

(No Model.)

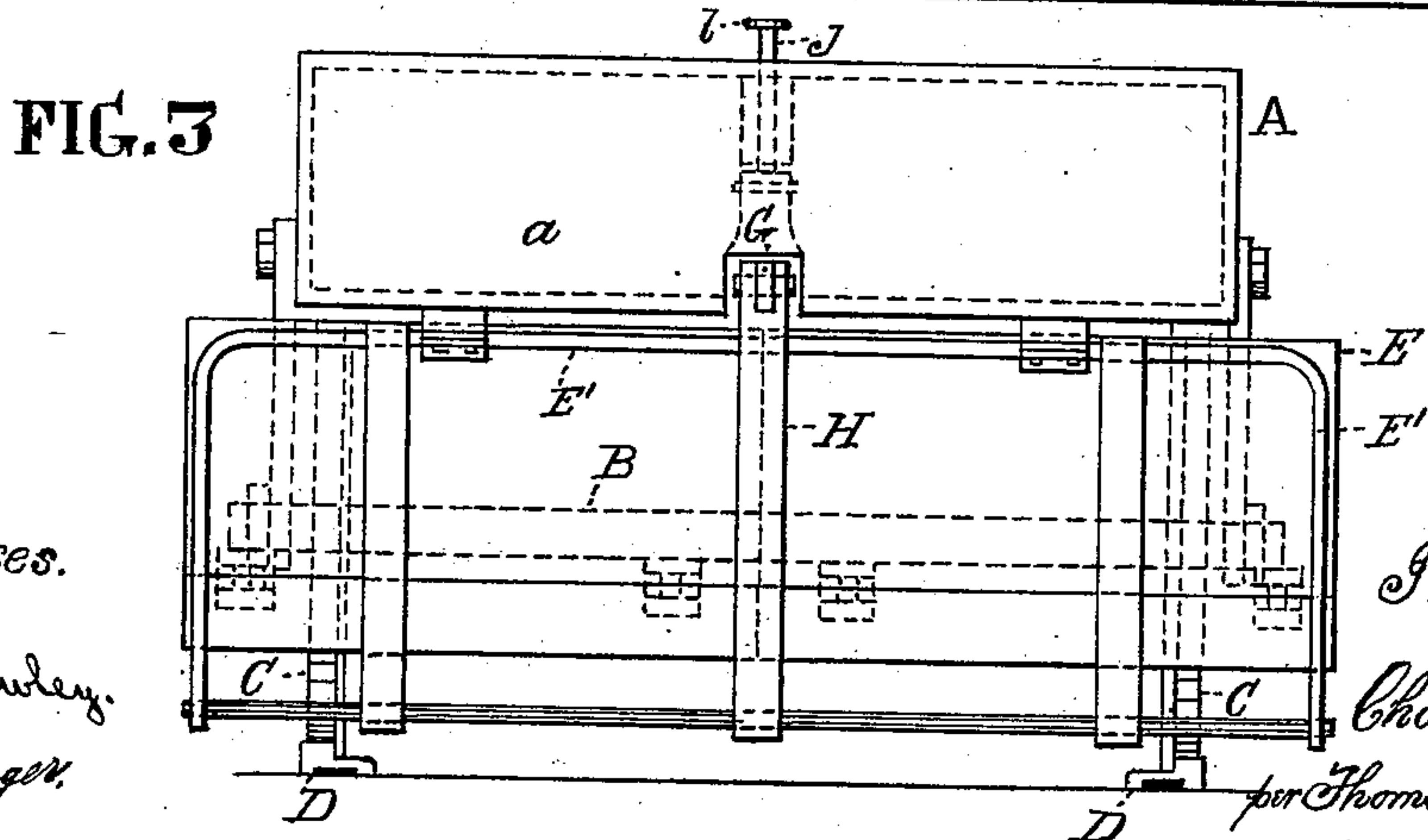
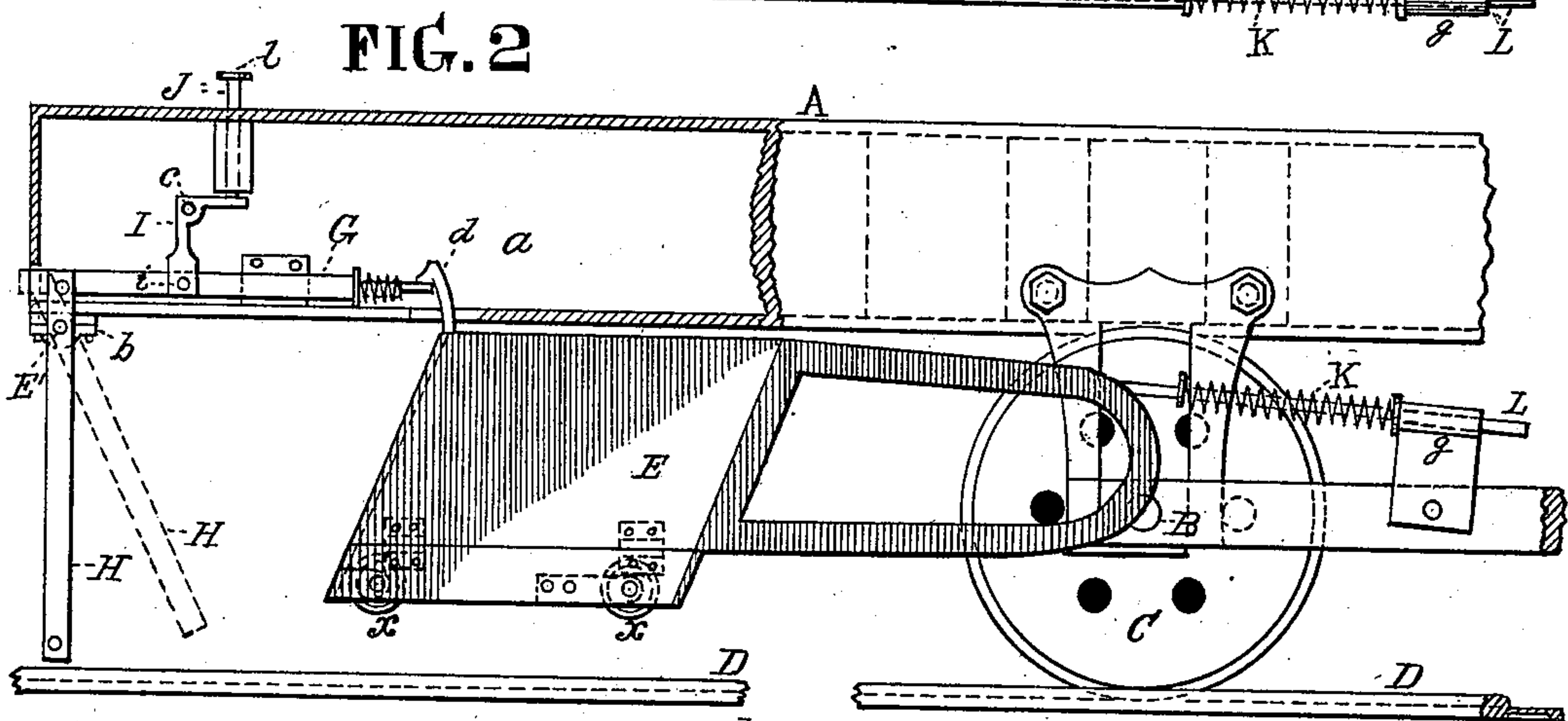
