

(No Model.)

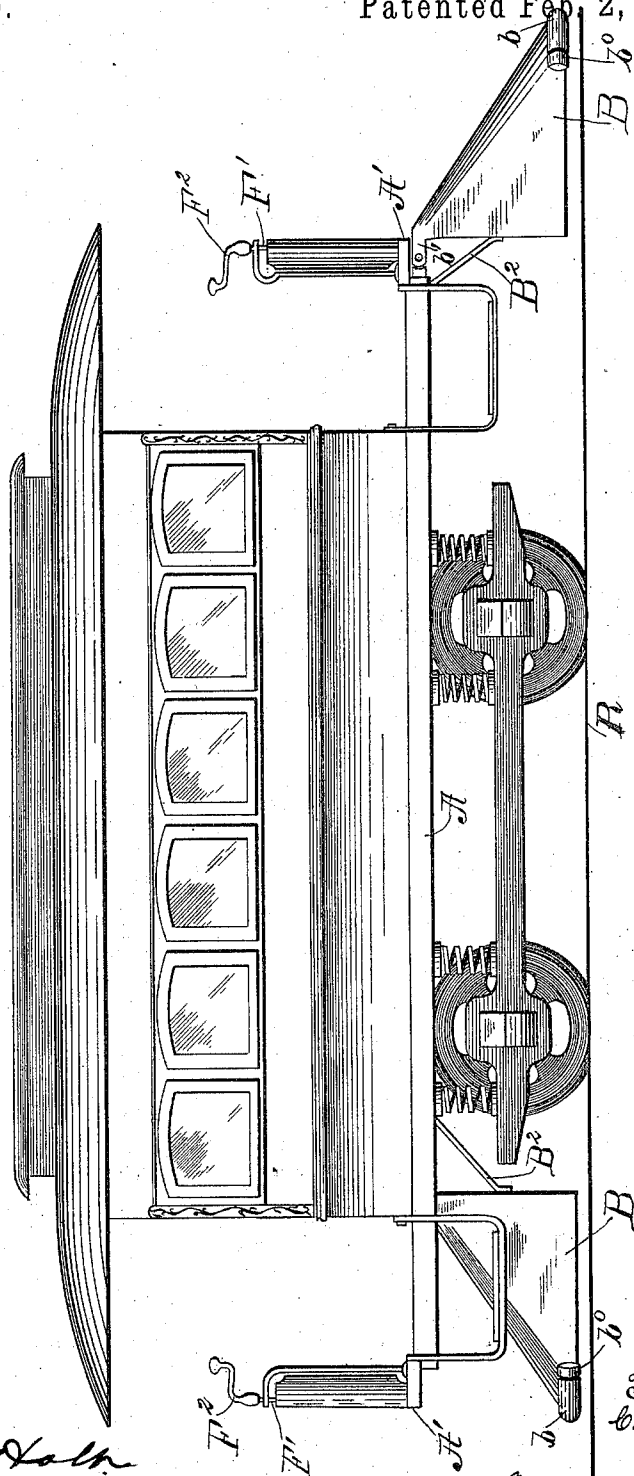
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C. E. FLETCHER.
CAR FENDER.

No. 576,496.

Patented Feb. 2, 1897.

Fig. 1.



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(No Model.)

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Fig. 2.

