

No. 666,815.

Patented Jan. 29, 1901.

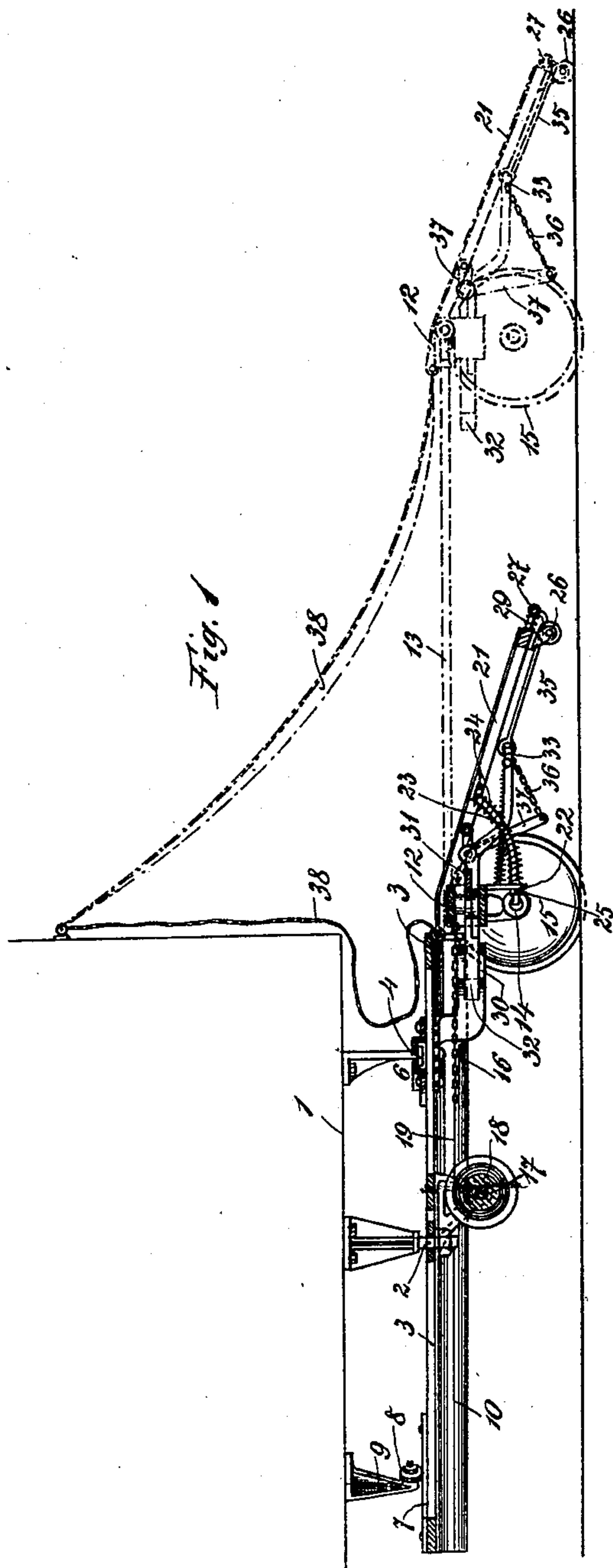
B. MÉSZÁROS, K. MOLCZER & J. DONAGYÓ.

SAFETY DEVICE FOR STREET CARS.

(Application filed Aug. 6, 1900.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses
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Béla Mészáros
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by their Attorneys. R. J. Kuddan

