

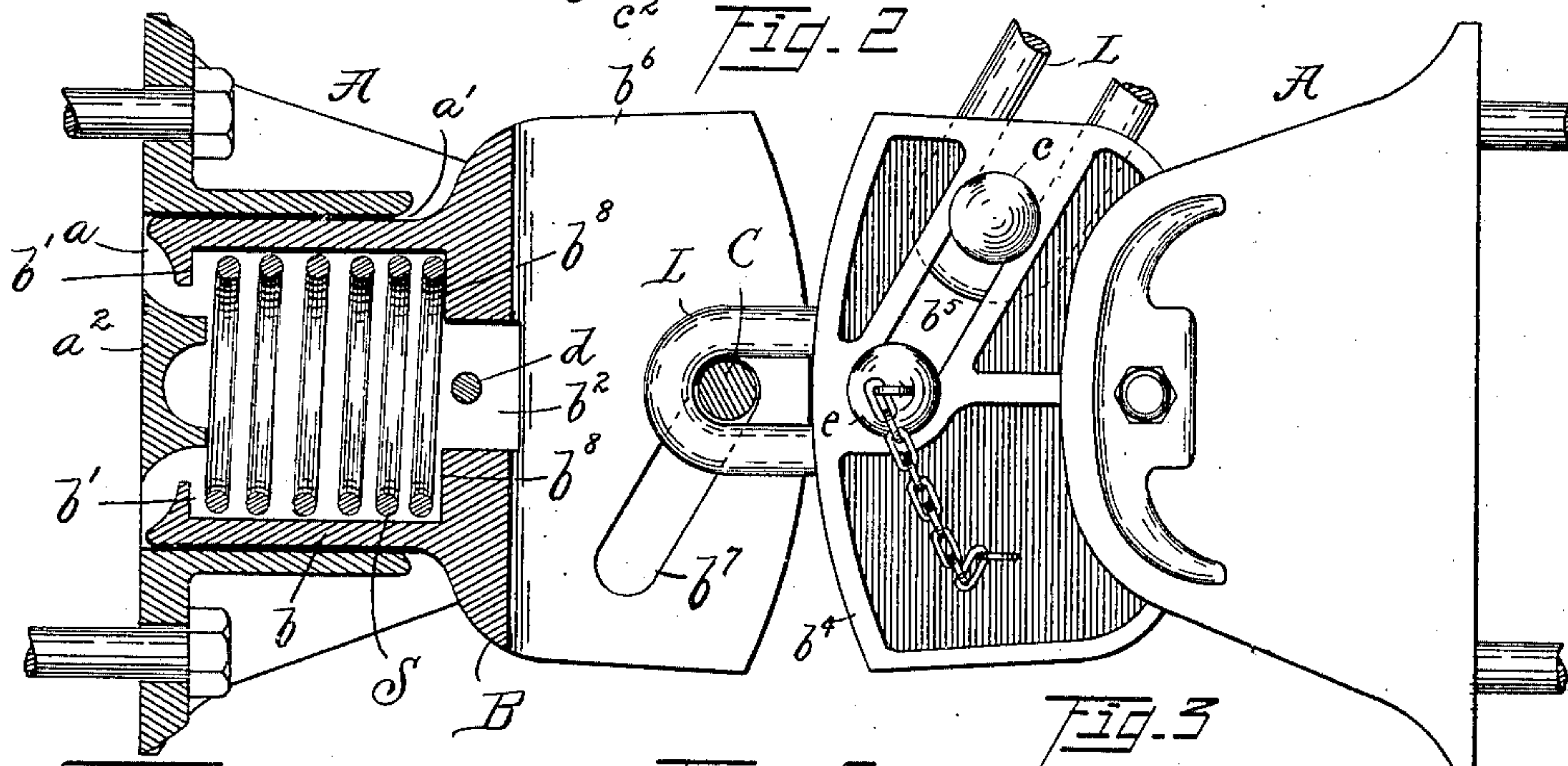
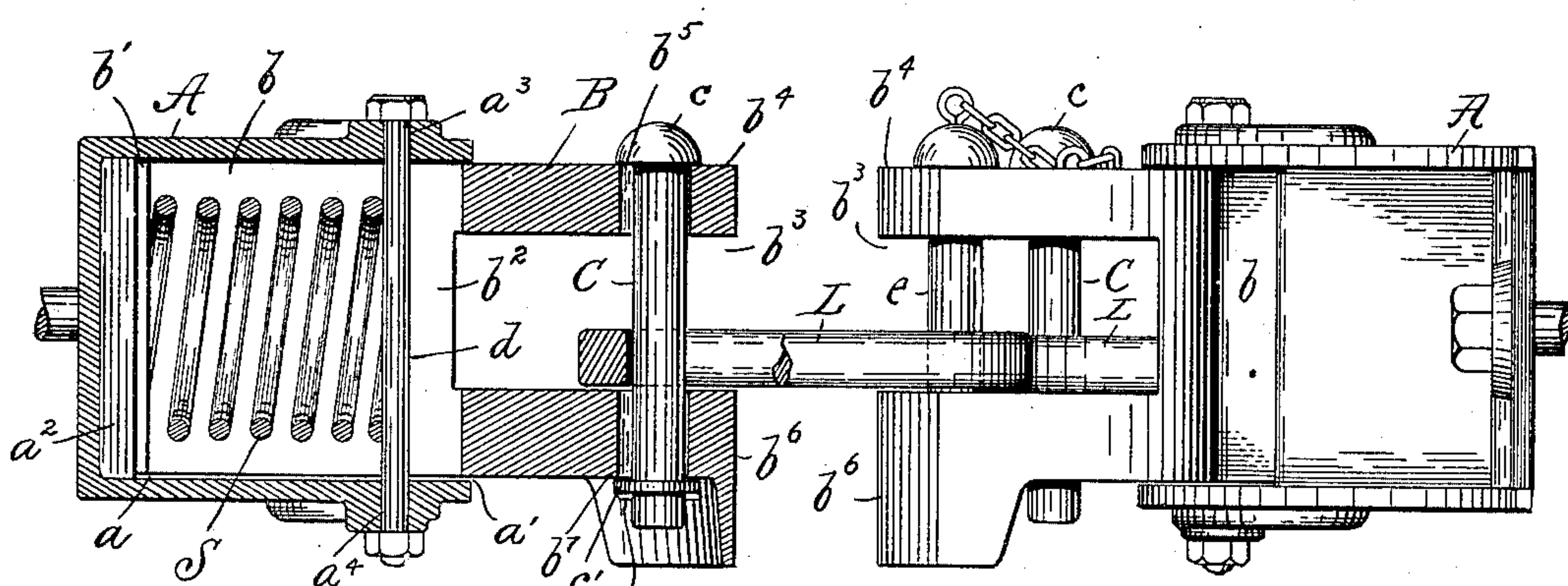