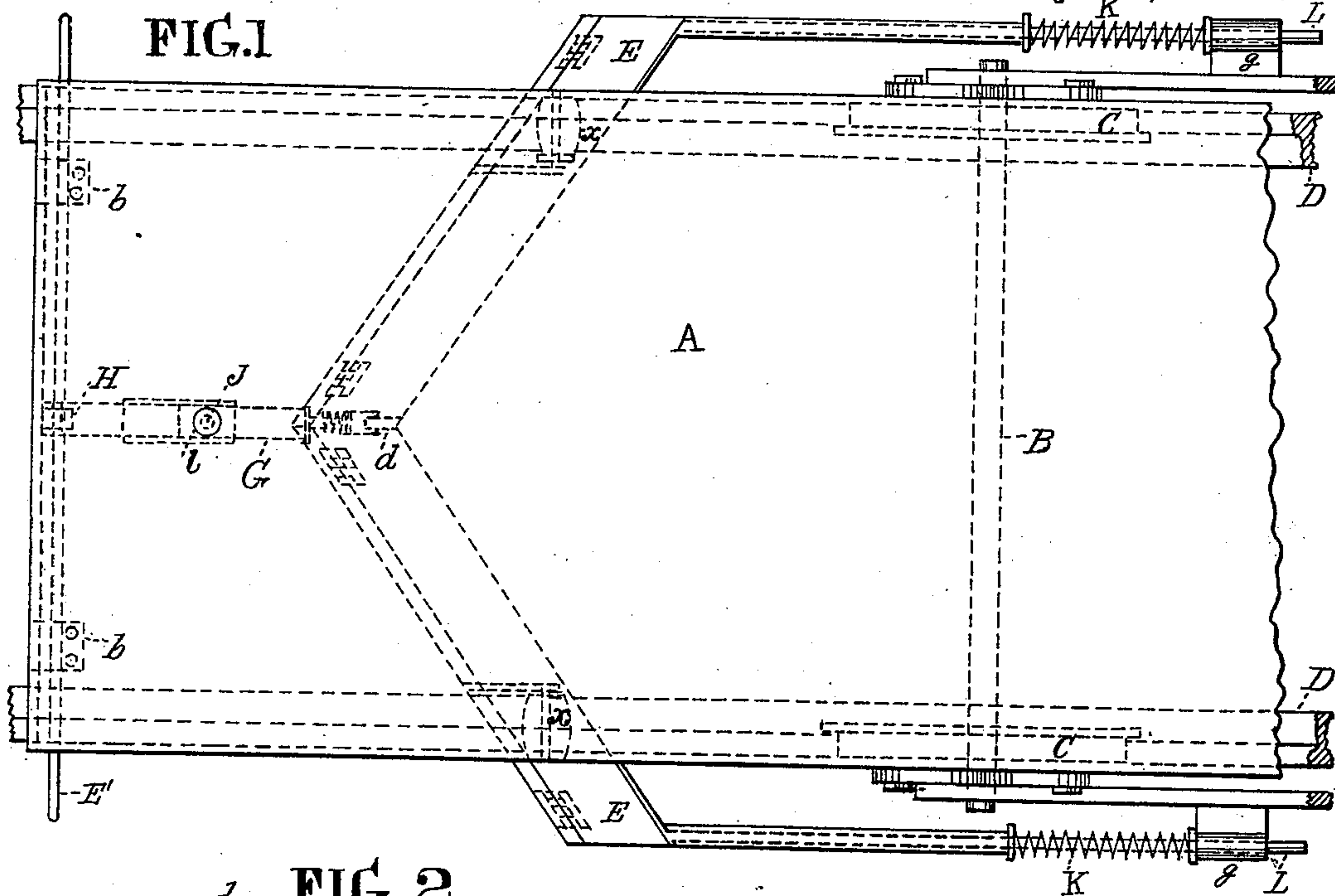
2 Sheets—Sheet 1.

