

(No Model.)

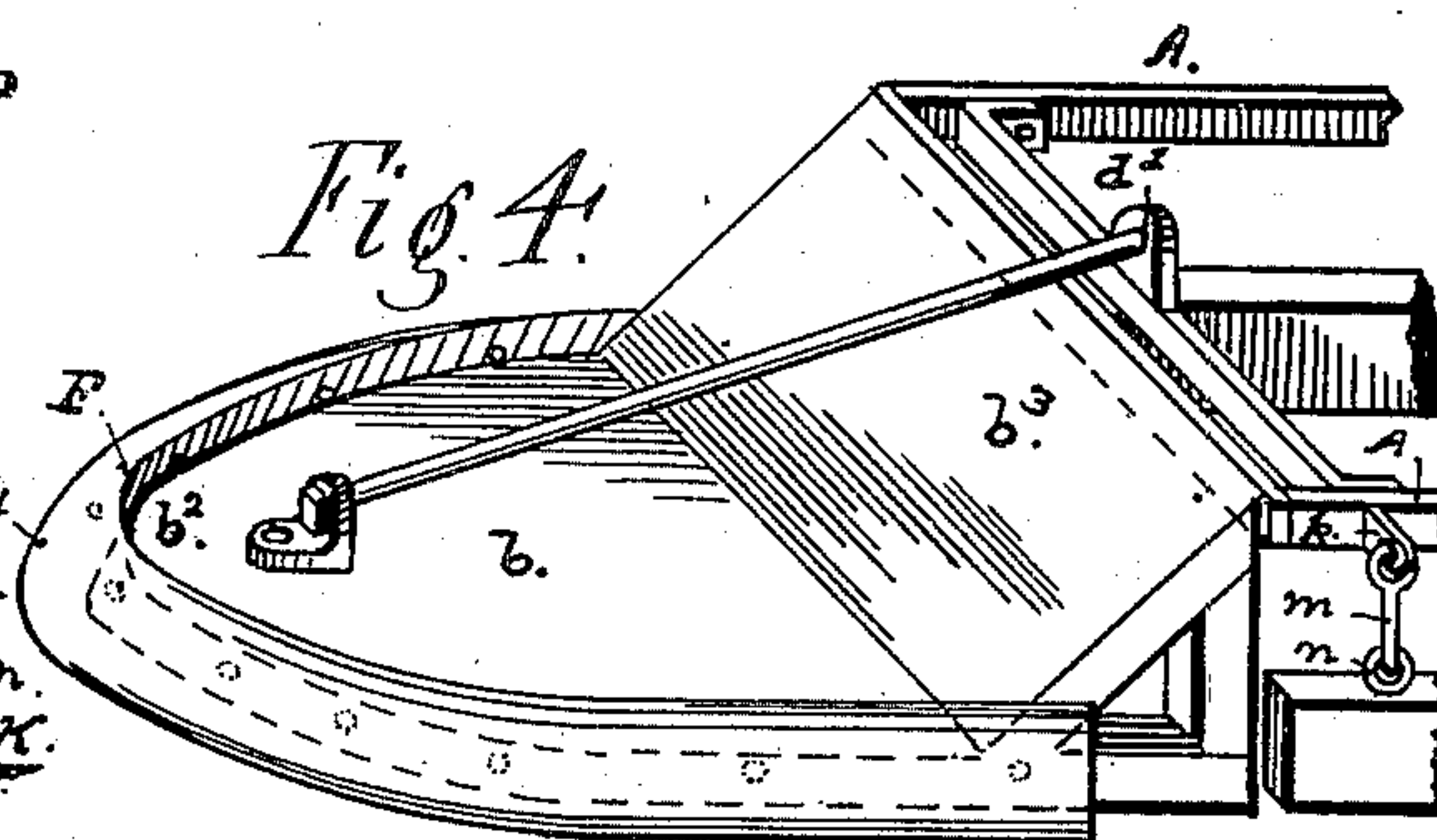
