

J. T. DUFF.
CAR FENDER.

No. 524,316.

Patented Aug. 14, 1894.

Fig. 1.

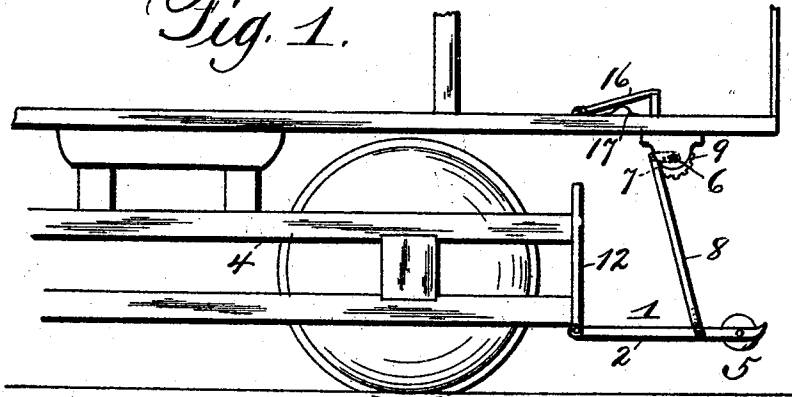


Fig. 2.

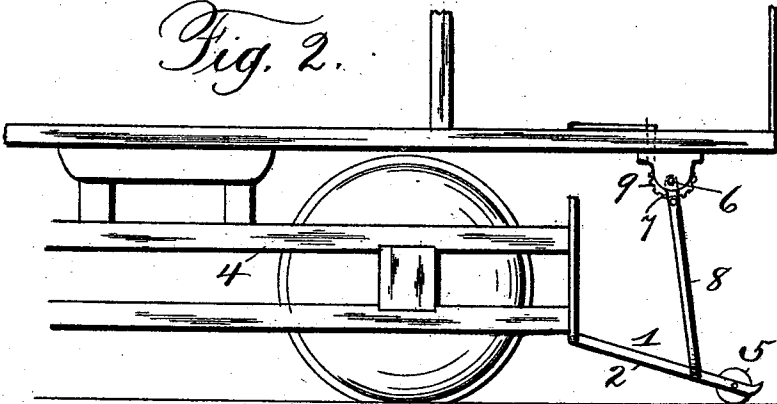
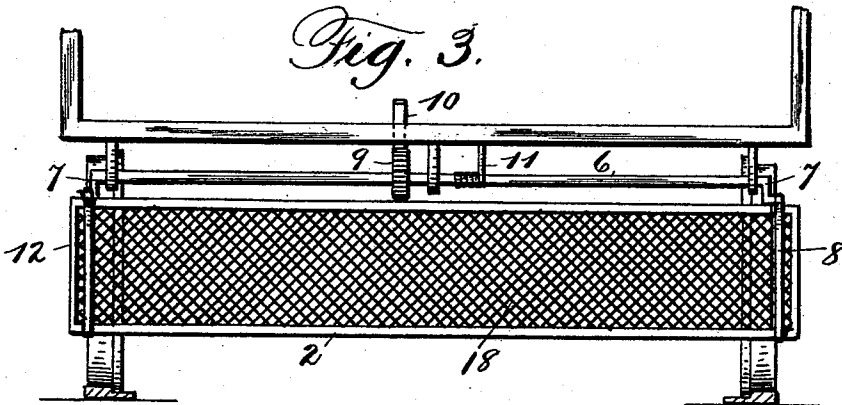


Fig. 3.



