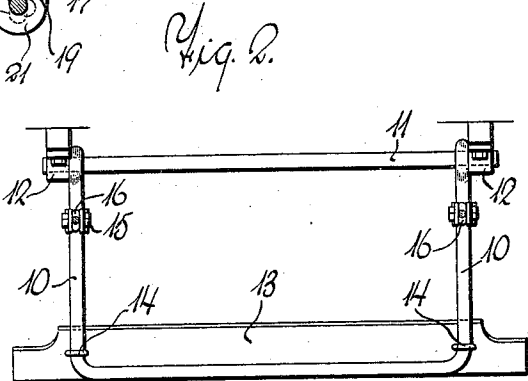
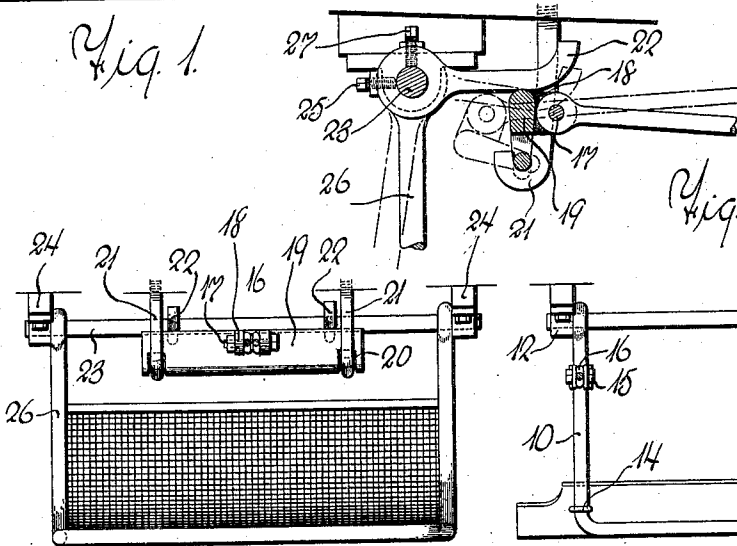
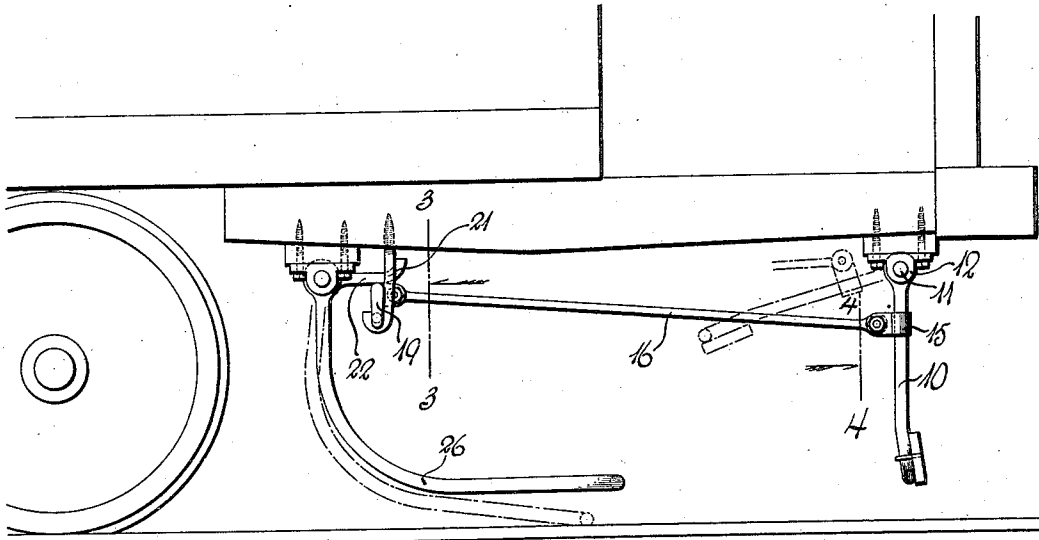


G. W. MAHAN.
WHEEL GUARD.
APPLICATION FILED NOV. 19, 1908.

934,925.

Patented Sept. 21, 1909.



Witnesses:
Ralph Lancaster,
Frank L. Stubbs.

George W. Mahan, Inventor,
By his Attorney,
W. S. Hutchinson.

UNITED STATES PATENT OFFICE.

GEORGE W. MAHAN, OF COLD SPRING HARBOR, NEW YORK.

WHEEL-GUARD.

934,925.

Specification of Letters Patent. Patented Sept. 21, 1909.

Application filed November 19, 1908. Serial No. 463,367.

To all whom it may concern:

Be it known that I, GEORGE W. MAHAN, of Cold Spring Harbor, Suffolk county, New York, have invented a new and useful Improvement in Wheel-Guards, of which the following is a full, clear, and exact description.

My invention relates to improvements in wheel guards for trolley and other cars.

The object of my invention is to produce a structure of this kind which is of an exceedingly simple nature.