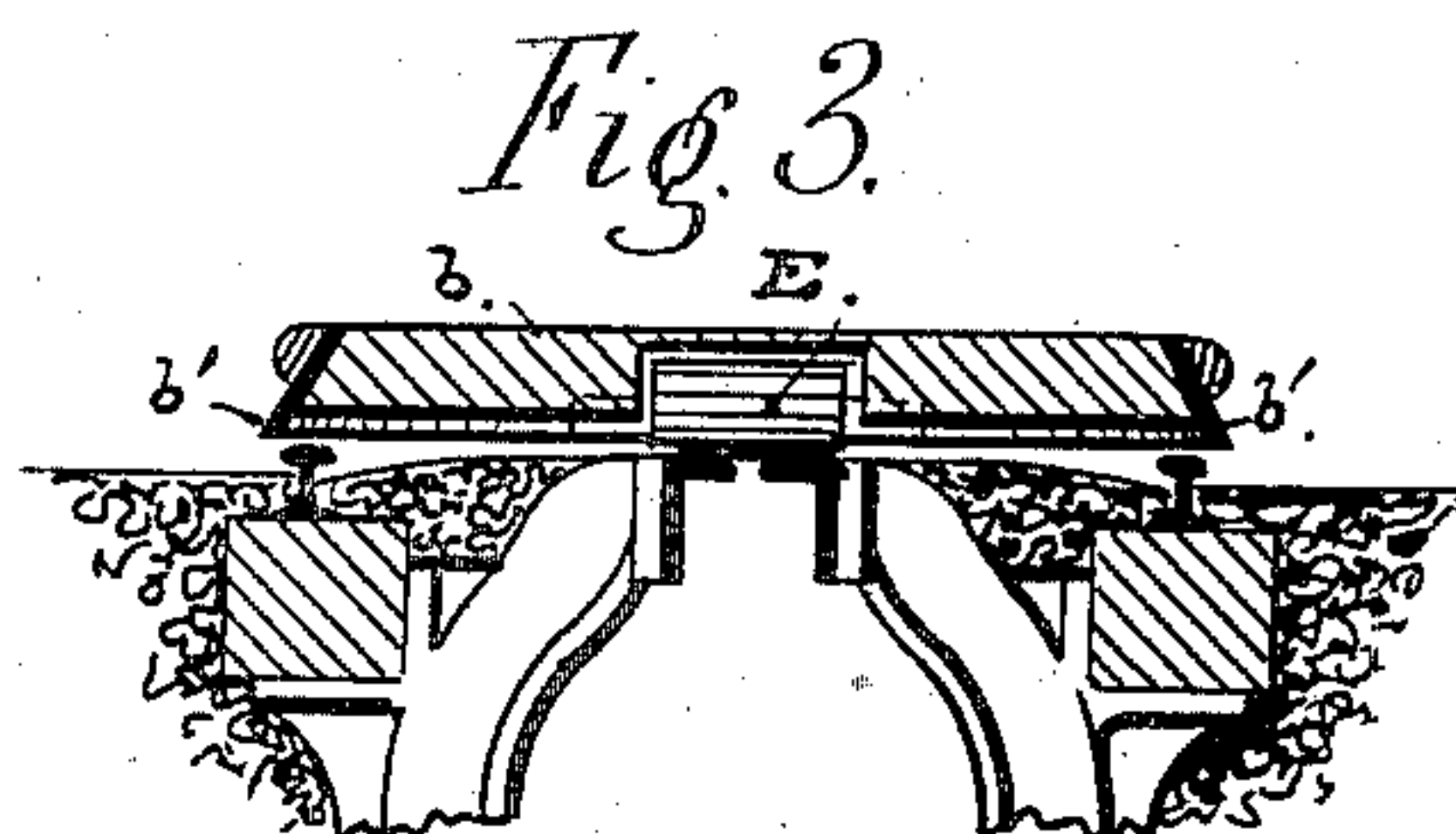
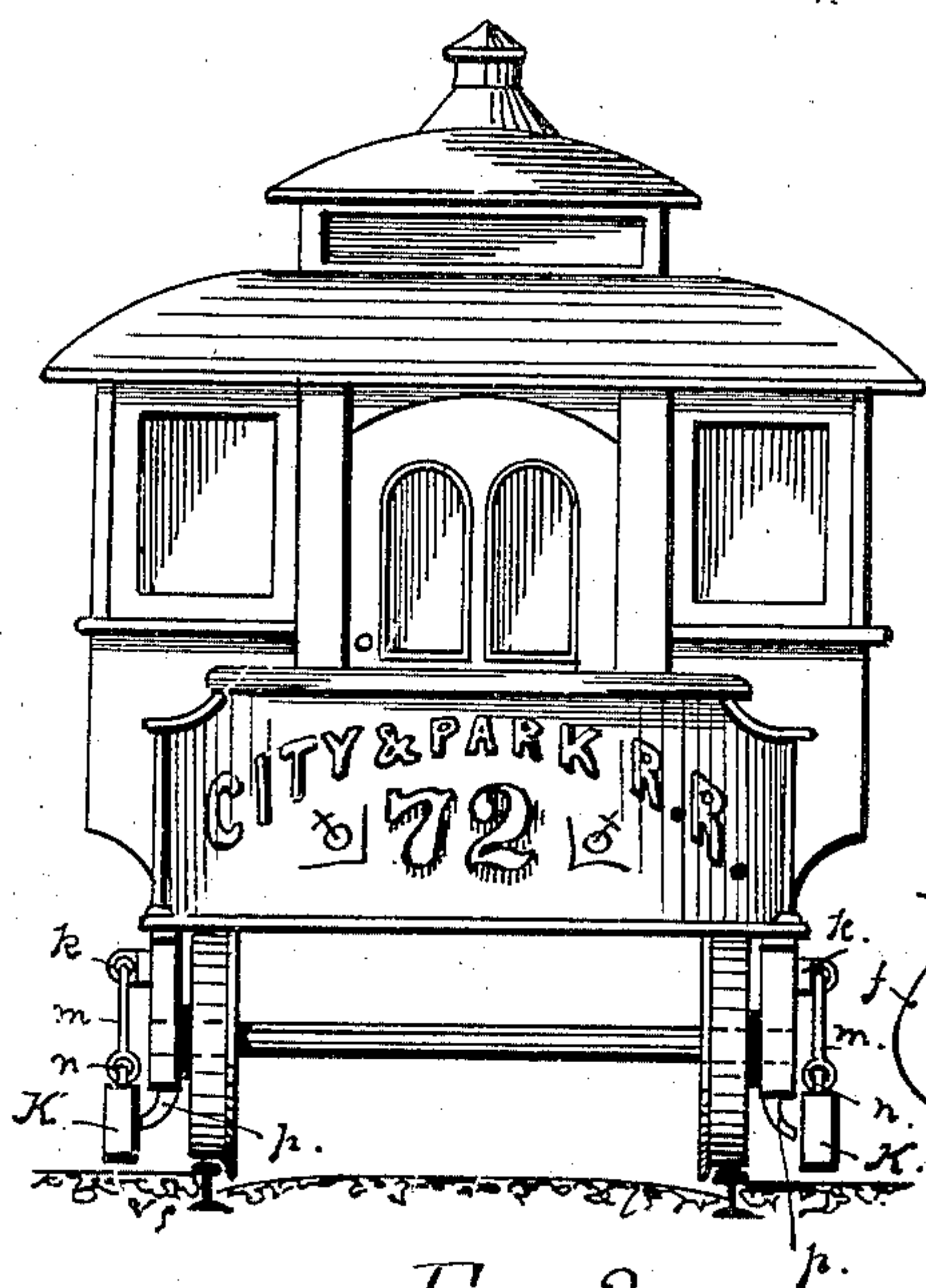
