

No. 637,966.

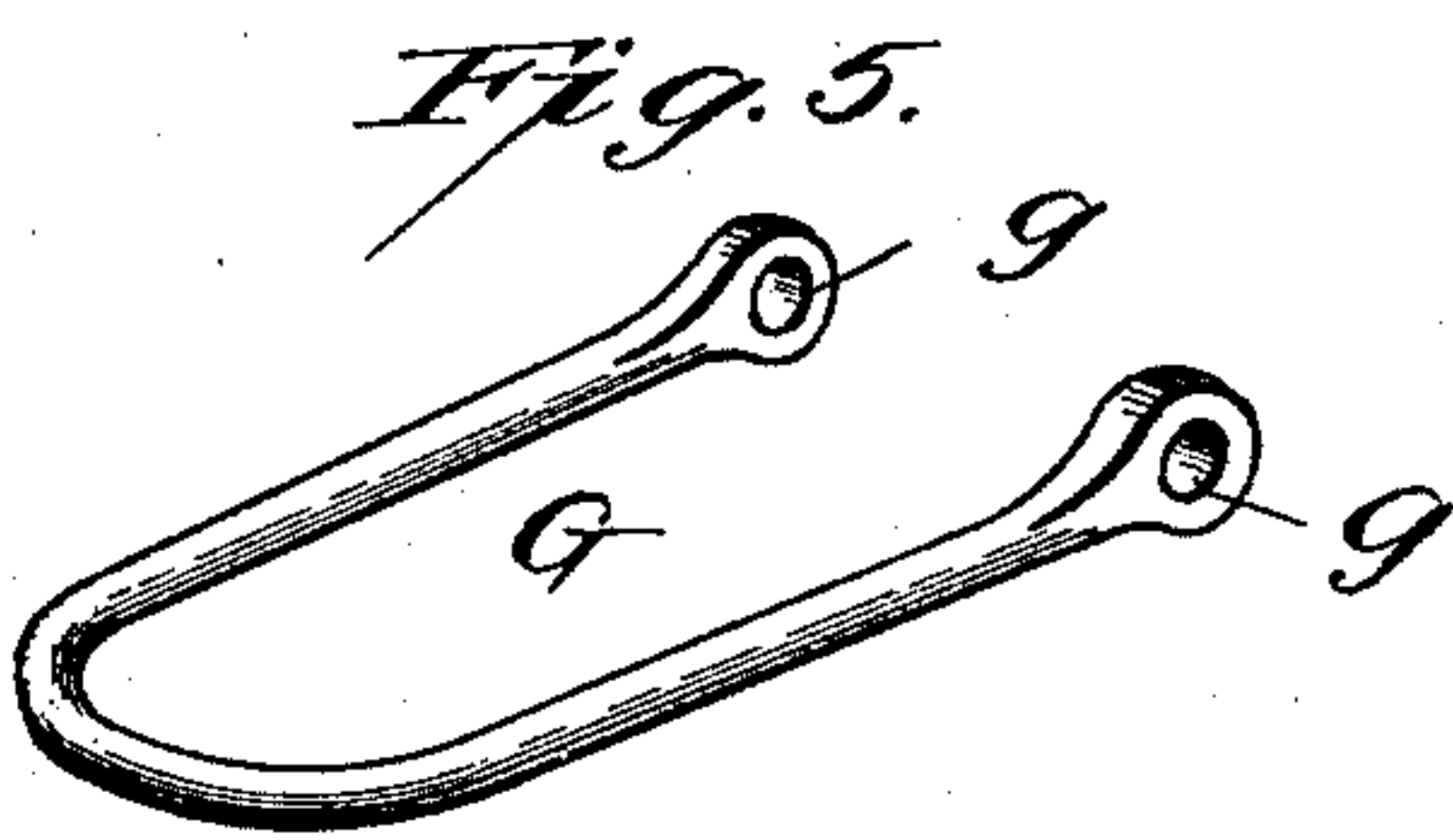
