

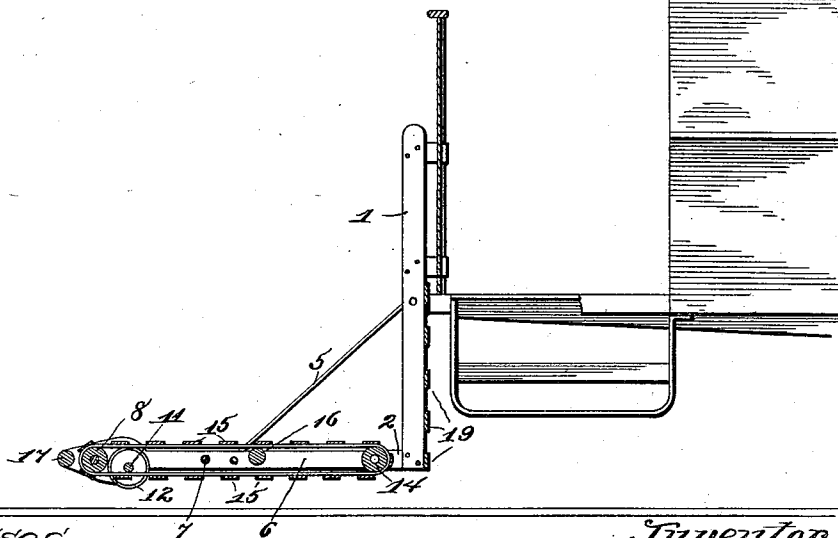
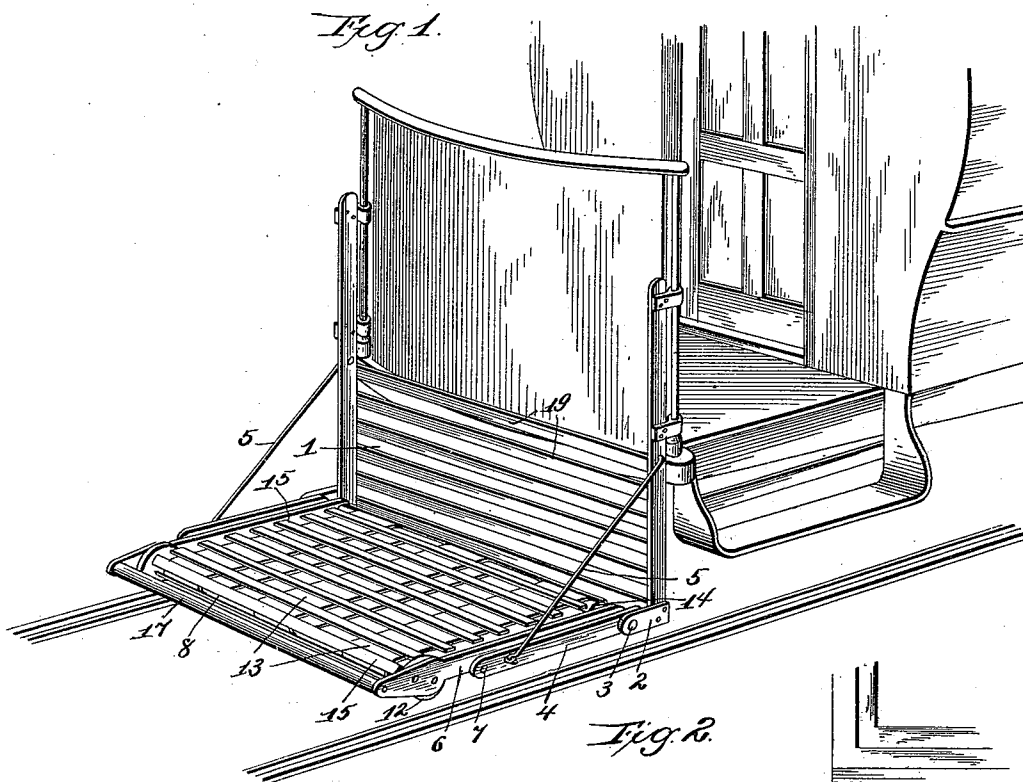
(No Model.)

2 Sheets—Sheet 1.

S. A. KNEEDLER.
CAR FENDER.

No. 560,318.

Patented May 19, 1896.