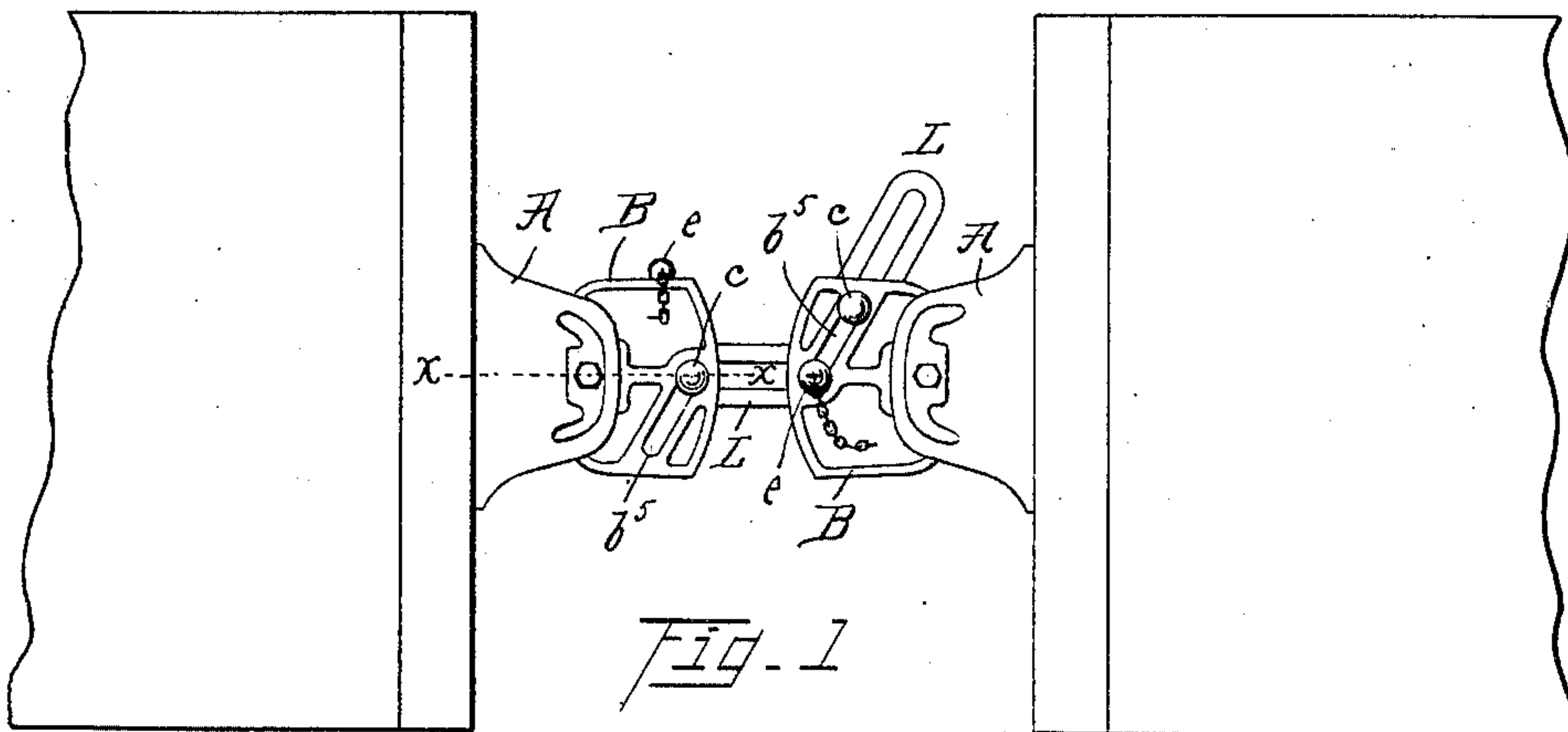
No. 657,766.

