

No. 728,910.

PATENTED MAY 26, 1903.

A. HARDY & D. VOSS.  
LIFE GUARD FOR VEHICLES.

APPLICATION FILED JAN. 19, 1903.

NO MODEL.

3 SHEETS—SHEET 1.

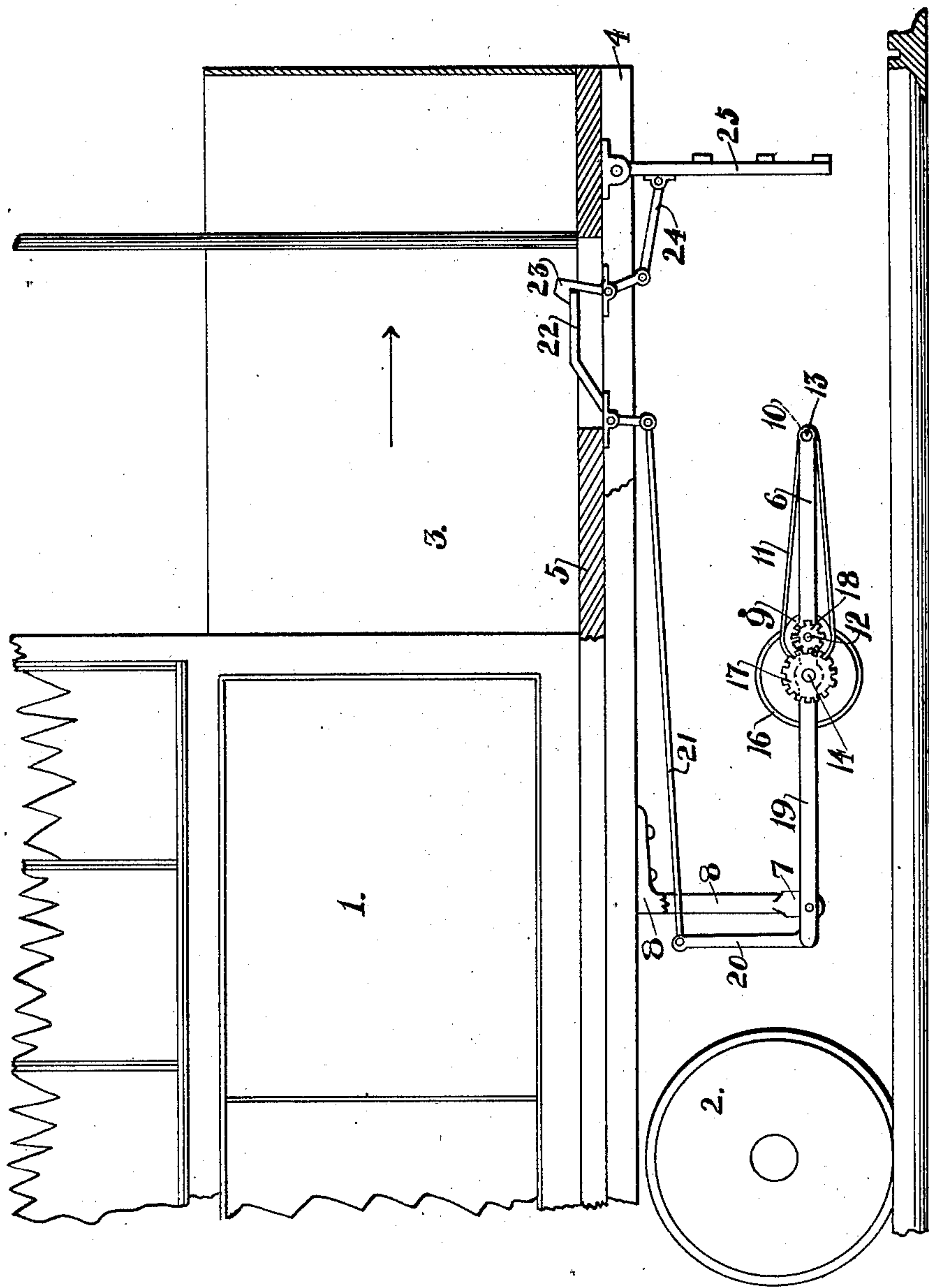


Fig. 1.

Witnesses  
J. H. Walker  
J. P. Robinson.

