

(No Model.)

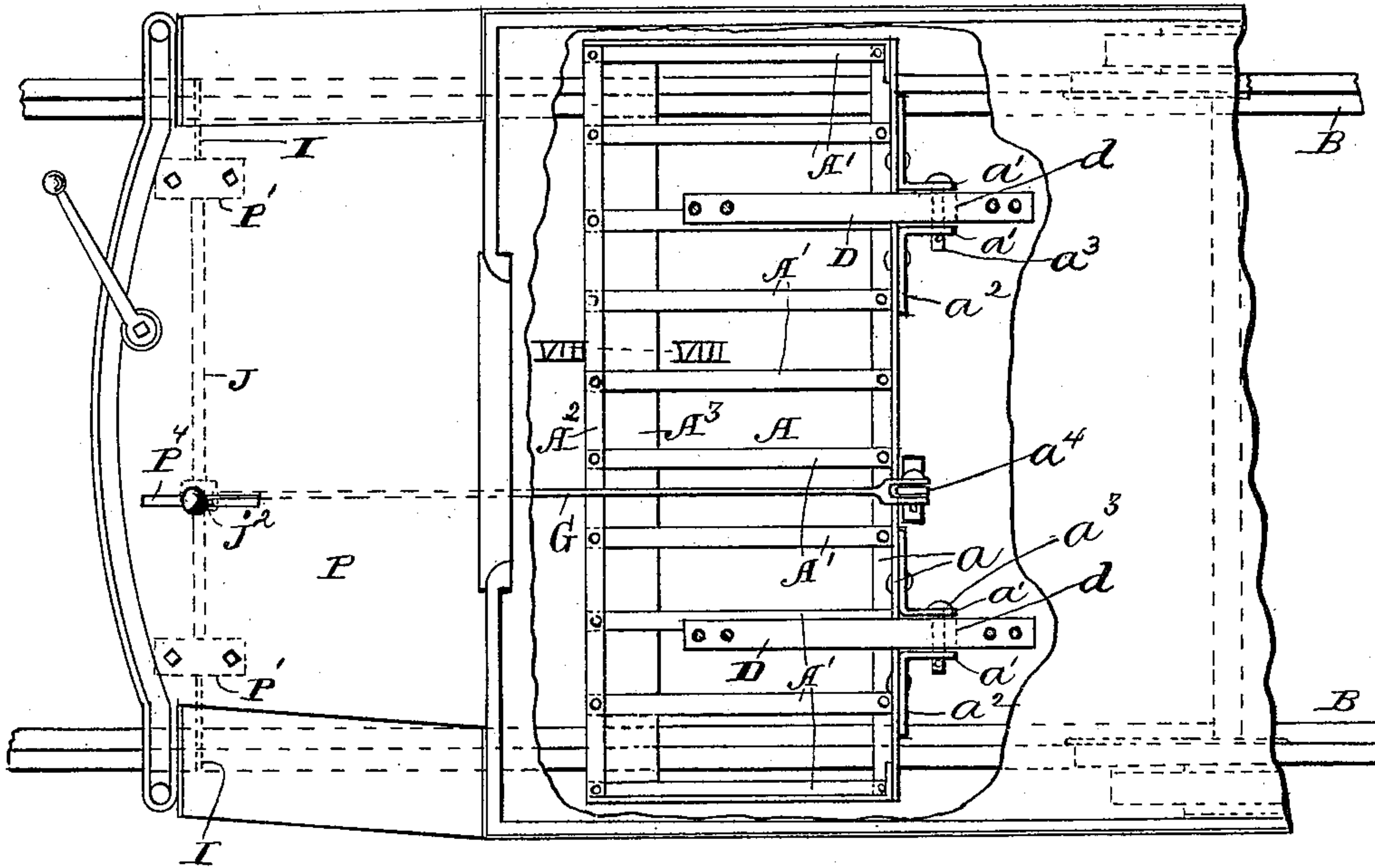
2 Sheets—Sheet 1.

