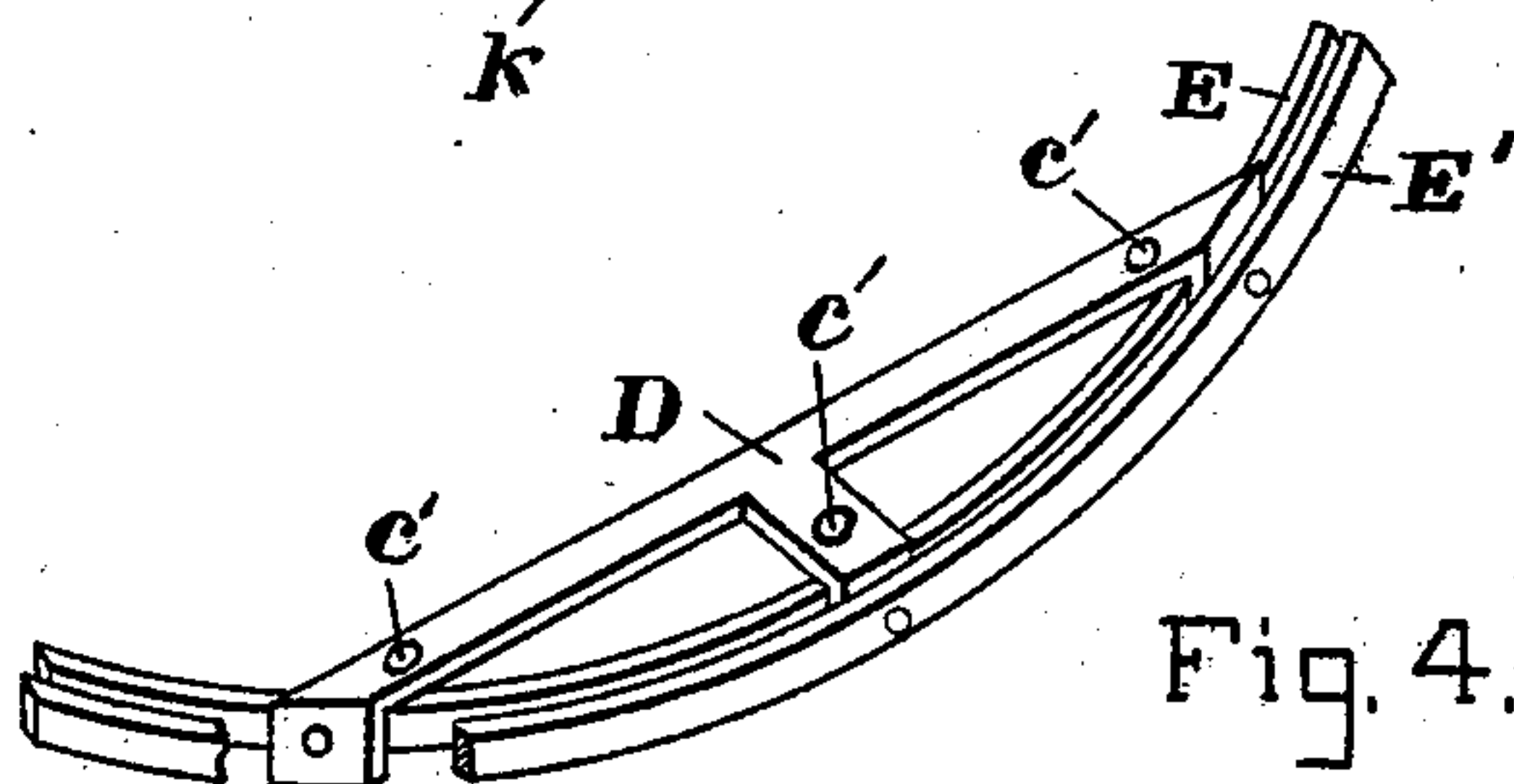