Inventors.  
Albert Hardy.  
David Voss.  
per Chas. Bouenty  
Attorney

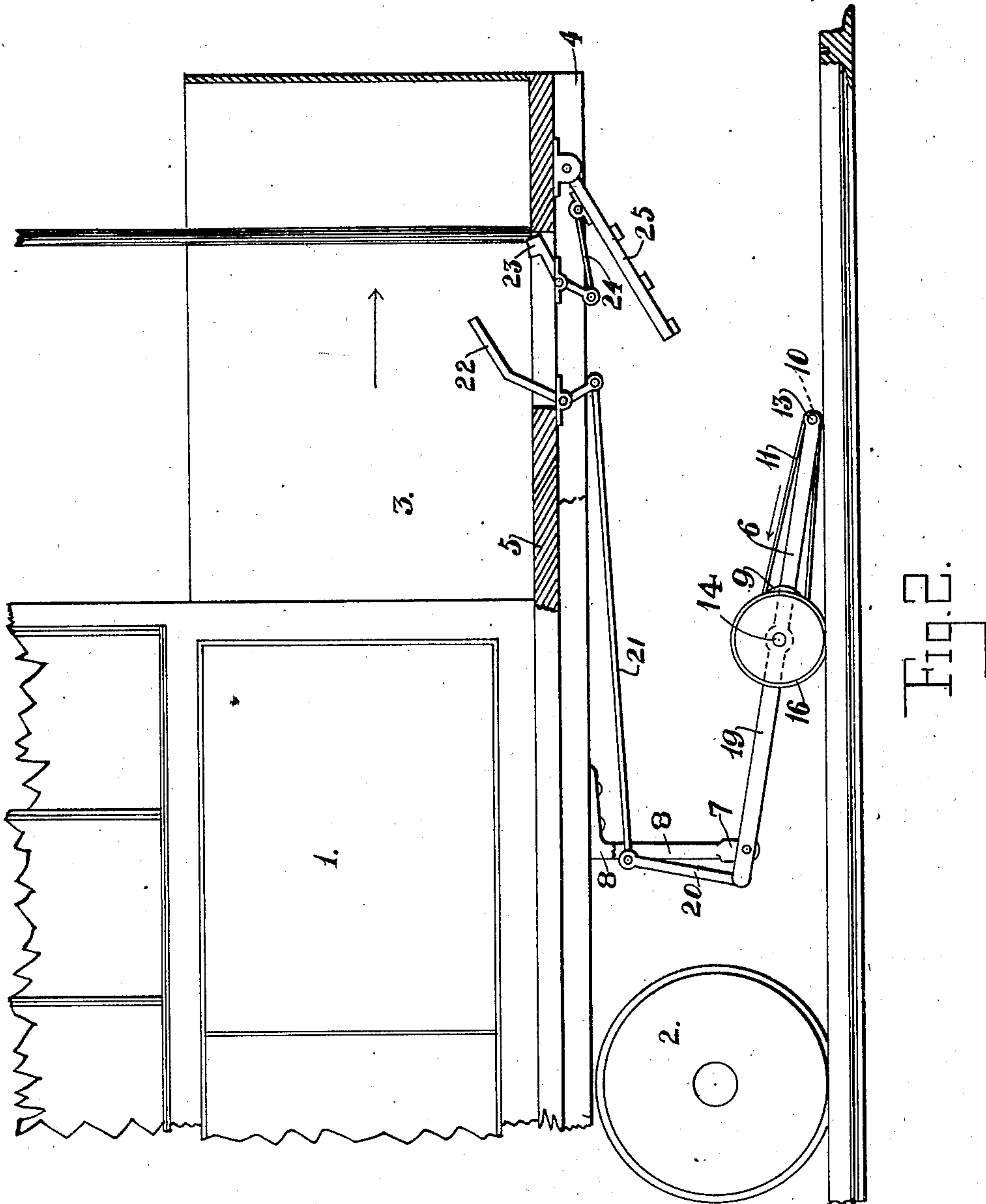
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Witnesses

J. H. Walker

J. P. Robinson.

Inventors

Albert Hardy.  
David Voss.

per Chas. Coventry.

Attorney.