J. ENRIGHT.  
CAR FENDER.

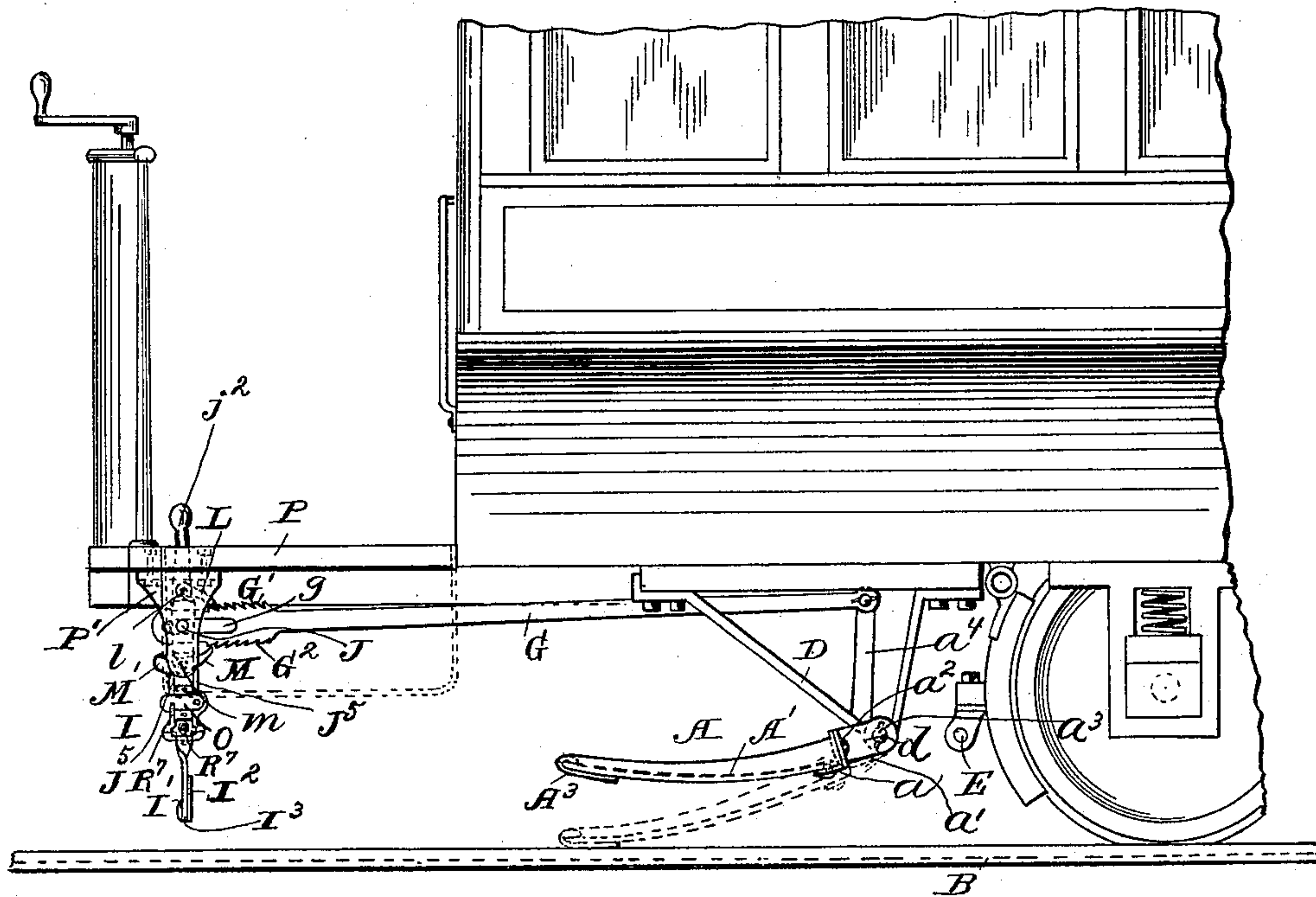
No. 583,284.

Patented May 25, 1897.

—FIG. I—



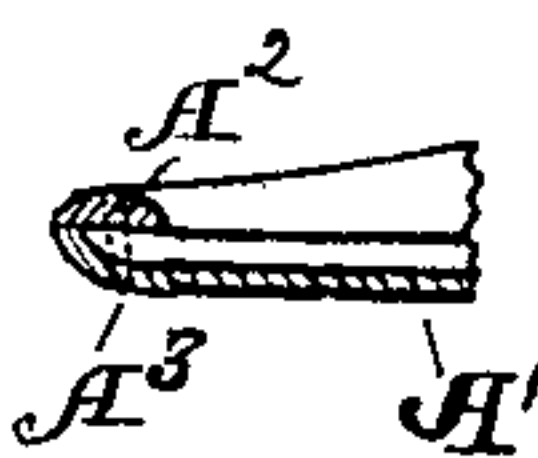
—FIG. II—



WITNESSES:

J. C. Turner  
Ella C. Tilden

