

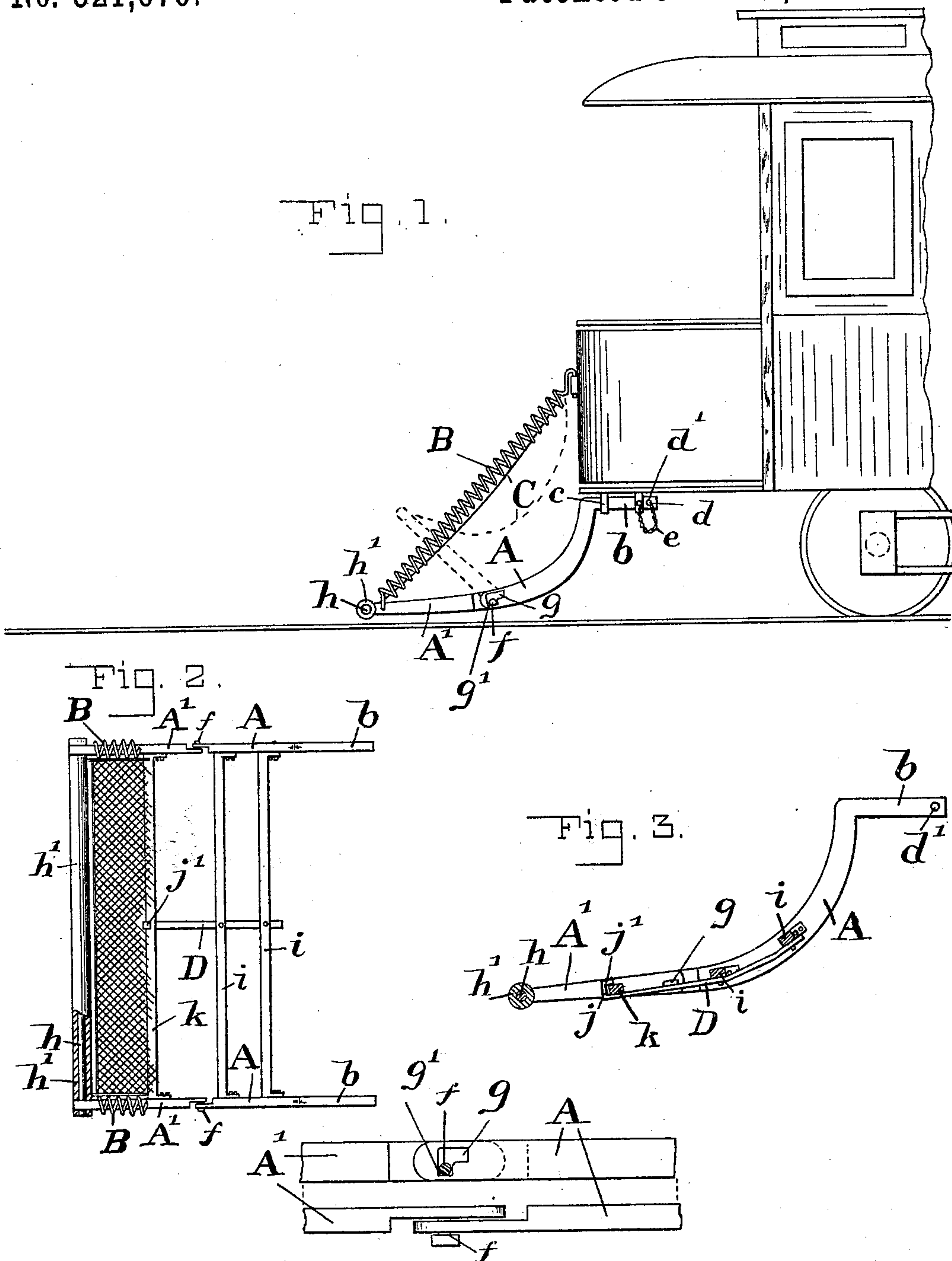
(No Model.)

2 Sheets—Sheet 1.

F. H. REICH.  
SAFETY CAR FENDER.

No. 521,670.

Patented June 19, 1894.



WITNESSES:

Lee I. Van Horn,

Chas B. Mann Jr.

