

(No Model.)

3 Sheets—Sheet 1.

J. C. LOOK.
CAR COUPLING.

No. 563,389.

Patented July 7, 1896.

Fig. 1.

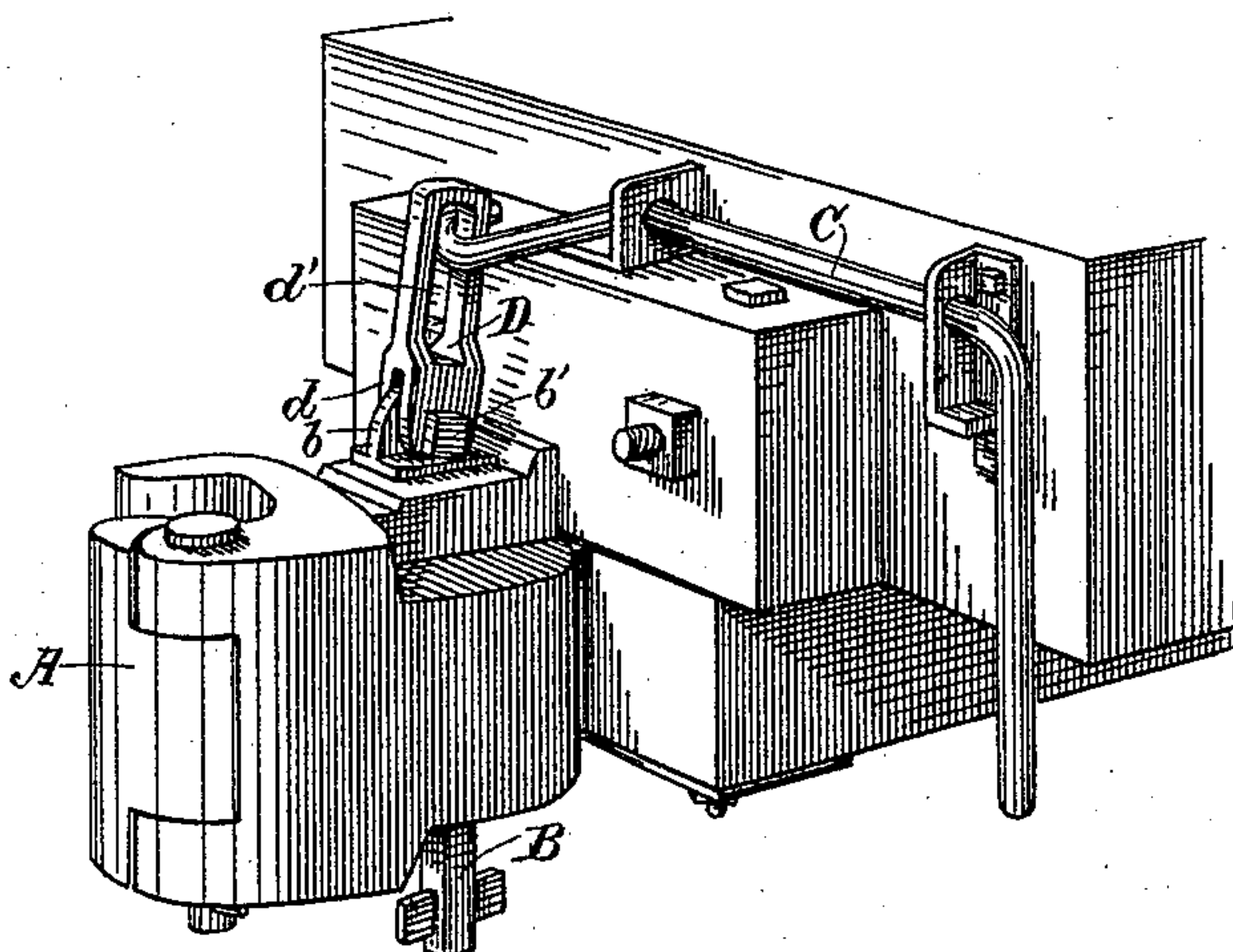
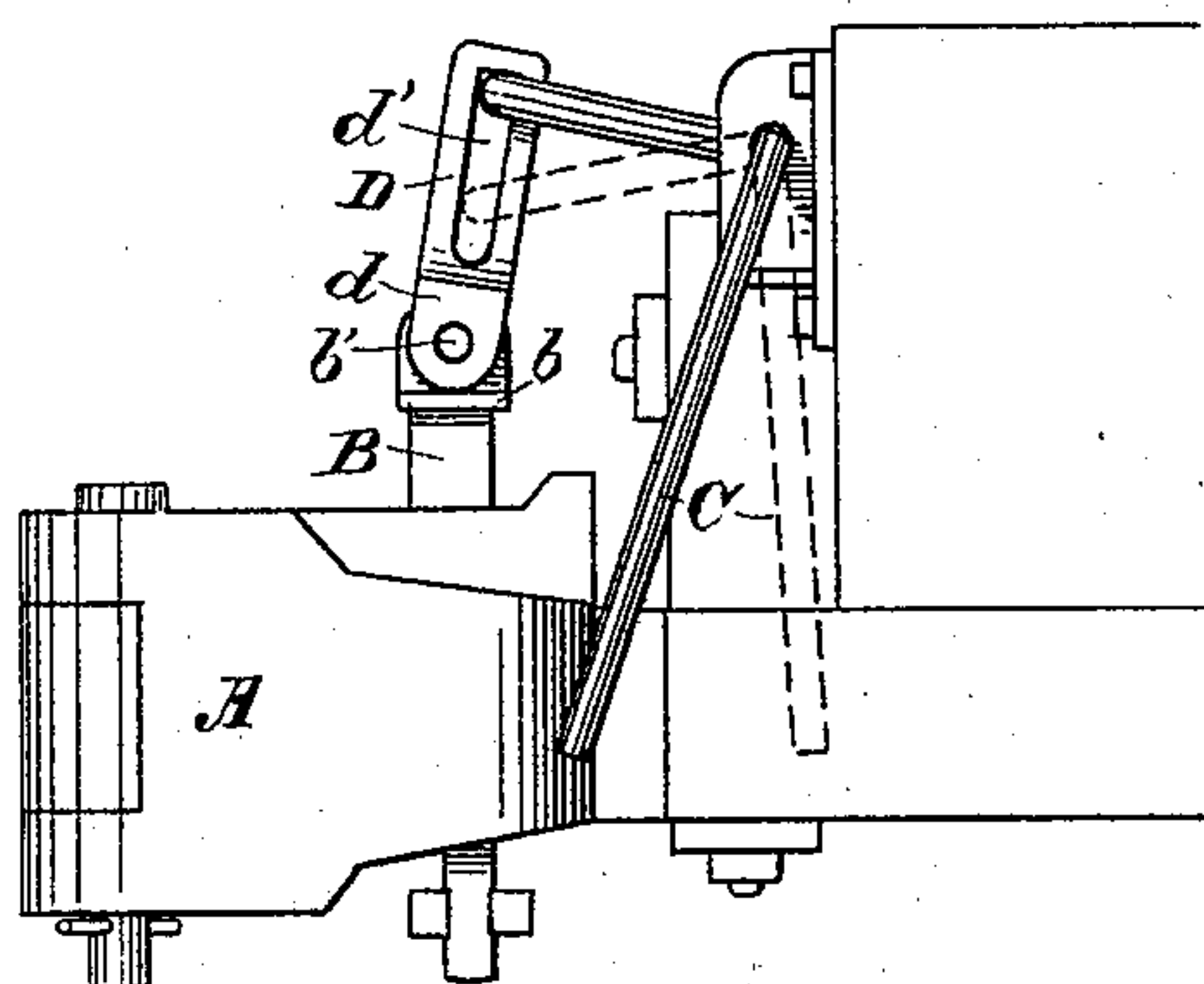


Fig. 2.