—FIG. VII—



INVENTOR

John Enright

BY

Synch. Dorer & Donnelly  
his ATTORNEYS

(No Model.)

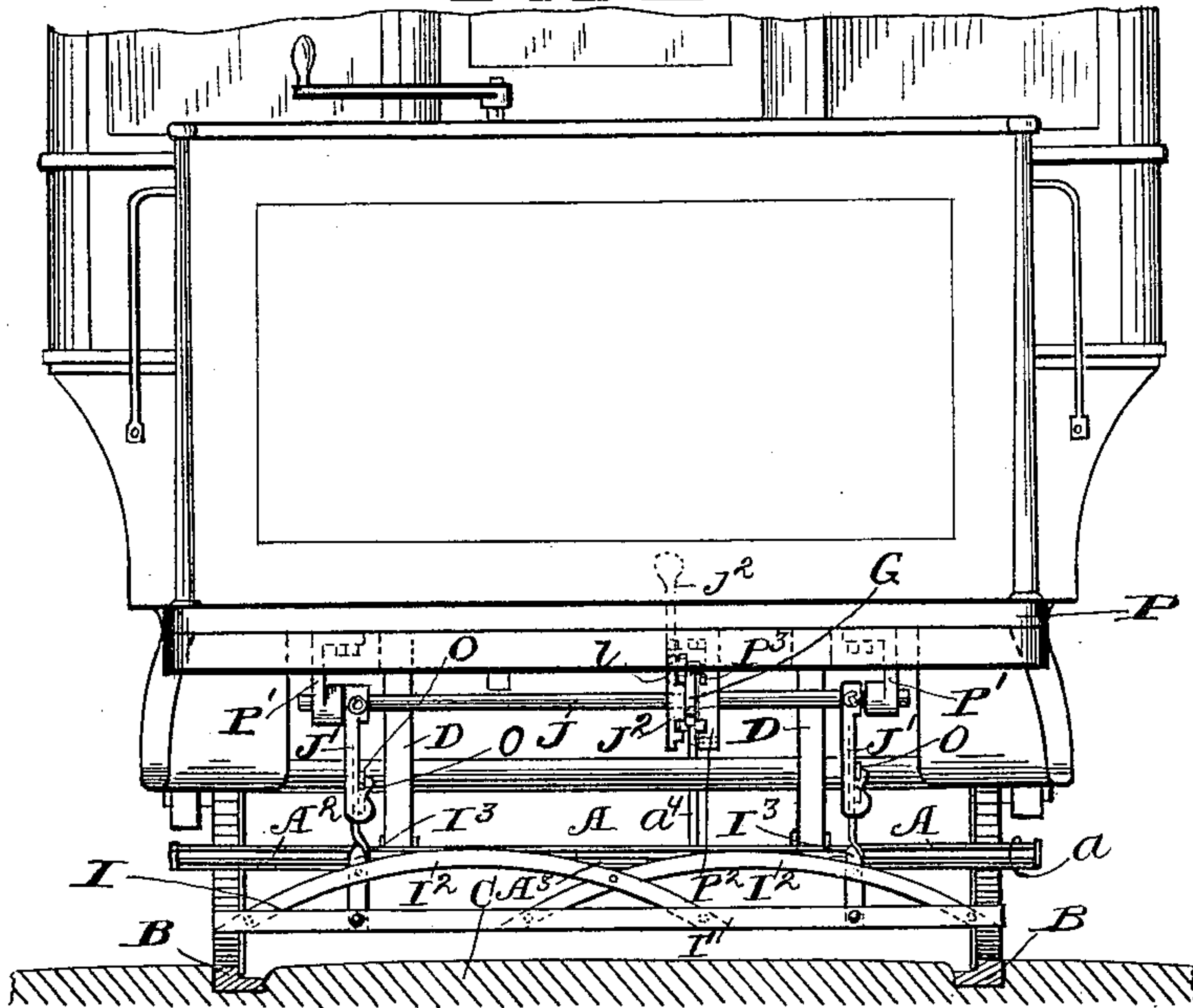
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J. ENRIGHT.  
CAR FENDER.