INVENTOR:

F. H. Reich

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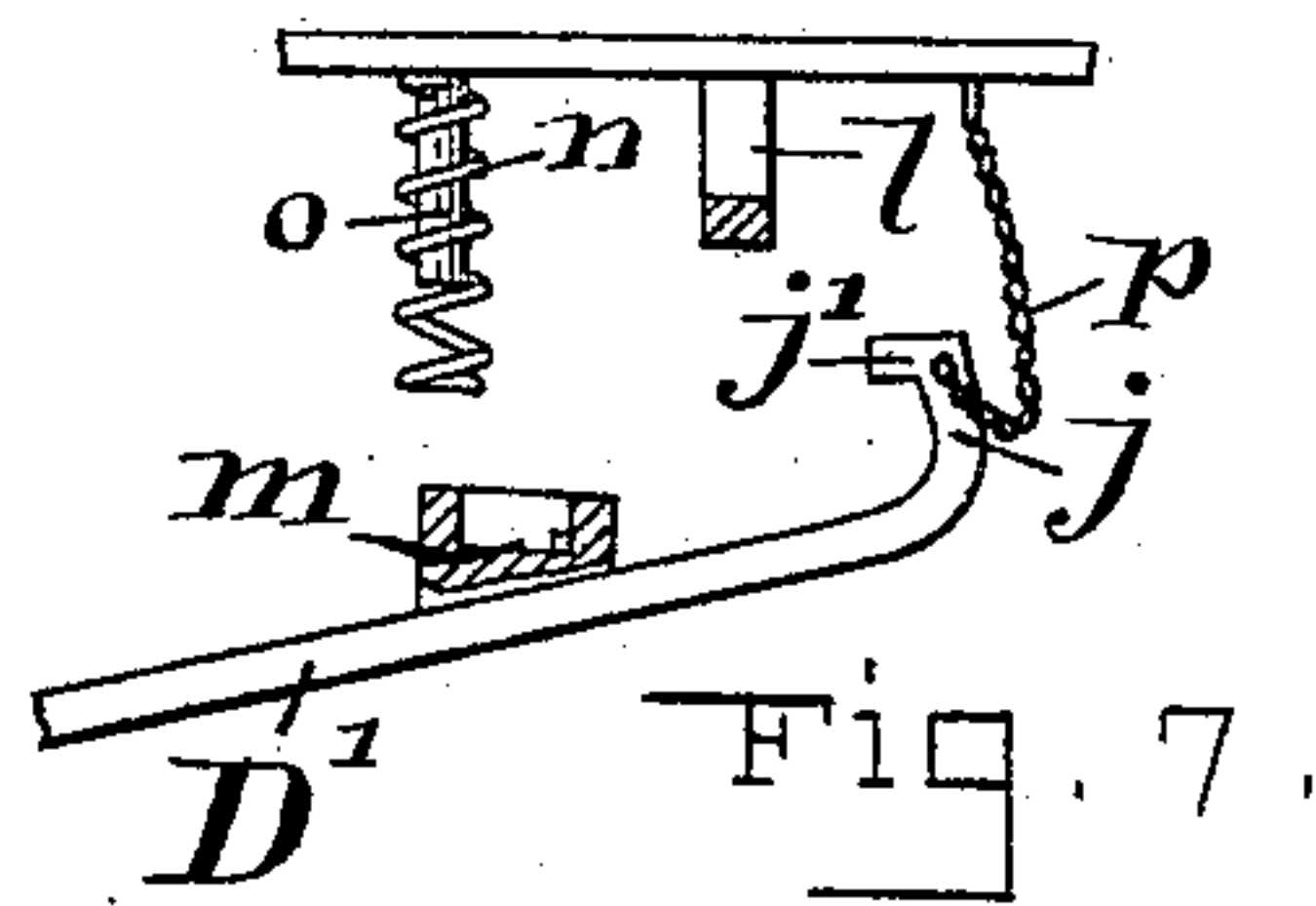
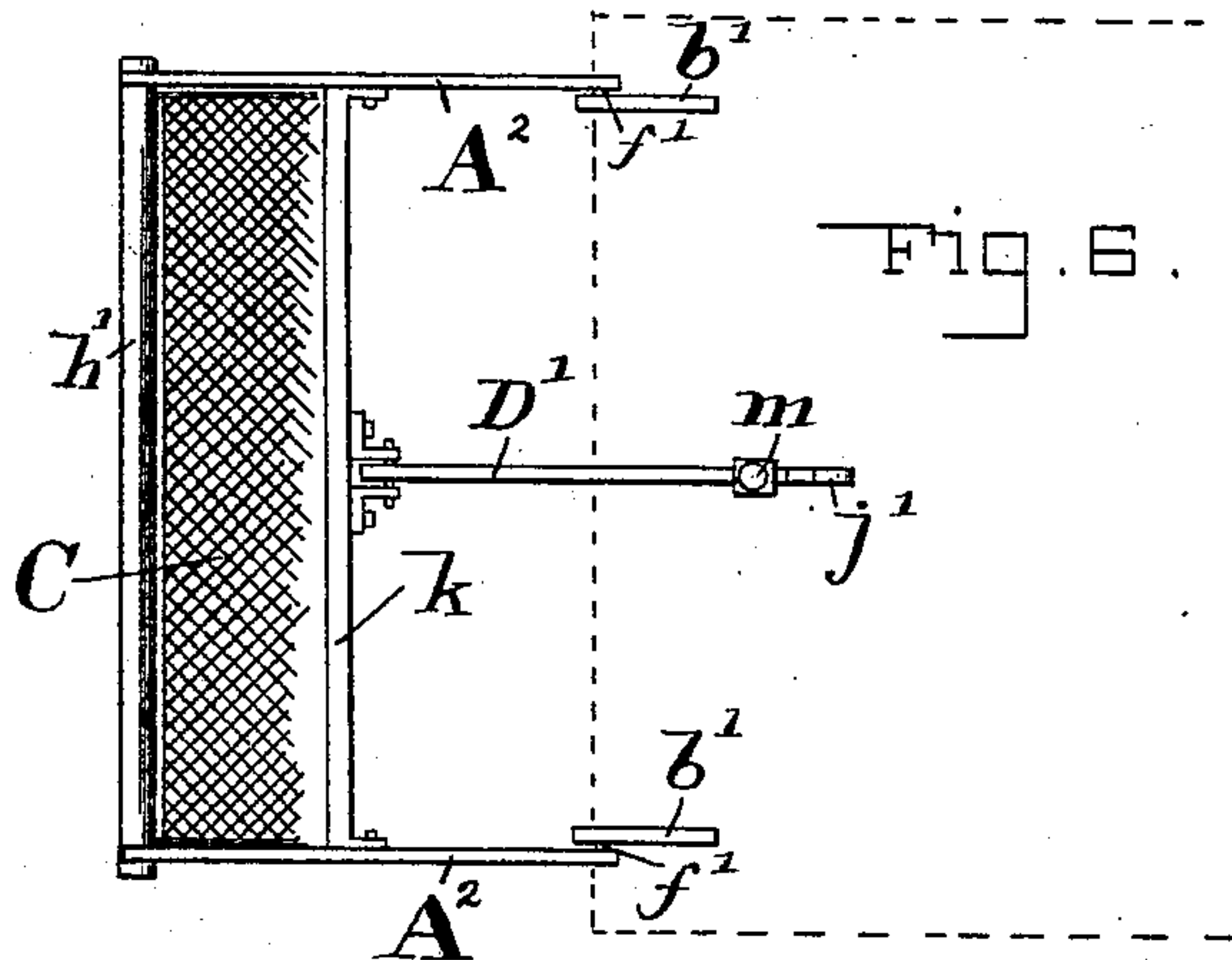
