No. 660,565. Patented Oct. 30, 1900.

H. FÜRSTENAU.

STREET CAR FENDER.

(Application filed Mar. 3, 1899.)

(No Model.)

Fig. 1.

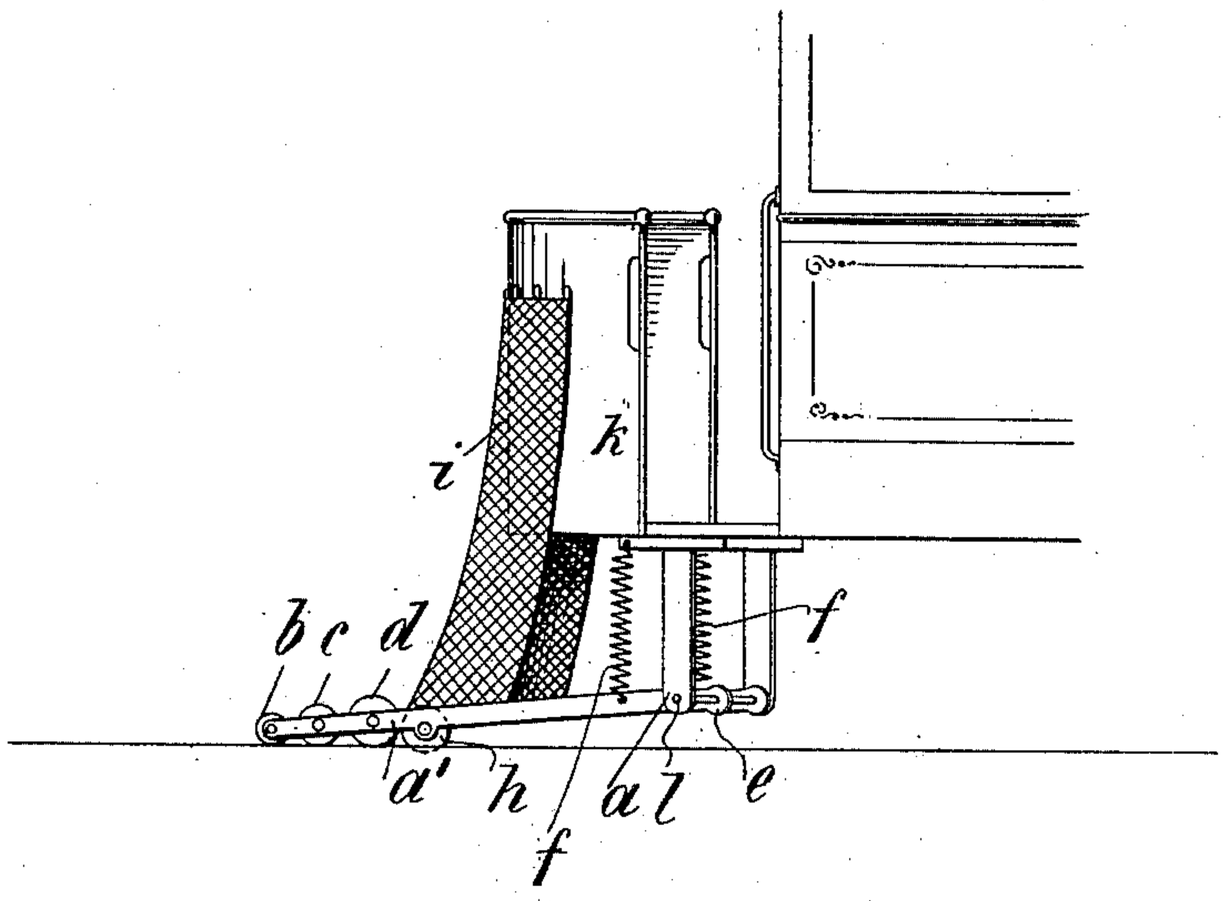
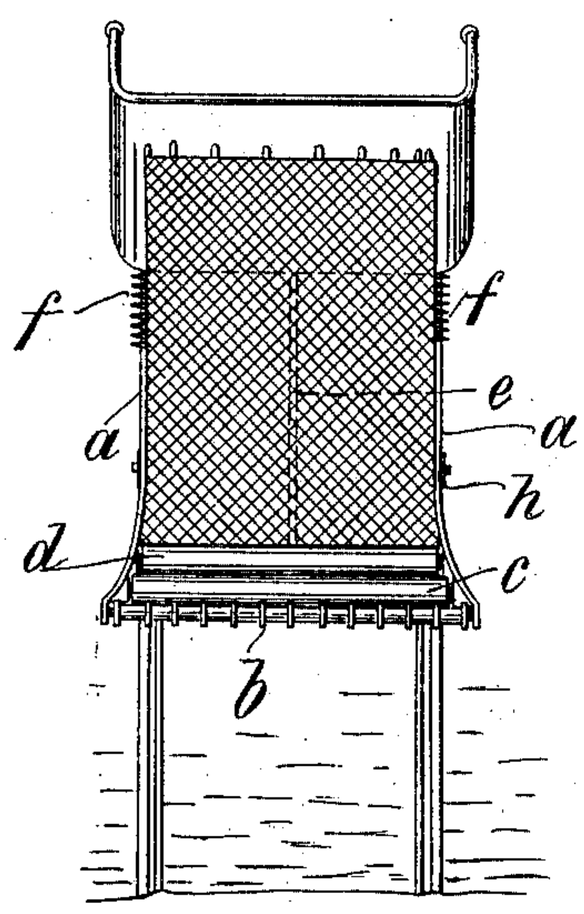


Fig. 2.