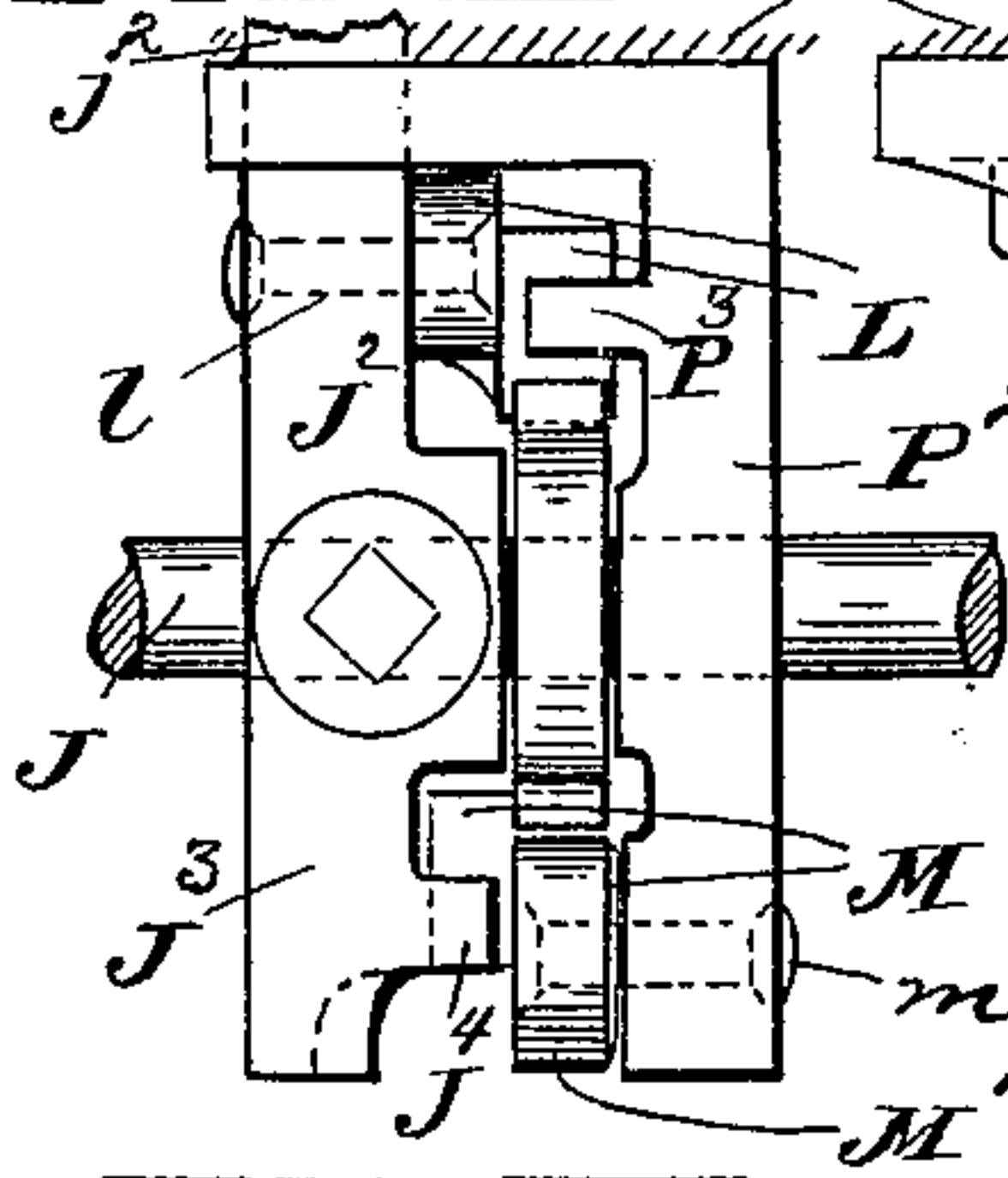
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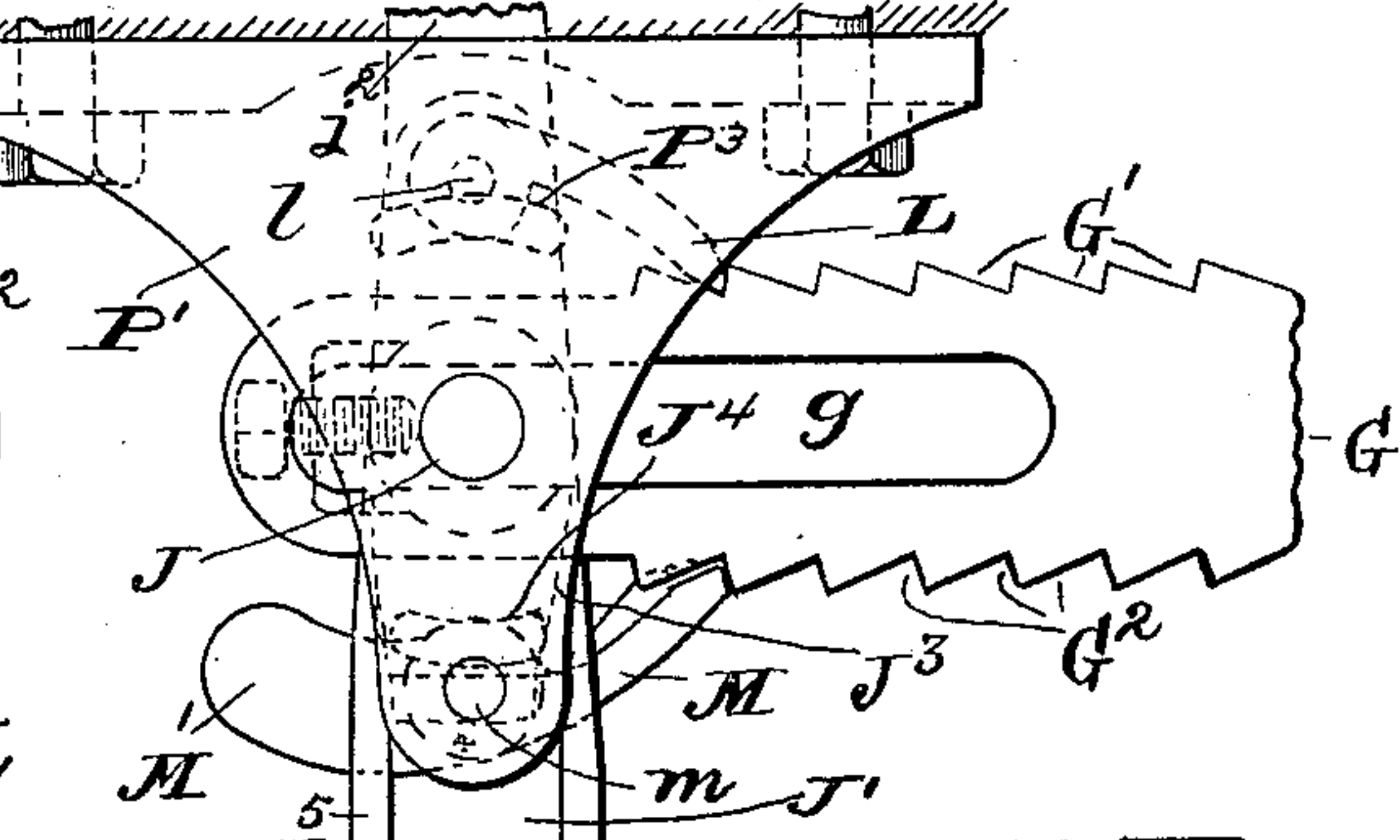
-FIG. III-