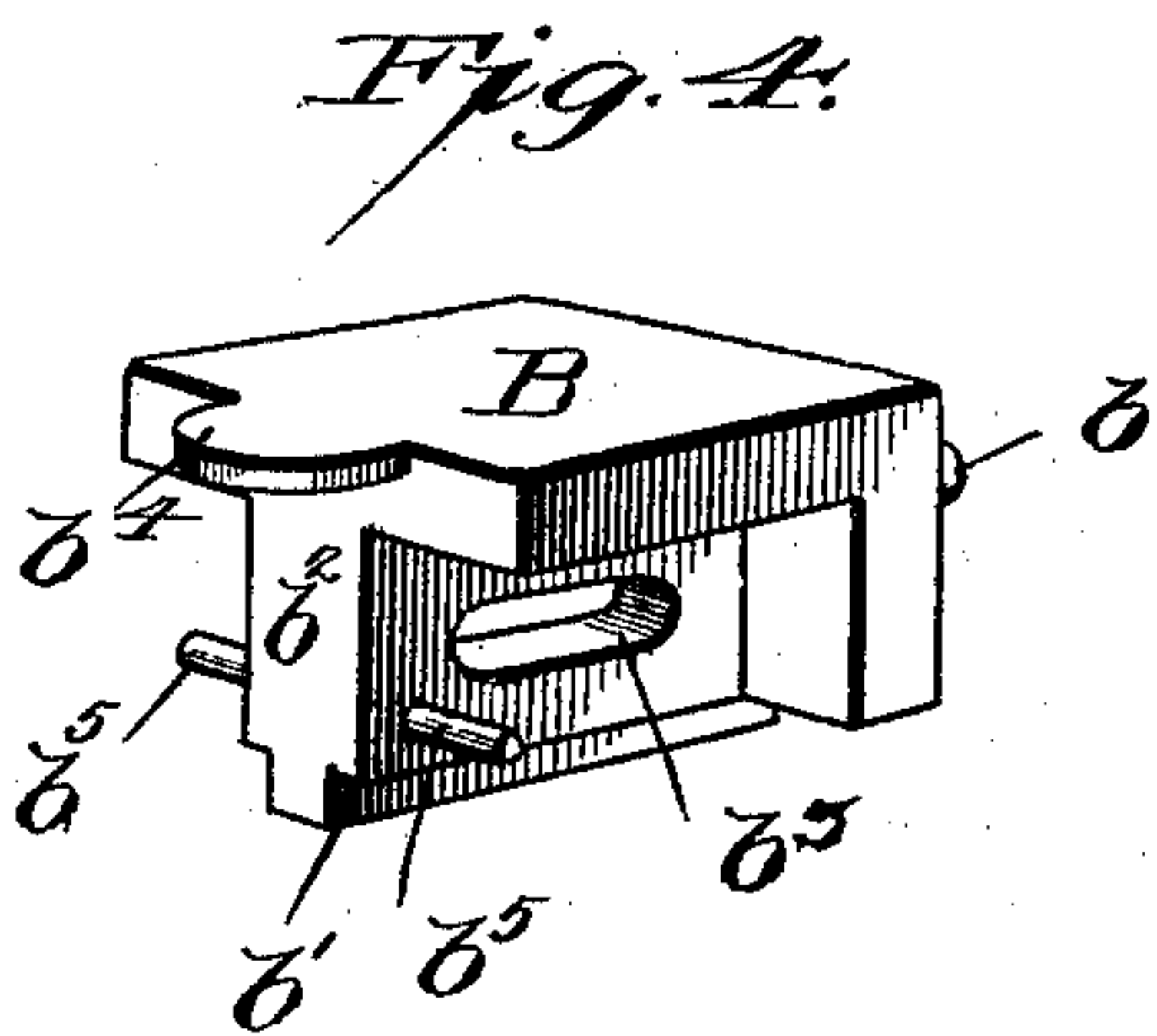
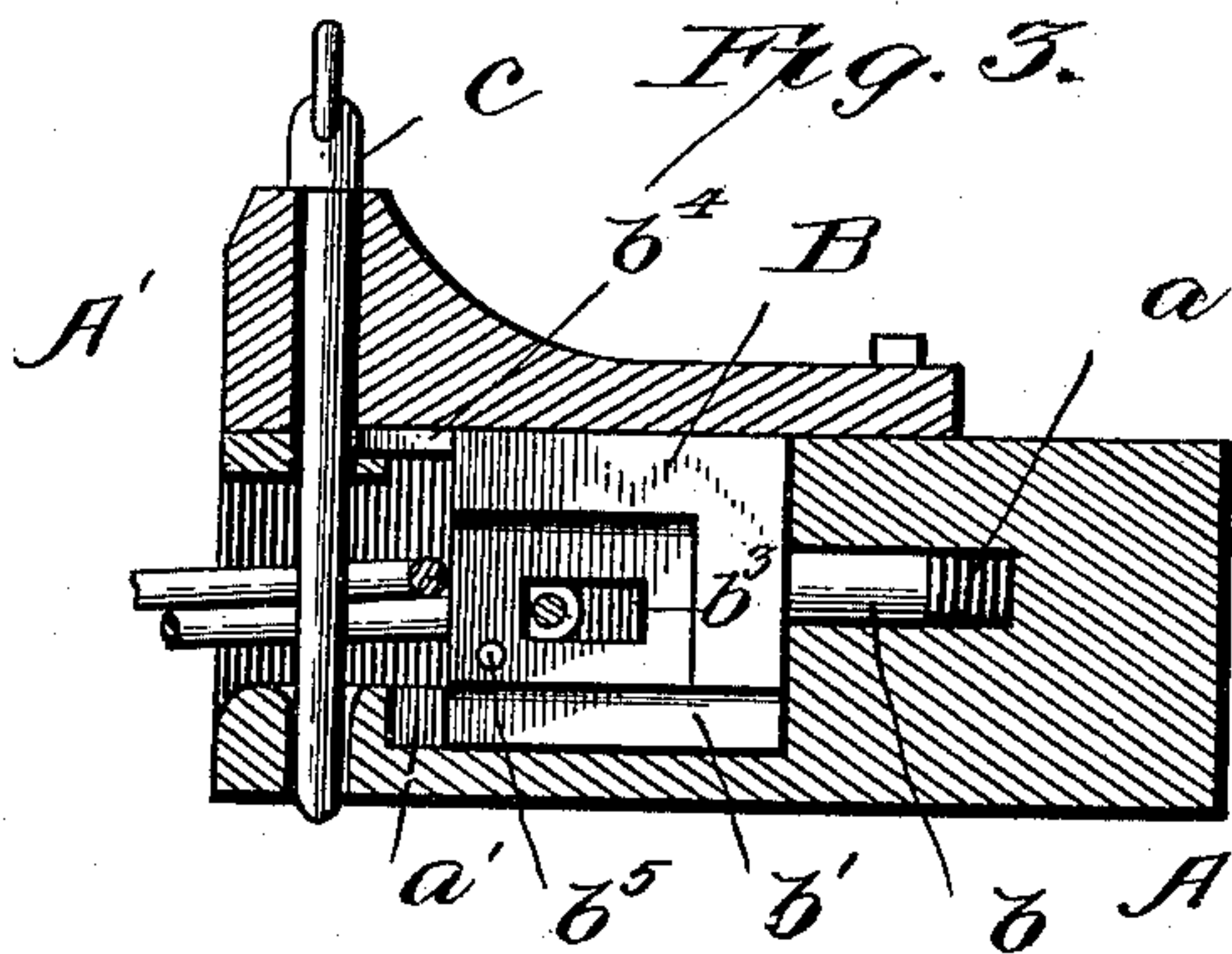