C. R. HALL.

OPERATING FENDERS FOR STREET RAILWAY CARS.

No. 539,385.

Patented May 14, 1895.



Witnesses.

S. E. W. Bewley.

Otto G. Hoyer.

Inventor

Charles R. Hall.

per Thomas J. Bewley, atty.

(No Model.)

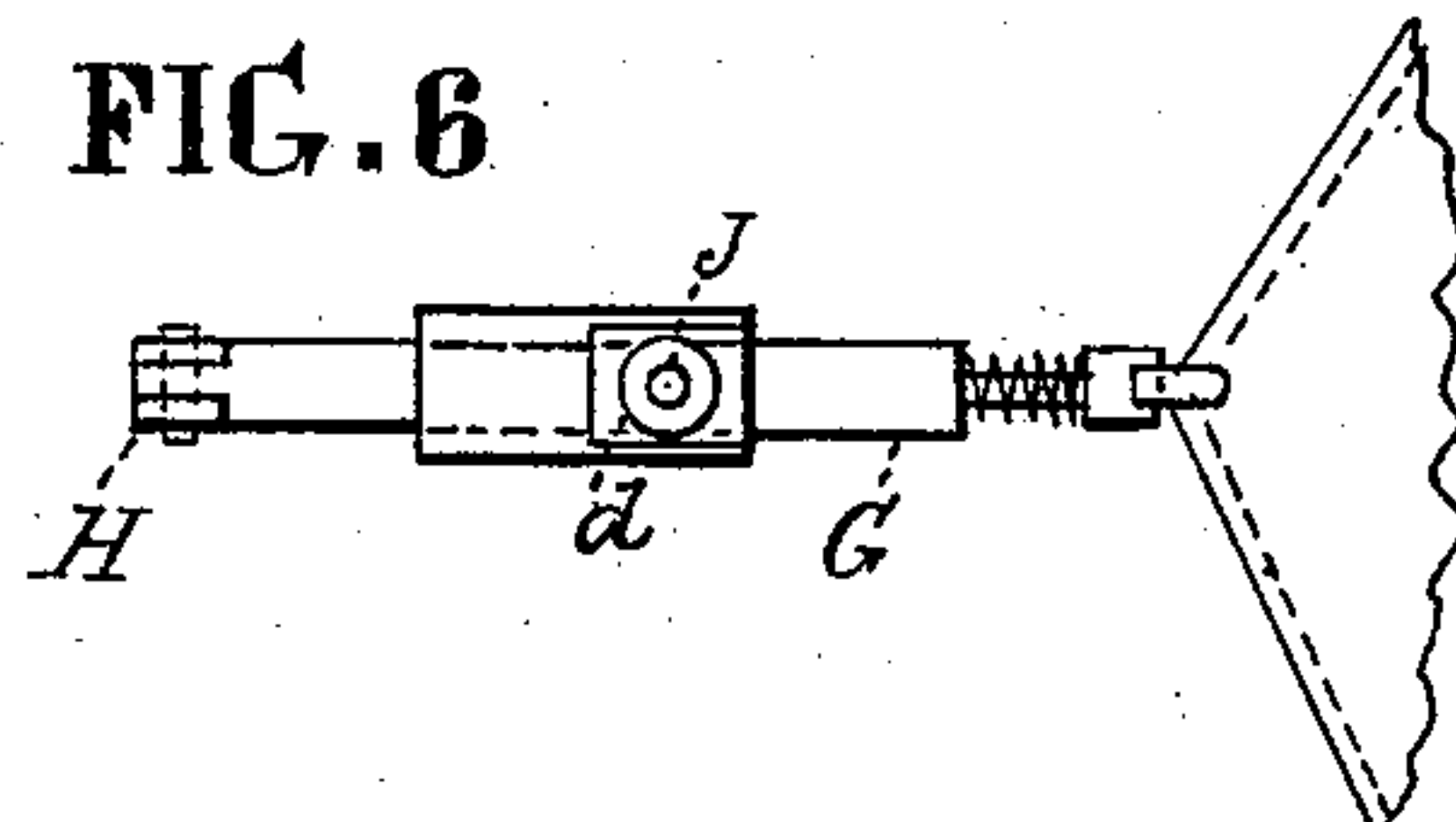