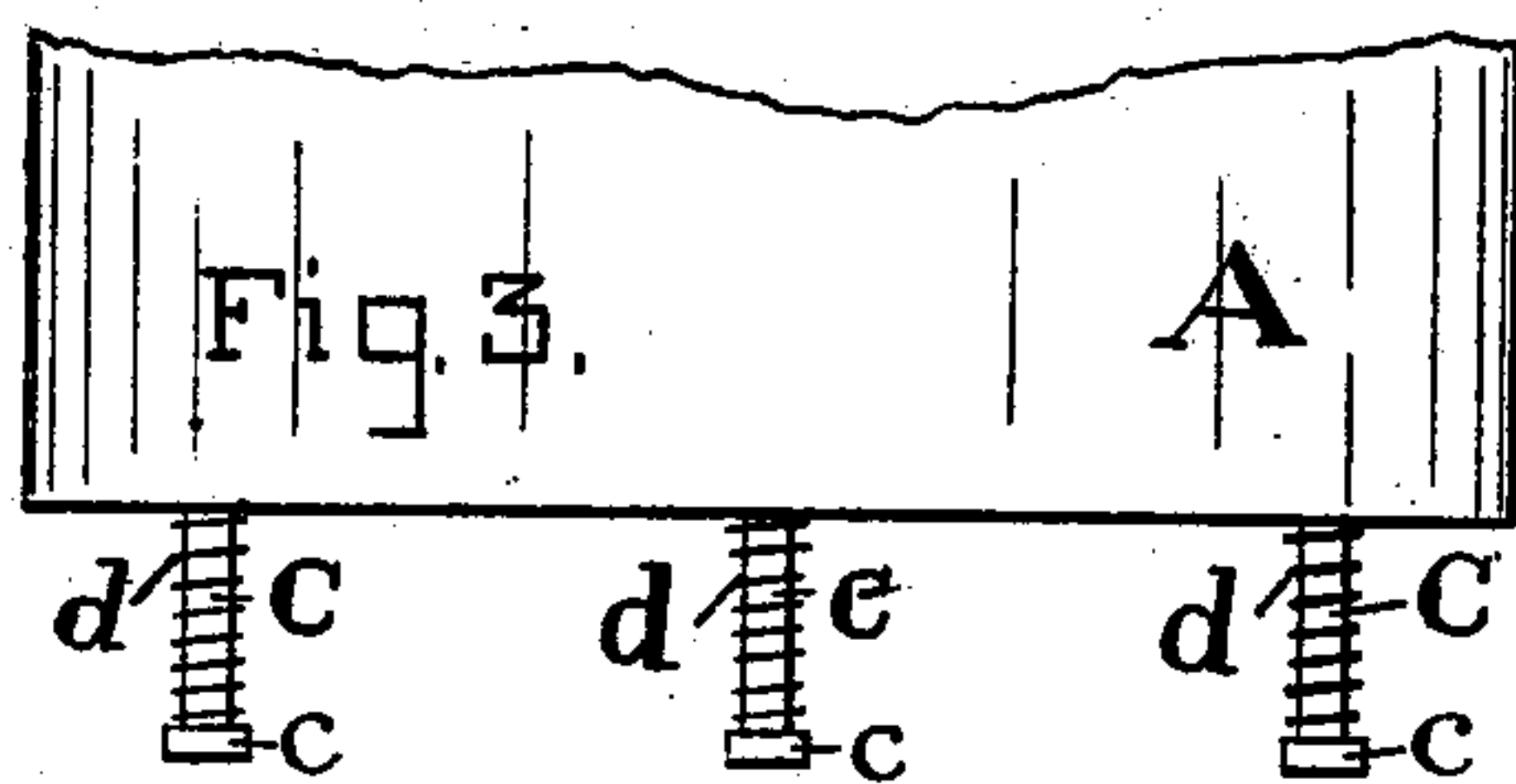
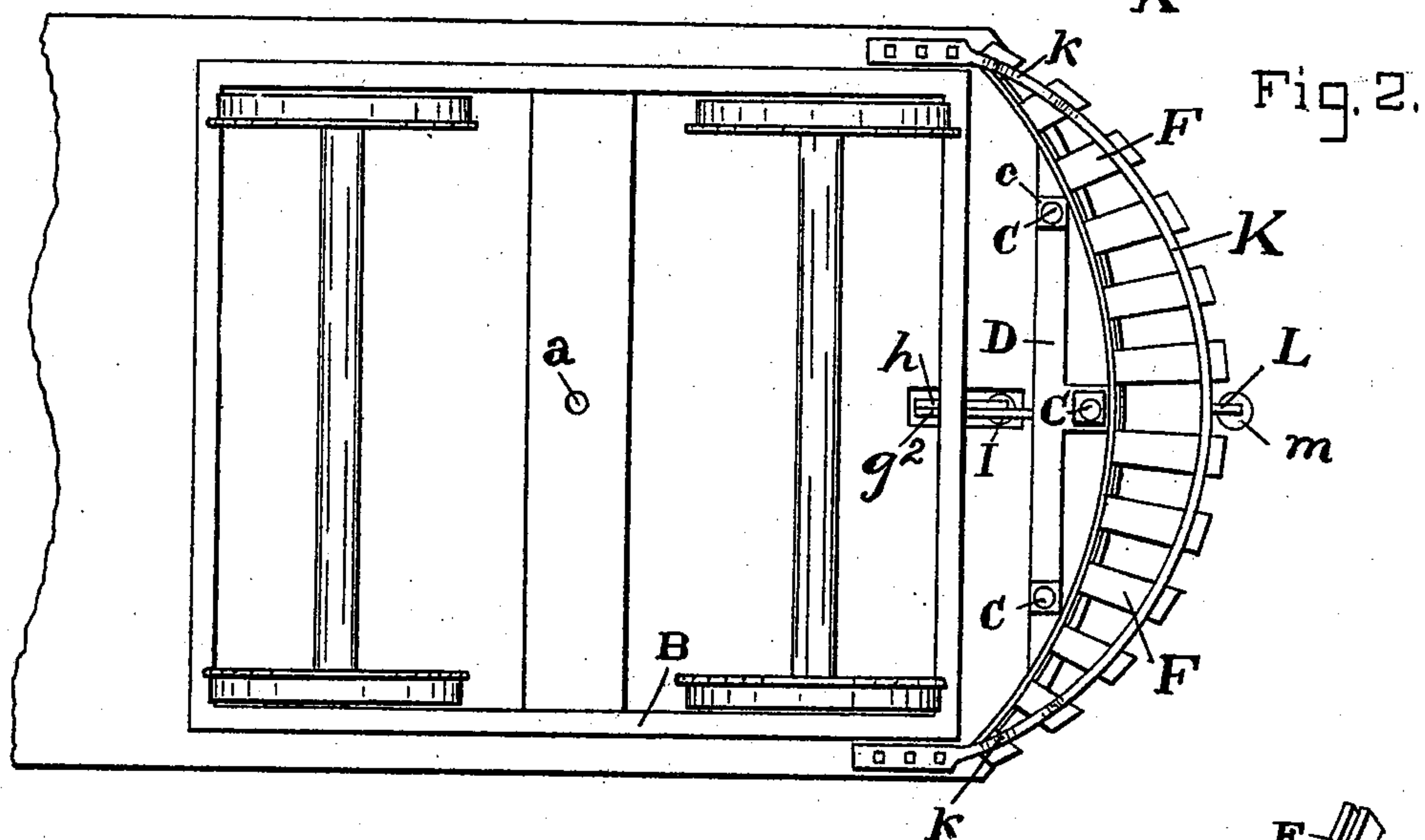
