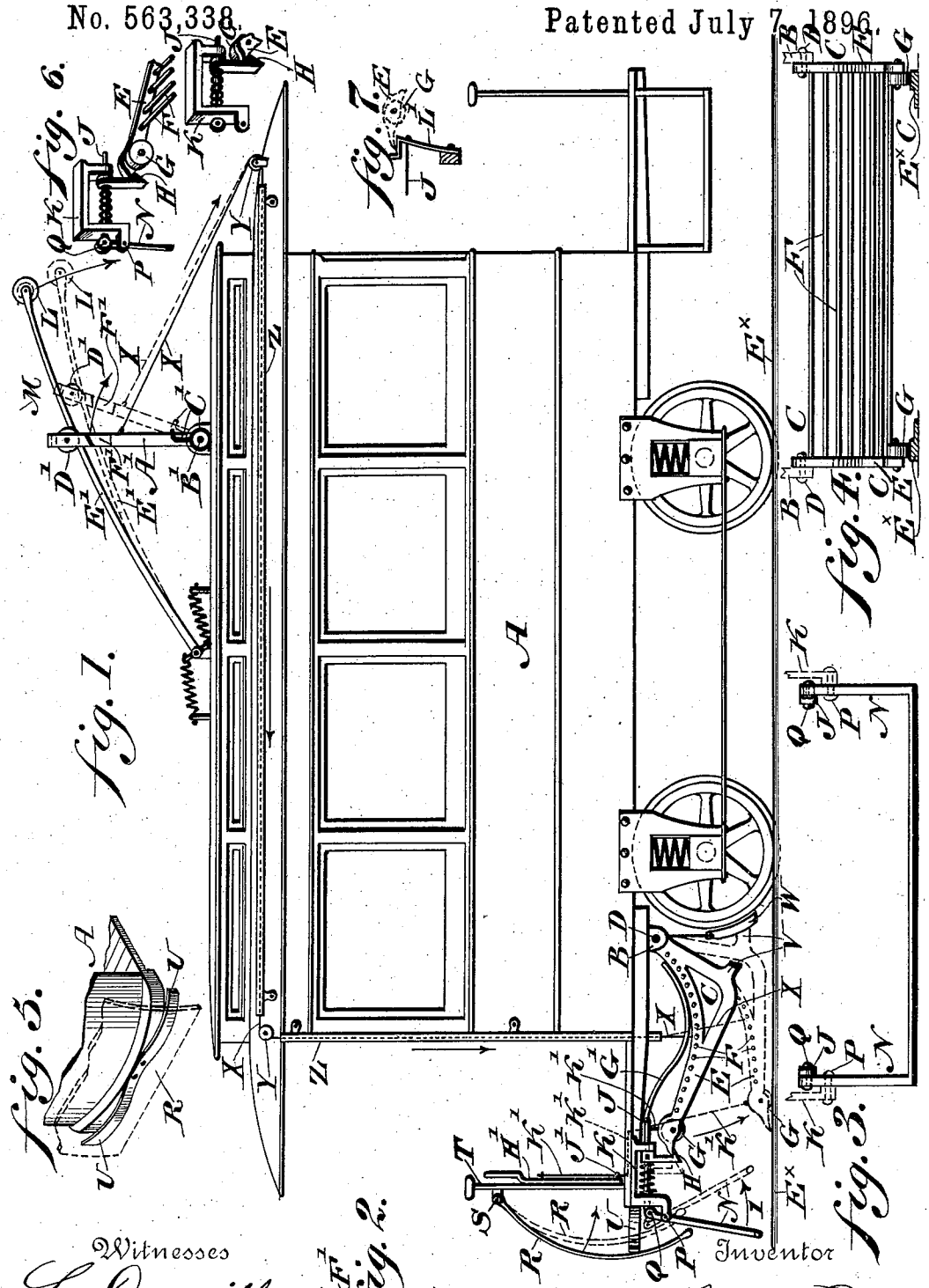
(No Model.)

W. WALTER.

COMBINED FENDER, BRAKE MECHANISM, AND TROLLEY ARM OPERATING DEVICE FOR CARS.

No. 563,338. Patented July 7, 1896.



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COMBINED FENDER, BRAKE MECHANISM, AND TROLLEY-ARM-OPERATING DEVICE FOR CARS.

SPECIFICATION forming part of Letters Patent No. 563,338, dated July 7, 1896.

Application filed January 31, 1895. Serial No. 536,808. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM WALTER, a citizen of the United States, residing at Bridgeport, in the county of Montgomery, State of Pennsylvania, have invented a new and useful Improvement in a Combined Fender, Brake Mechanism, and Trolley-Arm-Operating Device for Cars, which improvement is fully set forth in the following specification and accompanying drawings.

My invention consists of an improved fender.

It also consists of an improved brake mechanism adapted to be operated by the fender.

It also consists of a novel trolley-arm-operating device.

It also consists of a combination of parts, as will be hereinafter set forth.

Figure 1 represents a side elevation of a trolley-car with devices embodying my invention applied thereto. Fig. 2 represents a front elevation of an arm for removing the trolley wheel or roller from the feed-wire. Fig. 3 represents a front elevation of a swinging bar forming part of my invention. Fig. 4 represents a front elevation of the fender. Figs. 5 and 6 represent perspective views of detached portions of the device, the former figure being on a reduced scale. Fig. 7 represents a view of a modification.

