No. 720,809. PATENTED FEB. 17, 1903.

A. HUDSON.

LIFE GUARD FOR ROAD VEHICLES.

APPLICATION FILED OCT. 20, 1902.

NO MODEL. 2 SHEETS—SHEET 1.

FIG. 1.

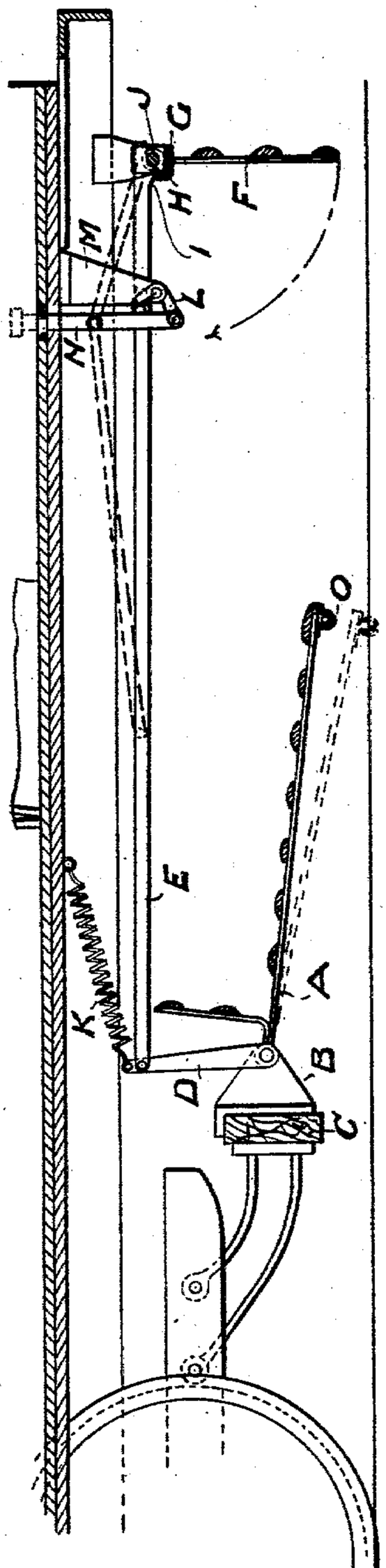
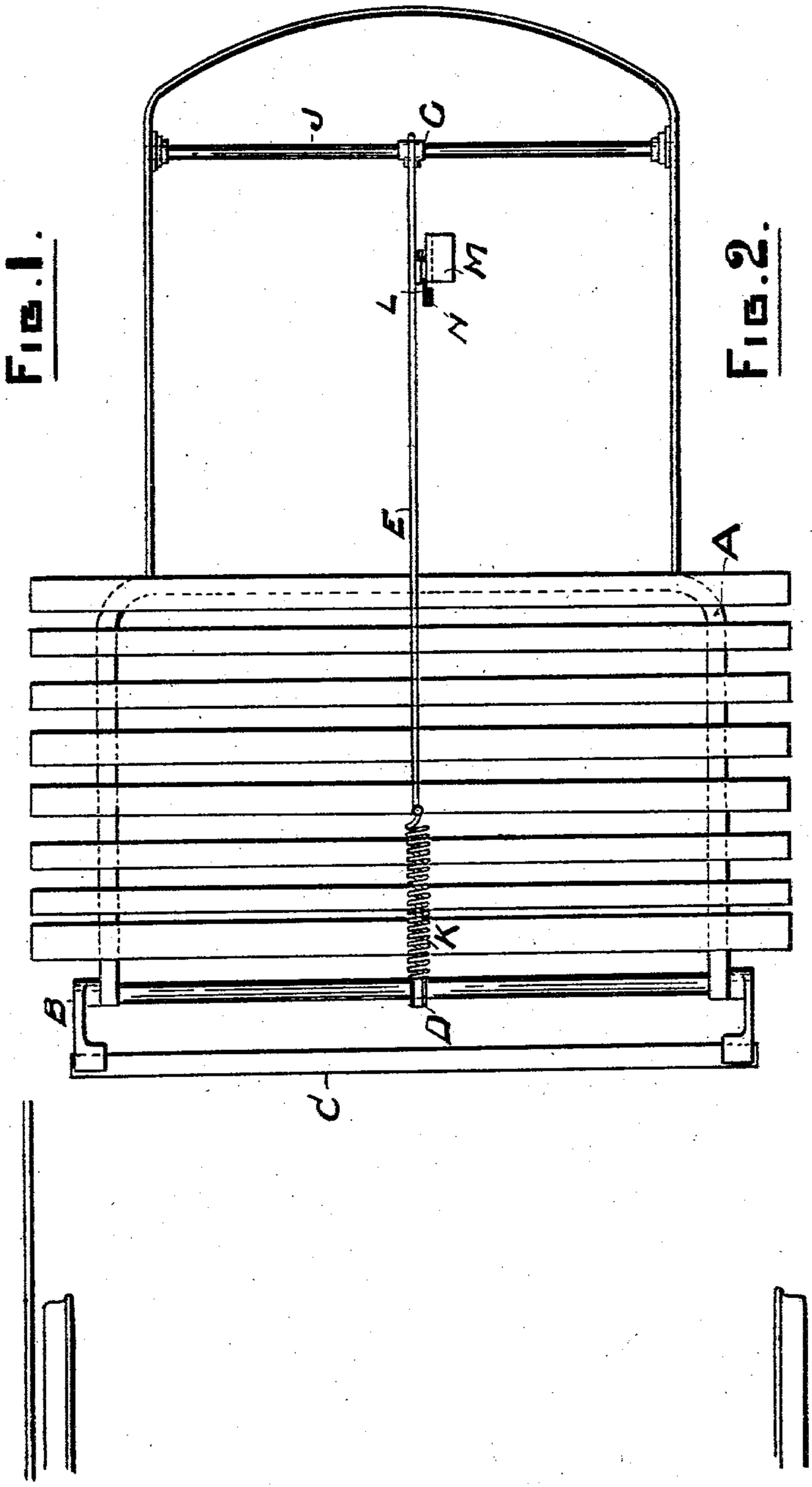