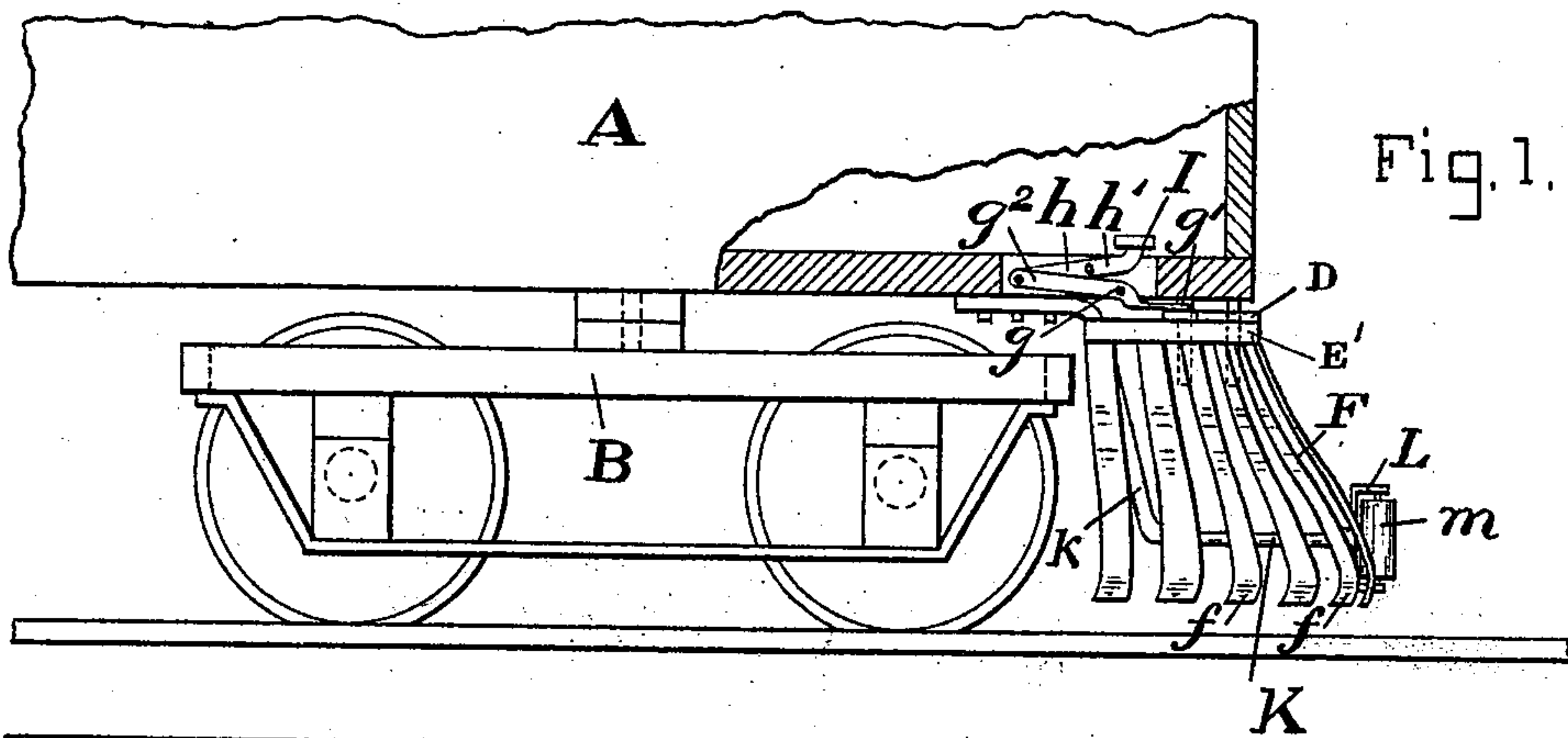