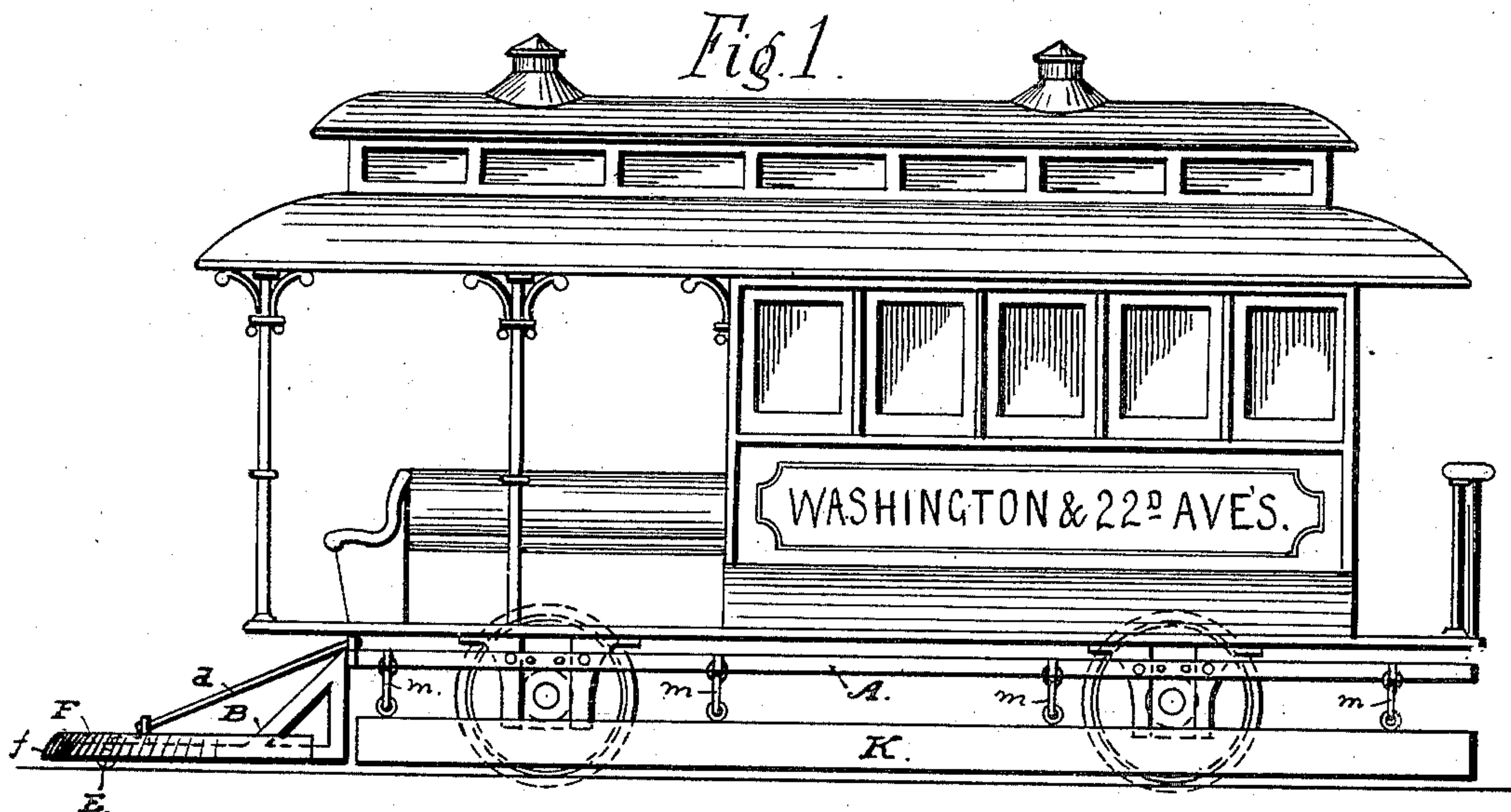
2 Sheets—Sheet 1.

