

L. FINKELMAN.
CAR FENDER.
APPLICATION FILED JAN. 19, 1912.

1,048,673.

Patented Dec. 31, 1912.

2 SHEETS-SHEET 1.

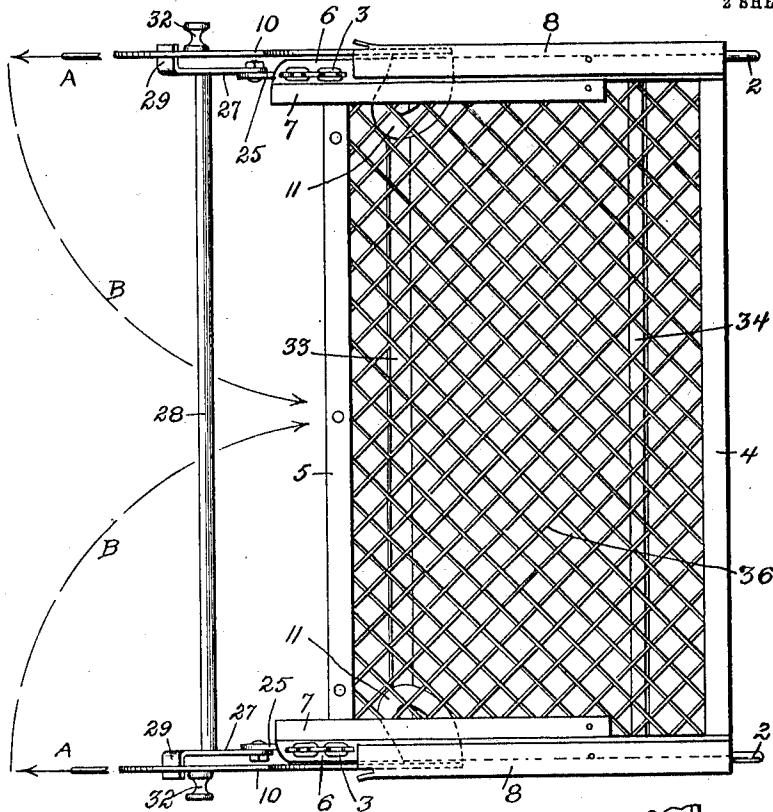


FIG. 1.

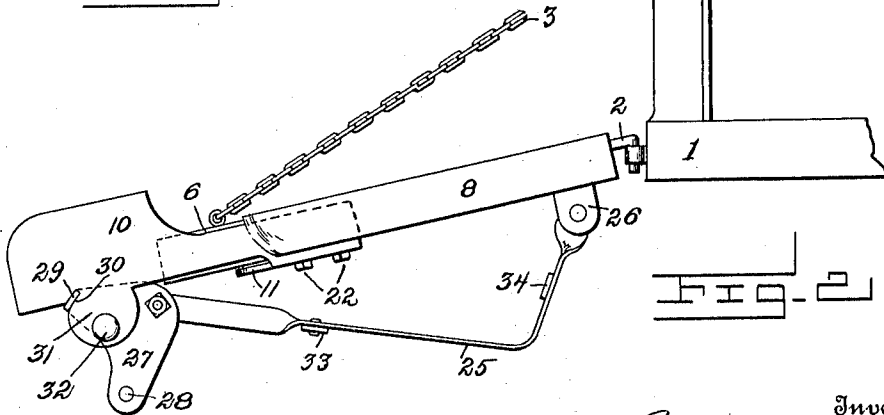


FIG. 2.

