

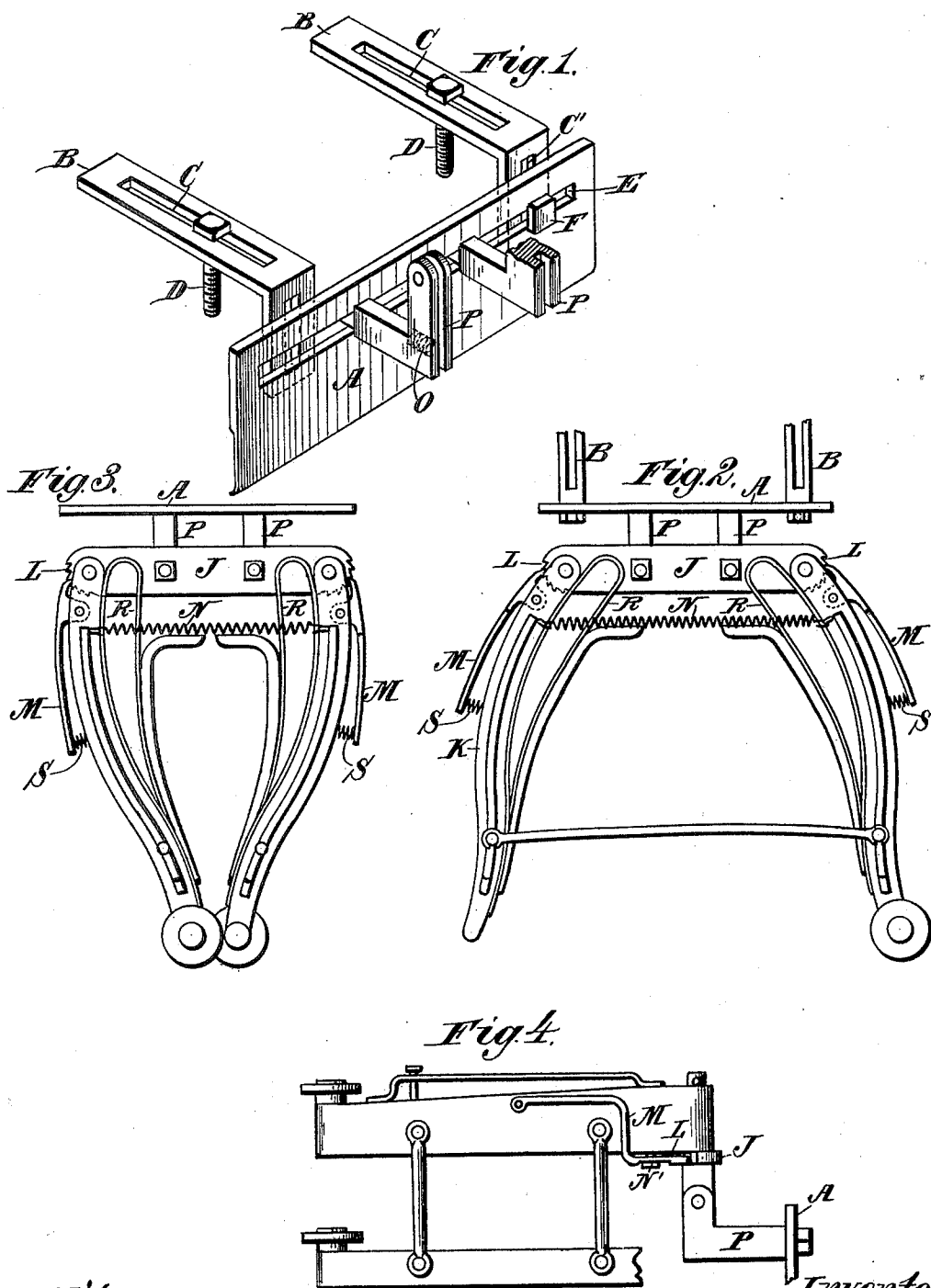
(No Model.)

2 Sheets—Sheet 1.

J. W. ANGELL.
CAR FENDER.

No. 581,646.

Patented Apr. 27, 1897.



Witnesses:
Robert Smith.
J. G. Meyer Jr.

Inventor:
John W. Angell.
By *Edward T. Yant.*
His Attorney.

(No Model.)