J. JACOBS.

WHEEL GUARD FOR RAILWAY CARS.

No. 314,580.

Patented Mar. 31, 1885.



Witnesses,

Edward E. Colburn

Pro Taggaro

Inventor.

Joseph Jacobz.

(No Model.)

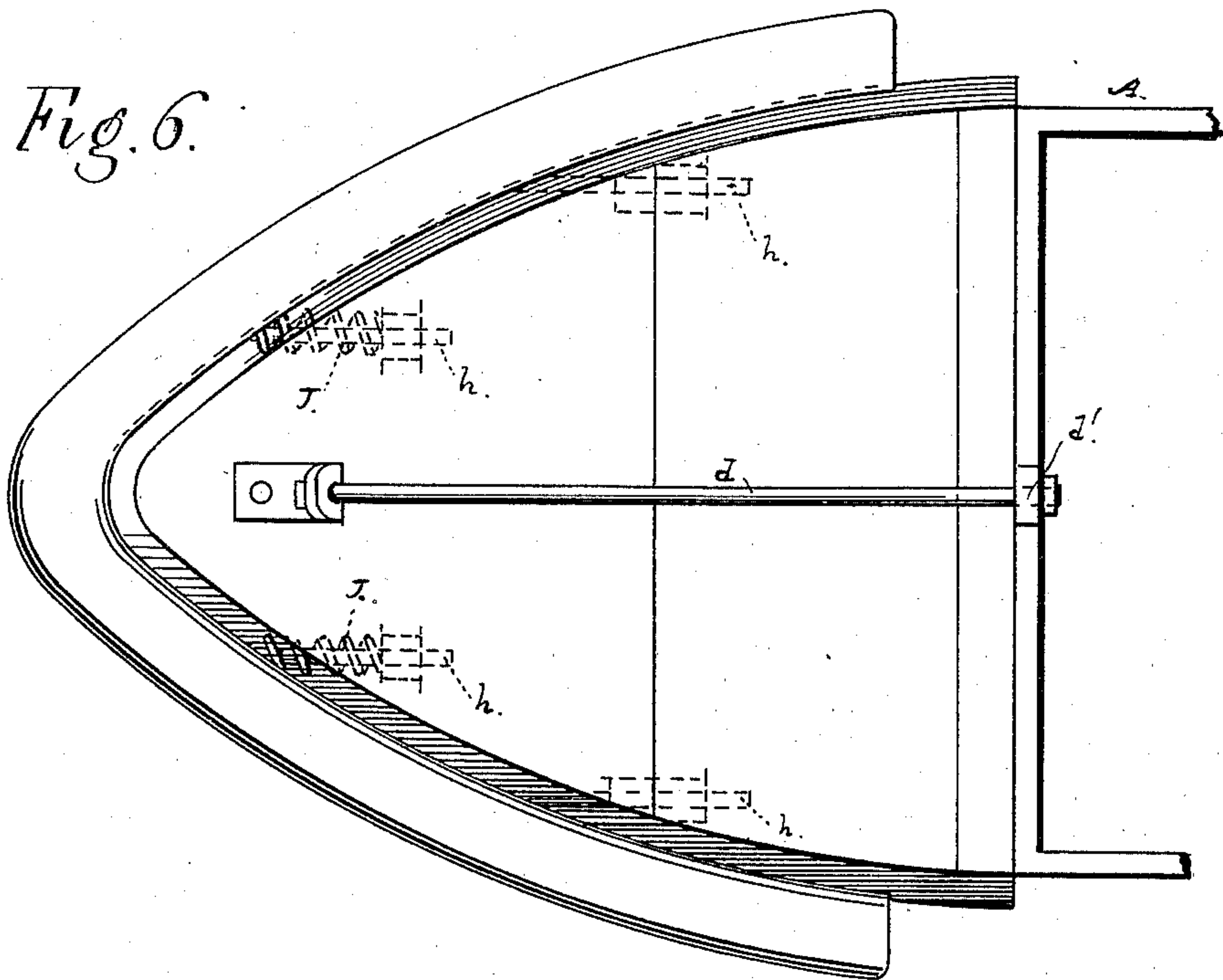
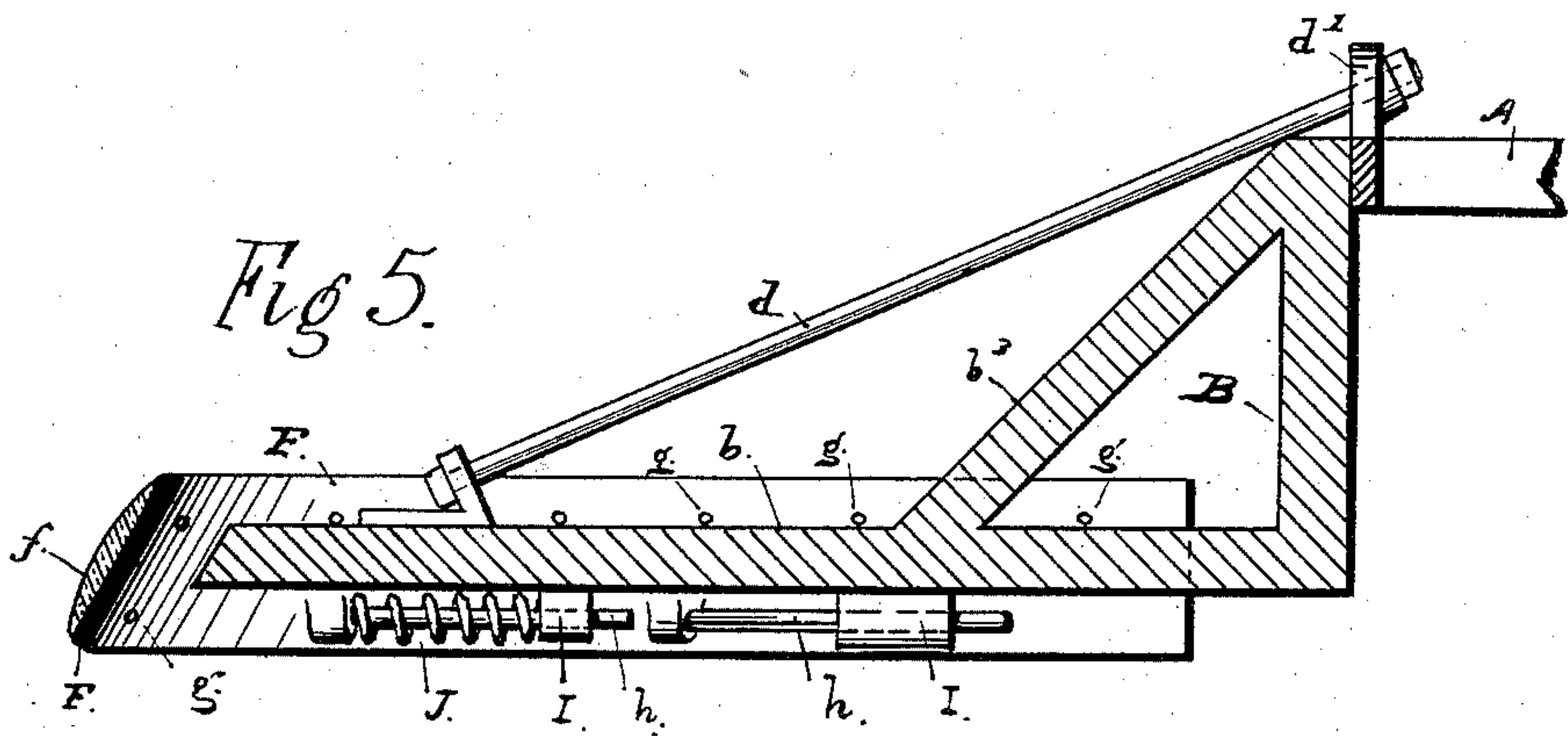
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WHEEL GUARD FOR RAILWAY CARS.

