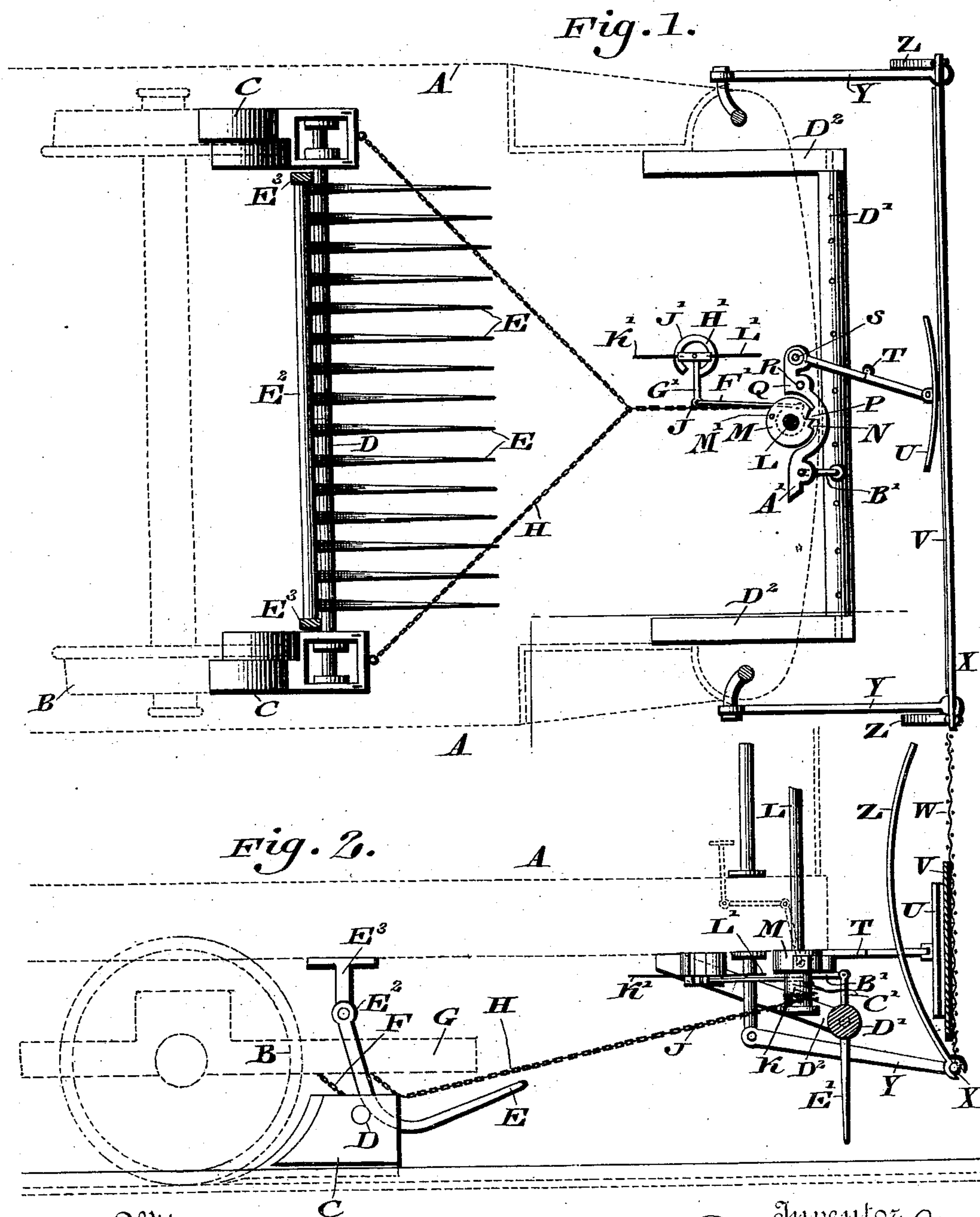


(No Model.)

T. HOUGHTON.
CAR FENDER.

No. 543,687.

Patented July 30, 1895.



Witnesses

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CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 543,687, dated July 30, 1895.

Application filed May 11, 1895. Serial No. 548,894. (No model.)

To all whom it may concern:

Be it known that I, THOMAS HOUGHTON, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Car-Fenders, which improvement is fully set forth in the following specification and accompanying drawings.

My invention consists of a novel construction of car-fender, in which provision is made in case an object is struck for stopping the flow of the electric fluid to the motor and for interposing suitable shoes between the car-wheels and the track, the above acts taking place whether the person struck by the car is standing up or lying down, the object struck being further prevented from serious injury by being caught up by a suitable cradle, which is supported in advance of the car-wheels and caused to drop when an object is struck.

It further consists of novel details of construction, all as will be hereinafter set forth.

Figure 1 represents a plan view of a car-fender and its adjuncts embodying my invention and a portion of a car to which the same is applicable. Fig. 2 represents a side view of the same.

Similar letters of reference indicate corresponding parts in the two figures.

Referring to the drawings, A designates the platform of a car, the same being provided with the wheels B, the above parts being of the usual construction.