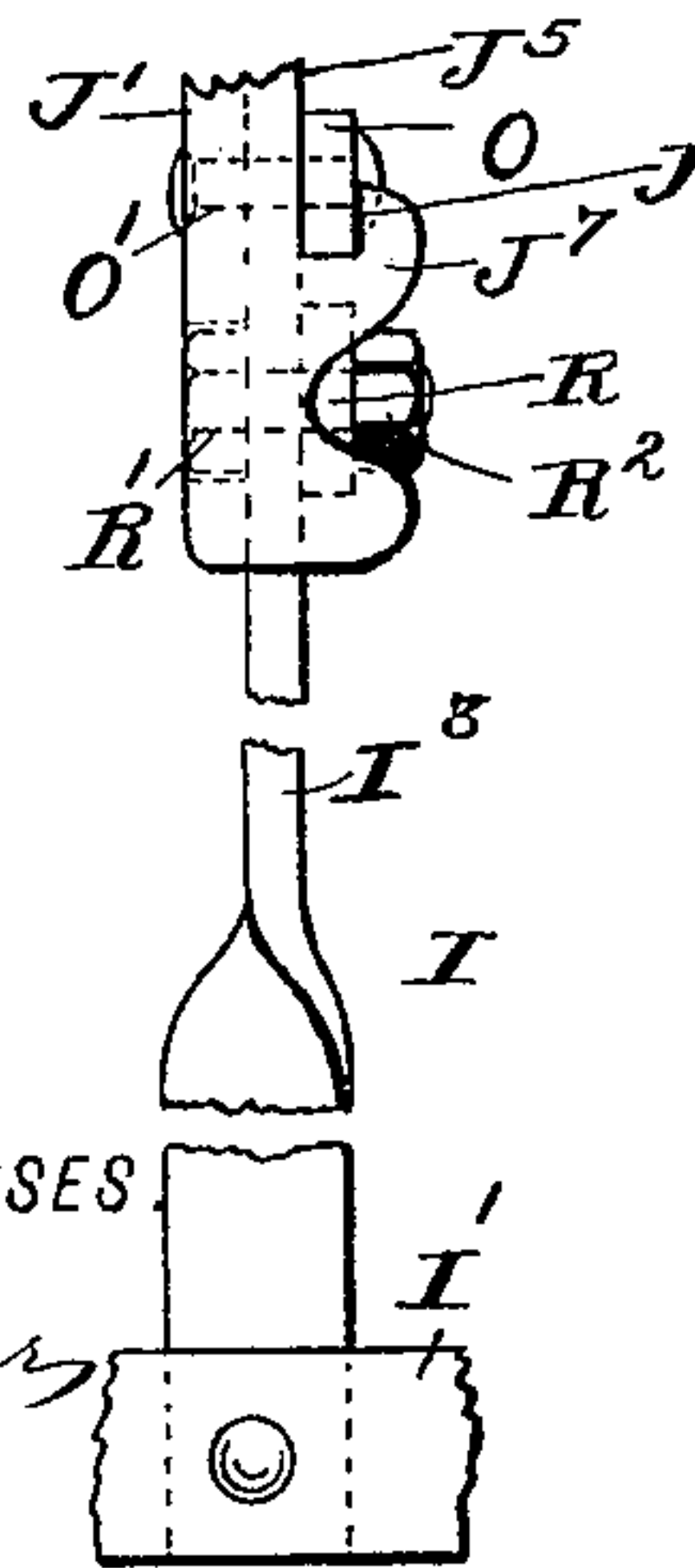
-FIG. IV-



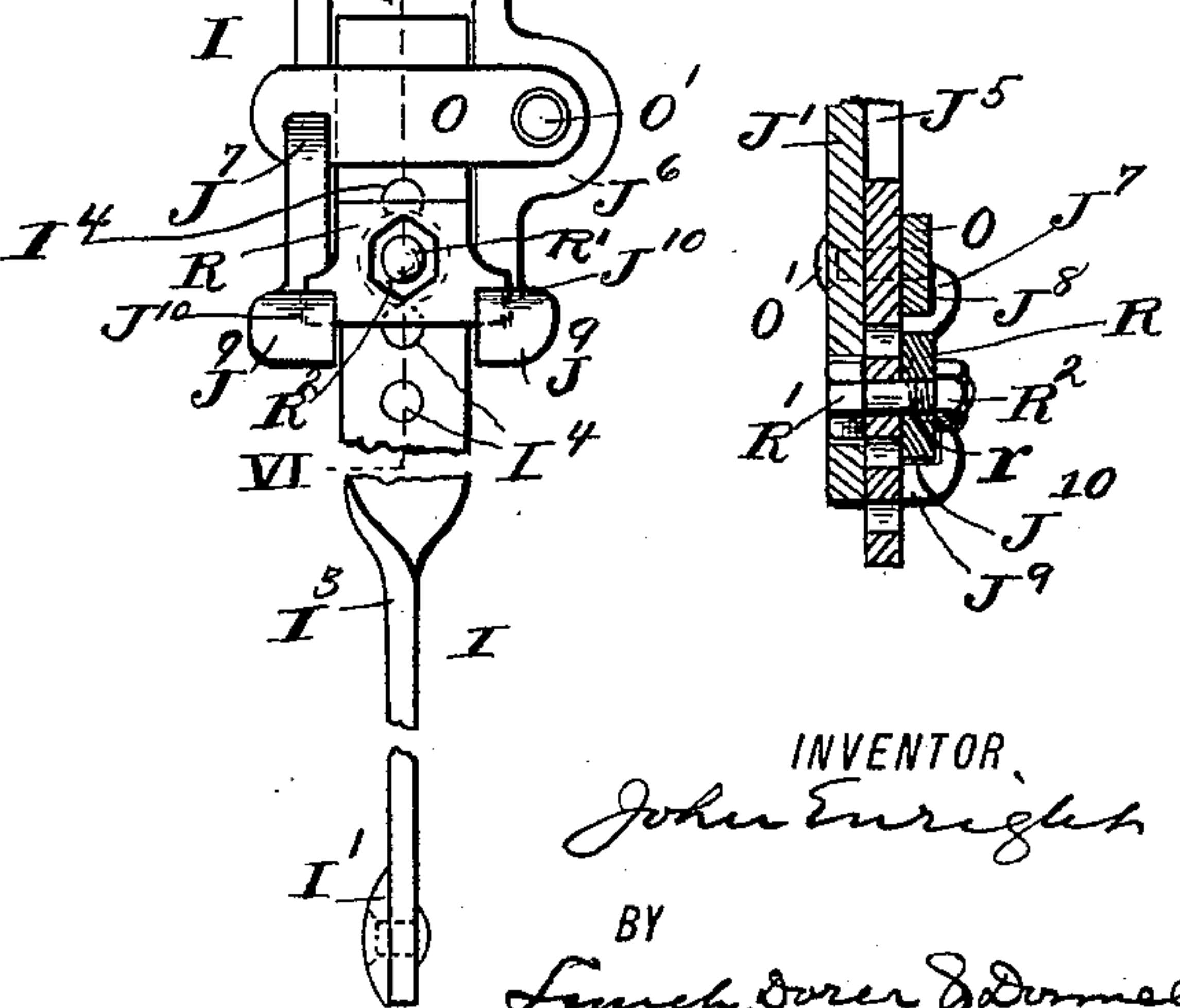
-FIG. V-



-FIG. VII-



-FIG. VI-



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# UNITED STATES PATENT OFFICE.