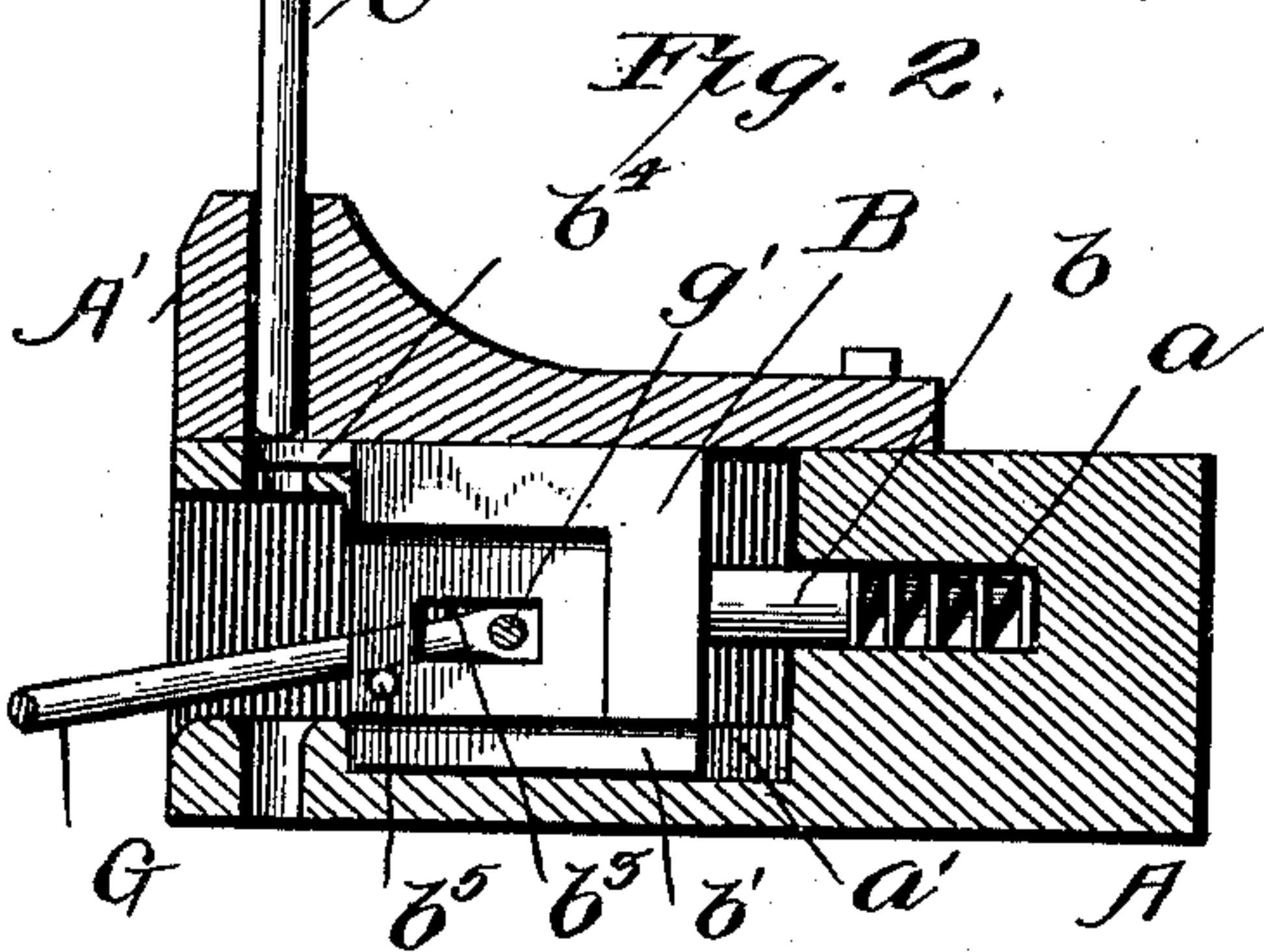
