

No. 776,904.

PATENTED DEC. 6, 1904.

A. GOMER.  
CAR COUPLING.

APPLICATION FILED MAR. 25, 1904.

NO MODEL.

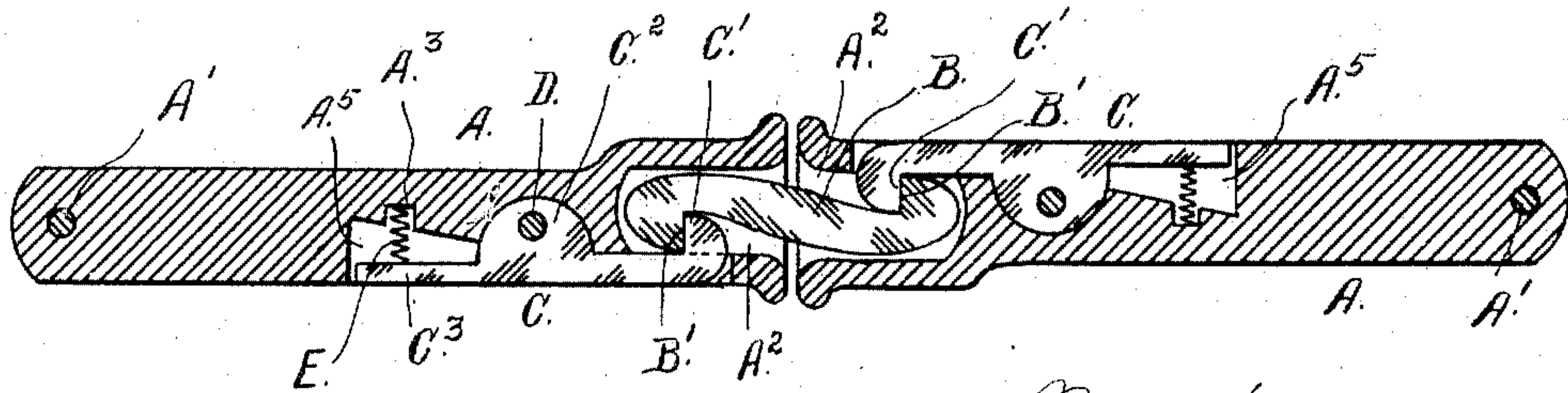


Fig. 1.

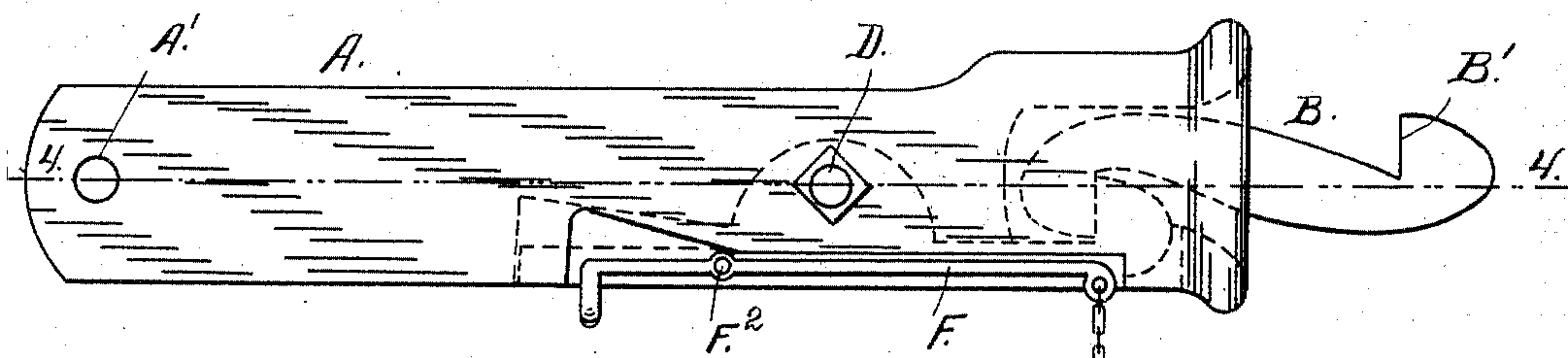


Fig. 2.

