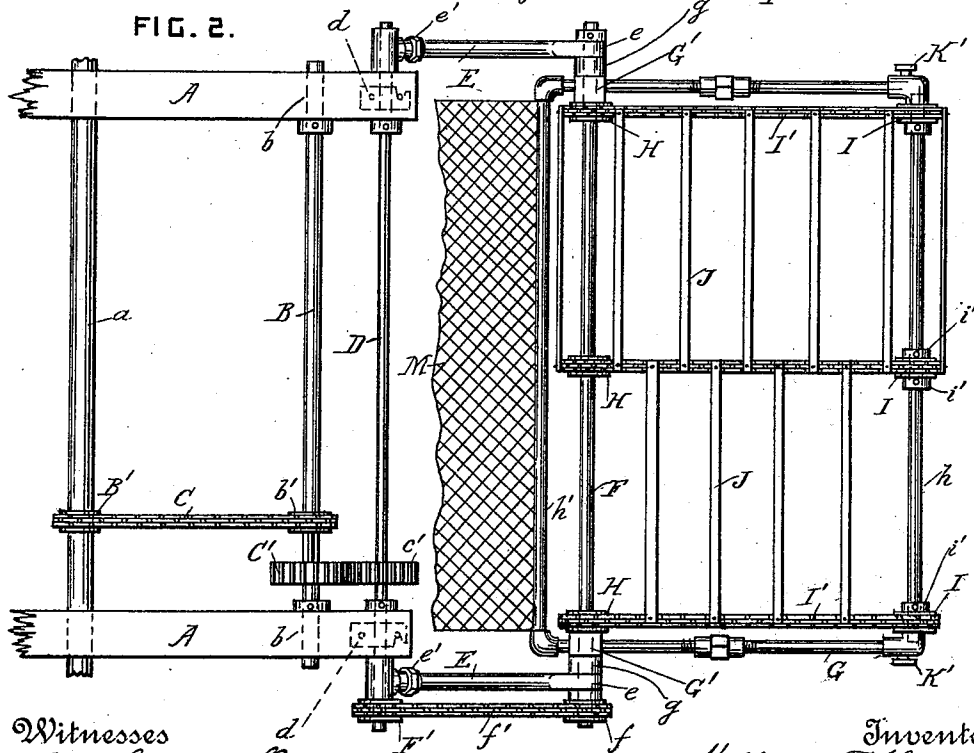
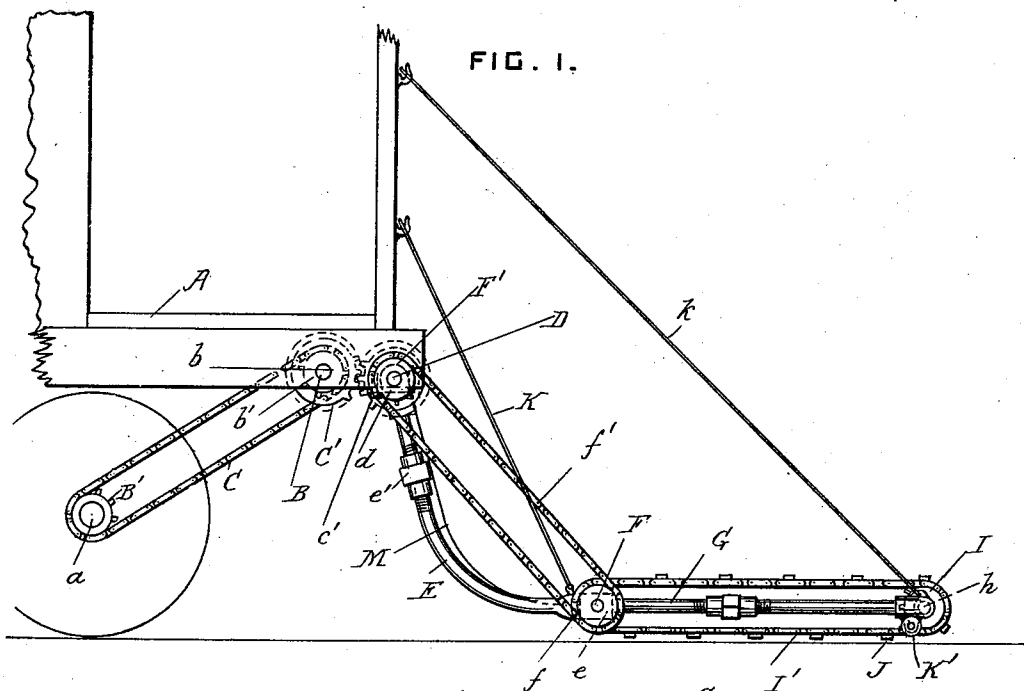


(No Model.)

W. T. HAUGH.
CAR FENDER.

No. 552,475.

Patented Dec. 31, 1895.



Witnesses

Arthur S. Brown.
James M. Hise.

Inventor

William T. Haugh.

By Attorney Herbert W. Jenner.

UNITED STATES PATENT OFFICE.

WILLIAM T. HAUGH, OF WAYNESBOROUGH, PENNSYLVANIA, ASSIGNOR
OF THREE-FOURTHS TO JOHN PHILIPS AND JOHN M. RIPPLE, OF
SAME PLACE.

CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 552,475, dated December 31, 1895.

