(No Model.) 2 Sheets—Sheet 1.

L. PETERSON.

SAFETY GUARD FOR CARS.

No. 302,024. Patented July 15, 1884.

FIG. 1.

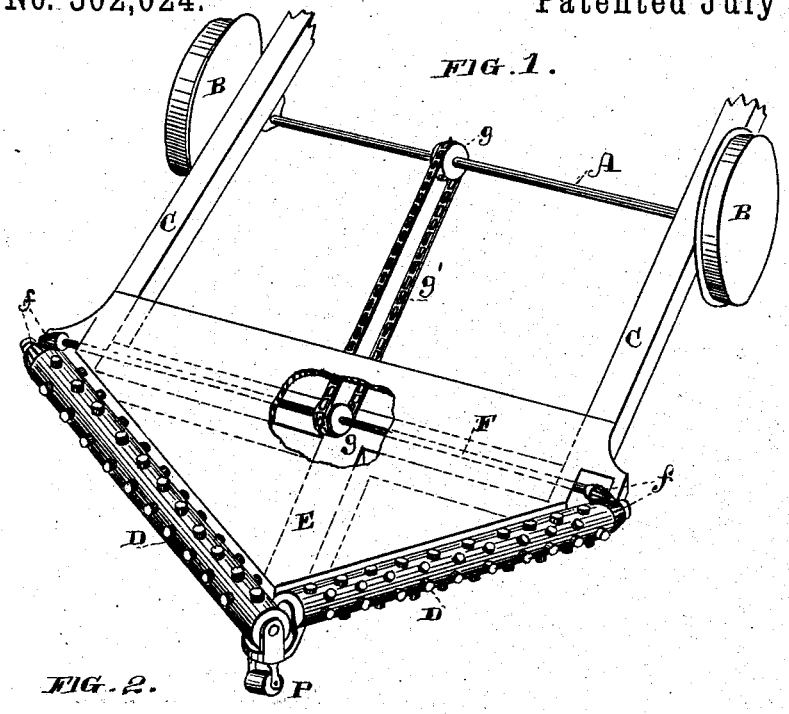
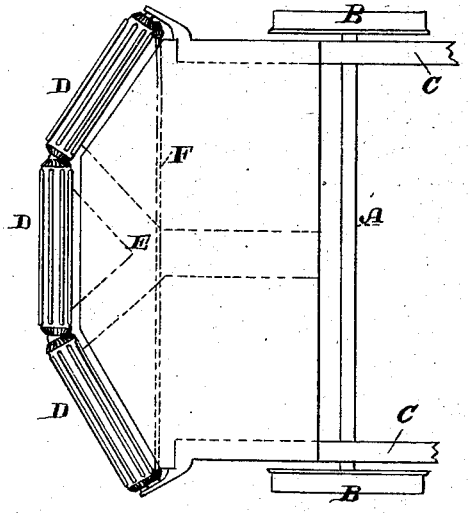


FIG. 2.



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(No Model.) 2 Sheets—Sheet 2.

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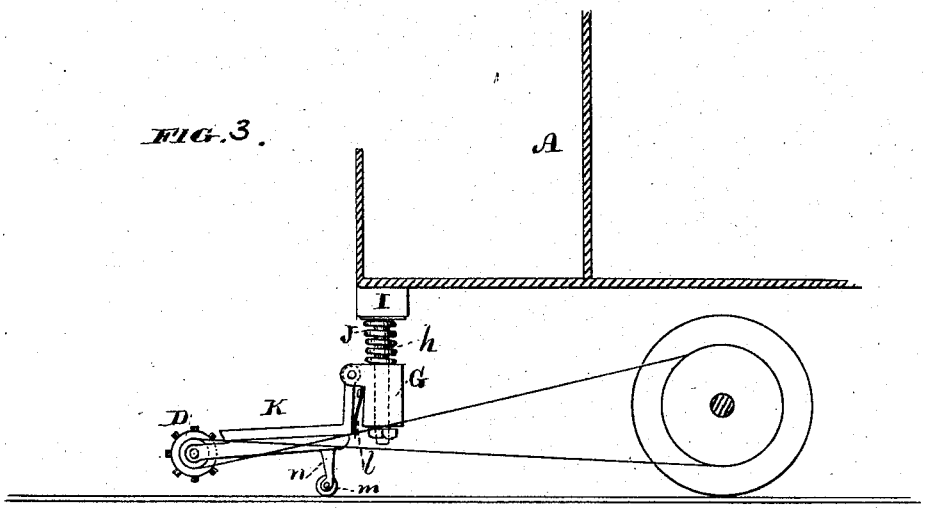
FIG. 3.



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UNITED STATES PATENT OFFICE.

LEWIS PETERSON, OF SAN FRANCISCO, CALIFORNIA.

SAFETY-GUARD FOR CARS.

SPECIFICATION forming part of Letters Patent No. 302,024, dated July 15, 1884.

Application filed October 13, 1883. (No model.)