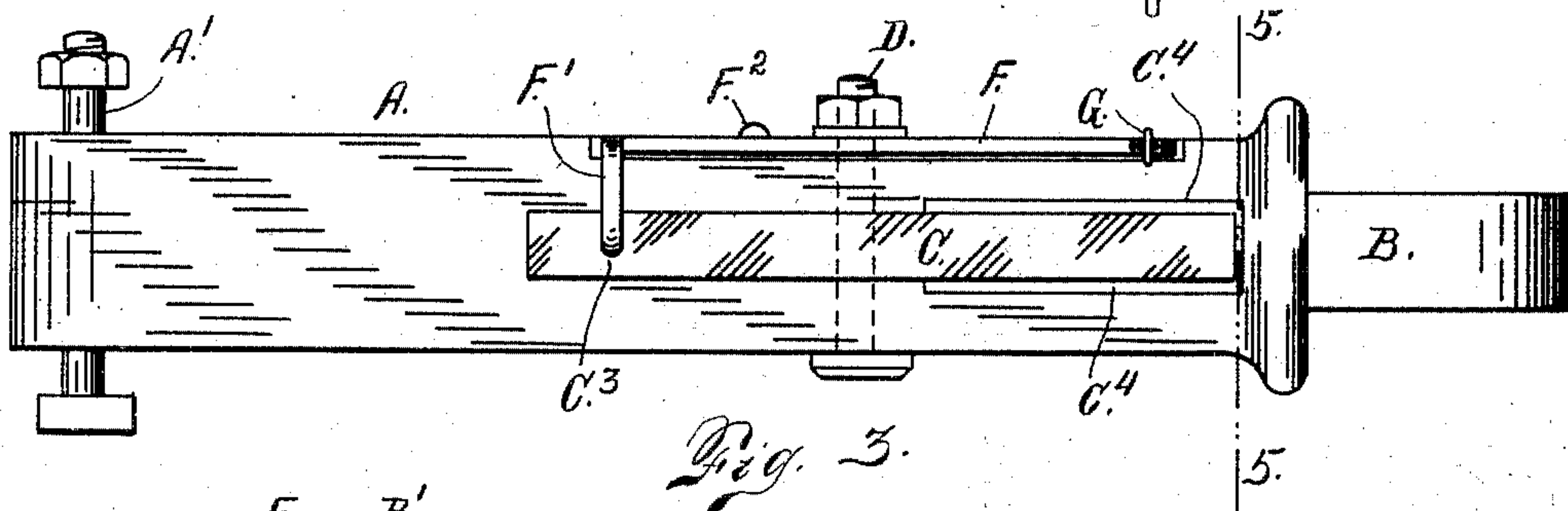


Fig. 3.