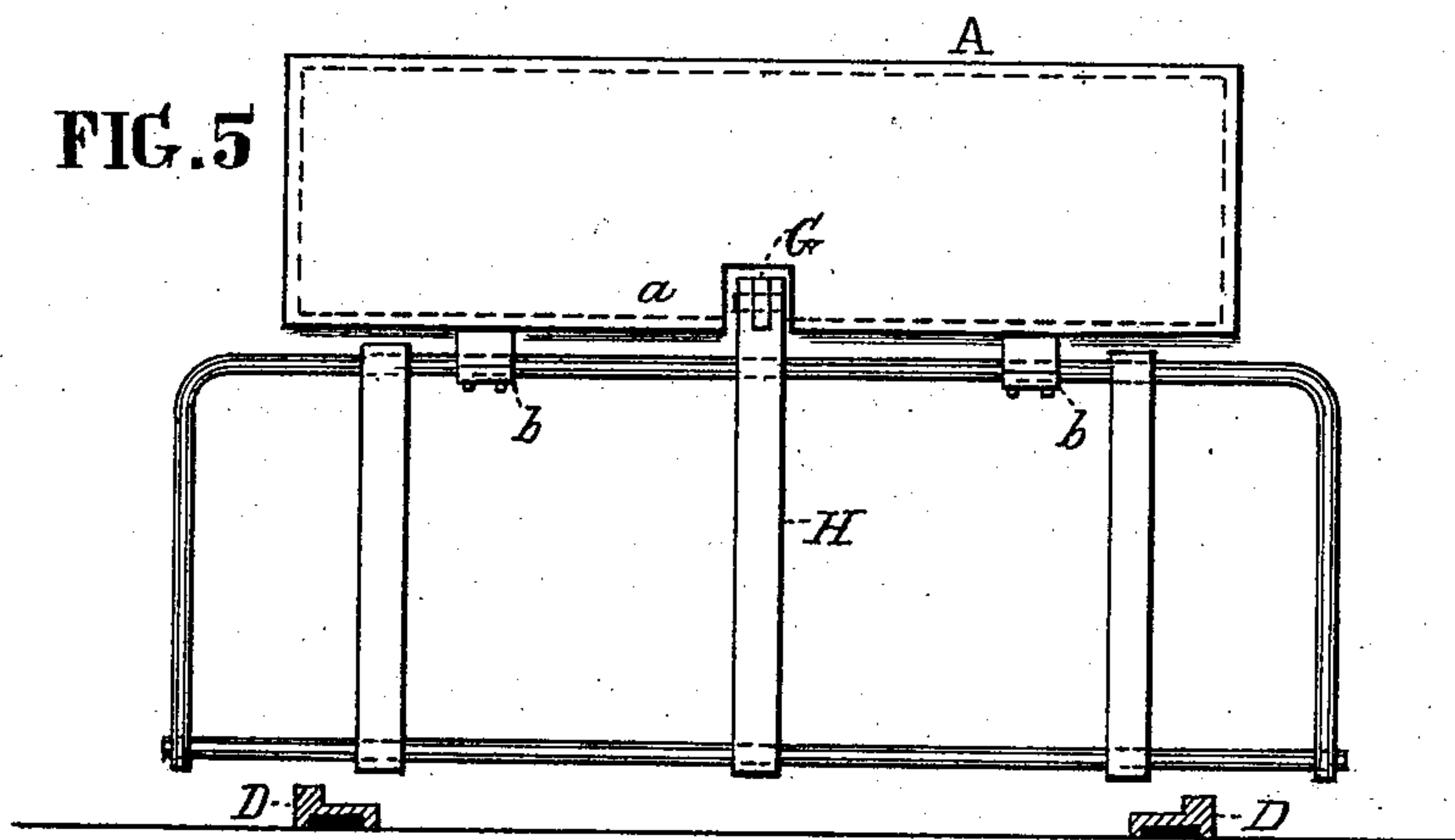
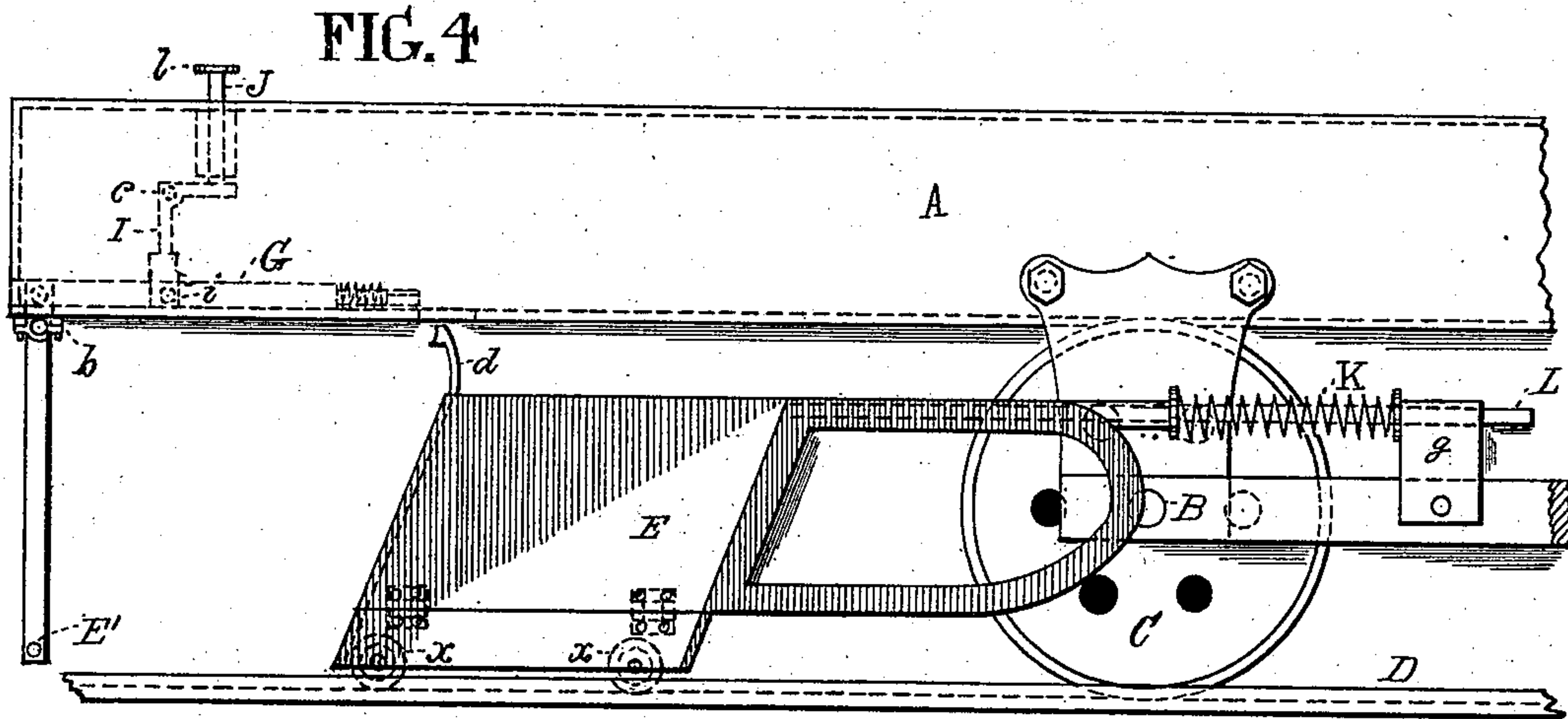
2 Sheets—Sheet 2.