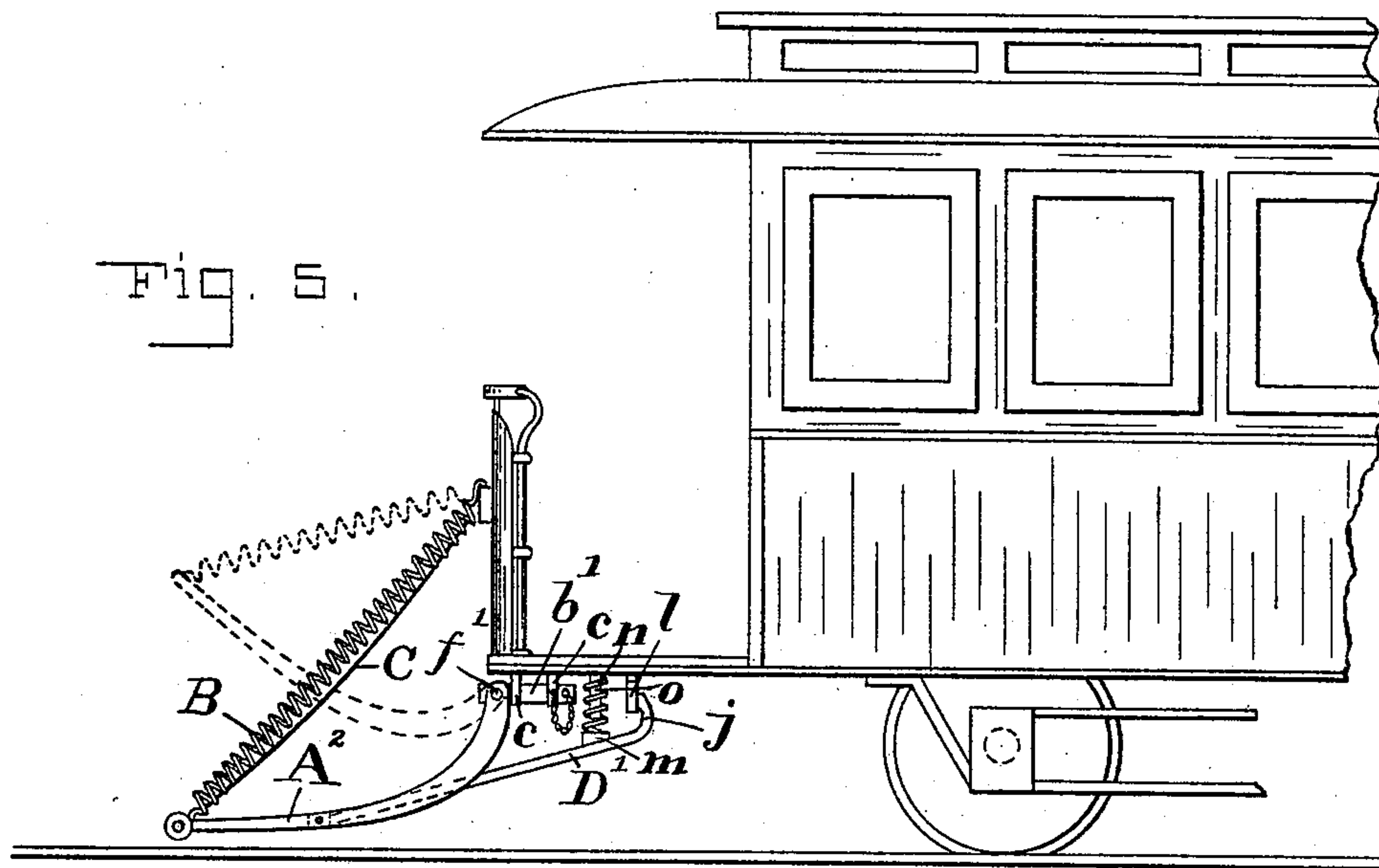
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# UNITED STATES PATENT OFFICE.