JOHN ENRIGHT, OF CLEVELAND, OHIO.

## CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 583,284, dated May 25, 1897.

Application filed November 23, 1896. Serial No. 613,108. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN ENRIGHT, of Cleveland, Cuyahoga county, Ohio, have invented certain new and useful Improvements in Street-Car Fenders; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

My invention relates to an improved street-car fender that when in an operative position is arranged to slide over the pavement or surface of the roadway and capable of picking up a person that may fall in front of or be struck down by the moving car, and thereby preventing the person from accidentally getting in under the wheels and driving machinery of the car.

The objects are to provide a light and durable car-fender whose bracings or structural parts do not impede the passage of the fender in under the body of the person accidentally falling or thrown in under the forward end of the car; to provide a fender that will not push or scrape the person over the pavement or roadway and that will not pass over the person.

Another object of my invention is to provide simple, durable, and reliable means that is instrumental in holding the fender elevated from the pavement or surface of the roadway, and that is controlled by a guard placed a suitable distance in advance of the fender, and that when the guard is pushed inwardly by a person accidentally falling or struck down in front of the car releases the fender and permits the latter to drop by gravity into its roadway-engaging or operative position in time to rescue or protect the person from the wheels and machinery of the moving car.

With these objects in view, and to the end of attaining certain other advantages herein-after specified, my invention consists in certain features of construction and combinations of parts hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure I is a top plan of the lower part of the forward end of a street-car provided with my improved fender. Portions of the floor of the car are broken away to more clearly show the construction of the fender. Fig. II is a side ele-

vation of said end of the car. In this figure the fender is shown in solid lines in its elevated or inoperative position and is shown by dotted or broken lines in its lower or operative position. Fig. III is a front end elevation of the lower portion of the forward end of the car. The track upon which the car is mounted is shown in Figs. I, II, and III, and the pavement or roadway is shown in Fig. III. Fig. IV is a front elevation of the central portion of the guard-bearing shaft and the guard-controlled mechanism that is instrumental in holding the fender in its elevated or inoperative position. Fig. V is a side elevation of said guard-controlled mechanism and shows also the guard. Fig. VI is a section on line VI VI, Fig. V. Fig. VII is a front side view of a portion of the guard proper and the attachment of the same to one of the shaft-arms J'. Portions are broken away in Figs. V and VII to reduce the size of the figures. Fig. VIII, appearing on the first sheet of drawings, is a section on line VIII VIII, Fig. I. Referring to Figs. I, II, and III of the drawings, A designates my improved car-fender, that is horizontally journaled at its rear end and a suitable distance above the lower extremity of the car-wheels to any suitable members of the car.

B B designate the two rails of the car-track, and C in Fig. III the pavement or surface of the roadway.

The fender is arranged below and transversely of the car a suitable distance forward of the forward wheels and is large enough to extend from over one of the rails of the track to and over the track's other rail.

The structural parts of the fender comprise, preferably, an angle-bar *a*, arranged transversely of the car and extending from one side extremity of the fender to the fender's other side extremity and instrumental in forming the rear end of the fender. Angle-bar *a* is so arranged that when the fender is in its elevated or inoperative position one of the members of said bar is arranged perpendicularly, or approximately so, and the bar's other member is arranged horizontally or approximately horizontally and extends forwardly from the lower extremity of the bar's upright member. Two hangers or brackets D D are rigidly secured to and depend from



the bottom of the car-body. Said hangers or depending brackets are arranged parallel and a suitable distance apart between the side extremities of the fender. The upright member of angle-bar  $a$  at each hanger or bracket D is provided with two rearwardly-projecting ears  $a'$   $a'$ , arranged at opposite sides, respectively, of said bracket or hanger and formed, preferably, by outwardly-bent portions of a plate  $a^2$ , rigidly secured to said member of the angle-bar, as shown more clearly in Fig. I. Each pair of ears  $a'$   $a'$  is engaged by a horizontally-arranged pin  $a^3$ , that extends through corresponding holes in said ears and is journaled in a horizontally-arranged box  $d$ , that is formed upon the lower end of the adjacent bracket or hanger D and extends between said ears. The journals of the fender are located, preferably, about eight inches above the pavement or road surface. The fender's journals could, if desired, be attached to the car-brakes at E. (See Fig. II.)

The fender comprises also forwardly and rearwardly extending bars  $A'$ , that are arranged, preferably, a short distance apart and forward of the angle-bar  $a$  and are rigidly secured at their rear ends in any approved manner to said angle-bar. The two forwardly and rearwardly extending fender-bars, that form the side extremities of the fender, are preferably angle-bars, whereas the intermediate forwardly and rearwardly extending bars are preferably plain flat bars that will not in any wise injure a person picked up by the fender.