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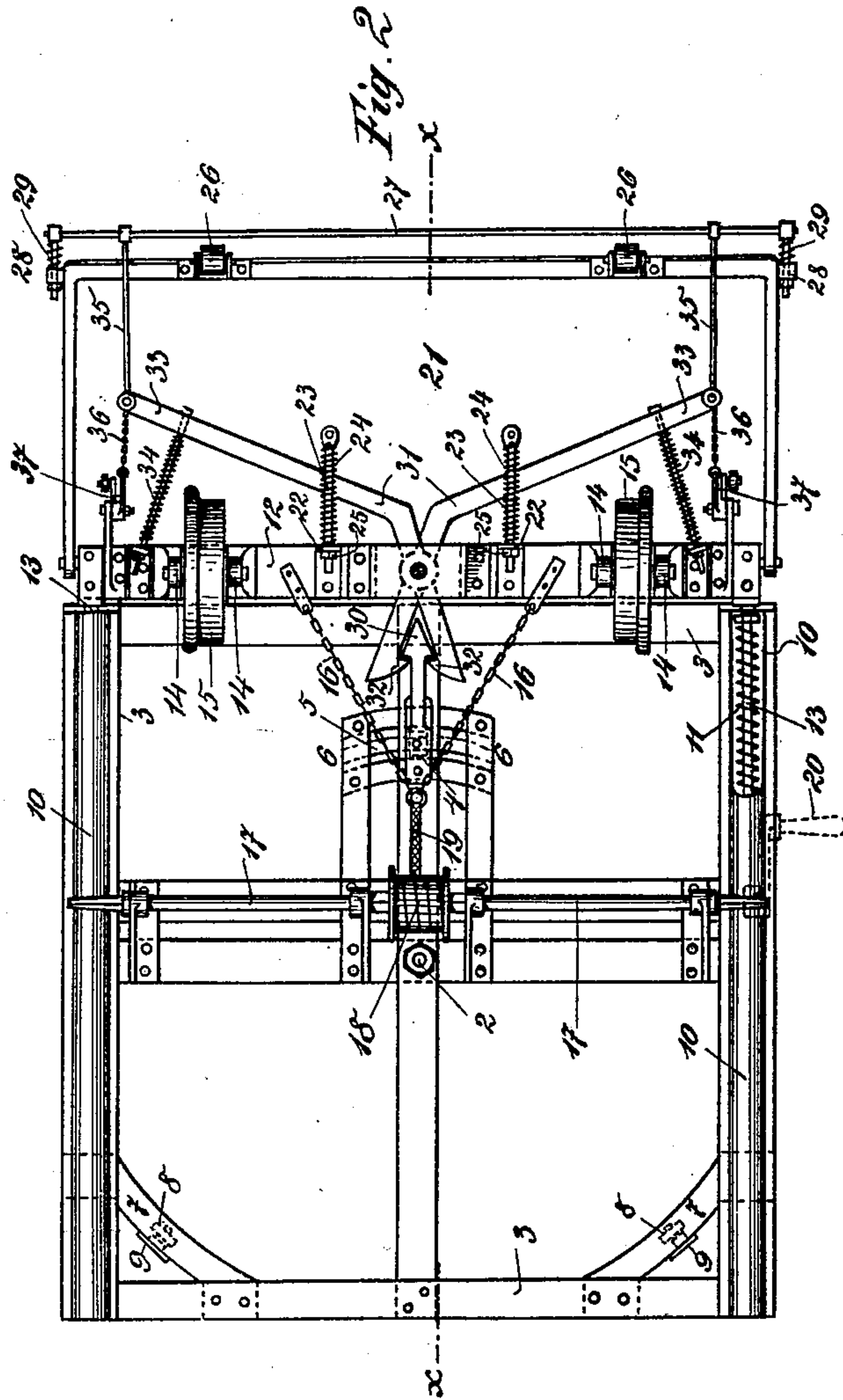
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UNITED STATES PATENT OFFICE.

BÉLA MÉSZÁROS, OF ZSIDÓVÁR, AND KÁRÖLY MOLCZER AND JOSEF DONAGYÖ, OF SZABADKA, AUSTRIA-HUNGARY.

SAFETY DEVICE FOR STREET-CARS.

SPECIFICATION forming part of Letters Patent No. 666,815, dated January 29, 1901.

Application filed August 6, 1900. Serial No. 26,063. (No model.)

To all whom it may concern:

Be it known that we, BÉLA MÉSZÁROS, residing at Zsidóvár, in the county of Krassó-Szörény, and KÁRÖLY MOLCZER, residing at Fötér 5, city of Szabadka, and JOSEF DONAGYÖ, residing at Pesti-út 10, city of Szabadka, in the Empire of Austria-Hungary, subjects of the Emperor of Austria-Hungary, have invented a certain new and useful Safety Device for Street-Cars, of which the following is a specification.

Many arrangements have already been devised to prevent the running over of persons standing in or crossing the track of automobile or other street cars; but none of these arrangements served their purpose, for one reason because their effect was not sufficiently sure and reliable and for another because, owing to their faulty construction, they were liable to produce greater injury than the car would have done had it not been provided with the device.

The object of the present invention is a safety device which will work reliably under all circumstances and will absolutely prevent injury to persons crossing, standing on, or lying on the track.

In the annexed drawings, Figure 1 represents the device in longitudinal vertical section—viz., in section on the line $x x$ of Fig. 2, which latter represents a plan view from below.

On the under side of the bottom of the body of the car 1 a horizontal frame 3 moves on a pivot 2, the said frame being maintained and guided in its horizontal position and limited in its movement, on the one hand, by means of a plate or the like 6, provided with a circularly-curved slot 5, which engages the head of a guiding-pin 4, fixed to the body of the car 1, and, on the other hand, by means of rollers 8, the bearings 9 of which are fixed to the bottom of the car and which move upon circularly-curved rails or guides 7 on the frame. The said frame can therefore move on its pivot 2, and being, as hereinafter described, guided by the rails adjusts itself to the curves of the track.

On either side of the frame a spring-box 10 is provided in which a rod 13 moves, upon which rod a powerful helical spring bears.

These two rods 13 are connected with each other by a flat connecting-bar 12. The said connecting-bar is provided with bearings 14 for two wheels 15, running upon the track, and is connected with two chains 16, which are joined to a belt 19, which can be rolled upon a drum 18, keyed upon an axle 17. By means of this device, which can, however, be replaced by any other suitable arrangement, the cross-bar 12 can be moved from the position indicated in Fig. 1 by dotted lines to the position indicated in solid lines by turning a crank-handle 20. By the said movement the springs 11 11 are compressed.