Witnesses
E. C. Windman
A. Williamson

Inventor
Solomon A. Kneedler
by Geo. H. Holgate
Attorney

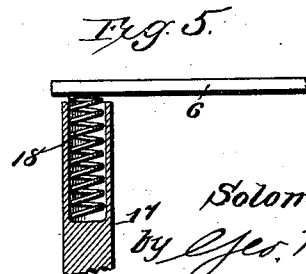
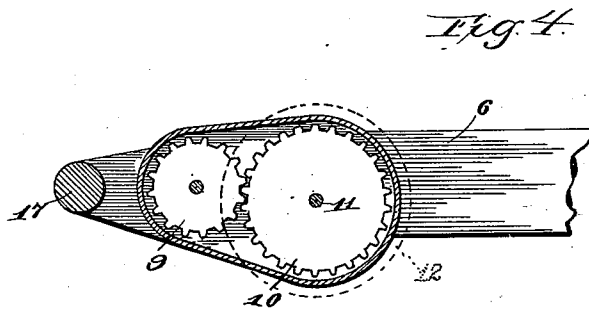
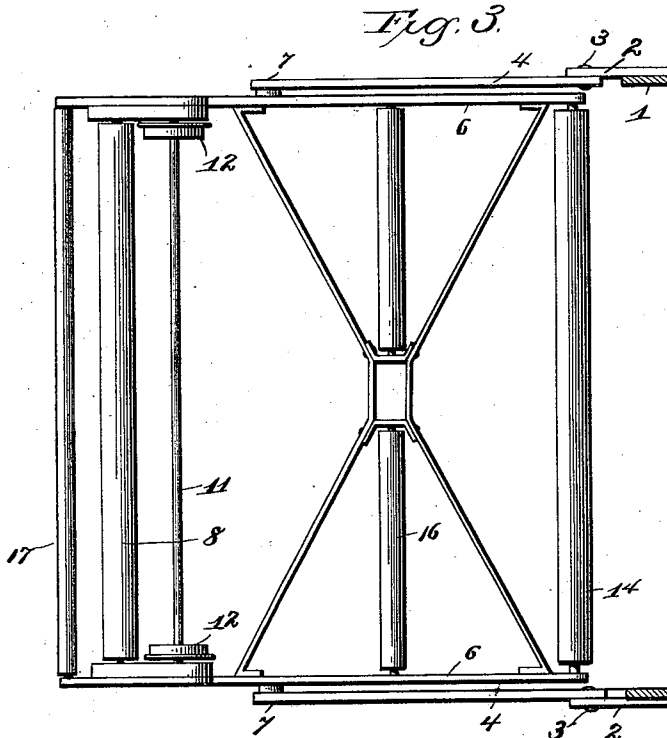
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Attorney

UNITED STATES PATENT OFFICE.

SOLOMON A. KNEEDLER, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR
OF ONE-FOURTH TO R. B. GETMAN, OF SAME PLACE.

CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 560,318, dated May 19, 1896.

Application filed August 7, 1895. Serial No. 558,501. (No model.)

To all whom it may concern:

Be it known that I, SOLOMON A. KNEEDLER, a citizen of the United States, 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.

My invention relates to a new and useful improvement in car-fenders, and has for its object to produce such a device that will automatically pick up a person when coming in contact therewith and push him to the rear against an upright frame, where he will be retained until the car is stopped.

With these ends in view the invention consists in the details of construction and combination of elements hereinafter set forth, and then specifically designated by the claims.

In order that those skilled in the art to which my invention appertains may understand how to make and use the same, I will describe its construction and operation in detail, referring by numerals to the accompanying drawings, forming a part of this specification, and in which—

Figure 1 is a perspective of one end of a car, showing my improved fender attached thereto; Fig. 2, a sectional elevation illustrating the operation of the traveling belts; Fig. 3, a plan view of the horizontal frame and its holder; Fig. 4, an enlarged section of the casing, in which are housed gears for transmitting motion from the trundle-rolls to the traveling belts; and Fig. 5 is a detail section of one end of the buffer-rod, showing its spring connection to the frame.

Similar numbers denote like parts in the several views of the drawings.

One of the principal disadvantages of the fenders now in use is that upon striking a person and throwing him upon the platform there is nothing to prevent the said person from again rolling off at the front of said platform and becoming entangled with the fender or passing thereunder and being crushed by the wheels of the car; but I obviate this difficulty by so arranging my improved fender that while normally it has no movement yet upon coming in contact with a person it will be tipped, so as to bring its trundle-rolls in contact with the track, there-

by causing its upper surface, which is composed principally of belts, to move rearward, thus drawing the person, after falling upon the fender, backward until the weight of said person has counterbalanced the frame and brought it to its normal horizontal position, and these results are brought about in the following-described construction:

1 represents a vertical frame, whose side bars are suitably secured to the dashboard by means which may permit its ready removal and transference to the opposite end of the car, as well as permitting its adjustment vertically. From the lower end of this frame project brackets 2, to which are pivoted at 3 bars 4, supported in their normal position by the rods 5 by connecting said bars with the side bars of the frame 1, as clearly shown in Fig. 1. These rods 5 may be arranged to adjust the arms 4 at any angle, so as to raise or lower the fender proper to determine its normal position relative to the road-bed.