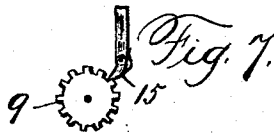
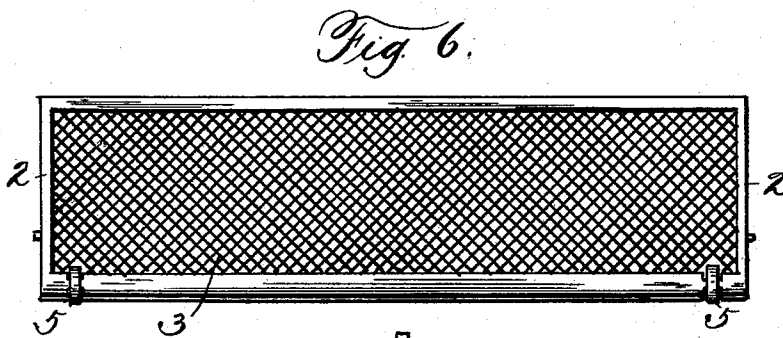
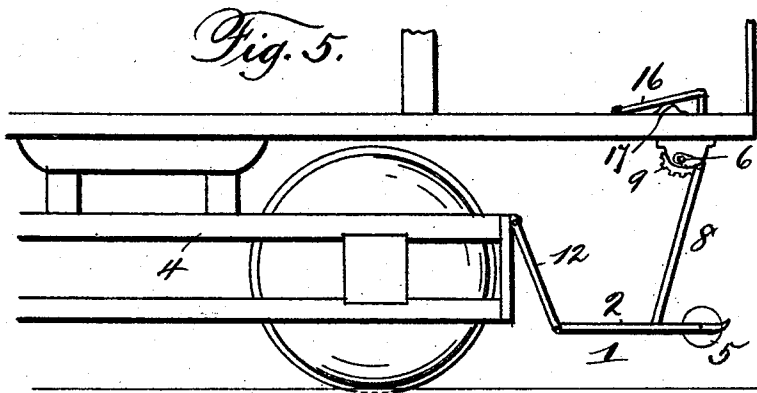
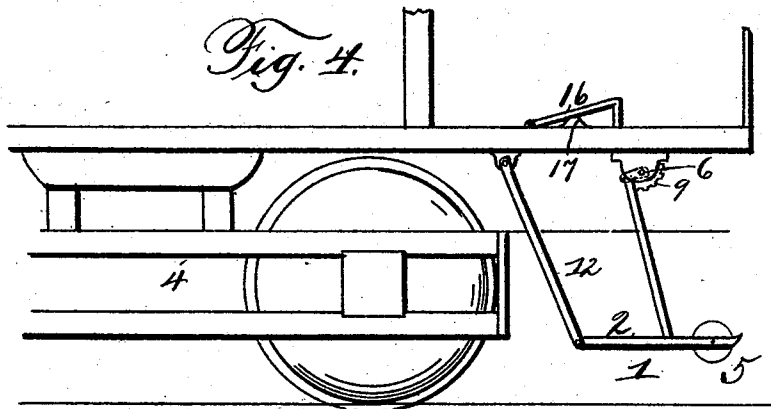
Witnesses:
Wm. E. Faulter
Louis Richardson

Inventor:
James T. Duff
 By *H. S. Willbitt*
 Attorney.

J. T. DUFF.
CAR FENDER.

No. 524,316.

Patented Aug. 14, 1894.



Witnesses:
Wm. C. Fulton
Louis Richardson

Inventor:
James T. Duff
 By *A. R. Williams*
 Attorney

UNITED STATES PATENT OFFICE.

JAMES THOMAS DUFF, OF PITTSBURG, PENNSYLVANIA.

CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 524,316, dated August 14, 1894.

Application filed May 24, 1894. Serial No. 512,347. (No model.)

To all whom it may concern:

Be it known that I, JAMES THOMAS DUFF, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Fenders for Street-Railway Cars; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has relation to pilots or fenders for street railway cars, the object in view being to provide an extremely simple, inexpensive, efficient and easily operated pilot or fender which can be readily applied to a car and operated by the foot of the motorman to lower the same in order to prevent a person getting beneath the car or the wheels thereof.

My invention consists in the novel construction, arrangement and combination of parts, as hereinafter fully described, illustrated in the drawings, and pointed out in the claims.

In the accompanying drawings: Figure 1 is a side elevation illustrating my improved pilot or fender applied to a car and in its raised position; Fig. 2 a similar view showing the device in its lowered position. Fig. 3 is a front view of the parts seen in Fig. 1. Fig. 4 is a view similar to Fig. 1 showing a slight modification in the construction of the fender; Fig. 5 a similar view of another modification. Fig. 6 is a plan view of the frame 2 with its apron. Fig. 7 is a detail view of the means for operating the shaft 6.

