

(No Model.)

A. McKERLIE.

DEVICE FOR PREVENTION OF ACCIDENTS ON STREET CARS, &c.

No. 525,055.

Patented Aug. 28, 1894.

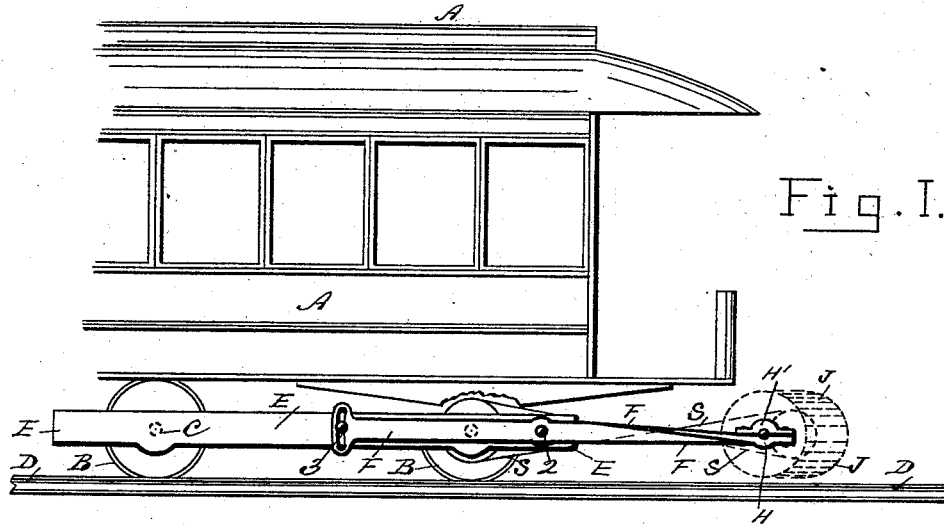


Fig. I.

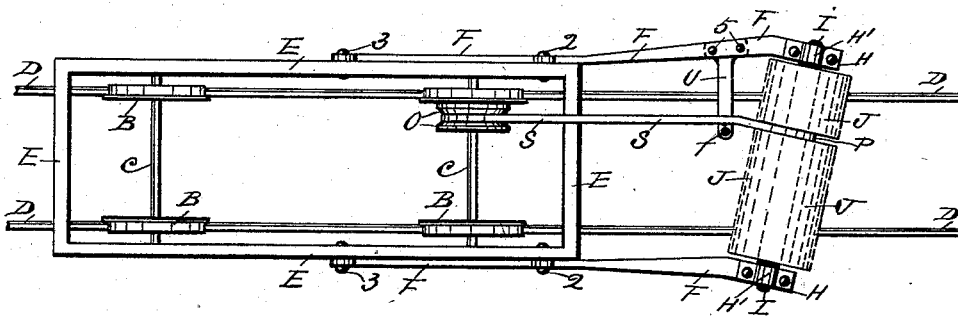


Fig. II.

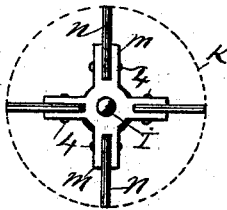


Fig. III.

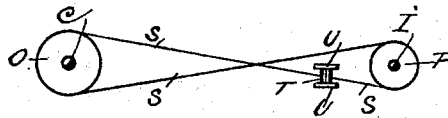


Fig. IV.

Witnesses.  
G. M. Cameron.  
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By his Atty John H. Hendry.

# UNITED STATES PATENT OFFICE.

ALEXANDER MCKERLIE, OF HAMILTON, CANADA.

## DEVICE FOR PREVENTION OF ACCIDENTS ON STREET-CARS, &c.

SPECIFICATION forming part of Letters Patent No. 525,055, dated August 28, 1894.

Application filed August 30, 1893. Serial No. 484,403. (No model.)

### *To all whom it may concern:*

Be it known that I, ALEXANDER MCKERLIE, a subject of the Queen of Great Britain, residing at Hamilton, in the county of Wentworth, in the Province of Ontario, in the Dominion of Canada, have invented a new and useful Device to be Used on Electric Street-Cars or to Clean Snow from the Track, of which the following is a specification.

My invention substantially consists of the mechanism hereinafter described and claimed, and the objects of my improvements are, first, to provide the lower front end of a car with a revolving brush that shall be capable of revolving in an opposite direction to the wheels of car, and extending across the track, at an angle, to prevent accidents; second, to provide means for the removal of the said revolving brush, and to substitute therefor a revolving snow cleaner in similar position on the car, or a steam engine, and third, to afford facilities for the proper elevation and propulsion of said brush and cleaner. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is an outlined side elevation of the fore part of an electric street car, provided with the said accident preventative device attached to the rigid metallic frame thereof. Fig. 2 is a plan of the device showing how attached to said rigid frame of car, and manner of propulsion. Fig. 3 is an enlarged section of the four-armed snow cleaner, as it appears detached. Fig. 4 shows the outlines of the driving belt or chain, crossed and in side elevation, from the car wheel axle to the through shaft of the roller brush or the snow cleaner.

Similar letters and figures refer to similar parts throughout the several views.

The electric street car, as shown broken, is indicated by A, its wheels by B, axles by C, rails by D, and its metallic frame by E. To the outer sides of this frame are bolted the two arms, F, at 2, and at their inner ends, vertical slots, 3, are provided, that by this means, the outer or front ends may be elevated or lowered on their central pivot, 2, to meet contingencies. The front ends of said side arms are twisted and bent to form bearings, H, with caps, H', for the shaft, I, which carries either the brush, J, or the cleaner, K.

The side arms, F, might be altered somewhat in shape and bolted to the inner side or front ends of frame to suit cars differing in construction. The said roller brush may be made of soft pliable material suitable for the purpose of preventing a person being struck by the car. And in seasons of much snow, the said roller brush may be removed with its shaft, and the four-armed cleaner substituted therefor. This cleaner is constructed with arms, m, in such a manner as to admit the blades, n, composed of rubber or material of like nature, and securely fastened therein by the bolt, 4. The said blades may be moved farther out from the center in case of wear. This device is propelled by means of chain wheel, o, secured on car axle or to car wheel, and the chain wheel, P, secured on shaft, I, and connected by chain belt, S, said belt being crossed in order to revolve the brush or cleaner, in an outer and upper direction, as aforesaid. To facilitate the working of said belt, on account of the brush and cleaner being at an angle to the line of rails and car, a vertical guide roller, T, is provided to press against the lower part of belt as it enters upon its wheel, P, in order to retain said belt in proper position. This roller operates in its bent support, U, attached to arm, F, at 5, said support extending from arm to arm, if requisite. Either the revolving brush, or revolving cleaner may be appropriately used either as an accident preventative or for cleaning snow.

What I claim as my invention, and desire to secure by Letters Patent, is—

The front projecting side arms F, pivoted at 2, and secured at 3, to each side of the rigid frame of car, each said arm having a front bearing H, provided with a cap H', the through angle shaft I, in said bearings, provided with brush roller or blades at each side of a centrally located chain wheel P, the chain guide roller T, in its support and bearings U, secured to said frame F at 5, in combination with the chain wheel o, secured to axle C, or to drive wheel B, of car, and the chain belt s, engaging with said chain wheels, substantially as described and set forth.

ALEXANDER MCKERLIE.

Witnesses:

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