FREIDRICH H. REICH, OF BALTIMORE, MARYLAND.

## SAFETY CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 521,670, dated June 19, 1894.

Application filed December 4, 1893. Serial No. 492,794. (No model.)

*To all whom it may concern:*

Be it known that I, FREIDRICH H. REICH, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Safety Car-Fenders, of which the following is a specification.

My invention relates to a safety fender for street cars.

The object is to provide means whereby if a person is run down or struck by a moving car he will be caught up and held in a flexible apron or buffer without material injury.

The invention consists in the construction and combination of parts hereinafter described and claimed.

In the drawings,—Figure 1 is a side view of one end of a car with my safety fender attached. Fig. 2 is a plan view, parts being broken away, of the safety fender. Fig. 3 is a side view, partly in section, of the irons of the fender. Fig. 4 shows two views on a larger scale of the joint of the irons. Fig. 5 is a side view of one end of a car similar to Fig. 1, with my fender attached, showing a modification in the construction. Fig. 6 is a top view without the spiral springs, parts being broken away, showing the modified construction of fender. Fig. 7 shows, on a larger scale, the modified form of latch bar.

The two side bars or irons, A, in Figs. 1 to 4, have each at their upper parts a horizontal end, b, which enters one or more sockets, c, fixed on the car and are retained from coming out by a pin, d, passed through a hole, d', in the said end; a chain, e, is attached to the pin. The side bars are made in two parts, the lower part, A', being jointed at, f, to the back part, A. This joint is of peculiar construction; the back part, A, has a longitudinal slot, g, which at one end has a lateral termination, g<sup>2</sup>. The front end, A', has a pivot-pin, f, which fits in the slot. By this construction the front section, A<sup>2</sup>, may pivot on the joint-pin, f, and tilt up as indicated by the broken lines in Fig. 1. Two spiral springs, B, are employed to draw up the front ends of the side bars; one spring is at each side and each spring has an inclined position; the upper ends of the springs are attached to the front of the car. When the side bars are not held down, these springs

will raise them and allow the curtain-like apron or buffer, C, to droop or sag, as indicated by broken lines in Fig. 1.

A flexible curtain-like apron or buffer, C, inclines in front of the car and has its lower projecting end attached to the front cross-bar, h, and its upper end suitably attached to the spiral springs or to the car-front.