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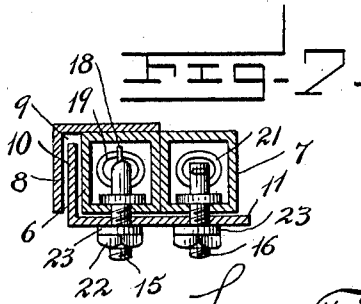
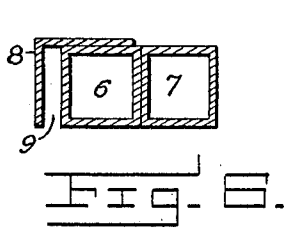
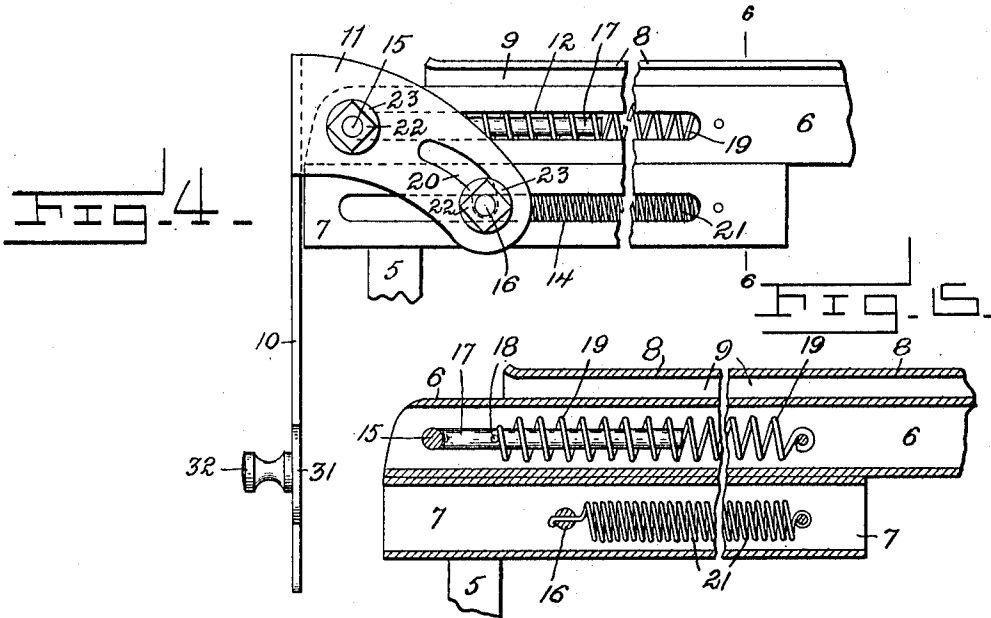
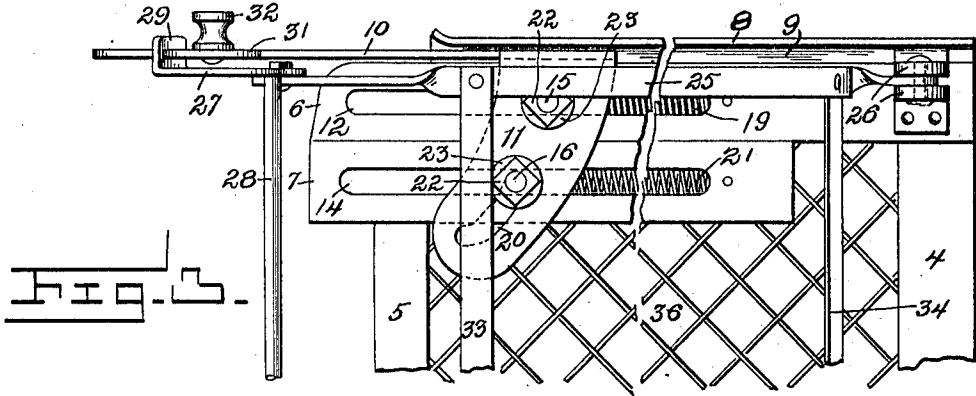
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2 SHEETS-SHEET 2.



WITNESSES
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LOUIS FINKELMAN, OF PHILADELPHIA, PENNSYLVANIA.

CAR-FENDER.

1,048,673.

Specification of Letters Patent.

Patented Dec. 31, 1912.

Application filed January 19, 1912. Serial No. 672,035.

To all whom it may concern:

Be it known that I, LOUIS FINKELMAN, a subject of the Czar of Russia, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Car-Fenders, of which the following is a specification.

The object of this invention is to provide a car fender with arms which, when released by a trip-bar coming into contact with an obstacle on the track, shoot forward and then swing inwardly to gather into the fender-net the obstacle struck.

Reference will be had to the accompanying drawings forming a part of this specification and wherein like numerals of reference designate corresponding parts throughout the several views in which:

Figure 1 is a top plan view of the invention, Fig. 2 is a view in side elevation of the invention and showing a fragment of the car-platform, Fig. 3 is a bottom plan view of one end of the fender, Fig. 4 is a similar view with parts removed, Fig. 5 is a view in horizontal section taken through Fig. 4, Fig. 6 is a transverse sectional view taken through line 6—6 of Fig. 4, and Fig. 7 is a transverse sectional view through Fig. 4 in the plane of the bolts 16 and 17.

The reference numeral 1 designates the car-platform to which is attached the fender by the usual chains and connections 2 and 3 respectively. The fender comprises a rectangular frame composed of an end bar 4, front bar 5 and side bars 6. The side bars 6 are in the nature of square tubes and to their inner sides are welded or otherwise suitably secured shorter square tubes 7. An angle-bar 8 is provided at each end of the fender, each of said bars 8 being suitably secured by its horizontal flange to the upper face of one of the said tubular side bars 6. The vertical flange of each angle-bar 8 is in parallel spaced relation with its adjacent side-bar 6 so as to afford a housing or guide-way 9 at each end of the fender frame.

In Fig. 3, it will be observed that a gathering-in-arm 10 is slidably arranged within each of the housings or guide-ways 9 and that each arm has an inwardly extending branch-arm 11 curved forwardly and disposed in a plane at right-angles to the plane of the body portion thereof and also dis-

posed across the lower faces of the tubular bars 6 and 7. These tubular bars 6 and 7 have longitudinal slots 12 and 14 respectively, within which bolts 15 and 16 respectively slidably operate. The bolts 15 have pivotal connection with the branch-arms 11 and are bent at right-angles as indicated in Fig. 5 to produce plunger portions 17 having pins 18 against which springs 19 bear. The bolts 16 operate within curved slots 20 formed in the branch-arms 11 and to their lower ends are secured springs 21. The springs 19 and 21 are respectively arranged within the tubular side bars 6 and 7, and the springs 19 which are expansible springs being considerably stronger than the springs 21 which are retractile springs. The bolts 15 and 16 are secured by nuts and washers 22 and 23 respectively.