FIG. 2.



WITNESSES:
William Eastwood
John Camp.

INVENTOR:
Arthur Hudson
By his Attorneys:
Walter Gunn

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NO MODEL. 2 SHEETS—SHEET 2.

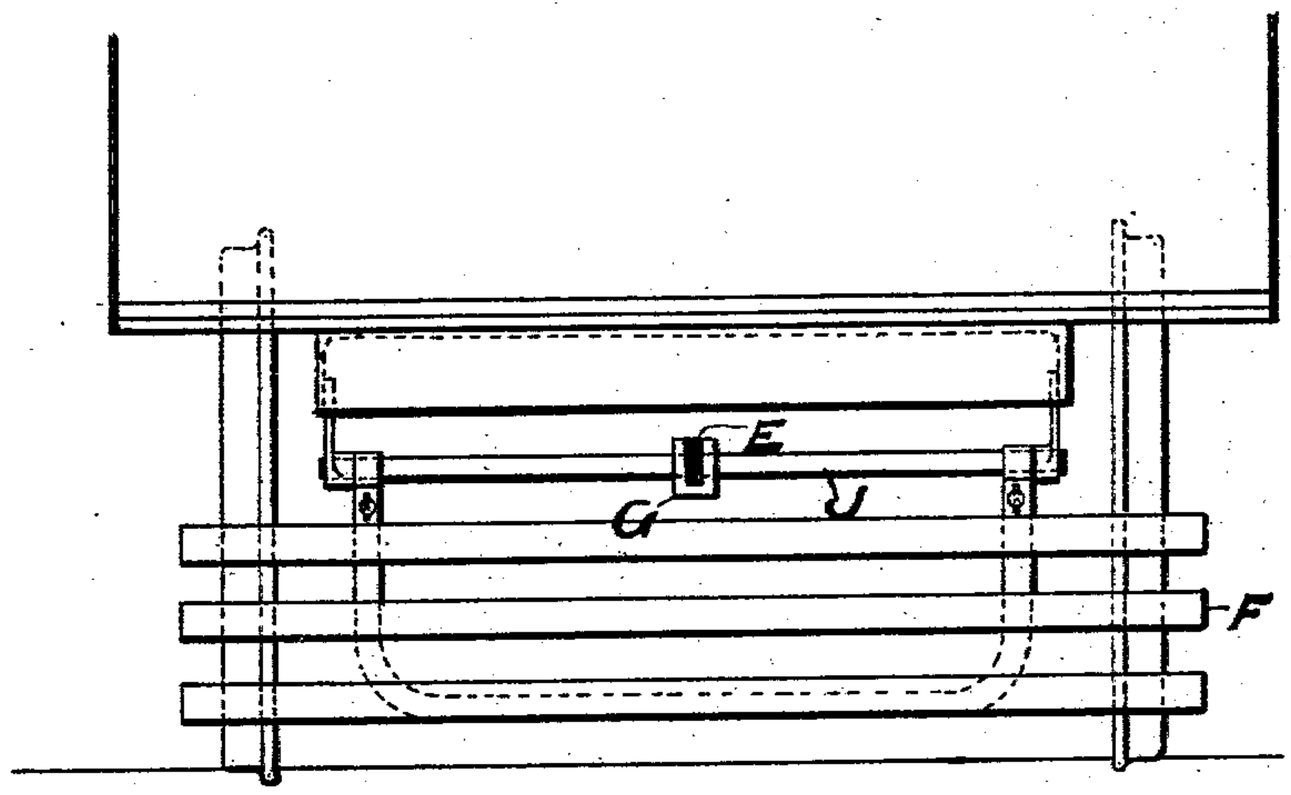

FIG. 3.