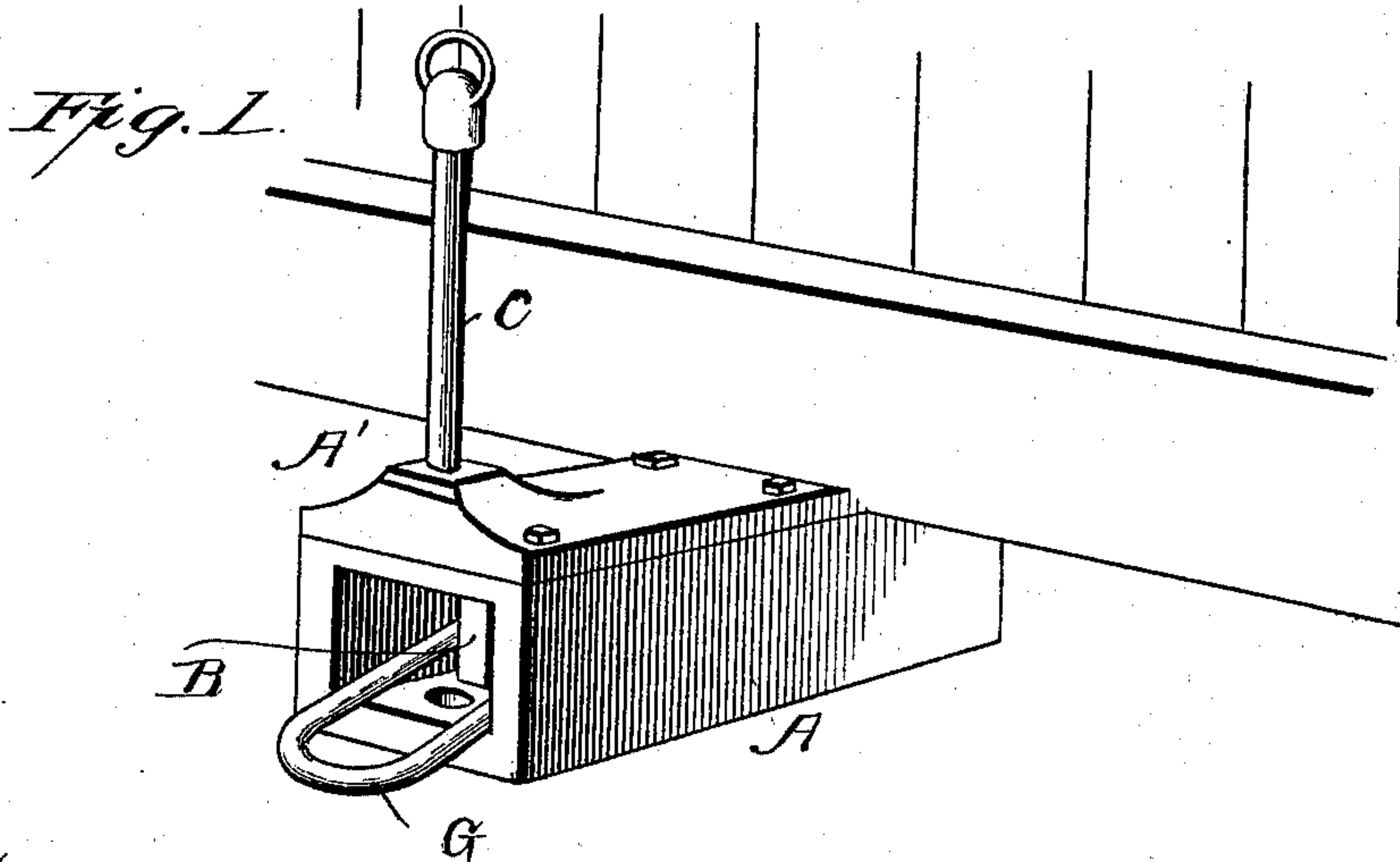
Patented Nov. 28, 1899.