C. R. HALL.

OPERATING FENDERS FOR STREET RAILWAY CARS.

No. 539,385.

Patented May 14, 1895.



Witnesses.
S. E. W. Bewley.
Otto Pflueger

Inventor.
Charles R. Hall.
per Thomas J. Bewley, atty.

UNITED STATES PATENT OFFICE,

CHARLES R. HALL, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO CHARLES E. JONES AND LOUIS BASH, OF SAME PLACE.

OPERATING FENDERS FOR STREET-RAILWAY CARS.

SPECIFICATION forming part of Letters Patent No. 539,385, dated May 14, 1895.

Application filed June 27, 1894. Serial No. 515,815. (No model.)

To all whom it may concern:

Be it known that I, CHARLES R. HALL, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Mechanism for Operating Fenders for Street-Railway Cars, of which the following is a specification.

The invention relates to a device for holding and retaining the fender in its elevated and suspended position above the surface of the road bed, when not desired for use in the removal of obstructions from the track, and in the means employed to release the retaining mechanism by which the fender is suspended and permitting it to descend to the surface of the road.

The invention consists of a feeler, or supplemental fender placed at the extreme forward end of the platform of the car, beneath the same, and transversely therewith, which is hung at its upper edge in suitable bearings beneath said platform, and is provided with a longitudinal rod, extending through a passage in the platform, which rod has a pivotal connection with a vertical rod, or bar of the fender, in such a manner that when the lower edge of the feeler, or supplemental fender strikes an obstruction it draws the longitudinal rod supporting the main fender in its elevated position from connection with a hook upon its apex, thereby releasing said fender from its connection, and permitting it to descend, as will be more fully hereinafter described.

The main fender has a pair of side rods extending longitudinally with the car, one upon each side, that have pivotal bearings at their ends, upon side braces of the car parallel therewith. Each of said side rods has a helical spring surrounding the same, which act as braces to counteract any tendency to a slipping of the hook upon the apex of the fender from connection with the fender, when in an elevated, or suspended position.

The fender has a lower transverse portion on either side which is hinged to the main portion parallel, and in line therewith, so that should the same strike an obstacle in the road-

way during the passage of the car it would yield inwardly, and prevent destruction of the fender.