To the under side and at each end of the fender frame an arm 25 is hinged at its rear end to ears 26 on the side bars 6 of the frame, and at its forward end each of said arms 25 is pivotally connected by bolts 25' to a bell-crank trigger 27. The trigger at each side of the fender frame is fixed to one of the opposite ends of a trip-bar 28, said bar 28 extending entirely across the forward end of the fender frame in position to readily contact with an obstacle on the track. The upper end portions 29 of the triggers are bent outwardly and in their normal positions are engaged in notches 30 in the gathering-in-arms 10. Ears 31 are provided on the lower edges of the said arms 10 and to these are secured knobs or handles 32 by means of which the arms 10 may be re-set. The arms 25 at each end of the fender frame are connected by cross bars 33 and 34. Secured between the tubular side bars 6 and 7 and the rear and front bars 4 and 5 respectively in any suitable manner is the usual netting 36.

The operation of the invention is as follows: To set the fender parts ready for action the arms 10 are forced rearwardly into the guide-ways 9 against the tension of the spring 19, to the positions illustrated in Figs. 1 and 3, where they are locked by the triggers 27 by engaging the out-bent portions 29 of said triggers with the notches of the arms 10. This is the normal condition of the fender parts, and the said parts remain in this position until the trip

bar 28 encounters an obstacle on the track, and then said trip bar is forced rearwardly, by the obstacle swinging the triggers on their pivots 25' drawing the trigger ends 29 out of the said notches 30 and thereby releasing the said arms 10. Upon release, the springs 19 force the arms 10 forwardly as indicated by arrows A in Fig. 1. until the bolts 15 become arrested by the forward ends of the slots 12, when the tension of the retractile springs 21 pull the inner ends of the branch arms 11 rearwardly to the position illustrated in Fig. 4, the outer or forward ends of the arms 10 during this latter operation moving in the path described by the arrows B in Fig. 1. The springs 19 are considerably stronger than the springs 21, and in expanding overcome the tension of the springs 21, causing the bolts 16 as well as the bolts 15 to move the full extent of the slots 12 and 14, or until the rear ends of the arms 10 clear the guide-ways 9, when, as stated the springs 19 remain expanded and the weaker springs 21 pull the arms to the position illustrated in Fig. 4. From this it will be seen that there is no possibility whatever of an obstacle encountering the trip bar 28 being thrown to one side, as immediately upon contact with the bar 28, the arms 10 sweep the whole range of the bar area, gathering in and forcing or directing the obstacle to a position of safety on the net 36. After the bar 28 has been tripped, the frame comprising the members 25, 33 and 34 drop so as not to interfere with the swinging action of the arms 10. To reset the device, the trip bar frame is raised and the triggers thereof engage with the arms 10, the latter, of course, being first moved from the position of Fig. 4 to the position of Fig. 3.

What is claimed is:—

1. A car fender comprising a net-frame, arms on opposite sides thereof, and means for moving said arms forwardly in parallel paths and then rearwardly.

2. A car fender comprising a net-frame, arms on opposite sides thereof, and means for moving said arms forwardly in parallel paths and then inwardly and rearwardly.

3. A car fender comprising a net-frame, arms on opposite sides thereof, and means for moving said arms forwardly in parallel paths and inwardly.

4. A car fender comprising a net-frame,

arms on opposite sides thereof, and springs for forcing said arms forwardly in parallel paths and inwardly.

5. A car fender comprising a net-frame having opposite guide-ways, arms on opposite sides of the net-frame and slidable within said guide-ways, and means for moving the arm entirely from within the guide-ways, and means for then swinging the arms inwardly.

6. A car fender comprising a net-frame having opposite guide-ways, arms slidable within said guide ways, springs for forcing the arms entirely from said guide-ways, and springs for then swinging each arm inwardly, and trip-means normally holding the arms in said guide-ways.

7. A car fender comprising a net-frame including tubular side bars and having oppositely disposed guide-ways terminating short of the front end of the net-frame, arms slidably arranged within the guide-ways and each having a lateral branch arm, expansile and retractile springs within said tubular side bars one each for each branch arm, the side bars having longitudinal slots, bolts extending through said slots and connecting said springs and branch arms, and trip means for locking said first arms in said guide-ways.

8. A car fender comprising a net-frame including tubular side bars and having oppositely disposed guide-ways terminating short of the front end of the net-frame, arms slidably arranged within the guide-ways and each having a lateral branch arm, the side bars being longitudinally slotted, bolts extending through said slots and being connected with said lateral branch arms, an expansile and a contractile spring connected to the bolts of each of said branch arms, the inner ends of the branch arms being slotted for the reception of the bolts of the retractile springs, a trip bar extending across the front of the net-frame and having at its opposite ends triggers, said triggers normally holding the said first mentioned arms within the guide-ways.

In testimony whereof I affix my signature in presence of two witnesses.

LOUIS FINKELMAN.

Witnesses:

GEORGE IMBER,
S. GUBER.