Application filed August 21, 1895. Serial No. 560,053. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM T. HAUGH, a citizen of the United States, residing at Waynesborough, in the county of Franklin and State of Pennsylvania, have invented certain new and useful Improvements in Car-Fenders; and I do hereby 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.

This invention relates to fenders for cars, such as trolley or cable cars; and it consists in the novel construction and combination of the parts hereinafter fully described and claimed.

In the drawings, Figure 1 is a side view of a car-fender constructed according to this invention. Fig. 2 is a plan view of the same.

A is the end portion of a car of any approved construction, and *a* is one of its axles.

B is a shaft journaled in bearings *b* secured to the car or forming a portion of its frame.

B' is a chain-wheel secured on the axle *a*, and *b'* is a chain-wheel secured on the shaft B.

C is a drive-chain which passes over the wheels B' and *b'*, so that the shaft B revolves constantly while the car is in motion.

D is a removable shaft carried by the frame of the car parallel with the shaft B, and *d* are removable caps or plates holding the shaft D in its bearings and permitting it to be removed from the car with facility whenever required.

C' is a toothed wheel secured on the shaft B, and *c'* is a similar toothed wheel secured on the shaft D and gearing into the wheel C'. One of the wheels C' or *c'* is slidable on its shaft, and the wheel C' is preferably the slidable wheel and is splined to its shaft.

E are curved arms pivoted on the ends of the shaft D and provided with eyes *e* at their outer ends. The arms E are preferably adjustable in length, and *e'* are turnbuckles provided with right and left hand screw-threads for adjusting the length of the said arms.

F is a shaft journaled in the eyes *e*, and *f* is a chain-wheel secured on the end of the shaft F.

F' is a chain-wheel secured on the end of the shaft D, and *f'* is a drive-chain which passes over the wheels F' and *f* and operates

to revolve the shaft F as long as the wheels C' and *c'* are in gear and the car is in motion.

G is a rectangular frame, preferably formed of tubular bars for lightness.

G' are eyes at the rear part of the frame G. These eyes are preferably pivoted on the shaft F, but if desired they may be rigidly secured to the eyes *e* by means of the distance-pieces *g*.

The side bars of the frame G are preferably provided with turnbuckles so that their length may be adjusted.

The shaft F has chain-wheels H secured on it. Three chain-wheels H are preferably used, and are arranged one at each end of the shaft and one at its center. Similar chain-wheels I are journaled on the front bar *h* of the frame, and are prevented from sliding longitudinally by collars *i*.

I' are drive-chains which pass over the wheels H and I, and J are slats secured to the said drive-chains I'. The slats J may be of any suitable material, such as wood, but soft material, such as india-rubber, is preferably used.

K are flexible connections, such as cords or chains, secured to the end of the car and to the eyes *e* for supporting the arms E, and *k* are similar connections secured to the end of the car and to the front bar *h* for supporting the frame G.

K' are small wheels carried by the bar *h* and adapted to run upon the rails when a heavy weight depresses the front end of the frame.

The frame G, with its wheels, chains and slats, forms a conveyer, which is supported substantially horizontal and as near as practicable to the rails upon which the car runs.

M is a catcher of flexible material, such as a net, secured to the rear bar *h'* of the frame G and to the end portion of the car.

When the eyes G' of the conveyer are rigidly secured to the arms E, the cords or chains K may be dispensed with, but the eyes G' are preferably pivotally connected with the said arms so that the fender may be folded up.

The whole fender is easily removed from one end of the car and attached to its other end at the termination of the route by unhooking the connections K and *k* and detaching

the shaft D. If preferred, however, a fender can be attached to each end of the car, and the rear fender can be folded up to permit a trailer to be coupled to the car.

5 When the conveyer strikes an object on the track, such as a man or child, and the object does not fall on the conveyer, the slats of the conveyer pick up the object from the ground, convey it to the rear, and discharge it into the
10 catcher M.

What I claim is—

1. In a car fender, the combination, with a shaft D, and arms pivoted thereon; of a conveyer carried by the free ends of the said arms
15 and provided with a driving shaft F, and driving mechanism connecting the two said shafts, substantially as set forth.

2. In a car fender, the combination, with a shaft D, and arms pivoted thereon; of a conveyer carried by the free ends of the said arms
20 and provided with a driving shaft F, driving mechanism connecting the two said shafts, and a catcher of flexible material supported at the rear of the said conveyer, substantially
25 as set forth.

3. In a car fender, the combination, with a shaft D, and arms pivoted thereon and provided with means for adjusting their length; of a shaft F journaled in the free ends of the
30 said arms, chain wheels and a drive chain

operatively connecting the said shafts, and a conveyer connected to the said arms and driven by the shaft F, substantially as set forth.

4. The combination, with the end portion 35 of a car, a car axle, a shaft B, and driving mechanism operatively connecting the said shaft and axle; of a removable shaft D journaled parallel with the shaft B, removable caps for holding the shaft D in position, 40 toothed wheels connecting the shafts B and D, arms pivoted to the shaft D, and a conveyer provided with a supporting frame connected to the said arms, and driving devices
45 connecting it with the shaft D, substantially as set forth.

5. The combination, with a shaft D, and arms pivoted thereon; of a conveyer pivotally connected with the ends of the said arms and provided with a driving shaft F, driving mechanism connecting the shafts D and F, and
50 means for supporting the conveyer, substantially as set forth.

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

WILLIAM T. HAUGH.

Witnesses:

GEO. H. RUSSELL,

ALF. N. RUSSELL.