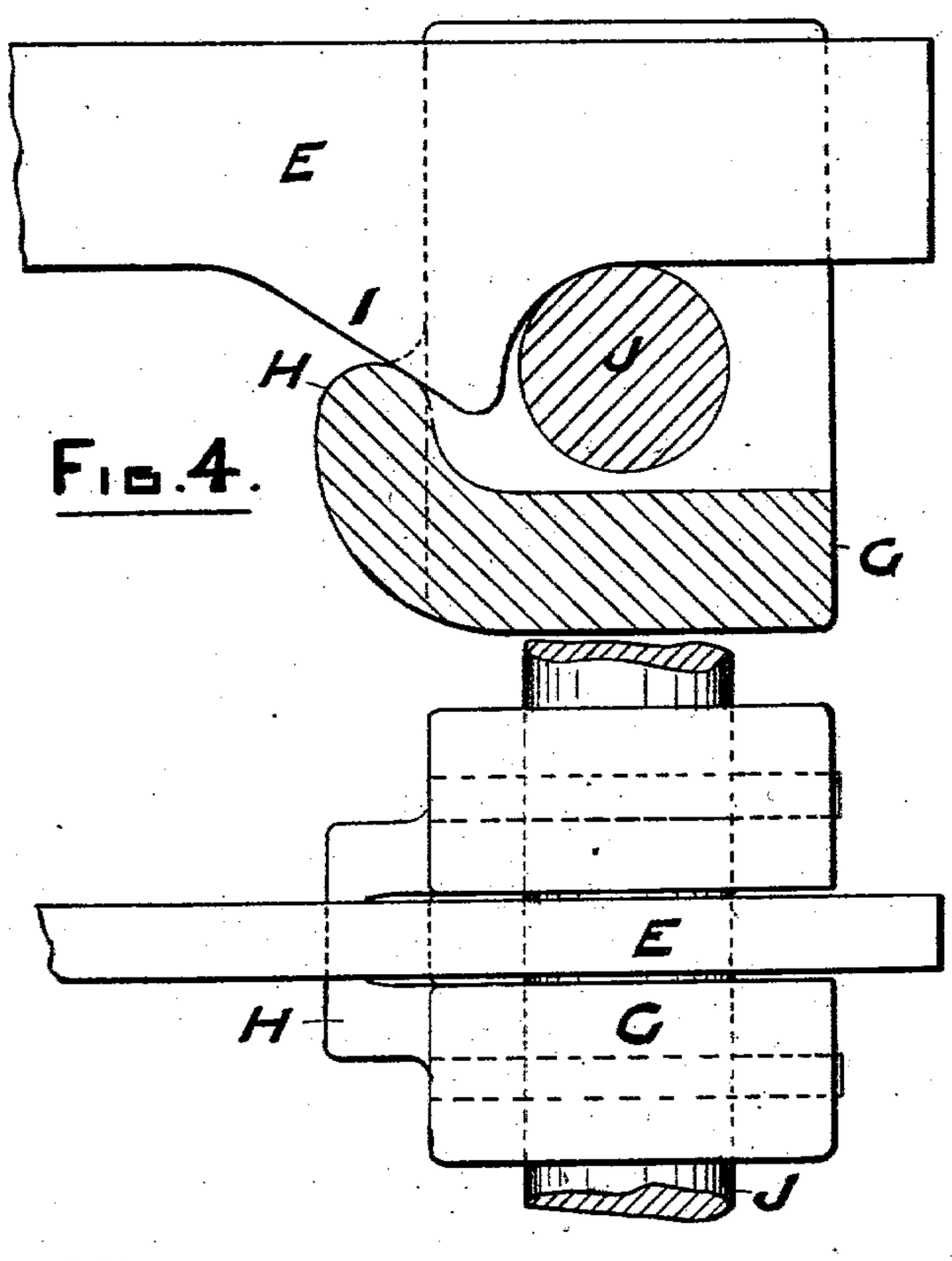

FIG. 4.