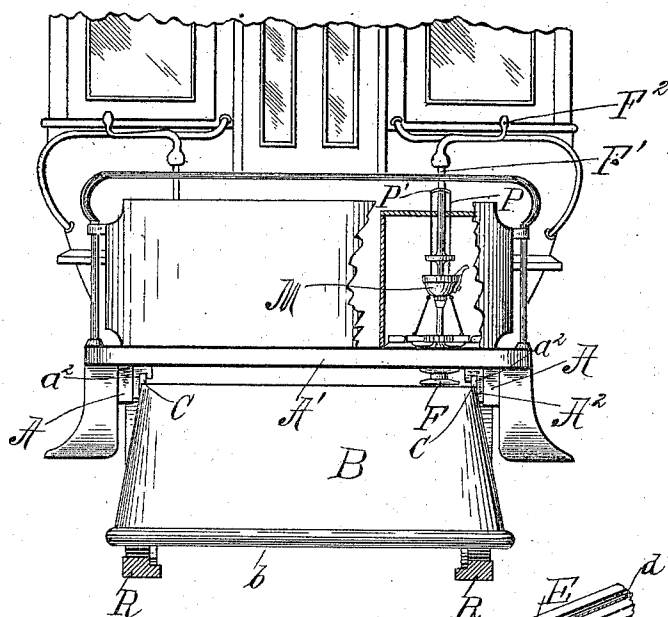
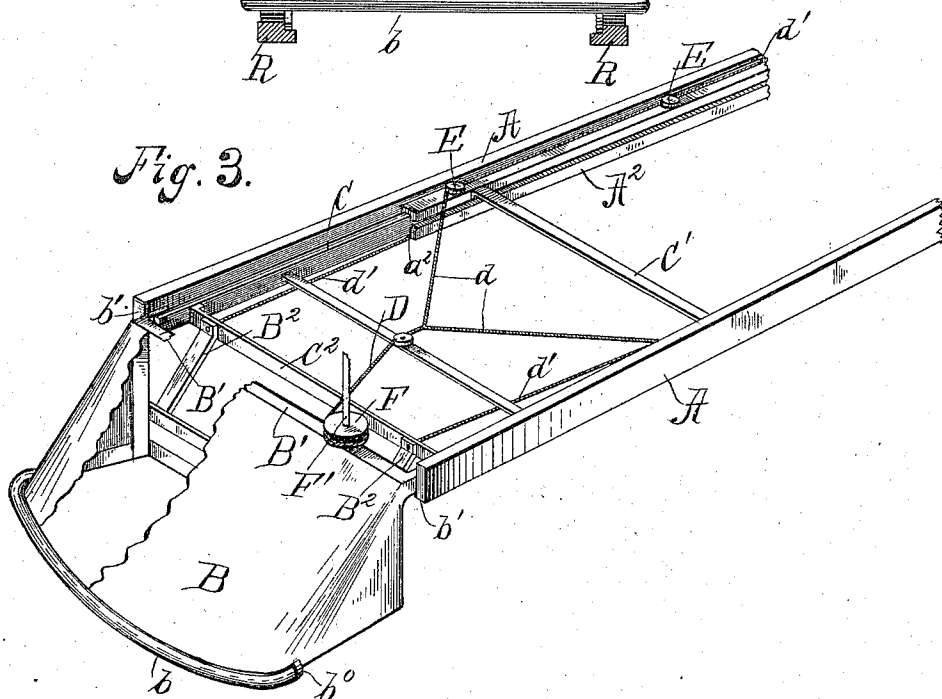


Fig. 3.