C designates shoes, which are suitably supported and connected by a cross-rod D, located in advance of the car-wheels, the supporting means in the present instance being the chains or other connections F, which are attached to the car-truck G, said shoes being further supported by chains H, which are connected to the chain J, which is attached to the spool or roller K, mounted near the extremity of the rod L, which in the present instance passes through the platform A, the said rod D having contacting therewith the forwardly-projecting fingers E, which, when the shoes are in contact with the track, are in contact with the ground and serve as a cradle to pick up the object struck. The said rod L has secured thereto, near its lower extremity, the disk or plate M, which is provided with the teeth or ratchet portion N, which is adapted to be en-

gaged by the tooth or pawl P, which is mounted on the lever Q, the latter being pivotally attached at the point R to a suitable support, and having pivoted to the end S the jointed arm or lever T, the other end of the latter being attached to the plate U, which is normally in contact with the board or bar V, which has in front of it the netting W, said netting being supported at top and bottom by means of the rods X, the top rods being broken away in Fig. 2, but clearly shown in Fig. 1, between the ends of which rods X are inserted the springs Z, the extremities of said lower rod X being suitably mounted in the arms Y, which are attached on either side of the car to a suitable fixed point.

The end A' of the lever Q has attached thereto one end of a link B', the other end of the latter being pivoted to the arm C', which is attached to the cross-rod D', which is mounted in suitable supports D², said cross-rod having depending therefrom the arms or fingers E', whereby it will be evident that if an object strikes said fingers the pawl P will be moved out of engagement with the teeth N by reason of the intermediate connections.

F' designates a rod leading from a suitable portion of the disk or plate M, and having an end pivotally attached to the arm G', which is secured to the conducting-plate H' of the rheotome J', from which leads the wires K' and L' to the motor and to the feed-wire, respectively.

The operation is as follows: If a person standing before the car is struck the netting W, board V, curved plate U, and arm T will be pushed inwardly, thereby causing the lever Q to swing upon the pivot R, thus moving the pawl out of engagement with the ratchet, and the shoes C being then unsupported will fall, as is evident, the chains H and J being then free, and the shoes C being interposed between the wheels of the car, the latter will be brought to a stop. The fingers E will catch up the object struck and prevent it from injury, while simultaneously the plate H' will be moved, so as to break the contact between the wires K' and L', thus cutting off the current to the motor, and the car will thus be brought to a sudden stop. In like manner, if the object is lying on the track, the contact of the same with the arms or fingers E' will

cause a rotation or oscillation of the rod D', and by reason of the connections C' and B' to the end A' of the lever Q the pawl on the latter will be moved out of engagement with the ratchet on the disk M, and the shoes C being unsupported will fall and the current will be cut off from the motor in the manner already described.

The shoes can be raised and the device reset by rotating the rod L, the chain J being wound upon the spool K thereof, as is evident.

In the preferred embodiment of my invention the fingers E are attached to the rod E², the latter being pivotally mounted in the hangers E³, which may be attached to the under side of the car, said fingers E being curved and adapted to normally be held above the ground by means of their contact with the cross-rod D, said fingers falling to the ground when the shoes C fall into contact with the rails, as is evident.

The net W is to be made of rope, cord, or similar material, so as not to hurt the object struck, the function of the springs Z being to keep said net always taut.

When it is desired to couple cars the net W and the arms Y can be raised up vertically, so as to be above the coupling and the bumper, as is evident, the parts being sustained in their elevated position in any suitable manner.

By reason of the joint in the arm T the plate U can be folded to one side, so as to enable the net to be readily raised, suitable means being provided for keying the fender-brake when the net is raised to couple cars, and other changes may be made which will come within the scope of my invention.

If desired, a pin M' may be attached to a face of the said disk M, and a suitable tripping device may extend from said pin to the rheotome for the purpose of making or breaking the electrical connections at the required times.

It will further be evident that the fingers E may be pivoted, if desired, to the truck G in any suitable manner, instead of being pivoted in hangers attached to the car, as shown, their function in either case being the same.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a car fender, shoes having a connected cross rod, pivoted fingers normally resting against said cross rod, chains or other connections normally suspending said shoes, a spool connected with one end of said chain, mechanism for locking said spool and tripping mechanism for releasing said locking mech-

anism, said parts being combined substantially as described.

2. In a car fender, the shoes C, having the cross rod D, said shoes being supported by means of the chains F, H, and J, a spool upon which said chain J is wound, a ratchet and pawl device, connections therefrom to a rheotome, and means for actuating said pawl when an object is struck, substantially as described.

3. In a car fender, a ratchet and pawl device, connections therefrom to a rheotome and to shoes suitably supported under a car, a rod rotatably mounted having fingers depending therefrom, connections from said rod to said pawl, and other connections from the latter to the fender in front of the car, substantially as described.

4. In a car fender, a wire netting W having a board V, and plate U adjacent thereto, the jointed arm T, leading from said plate to a lever Q, the latter being pivotally supported, and having one end connected to said arm, a pawl on said lever, a connection from the latter to the cross rod D, fingers E depending from said cross rod, the ratchet N, connections therefrom to a rheotome, and to shoes which are supported above the track, said shoes being braced by the cross rod D, the latter having the fingers E projecting forwardly therefrom, substantially as described.

5. In a car fender, the rods X, the netting W, therebetween, the board V suitably supported, the plate U, connections therefrom to a suitable tripping device, shoes supported under the car, and connections intermediate said tripping device and shoes, substantially as described.

6. In a car fender, shoes having a connecting rod, a rotatable spool having a rod with a disk thereon provided with a toothed portion, a pivoted lever having a pawl engaging said toothed portion, means connected with said lever for releasing said pawl from said toothed portion, a rheotome, and mechanism connecting said rheotome and disk for operating the former on the movement of the latter, said parts being combined substantially as described.

7. In a car fender, the fingers E attached to the rod E², supports for the latter, the shoes C supported from the trucks of the car, the rod D connecting said shoes and serving to support said fingers E normally above the track, in combination with suitable means for causing said shoes to drop, substantially as described.

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Witnesses:

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