In the accompanying drawings, which make a part of this specification, Figure 1, Sheet No. 1, represents a plan view of the forward end of the platform of a car with the improvements connected thereto. Fig. 2 represents a side elevation of the same with a portion of the platform in section, showing the mechanism for retaining the fender in its elevated position. Fig. 3 represents an end view. Fig. 4, Sheet No. 2, represents a side elevation showing the fender E released from its suspending mechanism and resting upon the surface of the roadway. Fig. 5 represents a face or end view of the feeler or supplemental fender as attached to the front end of a car. Fig. 6 is a plan view of the mechanism for suspending and retaining the fender in its elevated position detached from the car.

Like letters of reference in all the figures indicate the same parts.

A, is the platform of the car body, which is represented in the drawings as being constructed of framed, or joined timber, so as to form an inclosed space therein for the reception of the operating mechanism, for controlling the fender E'.

B, is the axle, and C, C, the car wheels; D, rails over and upon which the cars are propelled.

As the construction of the body of the car may be similar to those now in use, a particular description of the same is deemed unnecessary to state.

G, is a rod, or bar, capable of horizontal reciprocating movements in a passage of the receptacle *a*, in the platform A, and to which the vertical rod H, of the feeler, or supplemental fender E', is connected, this fender (E') being hung in the bearings *b, b*, secured to the under surface of the platform, which renders it capable of oscillatory movement.

To the sides of the rod G, are pivoted the bell crank lever I, hung on the pin *c*, whose upper, or free arm rests in a horizontal position under the vertical push rod J, that extends through the upper surface of the plat-

form A, and is provided with a disk *l*, upon its upper and outer end.

The operation of the mechanism is, as follows: The metallic fender E, which is represented as being of V shape, with the apex in front, is raised upward (see Fig. 2, Sheet No. 1) and its projecting hook *d*, caused to engage over and the flattened surface of the inner end of the horizontal rod G, which retains said fender in its elevated position—the pressure of the helical springs K, K, on the side rods L, L, pivoted on the bearing *g* retaining the hook *d*, on the end of the slide rod G, and preventing an accidental descent of the fender. Should an obstacle impede the progress of the car, the supplemental fender E', is caused to be pushed inward from its lower end (see dotted lines in Fig. 2) thereby drawing the rod G, forward, thus releasing the hook *d*, from its engagement with said apex of the fender E, whereby said fender is permitted to descend by gravitation, nearly to the surface of the track, the friction rollers *x*, rotating over the surface, to prevent jamming, and the obstruction is pushed from the roadway. The fender E, is also under control of the operator, or motorman, who, by pressing downward the rod J, upon the free end of the bell-crank lever I, causes the lower end thereof of connected to the slide rod G, by means of pin *i*, to draw said rod forward, thereby releasing it from connection with the hook *d*, thus permitting of a descent of the fender.

The fender is formed in two sections on either side, which are connected together transversely by means of spring actuated hinges in order that should a rigid obstacle be met with on the roadway, the lower sec-

tion will yield sufficiently in its passage, to prevent the destruction of the fender.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a car fender, the supplemental fender E', hinged at its upper edge to the lower surface of the car platform, and pivotally connected at said upper edge by means of the rod H to the sliding rod G, the fender E, pivotally connected by means of the side rods L, L, to the bearings *g*, *g*, the springs K, K, surrounding the rods L, and hook *d*, on the apex of the fender, adapted to engage with the rear end of the sliding rod G, the bell crank lever I, hung on the bearing C, and vertical sliding rod J, for operating said fender, substantially in the manner herein shown and described.

2. In a car fender, the supplemental fender E', hinged at its upper edge to the lower surface of the car platform, and pivotally connected at said upper edge to the sliding rod G by means of the rod H the fender E, pivotally connected by means of the side rods L, L, to the bearings *g*, *g*, the springs K, K, on said rods L, and hook *d*, on the apex of the fender adapted to engage with the rear end of said rod G, whereby the inward swivel movement of said supplemental fender E' releases the hook *d*, from contact with the inner end of rod G, and permits the fender to descend to the surface of the track, substantially in the manner herein set forth.

CHARLES R. HALL.

Witnesses:

THOMAS J. BEWLEY,
HARRY J. FRANZ.