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

Referring to the drawings, A designates a trolley-car, and B designates hangers secured to the same.

C designates a fender mounted on the hanger, as at D, so that it may be raised and lowered.

The fender consists of arms E, cross-bars F, and rollers G, the latter being journaled in the arms E and adapted to travel on the rails $E^{\times}$. (See more particularly Fig. 4.)

H designates catches, in the present instance two in number, each of which is secured to a spring-actuated rod J, guided in a hanger K, secured to the car A, said catches H when in their normal positions being as shown in Fig. 6 and in full lines in Fig. 1, and serving to retain the forward end of the fender elevated, as shown in full lines in Fig. 1, and permit the trolley-roller L to remain in contact with the feed-wire M, for evident purposes, said roller being governed relatively to its contacting with and removal from the wire M by a suitable connection with the fender C, as will be hereinafter fully described.

N designates a swinging frame pivoted, as at P, to the hangers K, and, as at Q, to the rods J, so that when the frame strikes a person or object whatever, it will swing on its connection P, and in the direction of the arrow 1, and draw the rods J, so as to cause the catches H to move from under the front end of the fender, as shown in dotted lines in Fig. 1, and permit the fender to drop and occupy the position shown in dotted lines in said figure, and be in readiness to catch the person or object struck.

R designates a buffer or guard hinged, as at S, to the dasher T of the car A, the lower portion of said buffer being kept some distance from the dasher T by a spring U, secured to a suitable portion of the car A. (See Figs. 1 and 5.) The bottom edge of the buffer or guard R comes in contact with the swinging frame N, so that when said buffer strikes a person or object it will cause the frame to swing and remove the hooks H from the fender C, as hereinbefore described, and permit the latter to drop for the purpose before mentioned.

It will be noticed that when the fender C is in the position as shown in dotted lines in Fig. 1, the rearwardly-projecting arms V on the fender come in contact with the brake-shoes W, and cause the same to bear firmly against the wheels of the car.

The fender has connected to it one end of a cord X, or in lieu thereof a chain or equivalent, which passes around pulleys Y, and through guides Z on the car A, and has its other end connected with a swinging arm A′, pivoted, as at B′, to the roof of the car A, and is kept in an approximately vertical position by a spring C′. The arm A′ is provided at its upper end with a roller D′, under which is passed the trolley-arm E′, said roller and arm being in contact with each other, as shown in Figs. 1 and 2, so that when the fender C is in its operative position, as shown in dotted lines in Fig. 1, the arm A′ will be in the position shown in dotted lines in said figure, due to the drawing action of the cord X on the

arm A′, and thereby cause the trolley-arm E′ to remain depressed and its roller D′ consequently removed from the feed-wire M, for evident purposes. The arm A′ is formed with a channel F′, through which the trolley-arm E′ is passed, so that the latter may be brought beneath the roller D′ and be operated upon by said roller.

The fender C, when released from the hooks H, as hereinbefore described, is forced downward very rapidly, and the arms V are pressed firmly against the brake-shoes W by the action of springs G′, secured to the car A, said springs having their free ends bearing against the arms E.

H′ designates a lever pivoted to the platform of the car A, as at J′, and having a cord or chain K′, connected with it and the fender C, so that when said lever is moved in one direction on its pivot the said chain K′ is drawn so that said fender is raised from a horizontal to a vertical position.

In Fig. 7 I show another form of a catch or dog L′, in lieu of the catch or dog H in Fig. 1, for holding the fender in elevated position.

The operation is as follows: The several parts of the device, when in their normal positions, are as shown in full lines in Figs. 1, 2, 3, 5, and 6. When a person or object is struck by either the buffer R or the frame N, the same will cause the fender to drop into its operative position, so that the object struck may be caught by and retained within said fender. The trolley-roller is also removed from the feed-wire and the brake-shoes are brought into contact with the wheels, the effect of which is as is evident. The lever H′ will also be lowered, due to the action of the cord or chain K′. To restore the several portions to their normal positions, the lever H′ is operated so as to draw on the cord or chain K′ and elevate the forward end of the fender, when the same engages the catches or dogs H, thus retaining the fender in normal position. The consequent slackening of the cord or chain X permits the arm A′ to rise, and with it the trolley-arm, whereby the roller L comes in contact with the feed-wire M.

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

1. A rising-and-falling fender having a rearwardly-projecting arm in combination with a swinging frame in front of said fender and adapted to operate the same and a shoe, against which said arm is adapted to bear when the fender is lowered, substantially as described.

2. A pivoted fender having a rearwardly-projecting arm, a spring bearing against said fender to lower the same, and a brake-shoe against which said fender-arm bears, said parts being combined substantially as described.

3. A pivoted fender, a sliding rod having a catch connected therewith, a pivoted frame connected with said rod, and a pivoted buffer having an end adapted to bear against said frame, said parts being combined substantially as described.

4. A swinging arm adapted to engage with a trolley-arm, and a connection from the former arm with a rising-and-falling fender, substantially as described.

5. The spring-actuated arm A′, having the roller D′ with which a trolley-arm engages, and a connection from said arm A′ with a rising-and-falling fender, substantially as described.

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