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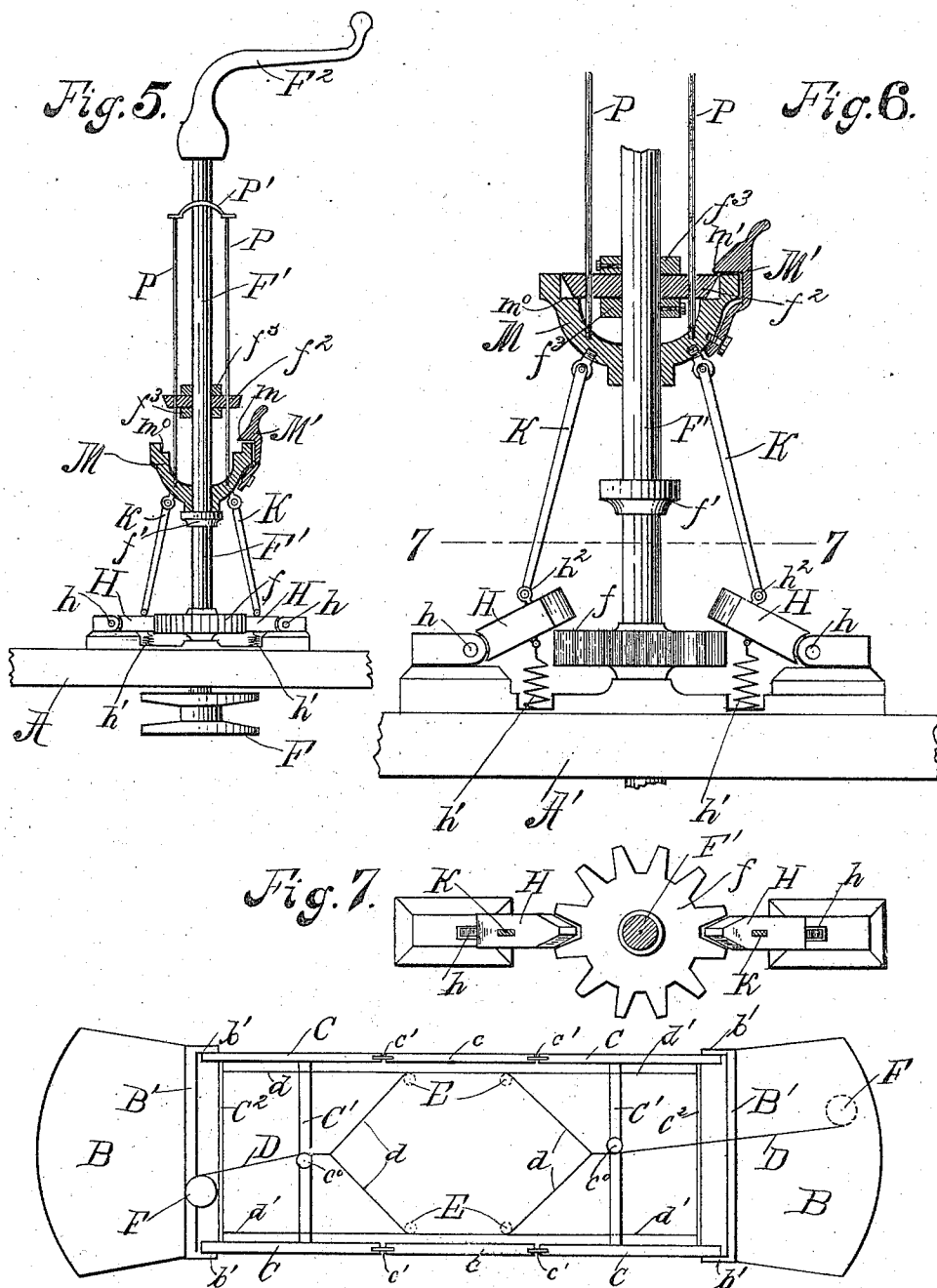
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Fig. 4.

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UNITED STATES PATENT OFFICE.

CLARENCE E. FLETCHER, OF WALTHAM, MASSACHUSETTS.

CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 576,496, dated February 2, 1897.

Application filed July 15, 1895. Renewed December 3, 1896. Serial No. 614,380. (No model.)

To all whom it may concern:

Be it known that I, CLARENCE E. FLETCHER, a citizen of the United States, residing at Waltham, in the county of Middlesex and State of Massachusetts, 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.

My invention relates to improvements in car-fenders; and it consists of certain novel features hereinafter described and claimed.

Figure 1 represents a side elevation of a car fitted with my improved fender. Fig. 2 represents a front view of the same car, parts being broken away. Fig. 3 represents a perspective view of the bottom timbers and parts of the fender and operating attachments located beneath one end of the car, parts being broken away. Fig. 4 represents a diagrammatic plan view of the two fenders with the means for moving the same longitudinally relative to the car. Fig. 5 represents in detail the hand-lever and attachments by which the two fenders are moved longitudinally. Fig. 6 represents an enlarged detail view of the central portion of the device shown in Fig. 5, and Fig. 7 represents a section along the line 7 7 of Fig. 6 and looking down.