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Witnesses.

Edward J. Osborn

John L. Taggart

Inventor.

Joseph Jacobs.

UNITED STATES PATENT OFFICE.

JOSEPH JACOBS, OF SAN FRANCISCO, CALIFORNIA.

WHEEL-GUARD FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 314,580, dated March 31, 1885.

Application filed February 16, 1884. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH JACOBS, a citizen of the United States, residing in the city and county of San Francisco, in the State of California, have made and invented certain new and useful Improvements in Wheel-Guards for Railway-Cars; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, that form a part of this specification.

My invention relates to safety attachments for the ends and sides of railway-vehicles—such as are commonly known by the titles of “wheel-guards” and “fenders.” A device or attachment of such character, both for the ends and the sides of a car, was patented to me on the 15th day of May, 1883, by Letters Patent No. 277,490; and my present invention covers certain improvements thereon, which are designed to make the attachments more simple in construction and more effective in their operation, particularly when applied to the cars and other vehicles of street-railways.

The manner in which I proceed to produce and apply my said improvements is as follows, the drawings being referred to by figures and letters.

Figure 1 shows the two attachments applied to a street-car of a pattern now used on endless-cable railways. Fig. 2 is an end view taken from the rear of the car, and showing more particularly the position of the side guards with respect to the wheels and the surface of the roadway beneath. Figs. 3, 4, 5, and 6 show the construction of the fender for the front of the vehicle, Fig. 3 being an end view in cross-section through the fender as it is in position upon the roadway, Fig. 4 a perspective view of the fender, Fig. 5 a longitudinal section on a larger scale than the other views, and Fig. 6 a top view of the device.

A A represent a frame of bars, secured to the running-gear beneath the car-body, so as to be disconnected at all points from the body. It affords points of attachment at the front for the fender, and the guards are suspended from it at the sides.

In the construction given in Figs. 1 and 2

I have secured the bars directly to the tops of the axle-boxes at points *y y*, so that the vertical play of the car-body shall not affect the position of the frame, and its height above the surface of the roadway shall remain unchanged under varying loads.