2 Sheets—Sheet 2.

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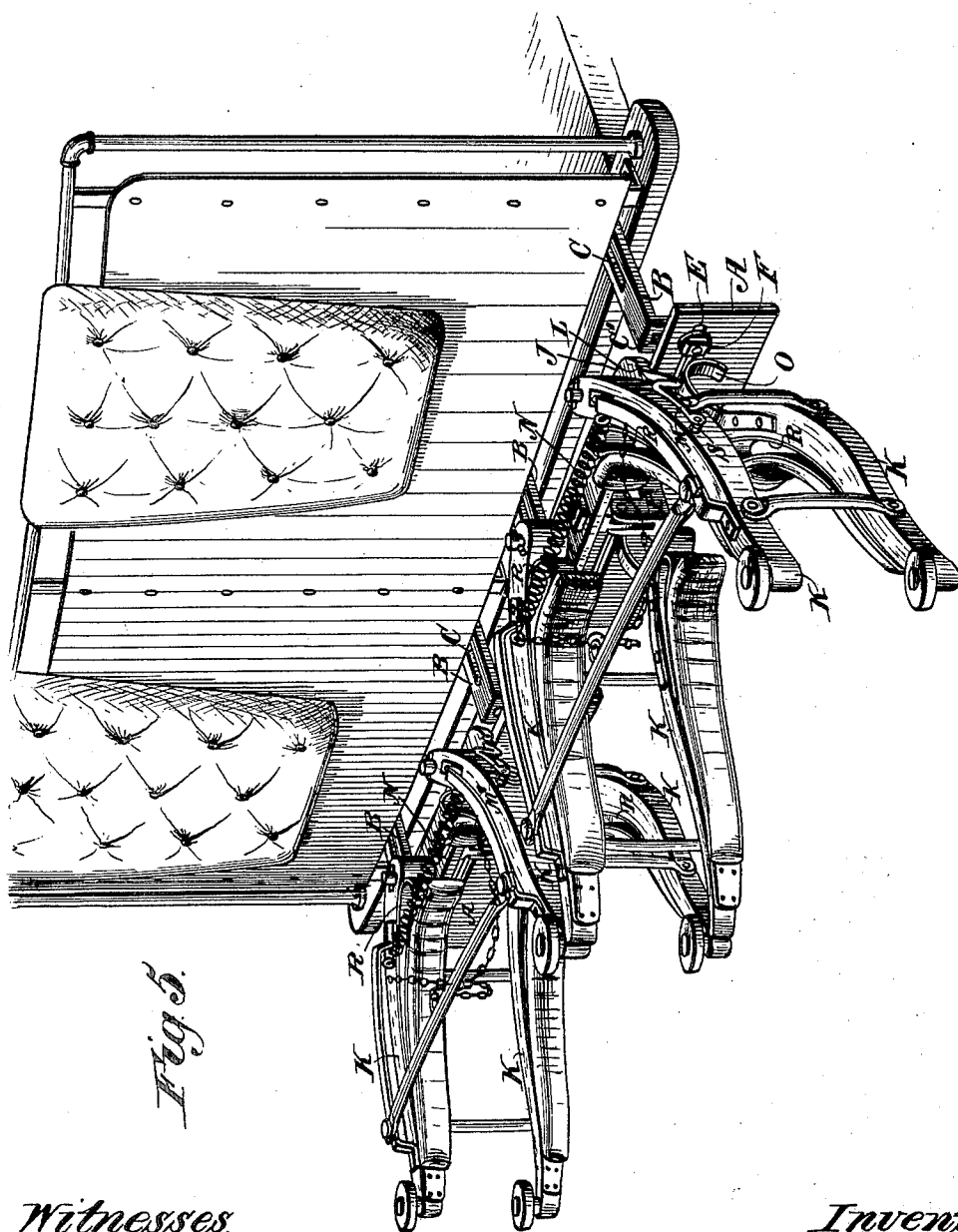


Fig. 5.

Witnesses:
Robert Everett
Thos. A. Brown

Inventor:
John W. Angell
By *Edward Taggart*
His Attorney.

UNITED STATES PATENT OFFICE.

JOHN W. ANGELL, OF OWOSSO, MICHIGAN, ASSIGNOR OF ONE-HALF TO
DAVID M. ESTEY, OF SAME PLACE.

CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 581,646, dated April 27, 1897.

Application filed March 2, 1896. Renewed January 11, 1897. Serial No. 618,897. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. ANGELL, a citizen of the United States, residing at the city of Owosso, in the county of Shiawassee and State of Michigan, have invented certain new and useful Improvements in Car-Fenders, of which the following is a specification.

This invention relates to certain new and useful improvements in safety-fenders for street-cars and analogous purposes, and the invention relates more particularly to certain improvements upon the car-fender invented by me and for which I filed an application on the 25th day of July, 1895; and the objects of my invention are, first, to combine with clasp-jaws or arms, of an automatic locking device adapted to retain the jaws when closed locked in that position in order to prevent the person seized by the jaws from falling out; second, to combine with the clamping-jaws mechanism for attaching the said jaws to the car, whereby the same can be adjusted vertically, longitudinally, and laterally, as hereinafter described, and, third, in providing an improved spring-buffer in order to prevent the jaws from injuring the person clasped therein. These objects I accomplish by means of the mechanism illustrated in the accompanying drawings, in which—

Figure 1 represents a perspective view of the mechanism for attaching the jaws to the car, together with the means for adjusting the said jaws laterally, vertically, and longitudinally. Fig. 2 is a plan view of a set of jaws held in their open position. Fig. 3 is a plan view of a set of jaws closed. Fig. 4 is a side elevation of Fig. 3, looking to the left. Fig. 5 is a perspective view of a complete set of jaws secured to a car.

Similar letters refer to similar parts throughout the several views.

A represents a supporting-plate to which the hanger-supports are attached in such a manner as to allow a lateral adjustment to the hanger-supports, the hanger, and the jaws.