A represents one of the side timbers of the car, running longitudinally the full length of the car and on which the car and platforms are supported, as shown in Fig. 1. These side timbers A terminate at either end of the car in a curved front piece A' in front of the platform, while on the inside, near the center of the car, the guides A² are secured to the timbers A, as shown in Fig. 3.

The fenders B are preferably made of a plate or plates of sheet-iron, sloping downward, as shown, and provided with a pneumatic tube b, made of rubber or similar material and filled with compressed air and closed at either or both ends by screw-plugs b⁰. Each fender is provided with a rigid transverse bar B' at the head thereof provided with lugs b', which are secured to the sliding

bars C. The back of the fender is also stiffened by transverse bars B³ and B⁴, the upper one of which is stiffened by the stay-pieces B², connected to the cross-bar C² between the sliding bars C, all as shown most clearly in Fig. 3. These sliding bars C may be made in one piece extending from one end of the car to the other, but they are preferably made in a plurality of sections c, connected together at c', as shown in Fig. 4, and also transversely connected across the car by the cross-bars C' and C², the whole constituting a sliding frame rigidly connected to the two fenders and adapted to slide with the fenders longitudinally relative to the car. These sliding bars C pass between the guide-strips A², as shown in Fig. 3, which strips have overhanging lips a², between which the bars c' are adapted to slide. This sliding frame is moved by means of one or the other of the hand-levers F², which are mounted on the spindle F', carrying at their lower ends the drums F, on which drums the rope or chain D is wound. This rope or chain passes over the guide-pulley c⁰, then is bifurcated, as at d, to pass over the pulleys E, whence the two ends are led to the opposite end of the car, as at d', and are made fast to any fixed part of the car, as shown diagrammatically in Fig. 4. The arrangement of ropes or chains, pulleys, &c., being identical at either end of the car, only one end of the car may be described.

In order to lock the fenders in position, so that they will not yield backward when striking an object, the pawls H are pivoted at h to the bottom of the car A and engage in the ratchet-wheel f, fast on the spindle F', as shown in Figs. 5, 6, and 7. These pawls are raised by means of the rods K, pivotally connected to said pawls at h² and also connected to the bowl M, which, when in its lowest position, rests on the set-collar f' on the spindle F', as shown in Fig. 5. The said bowl is loosely mounted on the said spindle, and may be raised or lowered by means of the handle P' and rods P, as shown in Fig. 5. The said bowl is provided with an annular recess m⁰ on the upper side thereof, adapted to receive the inverted conical disk f², which is revolu-

bly held between the set-collars f^3 on the spindle F' . The bowl M carries a spring-catch M' , having a sloping face m' , adapted to be pressed backward by the conical disk f^2 and to snap over the top of the said disk when the pawls H are in the raised position, as shown in Fig. 6.

In order to move the one fender out and the other fender in, the pawls are lifted at each end of the car to the position shown in Fig. 6 and the hand-lever is rotated at the end of the car from which it is intended that the fender shall project. This winds up the rope D on the drum F at that end of the car, while the rope unwinds from the drum at the other end of the car and the sliding frame carrying the two fenders moves bodily beneath the car.

When the fender is run out far enough, the pawls are let down at either or both ends of the car and the sliding frame is locked in position. The springs h' help to pull down the pawls, but are not absolutely necessary.

It will be obvious that only one set of pawls may be used, but it would be safer in practice to have one set at each end of the car. Moreover, it would be obvious that the ropes might be so arranged that a single hand-lever and drum would move both fenders without there being the necessity for duplicating these parts at each end of the car, although it would be more convenient in practice to have means for operating the fenders at each end of the car.