The under sides of bars  $A'$  of the fender curve, preferably, somewhat upwardly at their forward ends, and said bars should be arranged so near together that a person picked up by the fender cannot fall between said bars upon the pavement or road surface below. Said bars  $A'$  are secured together at their forward ends by two metallic strips or bars  $A^2$  and  $A^3$ , arranged at the top and bottom, respectively, of said bars  $A'$  and completing the structural formation of the fender. The lower strip or bar  $A^3$  is preferably much wider than the upper bar or strip  $A^2$  and is curved or bent upwardly toward and over the forward extremities of bars  $A'$  to conform to the forward and upward trend of the under surface of the forward ends of bars  $A'$ , so that the fender when it rests upon the pavement or road surface can readily slide over the latter.

The forward edge of the fender is rounded or tapering, and the forward portion of strip or bar  $A^3$  is instrumental in forming the lower part of said edge. The upper portion of said edge is formed by the upper strip or bar  $A^2$ , that is rounded on top to render it capable of freely sliding in under the person to be caught or picked up by the fender, and thereby avoid pushing a person lying on the track or pavement in front of the fender. Strip or bar  $A^3$  is preferably comparatively wide in order to prevent an arm or limb of the person picked up by the fender from getting in under the forward portion of the fender. My

improved fender is light and durable, as required.

Improved means for holding the fender in its upwardly-tilted or inoperative position are preferably provided, and other means for controlling said fender-holding means and capable of rendering the latter inoperative, so as to permit the fender to drop by gravity into its operative position, is, preferably, also provided.

The means for holding the fender in its upwardly-tilted or inoperative position is preferably as follows: The fender at the angle-bar  $a$ , and preferably at or near the central portion of said bar, is provided with an upwardly-extending arm  $a^4$  that at its upper end is operatively connected with the rear end of a forwardly-extending rod G, that is shiftable endwise. By this construction it will be observed the fender is tilted from its road-surface-engaging or operative position upwardly into its inoperative position by actuating rod G rearwardly and is held in its inoperative position by securing said rod in its rearwardly-shifted position, and the fender drops by gravity from its inoperative position into its operative position and into engagement with the pavement or road surface upon releasing the aforesaid rod. Rod G extends in under the platform of the forward end of the car.

I designate a guard below the forward end of the car a suitable distance in advance of the fender. Said guard is arranged to avoid contact with the track and pavement or road surface and is large enough to extend from over one rail of the track to and over the other track-rail, as shown in Fig. III. The structural parts of this guard comprise the following elements: a horizontally-arranged metallic strip or bar  $I'$ , forming the lower edge of the guard and rounded on its forward side; two arch-shaped bars or strips  $I^2$ , secured to the rear side of strip or bar  $I'$  and crossing and secured to each other near their inner ends; two upright arms  $I^3$   $I^3$ , secured at the lower ends to the rear side of bar or strip  $I'$ , and secured also to the different arched strips or bars  $I^2$   $I^2$ , respectively, and detachably secured to different arms  $J'$   $J'$ , respectively, that depend from and are operatively mounted upon opposite ends, respectively, of a horizontally-arranged shaft J, that is journaled at its ends in hangers or brackets  $P'$ , depending from and rigidly secured to the bottom of the car-platform P. It will be observed, therefore, that the guard is capable of being tilted rearwardly by pressure applied upon its forward side and that this pressure is occasioned by a person accidentally falling or struck down in front of the moving car and engaged by said guard. I have therefore devised mechanism capable of holding rod G in its forwardly-actuated position, and consequently capable of holding the car-fender in its upwardly-tilted or inoperative position and controllable by the aforesaid guard, so that a slight rearward



tilting of the guard by the latter's engagement during the forward movement of the car with a person falling or thrown down in front of the car shall release the aforesaid rod from the devices or mechanism employed in retaining it in its forward position, and thereby render the fender free to drop by gravity into its operative position. The fender-holding mechanism that is thus controlled by the rearwardly-tiltable guard comprises, preferably, two pawls L and M, (see Figs. IV and V,) arranged to engage notches of two series of notches formed in the upper side and lower side, respectively, of the forward end of rod G. The upper pawl L is horizontally pivoted at its forward end at *l* to an upright arm J<sup>2</sup> (see Fig. VI) of shaft J. That is, the upper pawl L projects rearwardly or inwardly from said arm and is adapted to engage a notch of the series of notches G', formed in the upper side of the forward end of rod G. The lower pawl M is horizontally pivoted at *m* to a hanger or bracket P<sup>2</sup>, rigid with and depending from the car-platform and affording bearing for shaft J at a point intermediate of the shaft-bearings hereinbefore referred to. That is, the lower pawl M projects rearwardly from a bracket or member rigidly secured to a member of the car and is adapted to engage a notch of the series of notches G<sup>2</sup>, formed in the lower side of the forward end of rod G. The upper pawl is arranged to move or drop into the engaging notch by gravity, whereas a poise or weight M', attached to the lower pawl forward of the latter's axis, acts to retain the last-mentioned pawl in its operative position. A trip P<sup>3</sup>, constituted by a lug suitably formed upon hanger or bracket P<sup>2</sup>, is arranged to be engaged by the under side of the upper pawl during the forward movement of said pawl. When, therefore, a pressure upon the forward side of the guard tilts the latter rearwardly and forwardly oscillates shaft-arm J<sup>2</sup> and the upper pawl supported by said arm, said trip elevates or disengages said pawl from the engaging notch in rod G, and renders rod G, so far as said pawl is concerned, free to release the car-fender.