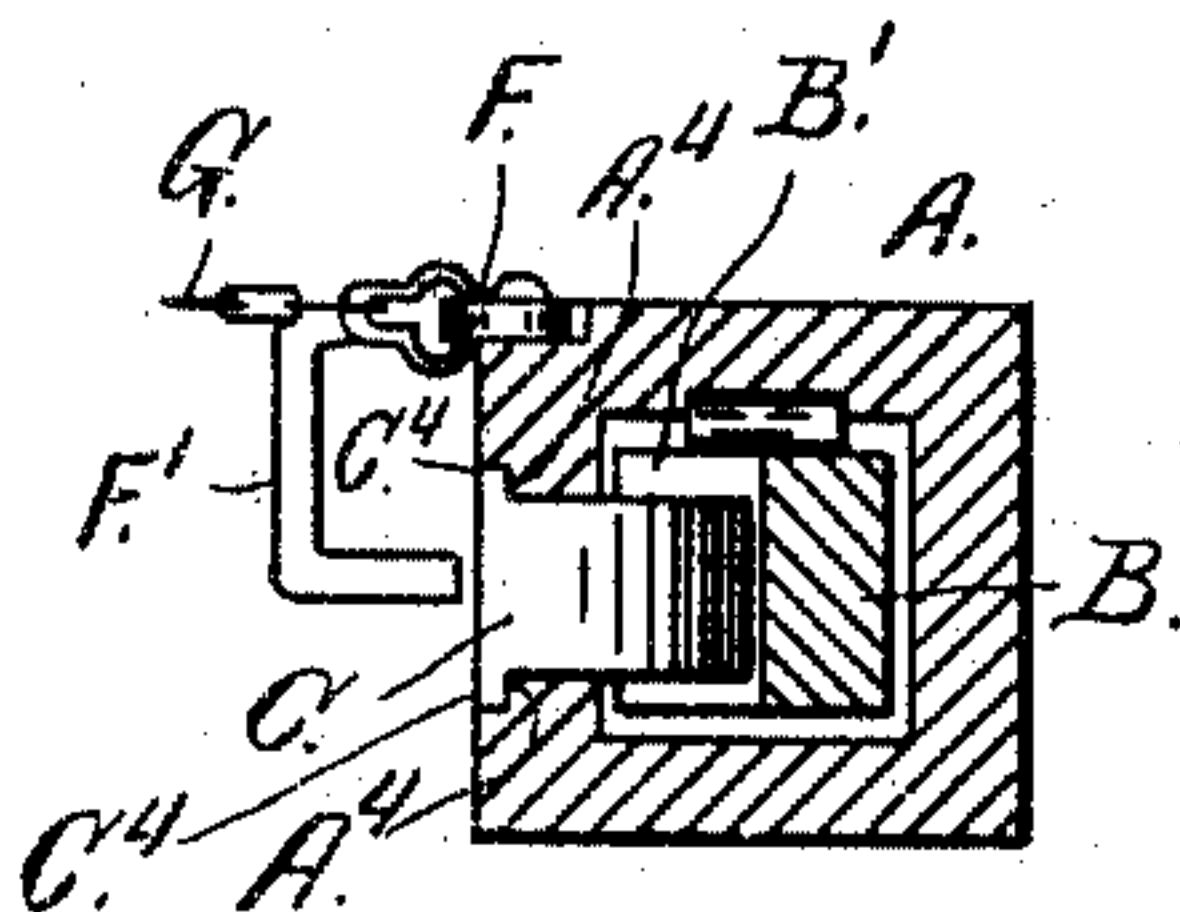


Fig. 4.