It will also be obvious that any suitable ratchet-and-pawl arrangement might be substituted for that shown in the drawings.

It will be obvious that the fenders may be placed at the desired position above the rails R and that the pneumatic pipe b may be made of sufficient size to project down far enough below the edge of the fender to prevent the passage therebeneath of any part of a human being and yet to allow the necessary play to pass over stones or other rigid bodies projecting above the track.

These and various other modifications of the herein-described apparatus might be made which could be used without departing from the spirit of my invention.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a fender attachment for cars, the combination with a car-body provided with longitudinal bottom timbers with flanged guide-ribs secured on the inner side thereof, of a sliding frame adapted to slide longitudinally within said guide-ribs, a fender at either end of said sliding frame adapted to project beyond the front of the car, a spindle journaled at either end of the car, a hand-lever and a drum mounted on said spindle, a toothed wheel and a pawl adapted to hold the said spindle in any desired position, a hand-rod for releasing said pawl, and a spring for re-

turning the same to the locked position, and a system of ropes and pulleys operated by said drum and said hand-lever for moving said frame longitudinally relative to the car, substantially as described.

2. In a fender attachment for cars, the combination with a car-body provided with guides beneath the same, of a sliding frame adapted to slide longitudinally within said guides, a fender at either end of said sliding frame adapted to project beyond the front of the car, a spindle journaled at either end of the car, and carrying a hand-lever, a drum, a toothed wheel, all rigidly connected thereto, a bowl loosely mounted on said spindle, hand-rods for lifting said bowl, pawls adapted to engage in said toothed wheel, and connecting-rods between said bowl and said pawls for lifting the same out of engagement with said toothed wheel, and means operated by said drum for moving said frame longitudinally relative to the car, substantially as described.

3. In a fender attachment for cars, the combination with a longitudinally-movable frame carrying fenders at either end thereof, of a spindle journaled at each end of the car, and carrying a hand-lever, a drum, a toothed wheel, and an inverted conical disk, of a bowl loosely mounted on said spindle, a spring-catch fast on said bowl, and adapted to catch on said disk, hand-rods for lifting said bowl, pawls adapted to engage in said toothed wheel, and connections between said bowl and said pawl for lifting the pawls out of engagement with the toothed wheel, and means operated by said drum for moving said frame longitudinally relative to the car, substantially as described.

4. In a fender attachment for cars, the combination with a longitudinally-movable frame carrying fenders at either end thereof, of a spindle journaled at each end of the car, and carrying a hand-lever, a drum and a toothed wheel, all rigidly attached thereto, and a disk loosely mounted thereon and held against longitudinal motion on said spindle, a bowl loosely mounted on said spindle, a spring-catch fast on said bowl and adapted to catch on said disk when said bowl is lifted, means for lifting said bowl, pawls adapted to engage in said toothed wheel, and connections between said bowl and said pawls, whereby said pawls are held out of engagement with the toothed wheel, and means operated by said drum for moving said frame longitudinally relative to the car, substantially as described.

5. In a fender attachment for cars, the combination with a longitudinally-movable frame carrying fenders at either end thereof, of a spindle journaled at each end of the car and carrying a hand-lever, a drum, and a toothed wheel, all rigidly attached thereto, and a disk loosely mounted thereon and held against longitudinal motion on said spindle, a bowl loosely mounted on said spindle, a spring-

catch fast on said bowl and adapted to catch on
said disk when said bowl is lifted, a pair of rods
with a handle connecting the same for lifting
said bowl, pawls adapted to engage in said
5 toothed wheel, rods between said bowl and
said pawls and adapted to lift said pawls,
springs adapted to restore said pawls to the
initial position, and means operated by said

drum for moving said frame longitudinally
relative to the car, substantially as described. 10

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

CLARENCE E. FLETCHER.

Witnesses:

WESLEY H. FLETCHER,
W. ARTHUR FLETCHER.