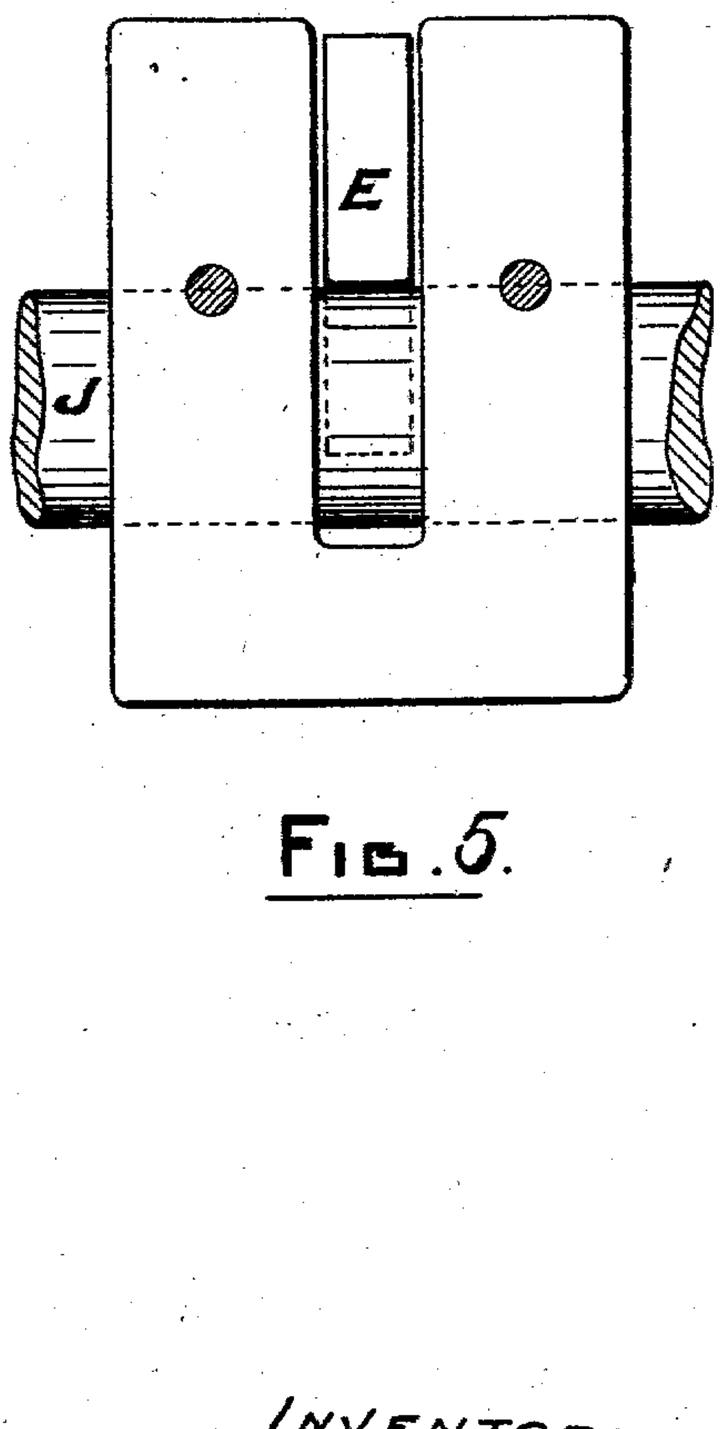

FIG. 5.