A latch-bar, D, has its rear end secured to the cross-bars, i, on the back part of the side irons, and the front end of the latch-bar has an up-turned hook, j,—the hook-lips, j', projecting backward toward the car and engaging a cross-bar, k, on the front part, A', of the side irons, and thus this latch-bar serves to hold down the front section of the fender against the lifting action of the springs. The front cross-bar, h, is covered by a suitable cushion or wrapping, h'.

When a person is run down by the car and struck by the front bar or cushion, h', of the fender, the front section thereof will be pushed back to the extent of the length of the slot, g, of the joint; this pushing backward of the front section will release the hook-lip, j', of the latch-bar from the cross-bar, k, and then the springs, B, will raise or tilt up the front section, and thereby form a sag in the apron or buffer wherein a person will be caught up and held.

A modification of the device is shown in Figs. 5, 6 and 7; here the side bars, A<sup>2</sup>, have ends, b', connected by pivots, f', said ends being retained in sockets, c, on the car. These side bars from their pivots curved down and project forward to a point just above the car-track. Spiral springs, B, and an apron or buffer, C, are provided and are attached in the manner described in the other case. The latch-bar, D', in this case is arranged somewhat differently; here its front end is pivoted to the cross-bar, k, and its rear end has an up-turned hook, j, with a lip, j', projecting forward. A pendent step or hanger, l, is on the car-bottom, and the up-turned hook takes back of this step and the lip, j', engages with the step; thus the latch-bar and step hold the side bars, A<sup>2</sup>, down notwithstanding the lifting action of the springs, B. A socket, m, is on the latch-bar, and a spiral spring, n, surrounds a stud, o, and both spring and stud are attached to the car and project downward



therefrom; when the hook-lip of the latch-bar is engaged with the step, *l*, the spring, *n*, has its end in the socket, *m*, and presses down on the bar; as soon as the hook-lip is released from the step this spring, *n*, will press the latch-bar down and thus allow the springs, *B*, to lift the side bars. The spring, *n*, may be flat or spiral.

When an object, such as a person, is struck by the front end of the fender, the said front end will be depressed or lowered sufficient to release the hook-lip, *j'*, from the step, *l*, whereupon, there being nothing to hold the front of the fender down, the springs, *B*, will at once draw it up, as already explained. A person may thus be lifted bodily unhurt and sustained in the sag of the curtain-like buffer.

It will be seen that the fender is a self-acting device, that is to say, when a person is struck, the fender will automatically tilt up and the person will be received into the sag of the curtain-like buffer, *B*, and there held safely.

The fender may readily be removed from one end of a car and attached to the opposite end.

In the modification a chain, *p*, attached to the latch-bar loosely secures it to the car-bottom.

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

1. In a safety fender for cars, the combination of the two side bars each made in two sections which are pivoted together; a cross-bar, *k*, connecting the lower front pivoted ends of the side bars; another cross-bar, *i*, connecting the back part or section of said side bars; springs attached by one of their ends to the car-front and by their other ends to the lower front section of said side bars,—said springs having an inclined position and adapted to draw up the pivoted section of the side bars; an inclined flexible curtain-like buffer; and a latch-bar having one end attached to a cross-bar of one section and its other end provided with a hook-lip to engage

a cross-bar on the other section,—said latch-bar serving to hold down the front section of said side bars against the lifting action of the springs.

2. In a safety fender for street cars, the combination of the side bars made in two parts or sections, one section having a longitudinal slot with a lateral termination, and the other section provided with a pivot-pin working in said slot, whereby the front section may be pushed back the length of the slot and also tilt up; two springs each attached by one end to the car-front and by their other end to the front section of the side bars,—said springs having an inclined position and adapted to draw up the front part of the side bars; an inclined flexible curtain-like buffer, *C*, secured at its lower end to the side bars; and a latch-bar having one end attached to a cross-bar of one section and its other end provided with a hook-lip to engage a cross-bar on the other section,—said latch-bar serving to hold down the front section of said side bars against the lifting action of the springs.

3. In a safety fender for cars, the combination of the downwardly-curved and forwardly-projecting side-bars each having a pivot to tilt up and a horizontal upper end; one or more retaining sockets, *c*, on the car-body to receive the said horizontal ends of the side-bars; spiral springs each attached by one end to the car-front and by the other end to the said side-bars and having an inclined position and adapted to draw up the front ends of said bars; an inclined flexible curtain-like buffer, *C*, suitably secured; and a latch-bar for holding down the front ends of the side bars against the lifting tension of the spiral springs and releasing said side-bars and allowing them to tilt up when an object is encountered.

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

FREIDRICH H. REICH.

Witnesses:

CHAS. B. MANN, Jr.,  
C. C. HINES.