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Patented Oct. 4, 1898.

W. C. COLLYER & W. F. BULLOCK.

CAR FENDER.

(Application filed Dec. 3, 1897.)

(No Model.)

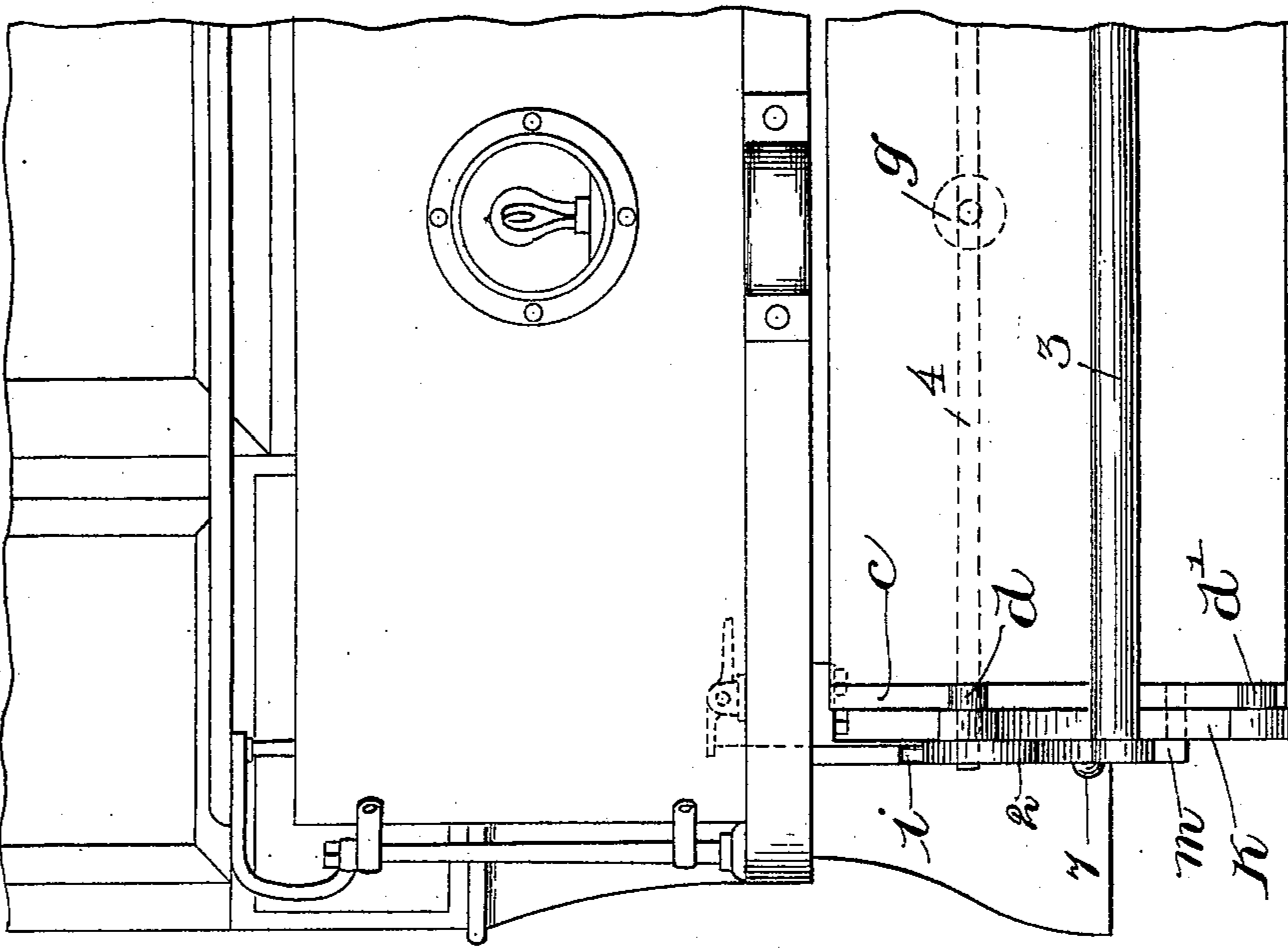


FIG. 1 -

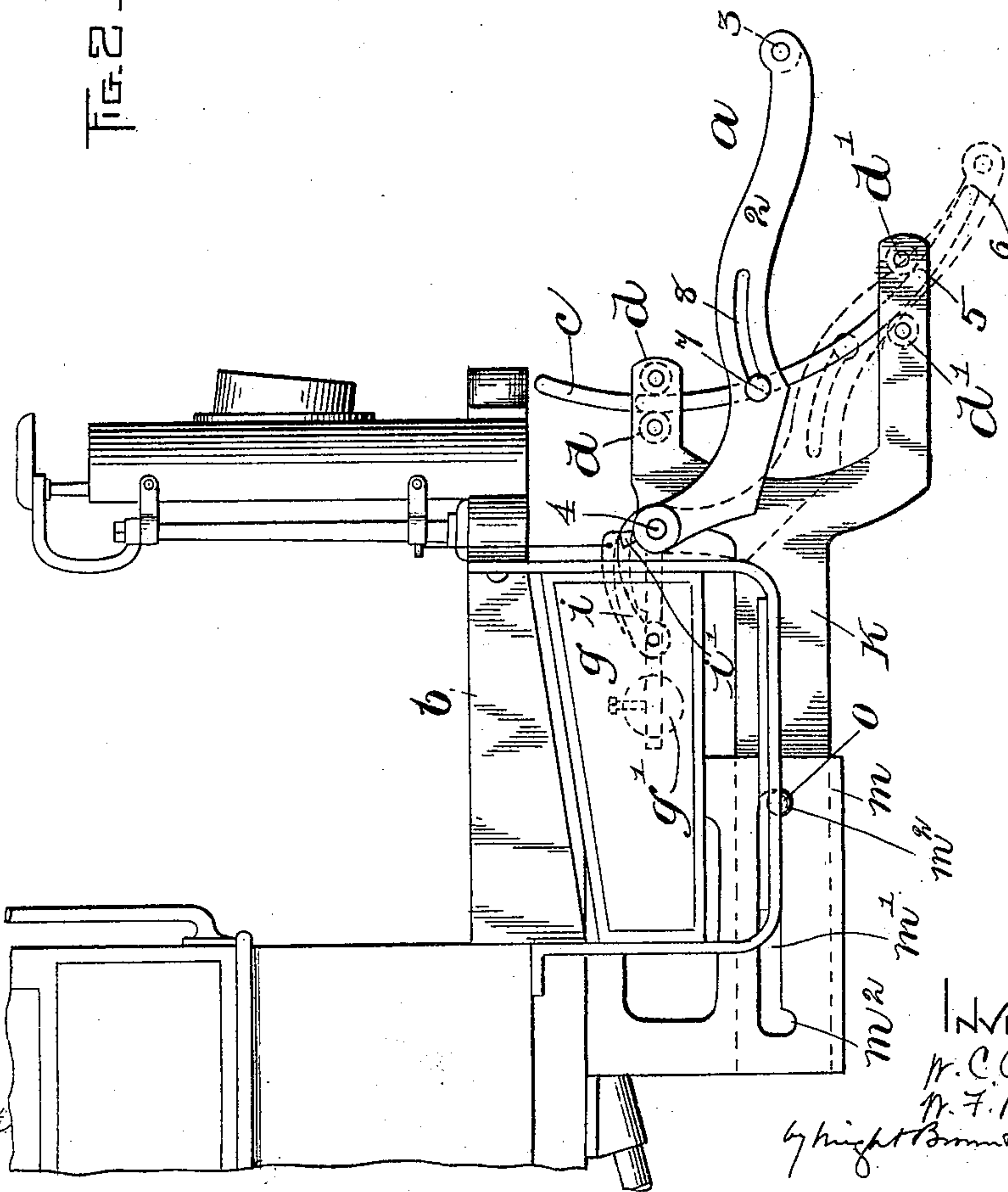


FIG. 2 -

WITNESSES:

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# UNITED STATES PATENT OFFICE.