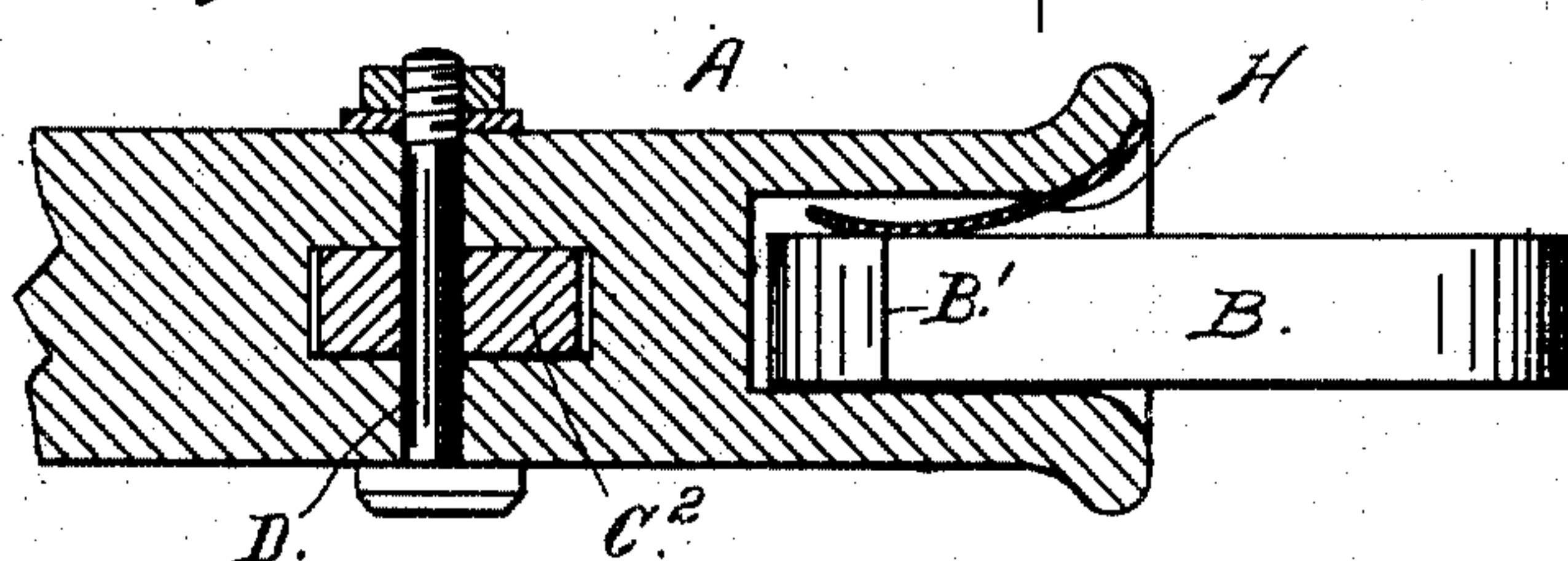


Fig. 5.

Witnesses  
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# UNITED STATES PATENT OFFICE.

ALVA GOMER, OF DENVER, COLORADO, ASSIGNOR OF TWO-THIRDS  
TO WILLIAM G. WHEELER AND JOHN THOMPSON, OF DENVER,  
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## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 776,904, dated December 6, 1904.

Application filed March 25, 1904. Serial No. 200,052. (No model.)

*To all whom it may concern:*

Be it known that I, ALVA GOMER, a citizen of the United States of America, residing in the city and county of Denver and State of Colorado, have invented certain new and useful Improvements in Car-Couplers; and I do 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 ap-  
10 pertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in car-couplers, my object being to provide a device of this class which shall be of simple and economical construction, automatic in operation, and reliable, durable, and efficient in use; and to these ends the invention consists of the  
20 features, arrangements, and combinations hereinafter described and claimed, all of which will be fully understood by reference to the accompanying drawings, in which is illustrated an embodiment thereof.

In the drawings, Figure 1 is a horizontal sectional view taken through two draw-heads equipped with my improved coupling devices, the parts being shown in the coupled position. Fig. 2 is a top plan view of a draw-head  
30 equipped with my improvements and shown on a larger scale. Fig. 3 is a side elevation of the same. Fig. 4 is a fragmentary longitudinal section taken on the line 4 4, Fig. 2, showing a slightly-modified form of construction. Fig. 5 is a section taken on the line 5 5, Fig. 3.

The same reference characters indicate the same parts in all the views.

Let A designate a draw-head, which may be of any suitable construction. As shown in the drawings, this draw-head is adapted to be connected with a car by means of a bolt A'. It may, however, be connected in any other suitable manner, as nothing is claimed on the  
45 special connection. Each draw-head is provided with a chamber A<sup>2</sup> open in front and of sufficient size and depth to receive a coupling device B, which is provided with hook-shaped extremities having oppositely-disposed offsets