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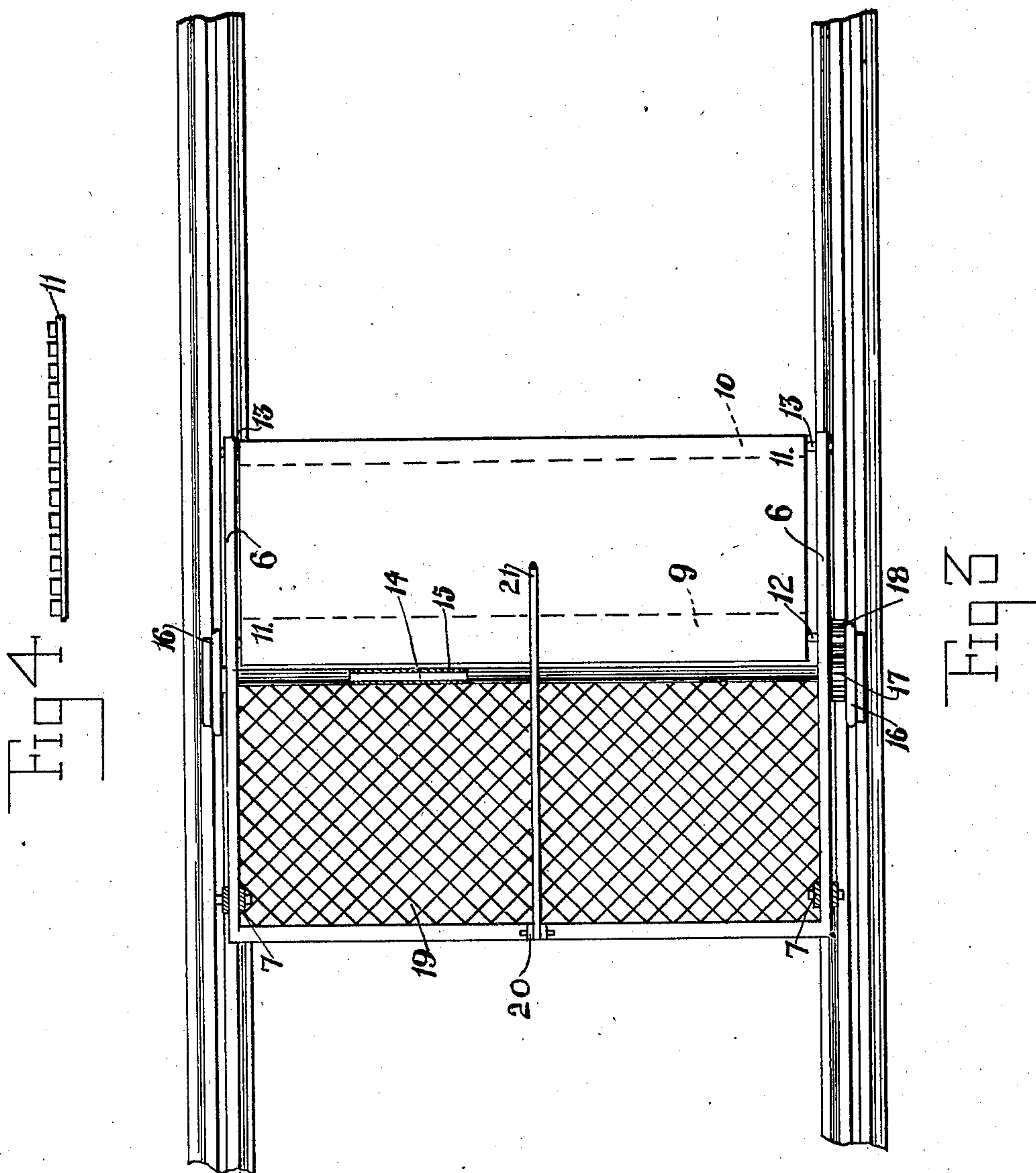
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3 SHEETS—SHEET 3.



Witnesses  
J. H. Walker  
J. P. Robinson.

Inventors.  
Albert Hardy.  
David Voss.  
per Phasloventy.  
Attorney



# UNITED STATES PATENT OFFICE.

ALBERT HARDY AND DAVID VOSS, OF NEW BRIGHTON, ENGLAND.