WILLIAM C. COLLYER AND WILLIAM F. BULLOCK, OF LYNN, MASSACHUSETTS.

## CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 611,677, dated October 4, 1898.

Application filed December 3, 1897. Serial No. 660,578. (No model.)

*To all whom it may concern:*

Be it known that we, WILLIAM C. COLLYER and WILLIAM F. BULLOCK, of Lynn, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Car-Fenders, of which the following is a specification.

This invention relates to car-fenders which are normally held elevated somewhat above their operative position and are displaced and dropped or moved toward the track when required for use.

The invention has for its object to provide a simple and reliable fender of this class adapted to be depressed to a position to take up a human body which may be encountered by the car.

The invention consists in the improvements which we shall now proceed to describe and claim.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a side elevation of a portion of a car provided with a fender embodying our invention. Fig. 2 represents a front end elevation of the same.

The same letters and numerals of reference indicate like parts in both figures.

In the drawings, *a* represents what we denominate a "feeler," which is pivotally connected to a street-car and projects forward from the platform *b* thereof. The feeler, as here shown, comprises two arms 2, which are pivoted at their rear ends to supports on the car, a front cross-bar 3, connecting the swinging ends of the arms 2 and extending across the front of the car, and a rear cross-bar 4, connecting the rear ends of said arms, said cross-bar preferably constituting a journal or pivot which connects the arms to the car. We prefer to attach the rear cross-bar 4 rigidly to the arms 2 and to journal said cross-bar in suitable bearings, so that the arms 2 and cross-bar 3 can swing between the positions indicated by the full and dotted lines in Fig. 1. The front cross-bar 3 may be of yielding or flexible construction or it may be composed of a metal rod having a yielding covering, such as a section of rubber tubing.

*c* represents the fender, which is preferably of segmental form and is located between the front and rear cross-bars of the feeler-frame.

The fender is movable in guides supported by the car, said guides being arranged to permit a downward and forward movement of the fender and an upward and backward movement of the same. The fender and the feeler are connected in such manner that the depression of the front cross-bar of the feeler to the position shown in dotted lines will cause downward and forward movement of the fender, the lower edge of the latter being thus caused to move from the point 5 to the point 6, and thus brought in contact with or in close proximity to the depressed cross-bar of the feeler. Said connection is here shown as effected by means of studs 7 on the ends of the fender and slots 8 in the arms 2 of the feeler, the slots receiving the studs 7.

The fender is preferably of segmental form, as shown in Fig. 1, and its guides are preferably rollers *d d' d'*, suitably supported on the car and separated by spaces which receive the segmental ends of the fender, the rollers being arranged in pairs—that is to say, there is a pair of rollers *d d* and a pair of rollers *d' d'* at each end of the fender.

Means are provided for yieldingly holding the fender and feeler in their raised positions, as shown in dotted lines in Fig. 1. Said means, as here shown, comprise an arm *g*, affixed to the rear cross-bar 4 of the feeler, and a weight *g'*, mounted on said arm. The weighted arm is arranged to normally raise the feeler to its full-line position, the feeler by its connection with the fender raising the latter also. Means are also provided for locking the fender and feeler in their depressed positions, said means, as here shown, comprising dogs *i*, pivotally mounted on supports on the car, and teeth *i'*, formed on the arms 2 of the feeler-frame, said dogs and teeth being arranged so that when the feeler-frame is raised the dogs will bear inoperatively on the backs of the teeth, as shown in full lines in Fig. 1, but when the feeler-frame is depressed the teeth *i'* will be moved downwardly far enough to permit the dogs to move into engagement with their front faces, as shown in dotted lines.