A trip J<sup>4</sup>, constituted by a lug suitably formed upon an arm J<sup>3</sup>, depending from and fixed to the oscillating shaft of the guard above the axis of the lower pawl, is arranged to engage the upper side of said pawl upon the rearward movement of said trip, so as to effect the disengagement of said pawl from the engaging notch in the lower side of rod G against the action of the weight or poise attached to the forward end of said pawl. When, therefore, a pressure upon the forward side of the guard tilts the latter rearwardly, trip J<sup>4</sup> is oscillated rearwardly and effects the release of rod G so far as the lower pawl is concerned. It will therefore be observed that by my provision and peculiar arrangement of the guard, trips, and the notched rod G both pawls are simultaneously rendered

inoperative upon a slight rearward tilting of the guard, so as to release the fender and permit the latter to drop by gravity into its operative position, wherein the fender will rescue or protect a person falling or thrown under the forward end of the moving car. Rod G in the case illustrated has bearing upon shaft J, that extends through the forward end of the rod for the purpose of affording said bearing, and the rod's elongated hole or slot *g*, through which the shaft extends, is long enough to accommodate the endwise movement of the rod without interfering with the location and operation of the shaft and rod.

The lower portion of the guard, or the guard proper, comprises bars I' I<sup>2</sup> and two upright arms I<sup>3</sup>, adjustable vertically of and detachable from the shaft-arms J'. (See Fig. III.) A preferable construction is illustrated in Figs. V and VII. Each of the depending shaft-arms J' is provided with two laterally-projecting flanges J<sup>5</sup> J<sup>5</sup>, arranged a suitable distance apart and parallel with each other, and the attached arm of the guard proper extends upwardly between said flanges, that form guides for said arm during the vertical adjustment of the guard proper. A vertically-tilting latch O is horizontally pivoted at one end at O' to a rearwardly-projecting ear J<sup>6</sup> of one of said flanges and has its free end in its operative position engaging the recess or pocket J<sup>8</sup> of a keeper J<sup>7</sup>, formed upon the opposite flange. An upright plate or block R, arranged below the latch and forward of the aforesaid flanges, is seated at its lower end in recesses or pockets J<sup>10</sup> in laterally-projecting lugs J<sup>9</sup>, formed upon said flanges, and the guard proper is detachably secured to each plate or block R by means of a bolt R' and nut R<sup>2</sup>, and each guard-arm I<sup>3</sup> is provided with a vertical series of bolt-holes I<sup>4</sup>, any one of which, by vertically shifting the arm as required, can be brought to register with the bolt-hole *r* in the attached block or plate R.

By the construction hereinbefore described it will be observed that the series of bolt-holes in the guard-arms accommodate the vertical adjustment of the guard proper, and the latter can be removed downwardly by removing the securing bolts and nuts if the guard proper is not too near the road-surface; but in any event the guard proper can readily be moved laterally by removing the aforesaid bolts and nuts and rendering the latches that are instrumental in holding the guard-arms I<sup>3</sup> against the shaft-arms J' inoperative.

The detachability of the guard proper avoids the necessity of employing a guard proper at each end of the car in case the latter is provided with a fender at each end.

The lightness of the guard renders the latter exceedingly portable, and the motorman or operative of the car can, therefore, readily carry the same from one end of the car to the car's other end if the direction of movement of the car is reversed.

The importance of the vertical adjustabil-



ity of the guard proper is obvious when considering the fact that the space between different car-bodies and the pavement or road surface varies.

5 I would also remark that the shaft-arm J<sup>2</sup>, that carries the upper pawl, extends, preferably, upwardly through the car-platform and above the platform terminates in a lever j<sup>2</sup> within convenient reach of the motorman, so  
10 that the latter, if required or advisable, can operate the fender-holding mechanism and render the fender operative before the obstruction on the track comes in contact with the guard, and the car-platform is slotted, as  
15 at P<sup>4</sup>, to accommodate the location and operation of said lever.

What I claim is—

1. The combination with the car, a vertically-tilting fender horizontally journaled at  
20 its rear end below and supported from the car, and provided at said end with an upwardly-extending arm; a longitudinally-shiftable rod operatively connected with and extending forwardly from said arm, and means  
25 for holding said rod in its forwardly-shifted position: of a guard arranged below the car in advance of the fender and operatively connected with the aforesaid rod in such a manner that a slight inward tilting of said guard  
30 will operate the fender-holding means and release the aforesaid rod and thereby permit the fender to drop by gravity into its operative position, substantially as set forth.

35 2. The combination with the car; a vertically-tilting fender horizontally journaled at its rear end below and supported from the

car, and provided at said end with an upwardly-extending arm; a longitudinally-shiftable rod operatively connected with and extending forwardly from said arm, and the forward end of said rod having two series of notches in its upper side and lower side, respectively: of a horizontally-arranged shaft supported from and below the car at the forward end of said rod; the guard proper depending from and operatively connected with  
45 said shaft; the upright shaft-arm J<sup>2</sup>; the depending shaft-arm J<sup>3</sup>; the pawl L horizontally pivoted to the upright shaft-arm and arranged to engage a notch in the upper side  
50 of the aforesaid rod; a stationary trip formed below the axis of said pawl and arranged to render said pawl inoperative upon the forward oscillation of the shaft-arm that carries said pawl; the vertically-tilting pawl M having a stationary axis below the shaft, and arranged to engage a notch in the under side  
55 of the aforesaid rod; means acting to retain said lower pawl in its operative position, and a trip formed upon the lower shaft-arm above  
60 the lower pawl's axis and arranged to render said pawl inoperative upon the rearward oscillation of said depending shaft-arm, substantially as shown, for the purpose specified.

In testimony whereof I sign this specification, in the presence of two witnesses, this 14th day of November, 1896.

JOHN ENRIGHT.

Witnesses:

C. H. DORER,  
ELLA E. TILDEN.