and 5 to the cross-ties 6 at the respective sides of the third rail 7 and parallel therewith. The timber 3 is normally superposed upon the timber 2, as in Fig. 2, and these timbers are connected with each other by a sufficient number of hinges 8 and 9 which permit the timber 3 to be swung away from the timber 1 and from the rail 7, so as to expose the latter, as in Fig. 3, when it is necessary to remove snow or the like from the sides of the rail.

The top surfaces of the timbers 1 and 2 are preferably covered with foot-treads *a* and *b* of ribbed rubber or the like to roughen them and render them non-conducting, and the side walls of the slot-like opening between the timbers 1 and 3 are preferably and conveniently protected in like manner by coverings *c* and *d*. Metallic wear-plates *e* and *f*, attached to said timbers 1 and 3 at the top of the arched opening between the timbers 1 and 3 and at the top of the rail 7, are so attached as to project into said opening beyond the surfaces of the rubber side-wall coverings *c* and *d*, as best shown in Fig. 2, so as to prevent any contact of the shoe 10 of the electric locomotive or trolley-car with said side-wall coverings *c* and *d*.

A suitable fastening device 11, represented by a ribbed bar attached to the outer side of the timber 2 by a central pivot 12, serves when in normal position, as in Figs. 1 and 2, to fasten the timber 3 in place. In connection with a fastening device so located the hinges 8 and 9 are extended, as best shown in Fig. 3, so that the timber 3 will clear the fastening device in its movements. Said fastening device may obviously be of various known and improved forms, and other like modifications will suggest themselves to those skilled in the art.

Having thus described said improvement, I claim as my invention and desire to patent under this specification—

1. A third-rail guard comprising longitudinal timbers parallel with each other and with the rail, means for fixedly attaching two of said timbers to the cross-ties, devices attaching another of said timbers and rendering the same movable away from the rail to afford access thereto, and means for fastening said movable timber in effective position.

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2. A third-rail guard comprising longitudinal timbers parallel with each other and with the rail, vertical bolts attaching two of said timbers to the cross-ties, hinges attaching another of said timbers and rendering the same movable away from the rail to afford access thereto, and means for fastening said movable timber in effective position.

3. A third-rail guard comprising three timbers parallel with each other and with the rail, vertical bolts attaching two of said timbers to the cross-ties, hinges attaching a third timber and rendering the same movable away from the rail to afford access thereto, and a fastening device pivoted to the outer side of the subjacent timber, said hinges being constructed to cause said movable timber to clear said fastenings in its movement.

4. A third-rail guard comprising longitudinal timbers parallel with each other and with the rail, vertical bolts attaching two of said timbers to the cross-ties, devices attaching a third timber and rendering it movable to expose the rail, means for fastening said movable timber in effective position, and foot-treads of insulating material at the top of the guard.

5. A third-rail guard comprising longitudinal timbers parallel with each other and with the rail, vertical bolts attaching two of said timbers to the cross-ties, devices attaching a third timber and rendering it movable to expose the rail, means for fastening said movable timber in effective position, side-wall coverings of insulating material within the slot-like opening between the timbers at top, and metallic wear-plates attached to said timbers within the upper portion of the space between the timbers and projecting beyond said side-wall coverings to protect the same, substantially as hereinbefore specified.

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