In carrying out my invention I provide a fender 1, which comprises a frame 2 of preferably rectangular form and having a width sufficient to extend across the entire width of the track. Said frame has an apron 3 consisting preferably of wire or other netting suitably secured to the frame and designed to catch and support a person above the track.

As seen in Figs. 1 to 3, the frame 2 is carried by the truck 4 of the car, it being pivotally connected at its rear edge to a frame 12 secured to the forward part of the truck and occupying a position a few inches above the track.

The frame 2 is provided at its outer or forward end with rollers 5 designed to run upon the rails of the track when the fender is in its

lowered position as seen in Fig. 2. Or instead of said rollers, the frame may be provided with suitable runners adapted to slide upon the rails, or both rollers and runners may be dispensed with, though I preferably employ either one or the other for the described purpose.

For operating the fender by the foot of the motorman any suitable means may be employed. The means that I preferably employ consist of a shaft 6 arranged transversely of and rotatably mounted in bearings beneath the car platform. Each end of said shaft is provided with a crank arm 7 which is pivotally connected to the upper end of a rod 8 whose lower end is similarly connected to the frame 2. Upon the shaft 6 intermediate its ends is mounted rigidly a ratchet or gear wheel 9 with the teeth of which is adapted to engage a pawl 15 carried by a rod 10 which passes up through the car platform in position to be depressed by the foot of the motorman when it is desired to lower the fender. The rod 10 is secured to a foot-plate 16 against the under side of which bears a bowed spring 17 for the purpose of raising the foot-plate and rod when the latter is released by the motorman. It will be seen that when the rod 10 is depressed by the foot, shaft 6 will be partially turned causing the frame 2 to be depressed into the position seen in Fig. 2, in which position of the fender it is impossible for a person to get beneath the car or the wheels thereof.

To render the fender still more advantageous I provide an apron 18 also of wire or other netting extending transversely of the car and being secured to the truck in a vertical position which apron absolutely prevents a person getting beneath the car as will be readily understood.

For returning the parts into their normal position any suitable means may be employed, as for instance a strong coiled spring 11, having its ends secured to the shaft 6, and the floor of the car.

As shown in Fig. 4, the fender is not connected with the car truck but is pivotally connected to the frame 12, the upper end of which is pivotally connected to the floor of the platform. Said frame is preferably to be provided with the apron 18 whereby to prevent

any liability of a person getting beneath the car.

In Fig. 5 the fender is pivotally connected to the frame 12, but in this instance, the latter is pivotally connected to the car truck instead of to the platform as in Fig. 4.

Minor changes might be made in the construction and arrangement of the parts without departing from the principle of the invention or sacrificing any of its advantages.

What I claim, and desire to secure by Letters Patent, is—

1. The combination with a car, of a fender or pilot comprising a frame having its rear edge pivotally connected to the car and adapted to have its forward end lowered into a position adjacent to the track rails, of means for operating the fender comprising a transverse shaft provided at its ends with crank arms, rods pivotally connecting said arms with the said frame, a gear or ratchet wheel on said shaft, and a rod adapted to be operated by the foot to engage said wheel and partly turn the shaft, for the purpose specified.

2. The combination with a car, of a fender or pilot comprising a frame having its rear edge pivotally connected to the car and adapted to have its forward end lowered into a position adjacent to the rails, an apron carried by said frame, and a second apron arranged trans-

versely of the car in rear of the fender, and means for operating the fender, as and for the purpose specified.

3. The combination with a car, of a fender or pilot comprising a frame, an apron carried thereby, a second frame having a pivotal connection with the car, and to which latter frame the first frame is pivotally connected, an apron carried by the said second frame, upwardly-extending rods secured at their lower ends to the said first frame, upon each side thereof, a shaft arranged transversely of and having bearings on the car, a crank-arm at each end of the said shaft to which crank-arms the upper ends of the rods are pivotally connected, a ratchet or gear wheel on said shaft adjacent to its center, a rod extending upwardly through the car platform and engaging at its lower end with the said gear wheel, a foot-plate connected with said rod and a spring acting upon the under side of said foot-plate, and a spring encircling the shaft and adapted to return the parts into their normal positions, as and for the purpose specified.

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

JAMES THOMAS DUFF.

Witnesses:

H. K. L. SNYDER,
JAS. A. MCPIKE.