(No Model.)

G. C. SCHMIDT.
SAFETY CAR FENDER.

No. 519,648.

Patented May 8, 1894.



WITNESSES
Chas. B. Mann Jr.
Alvan Macauley

Fig. 5.

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UNITED STATES PATENT OFFICE.

GEORGE C. SCHMIDT, OF BALTIMORE, MARYLAND, ASSIGNOR OF ONE-HALF
TO ABRAHAM HARMAN, OF SAME PLACE.

SAFETY CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 519,648, dated May 8, 1894.

Application filed July 25, 1893. Serial No. 481,439. (No model.)

To all whom it may concern:

Be it known that I, GEORGE C. SCHMIDT, 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 an improvement in fenders for street-cars which shall remove obstructions from the car-track by brushing them to one side as the car advances, the fender being of such form that, if the obstruction be a human being, it will not strike a death dealing blow.

In the accompanying drawings,—Figure 1. is a side elevation of one of the trucks of a car and showing the car partly in section with the improved fender attached thereto. Fig. 2. is a bottom plan view of the car and fender. Fig. 3. is a front elevation of part of the car body with the hanger rods attached thereto. Fig. 4. is a perspective view of the top frame of the fender. Fig. 5. is a diagram showing the stay-bar and the relative position of the spring tines with respect thereto.