To all whom it may concern:

Be it known that I, LEWIS PETERSON, of the city and county of San Francisco, and State of California, have invented an Improvement in Safety-Guards for Cars; and I hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to a new and useful safety-guard for cars and other heavy moving objects.

It consists in the combination of devices herein described, and particularly set forth in the claim.

The principal object of my invention is to prevent such accidents to life and limb as are of frequent occurrence in cities, occasioned by persons being run over and either killed or injured by street-cars. My invention can, however, be applied to cars and moving bodies of all kinds, and it will effectually prevent any object that is in front of the car or moving body from being run over or injured to any considerable extent.

In order to explain my invention so that others will understand its construction and operation, I have represented it and will describe its operation in connection with a street-car.

Referring to the accompanying drawings, Figure 1 is a perspective view of my invention. Fig. 2 is a plan view showing a modified shape. Fig. 3 is a side elevation showing the guard rendered vertically adjustable.

A represents the front axle, and B B the forward wheels, of a street-car.

C is a frame, which should extend the entire length of the car, being supported on the front and rear axles or trucks and extending to a short distance in advance of the front axle, as shown. To the forward or projecting end of this frame I connect the rollers or cylinders D, which form my fender or safety attachment, so that they will be carried in advance of the front wheels. These rollers or cylinders should be made from three to six inches in diameter in order to be most effective, but they could be made larger, if desired. The surface of each roller should be roughened, corrugated, or cushioned. I provide them with a cushioned or elastic surface in the manner shown at Fig. 1, which consists of numerous india-rubber plugs inserted in holes in the cylinder, so that their ends project and form short elastic brushes or buffers.

Fig. 2 represents a corrugated roller in which the corrugations extend lengthwise of the roller and are made either in the roller itself or by letting in strips of elastic material. I do not, however, confine myself to any particular manner of forming, covering, or constructing the surface of the rollers. To accomplish this the rollers or cylinders can be variously arranged.

In Fig. 1 the cylinders or rollers are shown in an angular position in the manner of a cow-catcher, so that any object with which they come in contact will not only be brushed forward by the forward rotation of the rollers so that it cannot get under the car, but will also be forced to one side or the other out of the way, according to which roller acts upon it. In this arrangement the meeting ends of the two rollers are supported and bear in the end of a timber, E, which projects forward from the middle of the frame C, and they are driven by bevel-gears *f* from a transverse shaft, F. This shaft may be driven from the axle of the car, as represented, by means of the pulleys *g* and chain-belt *g'*, or by some separate motor. The apex or meeting ends of these rollers I support by a small roller or wheel, P, which rests and moves upon the road-bed, or in or upon the slotted iron rail midway between the track-rails when the attachment is made to cable-cars.

In Fig. 2 I show three short rollers or cylinders, two of which are mounted at an angle, while the third is mounted transversely between the ends of the angular rollers. These are driven by bevel-gearing in the manner hereinbefore described.

Fig. 3, Sheet 2, shows a very effective manner of mounting the rotating guard under the forward end of a car. In this arrangement I employ a frame, G, loosely mounted upon a downwardly-projecting pintle, *h*, at each end. These pintles are secured to the forward timber, I, of the car-frame, and the frame G is confined by nuts or keys below. A spring, J, surrounds the pintles between the timber I and frame G, so that any upward pressure on the frame will compress the spring and allow the frame to move up and down. A horizontal frame, K, is hinged to the frame G, so that it will project out in front of it. This frame

carries the guard-roller in front of it, and it is supported in its horizontal position by a spring, *l*, and small rollers *m*, which are mounted in the depending legs *n* at each side, so as to bear and move upon the rails of the car-tracks. It will now be evident that the car-body can move up and down without interfering with the frames, or the frames can move up and down without interfering with the car-body. The spring *l* and small rollers *m* will cause the frame K and guard-cylinder to be carried in a horizontal position above the track and road-bed; but in case the roller should come in contact with any obstruction on the track it will be instantly depressed by the pressure against it down close to the surface of the road-bed, and thereby prevent the object from passing under it, while its forward rotation will, as heretofore explained, either sweep the object forward or lift it up bodily and deposit it on the frame K. The guard-cylinder in this instance is represented as being driven by belts from pulleys on the car-axle, or the pulleys may be formed on the car-wheels.

This safety device will be especially useful on what are known as "cable-cars," as it will prevent those serious and often fatal accidents caused by persons and animals being knocked down and run over by the cars.

I do not wish to confine myself to any particular construction or arrangement of the rollers, nor to any special means for rotating them, as these will be varied according to circumstances or the judgment of the car-builder; but

What I do claim, and desire to secure by Letters Patent, is—

In a safety-guard for cars and other heavy moving objects, the guard-roller D, having its surface provided with a number of elastic cushions or buffers, and means for rotating said rollers in a direction opposite to the direction of revolution of the wheels, substantially as herein described.

In witness whereof I have hereunto set my hand.

LEWIS PETERSON.

Witnesses:
C. D. COLE,
J. H. BLOOD.