The fender may be constructed of any suitable material or combination of materials and may comprise a marginal frame of suitable strength and a filling of lighter mate-



rial, such as sheet-metal strips, canvas, netting, &c.

As above stated, the front cross-bar 3 of the feeler-frame and the fender *c* are normally elevated, the cross-bar being above the lower edge of the feeler and said lower edge being at about the point indicated by the numeral 5 in Fig. 1. When the car encounters a person standing upon the track, the cross-bar 3 of the feeler-frame strikes the person and is depressed by the contact to the position shown in dotted lines, the fender being at the same time moved downward and forward until its lower edge reaches the point 6. The fender is then in position to take up the person, who may be supposed by this time to have fallen upon the fender. The cross-bar 3 of the feeler constitutes an extension of the forward edge of the fender in the position last described, and both the cross-bar and the fender are locked in said position by the above-mentioned locking devices. When it is desired to restore the fender and feeler to their former positions, the dogs *i* are disengaged from the teeth *i'*, and thereupon the weight *g'* raises the feeler and the fender.

The parts above described are preferably mounted upon a movable frame or support composed of side pieces *k*, which are movable in guides *m*, affixed to the body of the car, the movability of the side pieces *k* being such as to permit the fender and feeler to remain under the platform *b* when not required for use.

The guides *m* are provided with horizontal slots *m'*, having depressions *m''* at their ends to receive studs *o*, projecting from the side pieces *k*, the engagement of the said studs with the depressions *m''* locking the side pieces *k* against accidental endwise movement. The side pieces *k* are provided with bearings for the rear cross-bar 4 and support the dogs *i* and the guide-rollers *d d' d'' d'''*.

We claim—

1. The combination of a feeler comprising arms pivoted to supports on a car so that their outer ends can have a downward and backward movement, and a cross-bar attached to the outer ends of said arms and normally supported in a raised position in front of the car, a movable fender located behind said cross-bar, guides on the car arranged to permit a downward and forward movement of the fender, and to hold its forward edge in position to coöperate with the depressed feeler, so that the latter becomes a part of

the fender, positive connections between the feeler and fender, whereby the depression of the feeler causes a downward and forward movement of the fender, and means for yieldingly supporting the fender and feeler in their raised positions, the relative movements of the fender and feeler being such that when both are depressed the feeler is in close proximity to the forward edge of the fender, and constitutes an extension of said forward edge.

2. The combination of a feeler comprising arms pivoted to supports on a car, so that their outer ends can have a downward and backward movement, and a cross-bar attached to the outer ends of said arms and normally supported in a raised position in front of the car, a movable fender located behind said cross-bar, guides on the car arranged to permit a downward and forward movement of the fender, and to hold its forward edge in position to coöperate with the depressed feeler, so that the latter becomes a part of the fender, connections between the feeler and fender, whereby the depression of the feeler causes a downward and forward movement of the fender, means for yieldingly supporting the fender and feeler in their raised positions, the relative movements of the fender and feeler being such that when both are depressed the feeler is in close proximity to the forward edge of the fender, and means for locking the fender and feeler in their depressed positions.

3. The combination of a feeler composed of arms pivoted to supports on a car, a front cross-bar connecting the swinging ends of said arms, and a rear cross-bar for connecting the pivoted ends of the arms, a fender located between said cross-bars and engaged at its ends with said arms, guides supported by the car and arranged to permit a downward and forward, as well as an upward and backward movement of the fender, means for yieldingly holding the fender and feeler in their elevated positions, and means for locking the fender and feeler in their depressed positions.

In testimony whereof we have signed our names to this specification, in the presence of two subscribing witnesses, this 23d day of November, A. D. 1897.

WILLIAM C. COLLYER.  
WILLIAM F. BULLOCK.

Witnesses:

C. F. BROWN,  
A. D. HARRISON.