B', adapted to engage cooperating offsets C', 50 formed on the locking devices C, pivotally mounted in the opposite draw-heads by means of bolts D, which engage registering apertures formed in the draw-head, and the centrally-located curved part C<sup>2</sup>, which engages 55 a correspondingly-curved recess formed in the adjacent part of the draw-head and in the rear of the forwardly-located chamber A<sup>2</sup>. The rear extremity C<sup>3</sup> of the locking device C is acted on by a coil-spring E, one extremity of 60 which engages a recess A<sup>3</sup>, formed in the draw-head, while the other extremity bears against the part C<sup>3</sup> of the coupling device and holds it in the locking position, as shown in Fig. 1 of the drawings. The locking device 65 occupies a recess formed in the draw-head and open on one side, whereby one side of the coupling device is exposed. This exposed side of the locking device is provided with narrow strips C<sup>4</sup>, which engage adjacent lon- 70 gitudinally-disposed shoulders A<sup>4</sup>, formed in the draw-head, whereby the forward extremities of the locking device is prevented from moving inwardly too far under the influence of the spring E. The rear part C<sup>3</sup> of the lock- 75 ing device is engaged by a depending arm F' of a lever F, pivoted on the draw-head at F<sup>2</sup> and having a chain or other suitable device G connected with its forward extremity, whereby as the chain is pulled in the direction in- 80 dicated by the arrow in Fig. 2 the arm F' of the lever is forced inwardly against the rear extremity of the locking device C, whereby the forward extremity is thrown outwardly to the uncoupled position and the coupling de- 85 vice B released, allowing the cars to separate.

Attention is called to the fact that the coupling extremities of the coupling device B are formed considerably thicker than their cooperating locking devices C, whereby in making 90 curves the coupling extremities of the said devices are made to engage the adjacent walls of the draw-head, thus preventing any tendency to thrust the locking devices C outwardly sufficiently to uncouple the cars. This is be- 95 lieved to be an important feature of the device. Attention is called to Fig. 5 of the drawings, which illustrates this construction quite



clearly, since the offset B' of the coupling device appears both above and below the cooperating device C.

In the construction shown in Fig. 4 a leaf-spring H acts on the inner extremity of the coupling device in order to hold the protruding extremity of the latter in the horizontal position or in position to be readily coupled by an approaching car whose draw-head is suitably equipped. This spring is employed in cases where the coupling device is not made of sufficient thickness to practically fill the cavity or chamber of the draw-head which it enters. It is evident that if the draw-head B in Fig. 4 were made somewhat deeper or as indicated in Fig. 3, whereby it is made to practically fill the vertical depth of the chamber which it enters, the outer extremity of the coupling device B would be supported in the horizontal or approximately horizontal position without the aid of the spring H.

From the foregoing description the use and operation of my improved car-coupler will be readily understood. Assuming that the draw-heads of both cars are equipped as shown in the drawings and that the coupling device B is in place in the draw-head of one car, as shown in Figs. 2, 3, and 4 of the drawings, it is evident that as the two cars are brought together in suitable proximity the protruding hook-shaped extremity containing the offset B' of the coupling device will enter the chamber A<sup>2</sup> of the opposited draw-head, whereby the rounded or beveled engaging surfaces of the parts B and C are brought together and the device C will be forced outwardly until the inner extremity of the coupling device has reached its inward limit of movement, when the spring-actuated locking device C will return to its normal position, whereby the two offsets B' and C' are brought together in locking engagement. In order to uncouple the cars, the locking device C of either draw-head may be actuated by an outward pull on the forward extremity of the lever F, whereby the rear extremity of the locking device is forced inwardly into a chamber A<sup>5</sup>, with which the draw-head is provided.

Having thus described my invention, what I claim is—

1. In a car-coupler, the combination with a draw-head provided with an open chamber in its forward extremity, and a rearwardly-extending chamber formed in and open on one side of the draw-head, a locking device located in the rearwardly-extending chamber of the draw-head and pivotally connected with the latter, its forward extremity being hook-shaped and entering the forward chamber of the draw-head and its rear extremity being spring-actuated and located adjacent a recess formed in the draw-head in the rear of the locking-device pivot, and a coupling device having hook-shaped extremities, each of which is adapted to enter the forward chamber of a

draw-head and cooperate with the locking device, the coupling device being of greater thickness than the locking device for the purpose set forth.