6 is a rectangular frame forming the fender proper and is pivoted at 7 to the outer ends of the arms 4, forward of its center, so that normally it will lie in a horizontal position, as shown, suitable stops being provided to prevent it passing this position. Journaled within this frame 6, and near the outer end thereof, is a belt-roll 8, carrying a suitable pinion 9, with which meshes the gear 10, carried by the shaft 11, there being sufficient difference between the diameters of the gear and pinion to cause the latter to revolve at a high rate of speed—about four to one. Upon the shaft 11 are secured the trundle-rolls 12, adapted to travel upon the rails of the track when the front end of the fender is depressed, as before mentioned. It will be understood that the frame can be pivoted so that the trundle-wheels will normally rest on the track; but I prefer to so pivot the frame that the wheels will be above the track and be forced in engagement by its striking a body.

13 are a series of broad belts passing over the belt-roll 8, rearward and over a similar belt-roll 14, journaled in the rear end of the fender-frame. Thus it will be seen that should the front end of the fender be depressed sufficiently to bring the trundle-rolls

in contact with the rails motion will be transmitted through the gear 10 to the pinion 9, and from thence to the belt-rolls and belts, which latter will travel in the direction of the arrow in Fig. 1, giving to the person precipitated upon said belts a rearward movement until such person has passed the pivot-points 7 sufficiently to cause the fender to assume its normal horizontal position, whereby the trundle-rolls will be elevated from out of contact with the rails, causing the movements of the belts to cease; but should the person thus picked up become excited and struggle after reaching the rear portion of the fender and again approach the forward end thereof, said fender would again be tipped and the trundle-rolls and belts be put into operation, as before described, quickly carrying the person to the rear where he will be safely held until the car could be stopped.

To prevent undue sagging of the belts, I provide a number of cross-slats 15, running laterally from side to side of the fender-frame, and I may use also a central belt-roll 16 for the same purpose.

To reduce the effect caused by the sudden contact of the front end of the fender with a person when the car is running at high speed, I provide a buffer-rod 17, which is attached to the outer extremities of the fender-frame by coiled springs 18, as shown in Fig. 5, and these springs, when the rod is struck with violence, will yield and permit the backward movement of said rod to such an extent as to avoid injury to the person so struck. This spring action of the buffer-rod is such as to cause the person struck to be scooped up and thrust upon the fender-frame, since when it yields it moves downward and backward, coming in close proximity to the ground and gaining great leverage upon the person's feet, and by its reaction throws the feet of said person upward, permitting the fender-frame to run thereunder. The vertical frame may be provided with a number of cross-slats 19, or a suitable netting may be stretched across this frame to arrest the rear movement of a person precipitated upon the fender.

I am aware that many modifications might be made in the exact construction here described, and I therefore do not wish to be understood as limiting myself thereto, but reserve the right to make such changes as come within the scope of my invention, which rests

in the broad idea of providing a fender which shall normally be out of contact with the track and whose moving parts shall be stationary under such conditions, and yet, when striking a person, it will be so tipped as to bring trundle-rolls into contact with the track, whereby its belted surface will be caused to move rearward, insuring the safety of the person precipitated thereon.

Having thus fully described my invention, what I claim as new and useful is—

1. In a device of the character described, a vertical frame secured to the front end of a car, two arms projecting from said frame, a horizontal fender-frame pivoted between said arms forward of its center whereby it is caused to assume a horizontal position, two rolls journaled within the last-named frame, a series of belts passing over said rolls, a pair of trundle-rolls journaled within the horizontal frame and adapted to travel upon the rails of the track when brought in contact therewith, said frame being pivoted between the arms forward of the center to elevate the trundle-rolls out of contact with the ground when the object is caught and passes beyond the pivotal point, and suitable gearing for transmitting motion from said trundle-rolls to said belt-rolls, substantially as shown and described.

2. In combination with a car, a vertical frame secured to one end thereof, two arms pivoted to said frame, two rods for maintaining said arms in their normal position, a rectangular frame pivoted between the outer ends of said arms forward of its center, belt-rolls journaled within said horizontal frame, one of which is provided with a pinion, trundle-rolls also journaled within the horizontal frame carrying a gear adapted to mesh with said pinion whereby motion is transmitted from said trundle-rolls to the belt-rolls and belts carried thereby, and a buffer-rod having springs in recesses formed in the ends and connected with the pivoted frame, as and for the purpose described.

In testimony whereof I have hereunto affixed my signature in the presence of two subscribing witnesses.

SOLOMON A. KNEEDLER.

Witnesses:

S. S. WILLIAMSON,
SAMUEL L. TAYLOR.