Patented Sept. 11, 1900.

W. C. GREGG.
CAR BUMPER AND COUPLING.

(Application filed Feb. 5, 1900.)

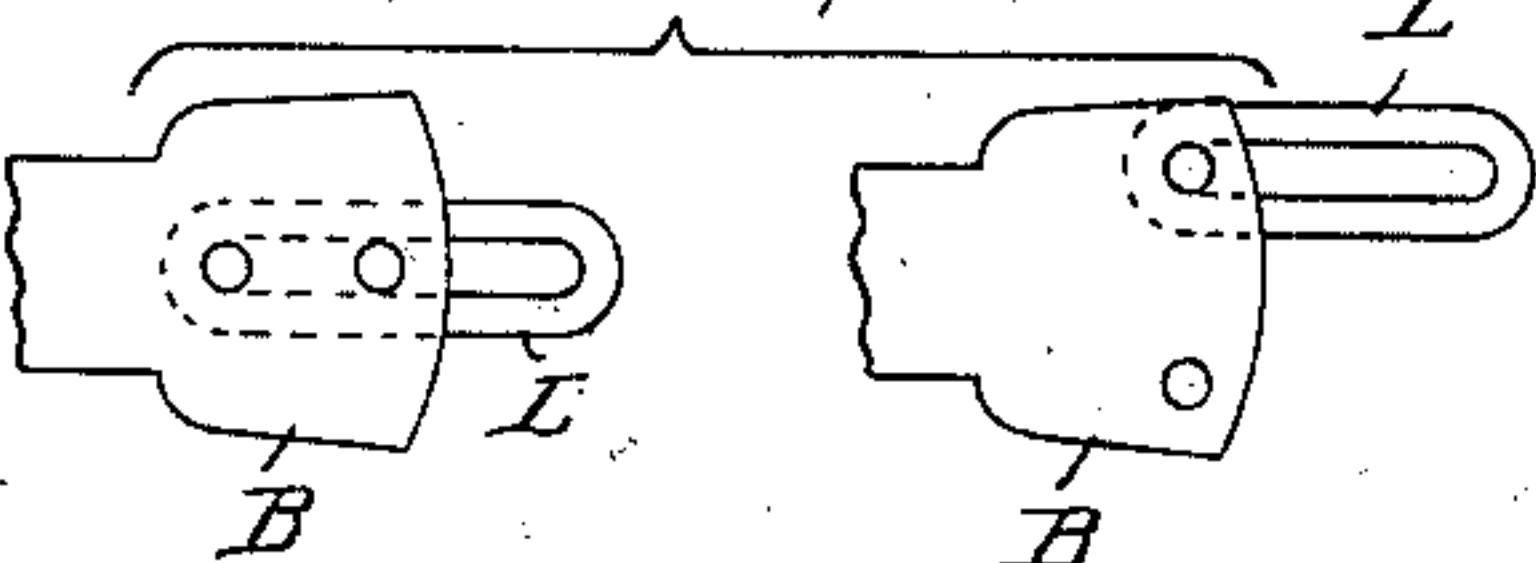
(No Model.)