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HERMANN FÜRSTENAU, OF WANDSBECK, GERMANY.

STREET-CAR FENDER.

SPECIFICATION forming part of Letters Patent No. 660,565, dated October 30, 1900.

Application filed March 3, 1899. Serial No. 707,641. (No model.)

To all whom it may concern:

Be it known that I, HERMANN FÜRSTENAU, dairyman, a subject of the German Emperor, residing at No. 4 Schmisserstrasse, Wandsbeck, in the German Empire, have invented new and useful Improvements in Street-Car Fenders, of which the following is a specification.

The present invention relates to that class of street-car fenders in which a frame is supported at the front of the car, so as to run on the rails to prevent persons and other objects from being run over and getting beneath the car-body, the object of the invention being to simplify and cheapen the construction and to render more efficient, durable, and serviceable in operation this class of devices.

With these ends in view the invention consists in certain novel features of construction, combination, arrangement, and adaptation of parts, all as more fully hereinafter described, shown in the accompanying drawings, and the essential elements of which are recited in the appended claim.

In the accompanying drawings, which form part of this specification, Figure 1 shows a side elevation of a portion of a car with my improved fender attached thereto. Fig. 2 is a plan elevation of my improved fender.

Beneath the platform at either end of the car two brackets *a* are rigidly secured, terminating some distance above the rails in the road-surface. To these brackets are pivoted a pair of bars *a'*, which project from the car in the direction of its progress and which can be separated from the brackets when the car has reached the end of its journey and is destined to run back, in which case they are pivoted to the brackets at the other end of the car. The front extremities of the bars *a'* are connected by an india-rubber roller *b*, standing a slight distance above the rails. A plurality of india-rubber rollers *c d* of increasing diameter are pivoted to the bars at slight distances apart between the roller *b* and the front of the car, the bars *a'* being inclined, so as to permit these rollers to be of increased diameter without touching the rails. It is advantageous to have the india-rubber rollers extending across and slightly beyond the track. Guide-wheels *h* are provided on the bars *a'* behind the rollers to run in the grooves of the rails for guiding the device.

To increase the stability and rigidity of the device so far described, an additional cross-bar or strut *e* may be fixed between the two side bars *a'* at any convenient point, a transverse rod connecting the two brackets suitably serving for supporting this intermediate bar *e*, while in front it is preferably connected to the axle of the two guide-wheels *h*. The two lateral bars *a'* are also connected with the bottom of the car-platform by means of spiral or helical springs *f*, serving to counteract the vibrations of the moving vehicle and insuring a steady and uniform action of the fender. A spread-apron *i*, of canvas, leather, or other suitable material, is hung from hooks upon the front of the car, extending downward and secured to a cross-bar of the frame just behind the rearmost roller. This cross-bar suitably serves for forming the axle of the two guide-wheels *h*.

At the end of the journey of the car my improved fender can readily be detached by simply withdrawing the hinge bar or pin from the supporting-brackets and securing it at the reverse end of the car by adjusting it in position and inserting the hinge bar or pin in the respective pair of brackets and securing it by means of a peg or the like.

The operation of the invention is as follows: Should obstacles of inappreciable dimensions—such, for instance, as ordinary small stones—be on the track, the rollers of the fender would simply mount and ride over them, as desired; but should a larger object—such, for instance, as a block of wood, a human being, or animal—happen to be on the track it would not be run over, but would be caught up softly by the elastic rollers, which permit the obstructing object to move backward into the apron, where it would be out of danger while the car was being stopped, and in view of the great elasticity of the rollers damaging of the objects or injuring or hurting of persons or animals they may come in contact with is avoided.

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

In combination with a pair of brackets secured beneath the platform of a trolley, a pair of hinge-bars *a'* terminating beyond the

front of the car and supporting at their extremities a plurality of transverse rollers of elastic material gradually increasing in diameter toward the car and standing a short distance above the road-surface, a pair of guide-wheels pivoted to the hinge-bars adapted to run in the groove in the rails, means for counteracting the vibrations of the moving car and an apron secured behind the rearmost roller and attached to the car, the elastic rollers permitting the obstructing object to move backward into the apron, substantially as described and shown.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

HERMANN FÜRSTENAU.

Witnesses:

GEO. LANDRÉ,

E. H. L. MUMMENHOFF.