Referring to the drawings the letter, A, designates the car-body; B, one of the trucks which is pivoted thereto at, *a*, in the usual manner. The fender is attached to the forward end of the car and is supported by three hanger rods, C, which project downward from the bottom of the car in front of the truck, B, and have nuts or flanges, *c*, upon their lower ends, for a purpose to be presently described. A T-shaped bar, D, has three perforations, *c'*, through which the rods, C, pass loosely and the said bar is movable up and down on said rods, being normally retained in a raised or elevated position by means of compression springs, *d*, on the hanger rods. Said springs bear at one end against the nut or flanges, *c*, and at the other against the lower side of the bar, D, thus the bar can only be depressed against the force of the said springs. The parallel curved bars, E, E', are secured to the ends of the T-shaped bar and these bars, D, E, E', constitute a frame to support a number of spring tines or fingers, F, each rigidly secured at its upper end between the curved bars, from which point of

at an inclination to the ground. The lower ends of the tines or spring fingers are normally a few inches above the ground and are curved slightly back or under as at, *f*, to more easily slide over stones on the street when the fender is depressed. To facilitate the operation of depressing the fender, a lever is pivoted to the car-body at, *g*, and one end, *g'*, abuts against the upper side of the T-shaped bar; the other end, *g''*, is jointed to one end, *h*, of a second lever also pivoted to the car, the other end, *h'*, of which extends upward through the floor of the car and terminates in a foot-piece, I. It can be readily seen that by depressing the foot-piece, I, the end, *g'*, of the first named lever can be made to press down upon the upper side of the T-shaped bar and thus depress the fender. On releasing the foot-piece the springs, *d*, will immediately elevate the fender to its normal position. A semi-circular stay bar, K, extends in a curve back of and parallel to that formed by the swivel tines or fingers, F, see Fig. 5 the distance between the stay bar and the spring fingers being in practice perhaps four or five inches. The said stay bar at each end is provided with an inclined part, *k*, which extends upward and is bolted or otherwise fastened to the bottom of the car. A short Y-shaped piece, L, projects from the middle point of the stay bar, K, between two of the fingers, F, and a vertical roller, *m*, formed preferably of soft rubber is journaled in the arms of the Y-shaped piece and in front of the fingers. The operation of the device is as follows:—If when in use an obstruction be observed on the track and there should not be sufficient time to stop the car the gripman or motorman of the car will depress the fender by operating the foot-piece, I, and when the car has advanced sufficiently either the tines or the soft roller, *m*, will strike the obstruction; if the roller strikes it, it will turn and be encountered by the spring fingers, F, on one side or the other of the said roller; the said fingers will encounter it one after another, finally sweeping it off the track. The force of the impact will cause the said spring-fingers to yield, and they may yield until they come into contact with the stay-bar, which stops further backward movement and thus

prevents the tines or fingers from being broken off. The shock of an encounter is always taken up by the yielding of the spring-fingers, and thus if the obstruction be a human being he will not be struck a hard and death-dealing blow but will be removed from the track with comparatively little injury.

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

1. The combination of a car-body; a frame movable up and down, that is to and from the car-body; a fender attached to the said frame and comprising a number of resilient spring-fingers each rigidly secured at its upper end but having its lower end free; and means for operating the said frame and fender up and down.

2. The combination of a car-body; a number of resilient spring-fingers each rigidly secured at its upper end, and having its lower end free; and a rigid stay-bar having position in the rear of the spring-fingers and serving as a stop after the said fingers have bent backward, substantially as described.

3. In a fender for street-cars the combination of a number of resilient spring-fingers each secured at its upper end, and having its

lower end free; and a vertically disposed revoluble roller having position in advance of the spring-fingers and midway between the rails of the car-track.

4. In a fender for cars, the combination of a number of resilient spring-fingers each secured at its upper end and having its lower end free; a rigid stay-bar having position in the rear of the spring-fingers; and a vertically disposed revoluble roller in advance of the spring-fingers and midway between the rails of the car-track.

5. The combination of a car-body; hanger rods depending below the car-body; a frame vertically-movable to and from the car-body on the said rods; springs on the rods to sustain the frame; a fender attached to the frame and comprising a number of resilient spring-fingers each secured at its upper end and having its lower end free, and a foot lever to depress the frame and spring-fingers.

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

GEORGE C. SCHMIDT.

Witnesses:

ABRAHAM HARMAN,
CHAS. B. MANN.