2. In a car-coupler, the combination of a draw-head having a forwardly-located chamber open in front and on one side, and a rearwardly-located recess also open on one side of the draw-head, a locking device engaging said open recess and pivotally connected with the draw-head, the forward extremity of the locking device being hook-shaped, its central portion curved to occupy a curved recess formed in the draw-head in the rear of the forward cavity, the locking device having a rearwardly-extending part located adjacent a cavity adapted to receive the rear extremity of the locking device when the latter is in the unlocked position, a spring located in the draw-head and acting on the rear extremity of the locking device to normally hold it in the locked position, and a cooperating hook-shaped coupling device adapted to enter the forward extremity of the draw-head and automatically interlock with the adjacent extremity of the locking device, the coupling device being of greater thickness than the locking device for the purpose set forth.

3. In a car-coupler, the combination of a draw-head provided with a spring-held locking device whose forward extremity is hook-shaped and enters a cavity formed in the forward extremity of the draw-head, the said locking device being of less thickness than the said cavity, and a cooperating hook-shaped coupling device adapted to enter the forward cavity of the draw-head and cooperate with the locking device, the thickness of the coupling device being greater than that of the locking device.

4. In a car-coupler, the combination of a draw-head having a front cavity open in front and a lateral rearwardly-extending recess communicating with the front cavity but open on the side of the draw-head, the central portion of the said recess being curved, a locking device located in the said lateral recess and exposed on the side of the draw-head, the said locking device being curved to fit the central curved portion of the recess of the draw-head and pivotally connected in operative relation with the draw-head whereby it is adapted to turn in the central recess, the forward extremity of the locking device protruding into the front cavity of the draw-head at one side thereof, and a spring acting from the inside on the rear extremity of the locking device to hold the latter in the locking position, and a coupling device whose extremities are hook-shaped, each extremity being adapted to enter the front cavity of the draw-head and automatically interlock with the forward extremity of the locking device.

5. The combination with a draw-head provided with a forward cavity open in front and



a lateral rearwardly-extending recess whose front portion communicates with the forward cavity and is open on one side of the draw-head, a locking device located in the said recess, a bolt upon which the locking device is pivotally mounted, a spring located in the draw-head and acting on the rear extremity of the locking device to hold the forward extremity of the latter in the locking position, the outer part of the locking device having laterally-extending projections adapted to engage shoulders formed in the draw-head on opposite sides of the lateral recess, and a coupling device having hook-shaped extremities each of which is adapted to enter the forward cavity of a draw-head and interlock with the forward extremity of the locking device which normally occupies a position in said cavity and at one side thereof.

6. The combination with a draw-head, of a coupling device pivotally connected with the draw-head and occupying a recess open on one side of the draw-head, the central pivoted part of the locking device being curved to engage a correspondingly-curved wall of the draw-head, the forward extremity of the locking device normally protruding into a forward cavity of the draw-head and occupying a position at one side of the said cavity which is open in front, the recess of the draw-head extending in the rear of the pivoted part of the locking device to allow the rear extremity of the latter to move inwardly sufficiently to

throw its forward extremity to the unlocked position, a coupling device having hook-shaped extremities each of which is adapted to enter the forward open cavity of the draw-head and interlock with the cooperating locking device, and suitable means connected with the locking device for actuating the latter to release the coupling device.

7. The combination with a draw-head, of a locking device occupying a lateral recess formed in the draw-head and open on one side, the locking device being pivotally mounted in said recess and spring-held whereby its forward extremity occupies a front open cavity in the draw-head at one side thereof, the said locking device having a hook-shaped extremity, a coupling device having a hook-shaped extremity adapted to interlock with the forward extremity of the locking device, and a lever fulcrumed on the draw-head and having an arm engaging the rear extremity of the locking device, a spring acting on said arm to hold the locking device in the locking position, and means connected with the lever to actuate the latter whereby the locking device is thrown to the unlocked position, substantially as described.

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

ALVA GOMER.

Witnesses:

DENA NELSON,  
A. J. O'BRIEN.