N. B. LEWIS & C. SPATES.

CAR COUPLING.

(Application filed Apr. 3, 1899.)

(No Model.)



Witnesses:

South.
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UNITED STATES PATENT OFFICE.

NORMAN BIRCHAM LEWIS AND CHARLES SPATES, OF ROSSWAY, CANADA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 637,966, dated November 28, 1899.

Application filed April 3, 1899. Serial No. 711,551. (No model.)

To all whom it may concern:

Be it known that we, NORMAN BIRCHAM LEWIS and CHARLES SPATES, subjects of Her Majesty the Queen of Great Britain, residing at Rossway, county of Digby, Province of Nova Scotia, Canada, have invented certain new and useful Improvements in Car-Couplers; and we do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to car-couplers, and has for its object to provide an automatically-locking car-coupler which is simple and economical in construction and effective and reliable in operation.

To these ends the invention consists in a car-coupler constructed and operated substantially as illustrated and described, and defined in the appended claim.

In the accompanying drawings, in which similar letters indicate similar parts in all the views, Figure 1 is a view in perspective of the improved car-coupler applied in operative position on a car ready to be coupled to another car. Fig. 2 is a vertical longitudinal central section, the coupling-plate being shown in elevation and the parts being in the operative position shown in Fig. 1. Fig. 3 is a similar view to Fig. 2, the parts being shown in the position they assume when coupled with another car. Fig. 4 is a perspective view of the coupling-plate. Fig. 5 is a perspective view of the coupling-link employed in this invention.