Witnesses:

George A. Metzger.
Charles B. Beutelm.

Fig. 4



Inventor.
William C. Gregg.
by Louis F. Griswold.
his Atty.

UNITED STATES PATENT OFFICE.

WILLIAM C. GREGG, OF HONOLULU, HAWAII.

CAR BUMPER AND COUPLING.

SPECIFICATION forming part of Letters Patent No. 657,766, dated September 11, 1900.

Application filed February 5, 1900. Serial No. 4,112. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM C. GREGG, a citizen of the United States, residing at Honolulu, in the Island of Oahu, Hawaii, have invented certain new and useful Improvements in Car Bumpers and Couplers, of which the following is a full, clear, and exact specification, which will enable others skilled in the art to which it appertains to make and use the same.

The invention relates to the construction of a combined car-coupler and spring-bumper.

The objects of the invention are to provide a car-coupler and spring-bumper to be attached to and wholly outside the end of the car, that shall be composed of few parts, simple and compact in construction, and one that will eliminate or reduce the concussion or jar on the cars incident to the sudden coming together of the cars or resulting from the jerk caused by starting when the cars are coupled together. I accomplish these objects by the construction and combination of the parts hereinafter described, and pointed out definitely in the claims.

The improved coupler and bumper is used principally on cars on sugar plantations for transporting the cane to the mills and has been found particularly adapted and valuable for this purpose and superior to other spring-bumpers owing to the reduced length and the small number of parts, making it less liable to get out of repair and more easily repaired, if perchance the cars meet with accident.

In the drawings forming a part of this specification, Figure 1 is a plan view of the ends of two cars coupled with the improved bumper and coupler. Fig. 2 is a horizontal vertical section on line *xx* of Fig. 1, showing the springs compressed by the drawing apart of the draw-heads when coupled with the link, as hereinafter described. Fig. 3 is a sectional view taken at right angles to that shown in Fig. 2 and showing the springs compressed by pressure of the draw-heads when two cars come together with a sudden jar; and Fig. 4 is an outline of two modified ways of attaching the permanent link, as herein- after mentioned.

Similar letters of reference designate simi-

lar parts throughout the drawings and specification.

The improved bumper and coupler consists of a housing A, bolted or otherwise rigidly secured to the end beam of the car, one at each end of car. The housing A is provided with a chamber *a*, open in front at *a'* and provided at the rear with the cross-bar *a''*, which extends into the chamber. The housing is also provided with registering holes *a'''* and *a''''* in the upper and lower walls, respectively. The purpose of these holes will be explained farther on.