B is the fender, that is supported from the front of this frame. It consists of a flat projecting platform, *b*, of suitable width to extend across the track and over the rails, and of a shape that gives rounding or tapering sides *b' b'*, approaching together at the front, and terminating in a round nose or blunt end, *b²*. The back portion, *b³*, is carried up to form an inclined surface at and across the rear end, so that the surface of the fender-body is partly a flat and practically horizontal platform and partly an upwardly-inclining surface. From the outer end of the platform an inclined brace, *d*, is carried backward to a lug, *d'*, on the support A, the purpose of which is to prevent the outer end from being raised or turned up in striking against obstructions upon the track. A broad traction-roller, E, is let into the bottom of the platform near the front, with sufficient projection to keep the under surface clear of the track, but yet permit it to run close to the surface of the roadway. Around the outer edge of this platform, and supported at sufficient distance from it to permit a certain amount of movement, is a rim or yielding edge that forms a cushion or elastic fender-rail, F. This part, while of the same general form to follow the outline of the front and sides of the platform, is provided with a slanting face, *f*, which is formed, preferably, of a strip of thick rubber, the body or frame of the part F being of wood or metal. This rubber covers the surface at the front and along the sides, and is secured at points *g* by fastenings that permit the rubber to be detached and renewed as circumstances require. This bar or fender F is attached to the platform at several points by means of rods *h*, fixed at one end to the inner face of the frame or body F, and passing through ears I on the under side of the platform. Coil-springs J are placed around these rods, or around as many of them as may be necessary to produce required resistance against the backward movement of this fend-

er-surface. The elasticity of this cushion is therefore readily changed by regulating the number and strength of the springs. The guards or protectors at the sides are formed of a single narrow board or plank, K, suspended loosely from points along the bar A, so as to clear the outer faces of the brackets and axle-boxes, and at the bottom edge to run close to the surface of the roadway. Long links or chains *m* are attached to ears *h* on the bar and to the guard K', secured by eyes or staples *n*. This loose connection permits the edge of the board to ride over small obstructions that may lie directly in its way. No lateral movement by contact with bodies along its outer surface is possible, however, by reason of fixed stops *p p*, that depend from the lower part of the brackets, and present points of resistance to such inward movement. The front ends of the boards K are brought up close to the back ends of the fender B, so as to practically cover and entirely protect the space under the car in front of the wheels. Now, as thus constructed and applied, the two parts constitute a complete protection at the front and along the sides. The force of a blow received from the front fender will be greatly diminished by the yielding quality or character of the front edge, and the injury otherwise resulting to a person being struck by a fender of the kind will be materially reduced, and to a degree not dangerous to life by virtue of such elastic edge.

The loose connections that hold the side guards are important, as preventing the guards themselves from being broken or damaged in running against obstructions in the roadway.

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

1. A fender attachment for cars, consisting of the frame A and front plate, *b*, and the continuous piece of rubber or analogous yielding material F, surrounding the exposed edge of

the plate *b*, and set at an inclination thereon, substantially as and for the purpose set forth.

2. The combination, with the horizontal front plate, *b*, and inclined rubber rim F, of the supporting arms or rods *h*, extended back from the rubber rim at right angles to the axles of the car, and supported loosely in the hangers or brackets I, and the coiled springs J, surrounding the rods *h*, and bearing at one end against the part F and at the other against the part I, substantially as and for the purpose set forth.

3. In a fender for cars, the combination of the horizontal plank or part *b*, having its exposed edges surrounded by the yielding rim F, and the inclined portion *b'*, extending from a point on the part *b* to the front of the car, substantially as set forth.

4. The combination of the supporting-frame A A, adapted to be fixed to the running-gear of a car, or so as to be disconnected from the car-body, the fender having the projecting platform portion *b* and the brace *d*, substantially as hereinbefore described.

5. The combination of the supporting-bar A, adapted to be fixed to the running-gear of a car, or so as to be disconnected from the body thereof, and the guard K, attached to it by loose connections *m*, substantially as hereinbefore described.

6. The combination of the frame B and traction-roller E, located in the central longitudinal line of the frame, and adapted to ride over the slot of a cable road, as set forth.

7. The combination of the horizontally-extended brackets or hangers *h*, the loose link *m*, and the guard-plank K with the stop *p*, having a curved end secured upon the lower part of the axle-box and curved outward, as shown, and for the purpose set forth.

JOSEPH JACOBS. [L. S.]

Witnesses:

EDWARD E. OSBORN,
JNO. L. TAGGARD.