B B represent angle attaching-plates so constructed as to allow for a vertical and longitudinal adjustment of the parts attached thereto, the adjustments being with reference to the car.

C C are slots, one in each of the angle supporting-plates B. In each of these slots is placed a bolt D, which attaches the plate to the car. The slot E having considerable length allows for considerable longitudinal adjustment of the plate B and the parts attached.

C' are the vertical slots in what I will term the "front" end or perpendicular portion of the attaching-plates B, there being one of such slots in each of the plates.

E represents a long slot extending nearly the entire length of the plate A. Instead, however, of using a single slot two slots may be used; but I prefer the long slot above described.

Bolts F attach the supporting-plate A to the angle-plates B. I have shown one of such bolts F passing through the slots E and also one of the slots C'. It will be evident that this form of attachment allows the plate A to be adjusted laterally with reference to the car and also vertically with reference to the car, and as the plate A supports the clasp-jaws and mediate mechanism the jaws will be likewise adjusted.

P are hanger-supports, preferably made angle-shaped, as shown in Figs. 1 and 4. These angular hanger-supports are connected to the hanger J by means of a hinge, as shown in Fig. 4. The hanger and arms are adapted to be turned upwardly on this hinge, substantially as described in my former application.

K K represent the clasp-jaws or jaws, pivoted to the hanger J in any suitable manner and provided with a suitable trip for retaining them normally open and for allowing them to close when the trip is brought in contact with a person or object by the moving car.

L represents a series of ratchet-teeth, preferably on the hanger J, and M represents a pawl or dog pivoted at N and held in engagement with the teeth on L by means of the spring S, M being a sort of a lever and placed in position so that it may be readily grasped in order to compress the spring S, and which also works the jaws when it is desired to open the same. It will be noted that the connection between the dog M and the ratchet-teeth L allows the arms to close, but, being in con-

tinual engagement, prevents the arms from opening until the compression of the springs S. This construction is deemed of great importance, for the reason that after practical experiments I find that it would require too heavy a spring to close the jaws K and retain them securely, but by the use of the locking device the person coming in contact with the trip is immediately seized by the jaws K K, and the jaws K K, being locked in their closed position, or partially-closed position, will securely retain the person and prevent him from dropping or falling out.

O is a buffer which is preferably secured to the hanger-supports P P, one for each support, and adapted to come in contact with the hanger when the jaws are lowered from a perpendicular to a horizontal position, thereby preventing too great strain on the jaws or connecting parts.

N represents a spring adapted to close the jaws, and R represents cushion-springs placed within the jaws. These cushion-springs may and preferably are covered with cushions, but I have found that a metal spring is more reliable and secures greater safety to the person grasped by the jaws than ordinary cushions, and therefore I have applied what I term a "cushion-spring" to each arm of each jaw. The arms or clasping-jaws are designed to clasp, they being constructed, preferably, in the form shown in Fig. 4, their general construction being preferably the same as in my former car-fender for which I made the previous application.

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

1. In a safety car-fender, the combination with a car, of a set of clasping jaws or arms, a spring adapted to automatically close said jaws, and an automatic catch or lock for retaining the jaws closed, substantially as and for the purpose described.

2. In a safety car-fender, the combination with a car, of clasping arms or jaws adapted to be held in front of a car, means for holding the said arms normally open, a releasing device or trip, spring mechanism for closing the arms when released from the said trip, and an automatic locking device adapted to

lock and retain said arms closed, substantially as described.

3. The combination in a safety car-fender, of clasping-jaws having means for connecting them with a car, a trip mechanism constructed to hold the jaws normally open and operated by striking a person or object encountered to release the jaws, and a spring catch or lock for locking and retaining the jaws in their closed position, substantially as described.

4. The combination in a safety car-fender, of clasping-jaws having means to connect them with a car, mechanism constructed to hold the jaws normally open and operated by striking a person or object encountered to release the jaws, a spring which automatically closes the jaws when they are released, a ratchet, a pawl, and a spring which automatically engages the pawl with the ratchet and locks the jaws in their closed position, substantially as described.

5. The combination in a safety car-fender, of a longitudinally-adjustable attaching-plate mounted on the car, a laterally-adjustable plate which is vertically adjustable on said attaching-plate, a hanger-support mounted on said laterally and vertically adjustable plate, a hanger carried by the hanger-support, spring-closed clasping-jaws pivotally connected with the hanger, and means for holding the jaws normally open, substantially as described.

6. The combination with a car, of the longitudinally-adjustable angle-plates, the laterally-adjustable supporting-plate vertically adjustable on said longitudinally-adjustable angle-plates, hanger-supports mounted on the laterally and vertically adjustable supporting-plate, a hanger secured to said hanger-supports, spring-closed clasping-jaws independently pivoted to the hanger, and means for holding the jaws normally open, substantially as described.

In witness whereof I have hereunto set my hand and seal in the presence of two witnesses.

JOHN W. ANGELL. [L. S.]

Witnesses:

C. W. LORING,
W. S. QUAINANCE.