The draw-head B is provided with a hollow extension *b*, said hollow extension being of such dimensions that it will readily slip into the chamber *a* of the housing. The rear end of the extension *b* is open in the middle, as shown, and is provided with vertical flanges *b'* *b'*. In the middle of the front of the opening in the extension *b* is an offset *b''*. The head or forward portion of the draw-head B is provided with a mouth *b'''*, extending horizontally the entire width of the face, and has a permanent link pivoted therein. In the construction shown in the drawings, which I consider a preferable form, the permanent link is pivoted in the following manner: The upper lip *b''''* is provided with a slot *b'''''* and the lower lip *b''''''* has a corresponding slot *b'''''''*. A pin C, having a head *c*, is passed down through the slot *b'''''*, through the link L, and then through the slot *b'''''''*. A washer *c'* is then put over the lower end of the pin C and a split pin *c''* passed through a hole in the pin C. This permanently attaches the link to the draw-head, but at the same time admits of a horizontal movement of the link throughout the field of the corresponding slots *b'''''* and *b'''''''*. Within the extension *b* of the draw-head is a helical spring S, the inner end of which bears on the flanges *b'* *b'* and the outer end on the shoulders *b''''* *b''''*. In assembling the parts the extension *b*, with the inclosed spring S, is slid into the chamber *a* of the housing until the holes *a'''* and *a''''* register with the offset *b''*, and a pin or bolt *d* is passed through the openings *a'''* and *a''''* and the offset *b''* and made rigid with the housing A.

I will now proceed to describe the operation of the improved device.

The cars are coupled together by means of either one of the permanent links and a loose coupling-pin *e*, one of which is attached by a chain to each of the bumpers. One or the other of the permanent links is always idle at each coupling and is turned to one side out of the way. The object of having the permanent link on each bumper is threefold—first, there is no danger of two bumpers coming together with no link in either; second, the links are not liable to be removed and lost, and, third and most important, where the bumpers are used on cars for conveying sugar-cane to the mills the links cannot be removed and laid on the car and afterward carried off with the cane through the rolls and causing great damage to the machinery. After the cars are thus coupled together and when the faces of the draw-heads of two cars come together with a sudden jar the extension *b* of the draw-head is forced into the chamber *a* of the housing. This motion causes the inner end of the spring *S* to cushion on the cross-bar *a*², compressing said spring between the cross-bar and the shoulders *b*⁸ *b*⁸. The compression of the spring *S* eases the jar before it is transmitted to the car. When cars are coupled together and suddenly jerked, the tendency is to pull the draw-head out of the housing *A*; but the forward end of the spring *S* comes in contact with the rigid pin *d*, causing said spring to be compressed between the pin *d* and the flanges *b'* *b'*, and thus ease the concussion which would otherwise be directly transmitted to the car.

In the manufacture of my improved bumper and coupler I can conceive of various minor modifications and additions of parts not shown or described herein, but which will not depart from the scope or intention of my invention. As, for example, a plate may be inserted in the extension *b*, resting on the flanges *b'* *b'*, and form a larger bearing-surface for the inner end of the spring *S*. Two modified forms of attaching the permanent link are shown in outline in Fig. 4 which I do not anticipate using. However it will readily be seen that they could be used with the other

parts of my invention and be operative and within the scope of my invention.

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

1. In a car bumper and coupler wholly attached to the outside of the car, a draw-head provided with a permanent link and a rearward-extending spring-case, in combination with a housing bolted to the end of the car and adapted to receive the aforesaid spring-case, a helical spring resting on flanges within the spring-case, a cross-bar rigidly attached to the housing back of the spring and a pin or bolt rigidly attached to the housing and extending down in front of the spring, substantially as described.

2. In a car bumper and coupler, the combination of a draw-head, a helical spring held within an inward extension of the draw-head, a housing attached to the car and adapted to receive the inward extension of the draw-head, a cross-bar at the rear of the housing, a pin or bolt rigidly attached to the housing and passing through the draw-head extension forward of the spiral spring, substantially as described.

3. In a car bumper and coupler, the combination of the draw-head having a horizontal opening entirely across its face, a slot in the upper lip, a corresponding slot in the lower lip, a pin passing through said slots and through an interposed link, means for retaining said pin loosely in said slots, a helical spring held in a rearward extension of the draw-head, a housing attached to the car, a chamber in said housing adapted to receive the rearward extension of the draw-head, a cross-bar at the rear of the housing, a pin or bolt rigidly attached to the housing and passing through an opening in the draw-head extension forward of the spiral spring, substantially as described.

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

WILLIAM C. GREGG.

Witnesses:

L. A. STRATTON,
L. F. GRISWOLD.