FIG. 6.

Witnesses:—
William Eastwood
John Camps.

By his Attorney:—

INVENTOR:
Arthur Hudson
Walter Gunn

UNITED STATES PATENT OFFICE.

ARTHUR HUDSON, OF GORTON, MANCHESTER, ENGLAND.

LIFE-GUARD FOR ROAD-VEHICLES.

SPECIFICATION forming part of Letters Patent No. 720,809, dated February 17, 1903.

Application filed October 20, 1902. Serial No. 127,957. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR HUDSON, a subject of the King of Great Britain and Ireland, and a resident of Gorton, Manchester, England, have invented certain new and useful Improvements in Life-Guards for Road-Vehicles, of which the following is a specification.

This invention refers to improvements in or relating to apparatus for preventing accidents and loss of life in connection with tram-cars, motor-cars, and other road-vehicles, such as traction-engines, propelled wagons, and the like.

Upon the accompanying drawings, Figure 1 illustrates a sectional elevation, Fig. 2 a plan, and Fig. 3 a front elevation, of the improved life-guard as applied to an electric tram-car. Figs. 4, 5, and 6 illustrate details to a larger scale.

According to the invention and as applied to a tram-car I employ a metallic frame A, which I mount upon an axis or pivots carried by the brackets B on the "pilot-board" C. To such frame I apply in any convenient manner wood or other lagging, and thus produce what is called a "cradle" for the purpose of holding or catching anything met with on the track or roadway when lowered, as hereinafter explained. To the center or axis carrying the said frame or cradle I attach a lever D. To the said rod D, I attach a forked connecting-rod E, and the other end of such rod I couple to the swinging or hinged gate F, located at the front of the car or vehicle. Such coupling consists in forming the gate or its center or axis with a forked boss G with cross-piece H and providing the end of the rod E with an inclined nose I, which normally rests upon the cross-piece H, while the end of the rod lies upon the gate-axis J and between the forks of or on the boss G. With the parts thus coupled and the cradle raised to the position shown in Fig. 1 the nose I lies immediately in front of and by preference slightly below the center or axis of the gate, thereby holding the cradle in the elevated position and clear of the roadway, the abutment, if necessary, being augmented by a spring K. Meeting an obstruction and being free to swing on its center the gate moves back, as indicated by the arrow. In so doing it immediately raises the end of the rod E over its axis, thereby disturbing the abutment of the nose I and allowing the rod under the force of the cradle and lever D, also the spring K, to move forward and the cradle to fall down to the position shown by dotted lines, ready to receive or pick up the obstruction. For resetting the parts a bell-crank lever L is pivoted upon a fixed bracket M, to which is connected, by a bolt, pin, or center, a rod N, which passes through the floor of the car or vehicle and terminates in a suitable foot-plate. Upon the rod E is a stud or studs against which the lever L bears when the rod N is depressed, and thus forces back and resets the rod E, such rod on losing its abutment raising the rod N to the position shown dotted. As a modification I may reset the rod by means of a lever loose upon the gate-axis and a link connected to the rod E, as shown by dotted lines.

The under side of the front end of the cradle or metallic frame is or may be provided with runners or slides O to operate or run on the tram-rails when such end is lowered.

In conclusion I desire to point out that by mounting the cradle upon the pilot-board and coupling in the manner indicated the gate is not adversely affected by any depression of the car-body, the gate F always maintaining a vertical position and being able to swing forward as well as backward and there being no intricate catch devices for locking the parts when reset.

What I claim is—

In apparatus for preventing accidents or loss of life in connection with tram-cars, motor-cars and other road-vehicles, a pilot-board or like part of a vehicle, a cradle composed of metal bars lagged with wood and an axis, means for pivoting such axis to the said pilot board or part, a lever on the said axis, a gate also composed of metal bars lagged with wood and having an axis, means for suspending such gate-axis from the under side of the vehicle, a rod or bar coupled at one end to the

said lever and lying upon the gate-axis at the other, also having a nose or shoulder at such other end normally lying against the gate-axis, a forked boss fast upon the said gate-axis with cross-piece lying below the said nose on the rod, and means for resetting the rod when it loses its abutment, as set forth.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

ARTHUR HUDSON.

Witnesses:
JOHN CAMP,
WILLIAM EASTWOOD.