My endeavor has been to get the invention into its simplest terms, and produce a device which is as plain, simple, strong and efficient as is possible for the purpose intended. In carrying out my idea I arrange a scoop which is adapted to drop in front of the wheels and into close contact with the roadway, so as to catch any person or body thereon, and to arrange in front of the scoop and beneath the car a gate or buffer which is connected with the scoop and which when it strikes the obstruction will release the scoop so as to permit it to fall by gravity to operative position, but which when thrown forward will automatically raise the scoop. My idea is also to produce a structure of this kind which can be conveniently applied to any ordinary car, and will be compact and occupy but little space beneath the car.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar reference characters indicate corresponding parts in all the views.

Figure 1 is a side elevation of my improved apparatus as applied to a car. Fig. 2 is an enlarged detail sectional view showing the means for raising and lowering the scoop. Fig. 3 is a cross section on the line 3—3 of Fig. 1. Fig. 4 is a cross section on the line 4—4 of Fig. 1, and Fig. 5 is a broken plan in detail and partly in section, showing the arrangement connecting the gate or buffer with the scoop operating apparatus.

The buffer 10 which is preferably of general U-shape like ordinary structures of this character, is hung beneath the front end of the car on a shaft 11, which turns in suitable bearings 12, and the lower end of the buffer is provided with a plate 13 which is attached to the buffer frame as shown at 14, and which can be attached in any convenient way. I claim no novelty for the buffer in detail, and it can be covered with the

usual netting if desired. The buffer connects by a connecting rod with the scoop operating mechanism but I prefer to make this connecting rod in two parts 16, which are coupled to the sides of the buffer as shown at 15, and which at their rear ends merge between the ears 18 of the tumbler 19 in which position they are attached by means of a bolt 17 or equivalent fastening. Obviously the connection between the buffer and tumbler can be by any device which will cause the tumbler to swing in unison with the buffer.

The tumbler 19 is simply a cross-bar preferably a little thicker at the top than at the bottom, and it rocks in the hooks 21 which are attached to the car frame, and in order that it may rest securely, the tumbler is preferably recessed opposite the hooks as shown at 20. It is preferably rounded at its upper and lower edges so as to work easily, and its upper edge contacts with the arms 22 which project forward from the shaft 23 and which turn with the shaft. The shaft 23 is hung in suitable bearings 24, and the arms 22 are made fast by set screws 25, although this does not matter so long as the arms and shaft turn together. The arms 22 are curved upwardly and the action of the tumbler on the arms is a cam-action. The shaft 23 also supports a scoop 26 which is the ordinary form of scoop and may be of any preferred form. It is curved downwardly and forwardly, and is covered with the usual netting so that it will catch a person or obstruction on the track. The scoop is made fast to the shaft 23 by set screws 27 or equivalent fastenings.

When the buffer 10 is swung forwardly to a vertical position, the tumbler 19 is tilted forwardly, and this acts on the arms 22 so as to hold them up, and so also as to hold the scoop 26 up free from the track, as shown clearly in Fig. 1. When, however, an obstruction strikes the buffer 10, it swings back toward the tumbler 19 and it tips to the position shown by dotted lines in Fig. 2, and the arms 22 and the scoop 26 drop by gravity to the position shown by dotted lines in Fig. 1, and the scoop is therefore ready to receive any obstruction from the track.

It will be seen that I have made the apparatus very simple, that there are few working parts, that these can be made strong, that there are no spring attachments, and that therefore the device should be very

positive in its operation and little likely to get out of order.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent:—

1. An apparatus of the kind described, comprising a wheel guard or scoop arranged in front of the car wheels and adapted to drop by gravity, a tilting tumbler adapted to raise the scoop, a buffer hung in front of the scoop, and a connecting rod connecting the tumbler and the buffer.

2. An apparatus of the kind described, comprising a gravity scoop pivoted in front of the car wheels and having forwardly extending arms, a tilting tumbler adapted to raise the arms and permit them to drop, a buffer hung in front of the scoop, and an operative connection between the buffer and the tumbler.

3. An apparatus of the kind described, comprising a gravity scoop hung in front of the car wheels and provided with forwardly extending arms, a tilting tumbler in the form of a bar arranged beneath and in contact with the arms, a swinging buffer

hung in front of the scoop, and an operative connection between the buffer and the tumbler by which the two move in unison.

4. An apparatus of the kind described, comprising a gravity scoop arranged in front of the car wheels and provided with forwardly extending arms, hooks arranged in front of the scoop, a tilting tumbler supported in the hooks and in contact with the arms, a swinging buffer in front of the scoop, and an operative connection between the buffer and tumbler by which the two parts move in unison.

5. In a wheel guard, a scoop having forwardly extending upwardly curved arms, means for supporting the scoop in front of the car wheels, a tilting tumbler engaging said arms, means for supporting the tumbler, a buffer having bearings on the forward end of the car, and means for connecting the buffer and the tilting tumbler.

GEORGE W. MAHAN.

Witnesses:

I. WHITSON VALENTINE,
E. A. WALTERS.