To the connecting-bar 12 an inclined plate 21 is movably joined and held in the position indicated in Fig. 1 by solid lines by springs 24, placed on curved bars 23, fixed to the under side of the said cross-plate 12 and guided by guides 22. The tension of the said springs 24 can be regulated by means of screw-nuts 25. At its foremost end the said plate 21 is provided with rollers 26, which when the device is not in action are carried at a height of about eight centimeters above the track free of the rails; but when the device is in action, as shown by dotted lines in Fig. 1, said rollers rest upon the rails and guide the plate 21. In front of the said plate 21 a rod 27 is arranged. The said rod is guided by guides 28 on said plate 21 and is held in an extended position by springs 29. This rod 27 may be covered with some elastic material, such as india-rubber, and serves, on the one hand, the purpose of reducing the impact with the person in front of the car, and, on the other hand, of operating the device by the said impact.

On the under side of the frame 3 an arrow-shaped barbed hook 30 is provided, which engages the barbed ends 32 32 of two levers 31, arranged scissors-like and moving on the connecting-bar 12. The longer free arms 33 of the said levers are under the influence of springs 34, by which they are pressed outward, so that the barbed ends 32 of the said levers snap into the barbed hook 30 and retain the frame 3 in the position indicated in Fig. 1 in solid lines. The said longer arms 33 are connected by means of rods 35 with the before-mentioned rod 27 and by means of chains 36 with elbow-levers 37, supporting

the plate 21 by means of rollers. When, therefore, the rod 27 strikes against a person, the latter falls upon the plate 21 and forces same downward. The person knocked down
 5 can suffer no injury, but disengages the barbed ends of the levers 31 from the locking device or arrow 30, either owing to the impact against the rod 27, which impact is transmitted by the rods 35 and the arms 33, or owing to the fact that the pressing downward
 10 of the plate 21 causes same to exercise a pull upon the said arms 33 by means of the chains 36. On the disengagement of the hooks the plate 21 moves rapidly forward (into the position indicated by dotted lines in Fig. 1) under the influence of the springs 11, and thus spreads out a net 38, attached to the rear-most edge of the plate 21 and to the front of the car. The person knocked down is thrown
 20 onto this net, from which he or she can be removed when the car has stopped without having suffered the slightest injury. To render this device ready for use again, it is moved back into the position shown in Fig. 1 in solid lines by turning the crank-handle
 25 20, in which position it is retained by the locking device 30 32 32 and is then again ready for use.

We declare that what we claim is—

30 1. A safety device for street-cars comprising in combination a plate 21 pivoted on a cross-bar 12 connected with rods 13 under the influence of springs 11 and moving in guides 10 in a frame moving within certain
 35 limits and maintained by means of rollers in a horizontal plane underneath the body of the car, the said plate 21 being secured in its position of rest by a locking device formed by crossed pivoted levers 31 engaging with
 40 their barbed ends an arrow-shaped fastener 30, the said plate 21 being released by a disengaging device, and thereby spreading out the net 38 whereby the plate 21 normally held a certain distance above the rails by adjustable springs 24 and rollers 15 having bearing
 45 on the cross-bar 12 is moved into its working

position and is also guided on the rails by means of rollers 26 substantially as described.

2. A safety device for street-cars comprising in combination a plate 21 pivoted on a
 50 cross-bar 12 connected with rods 13 under the influence of springs 11 and moving in guides 10 in a frame moving within certain limits and maintained by means of rollers in a horizontal plane underneath the body of
 55 the car the said plate 21 being secured in its position of rest by a locking device formed by crossed pivoted levers 31 engaging with their barbed ends an arrow-shaped fastener 30 the said plate 21 being released by a dis-
 60 engaging device comprising a rod 27 arranged in front of the plate 21 and forced forward by springs, the said rod 27 being connected with the free ends 33 of the levers 31 by means of rods 35 thereby bringing the plate 21 into
 65 operative position substantially as described.

3. A safety device for street-cars comprising in combination a plate pivoted on a cross-bar 12 connected with rods 13 under the influence of springs 11 and moving in guides
 70 10 in a frame moving within certain limits and maintained by means of rollers in a horizontal plane underneath the body of the car the said plate 21 being secured in its position of rest by a locking device formed by crossed
 75 pivoted levers 31 engaging with their barbed ends an arrow-shaped fastener 30 the said plate 21 being released by a disengaging device comprising elbow-levers 37 supporting the plate 21 and pivoted on the cross-bar 12
 80 and connected with the lever-arms 33 by means of chains 36 thereby bringing the plate 21 into operative position substantially as described.

In witness whereof we have hereunto set our
 85 hands in presence of two witnesses.

BÉLA MÉSZÁROS.
 KÁRÓLY MOLCZER.
 JOSEF DONAGYÖ.

Witnesses:

JULIUS ROIRI,
 FRANK DYER CHESTER.