## LIFE-GUARD FOR VEHICLES.

SPECIFICATION forming part of Letters Patent No. 728,910, dated May 26, 1903.

Application filed January 19, 1903. Serial No. 139,699. (No model.)

*To all whom it may concern:*

Be it known that we, ALBERT HARDY, residing at 7 Waterloo road, and DAVID VOSS, residing at 56 Victoria road, New Brighton, in the county of Chester, England, subjects of the King of Great Britain and Ireland, have invented a new and useful Improvement in Life-Guards for Vehicles, of which the following is a specification.

10 This invention has for its object an improved life-guard for vehicles. The main feature comprises an endless belt revolving in a backward direction and adapted to pick up prostrate persons from the track and convey  
15 them backward into a cradle, all as hereinafter pointed out and claimed.

We show and describe our invention as applied to an electrically-propelled tram-car.

20 In the drawings, Figure 1 is a side elevation, partly in section, of such portions of a car having our invention applied thereto as suffice to clearly explain it. In this view the guard is in its raised position and inoperative. One of the wheels 16, hereinafter described—that is, the wheel on the side facing  
25 the reader—is omitted for the sake of clearness. Fig. 2 is a similar view to Fig. 1, but showing the guard in action. Fig. 3 is a sectional plan of the guard detached. Fig. 4 is  
30 a detail hereinafter described and drawn to a larger scale.

1 is the body of the car, 2 is the front wheel thereof, and 3 is the platform where the driver stands.

35 4 represents the metal girders of the car, and 5 the floor.

The guard is composed of a frame 6, pivoted in jaws 7 on hangers 8. This frame carries two rollers 9 and 10, which support an  
40 endless belt 11 nearly as wide as frame 6 and are mounted, respectively, on spindles 12 and 13. A third spindle 14 is also journaled in the frame 6, (being protected by a sleeve 15,) and it carries a pair of friction-wheels 16.  
45 The spindles 14 and 12 are geared together by a spur-wheel 17 and pinion 18, the latter having, for instance, one-third the number of teeth that the former has. Rear of the

sleeve 15 is a cradle 19, of wire-netting or other suitable material.

We will now describe means for normally maintaining the guard in its raised position, as shown in Fig. 1, and for allowing it to drop into the position shown in Fig. 2. On the rear of frame 6 is a rigid upright 20, connected by rod 21 with a bell-crank lever 22,  
50 journaled to the floor 5 of platform 3. The upper limb of bell-crank lever 22 is normally kept down by a catch 23, which is connected by link 24 with a hanging gate or pilot 25. 55

The mode of action is as follows: Supposing the parts to be in the position shown and the car to be traveling in the direction indicated by the long arrow, when the gate 25 strikes an obstruction on the track—for instance, a prostrate person—it is swung there-  
60 by backward, as shown in Fig. 2, thus releasing the catch 23, which allows the bell-crank lever 22 to swing, and the frame 6 thus drops on its pivots in jaws 7 and the wheels  
65 16 thus come in contact with the ground and are revolved in a forward direction by friction thereon. The motion is communicated to the roller 9 by the gearing 17 18, and belt 11 is thus caused to travel in a backward direction. Its front end coming in contact with  
70 the prostrate person scoops him up, and he is then quickly transferred to the net or cradle 19 by the conveying action of the belt. When the car has been stopped and the person has left the cradle, the motorman presses  
75 his foot on the upper end of bell-crank lever 22 and brings the parts into normal position again.

While we have shown and described convenient means for raising and lowering the life-guard, we do not confine ourselves to the exact details specified. In some cases the mechanism for raising it may be omitted and the guard be lifted by hand. We wish  
80 to point out that no springs are necessary, which is an advantage.

What we do claim as our invention, and desire to secure by Letters Patent of the United States, is—

In a life-guard for vehicles the combina- 95

tion of a pivoted frame, a pair of friction-  
wheels carried thereby and adapted by con-  
tact with the track to cause said belt to travel,  
a sleeve to protect the spindle of said wheels,  
5 and means adapted to raise said frame clear  
of the track and to allow it to drop, substan-  
tially as described.

In testimony whereof we have signed our

names to this specification in the presence of  
two subscribing witnesses.

ALBERT HARDY.  
DAVID VOSS.

Witnesses:

CHAS. COVENTRY,  
J. P. ROBINSON.