Referring to the drawings, A represents a metal casing which is adapted to be rigidly affixed to the under side of the car-body or platform, it being understood that each car is to be provided with a coupler at each end. The casing A is open at its front end and has an opening on its upper side, which extends from a point near the front end to a point about half-way to the end of the casing. This opening is adapted to be closed by a removable cover-plate A' and permits the insertion within the interior of the casing A of the coupling-plate B. The cover-plate A' is provided near its front end with an orifice through which the coupling-pin C may be inserted,

and the said cover is made much thicker at this point to provide ample strength and at the same time permit the pin to be retained in its raised position, as shown in Fig. 2. The orifice in the cover-plate is in alinement and corresponds with an opening in the upper and lower sides of the casing A, so that when the coupling-pin is dropped into place it is held at three points of its length, thus affording maximum strength. The casing A is also provided with a central bore extending from the hollow interior toward the rear part, in which is housed a spiral spring *a* and which is also adapted to receive the thrust of a pin *b*, secured to the end of the coupling-plate B, by the force of which the said spring *a* is compressed.

The lower face of the hollow interior of the casing A is provided with a longitudinal groove *a'*, which forms a guideway in which the flange *b'* of the coupling-plate B is adapted to slide. The outer end of this groove *a'* terminates a short distance from the orifice for the coupling-pin, thus forming a stop for the forward movement of the coupling-plate, while the rear movement is stopped by the solid face of the casing, as it is by this portion of the casing that the heavy shocks are resisted.

The coupling-plate B is formed of a solid piece of metal, preferably hardened steel, and has a broad smooth upper and rear surface, which extend at right angles to each other. A central web *b²* depends from the under face of the plate B and is provided with a longitudinal slot *b³* and has on its under face the flange *b'*. Upon the upper front face of the coupling-plate B is secured an extension *b⁴*, which is adapted to form a rest or support for the coupling-pin when the parts are in the position shown in Fig. 2. Transverse lugs *b⁵* are formed one on each side of the web *b²*, which serve the purpose of preventing the coupling-link from dropping too far down when the parts are in the position shown in Fig. 2.

The coupling-link G is formed much shorter than those in ordinary use and is of substantially yoke shape, the arms being provided at their extremities with orifices *g*, through which is passed a securing-pin *g'*, which also

passes through the slot b^3 , thus securely connecting the coupling-link to the coupling-plate and yet allowing all the necessary play.

From the above description it will be seen
5 that when the coupler is not in use or is made ready to couple to the spring a forces the coupler-plate forward and the extension b^4 passes beneath the orifice in the cover-plate A' . The coupling-pin is now inserted in said
10 orifice and is supported by said extension. The coupler is now in operative position preparatory to being connected with the coupler of the next car. During the act of coupling the force of the impact of the coupling-link
15 against the coupler-plate forces it back against the tension of the spring, which now acts as a buffer, and withdraws the extension from beneath the coupling-pin, which immediately slips down into the sockets or
20 orifices of the casing, and thus completes the coupling. By means of this construction it will be seen that even should the parts of one coupling give way the cars would still remain coupled, as each coupling-pin passes through
25 both coupling-links.

While we have herein shown a preferred form of carrying our invention into effect, yet we do not desire to limit ourselves to such preferred details of construction, but claim
30 the right to use any and all modifications

thereof which will serve to carry into effect the objects to be attained by this invention in so far as such modifications and changes may fall within the spirit and scope of our said invention.

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We claim—

A car-coupler, comprising a casing provided with a chamber, and an opening leading through the upper side of the casing into said chamber, a cover for said opening, said
40 covering and casing having alined orifices in the front end thereof, a coupling-plate slidably mounted in the said chamber, a pin secured to said plate and adapted to enter a bore formed in said casing, a spring arranged
45 in said bore and adapted to operate against said pin, a coupling-link secured to said plate by a pin passing through a slot formed in said plate, said coupling-link being so arranged
50 as to engage a coupling-pin passed through the orifices of said casing, substantially as described.

In witness whereof we have hereunto set our hands in the presence of two witnesses.

NORMAN BIRCHAM LEWIS.
CHARLES SPATES.

Witnesses:

GEO. B. BISHOP,
JACOB W. GILLILAND.