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Fig. 3.

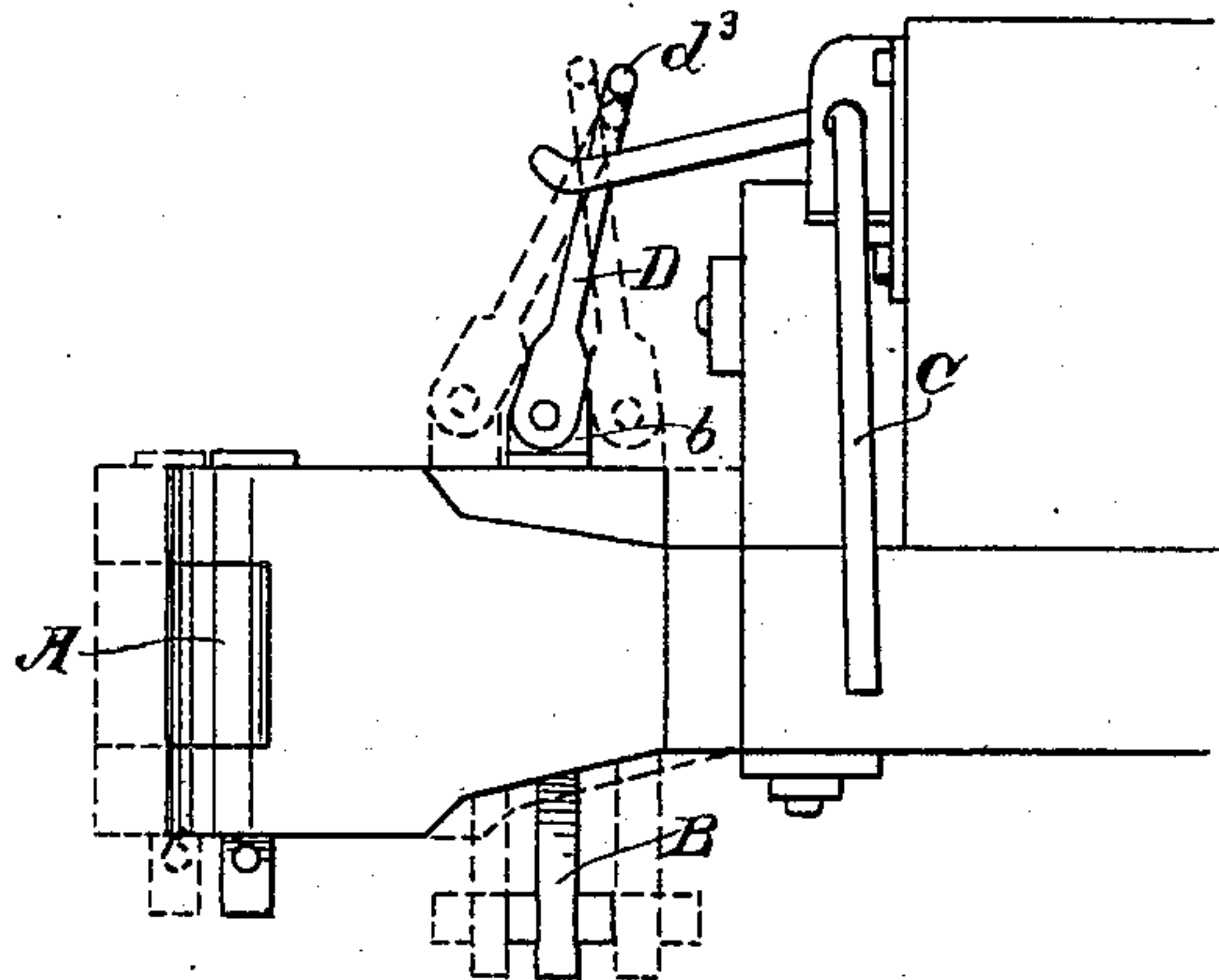


Fig. 4.

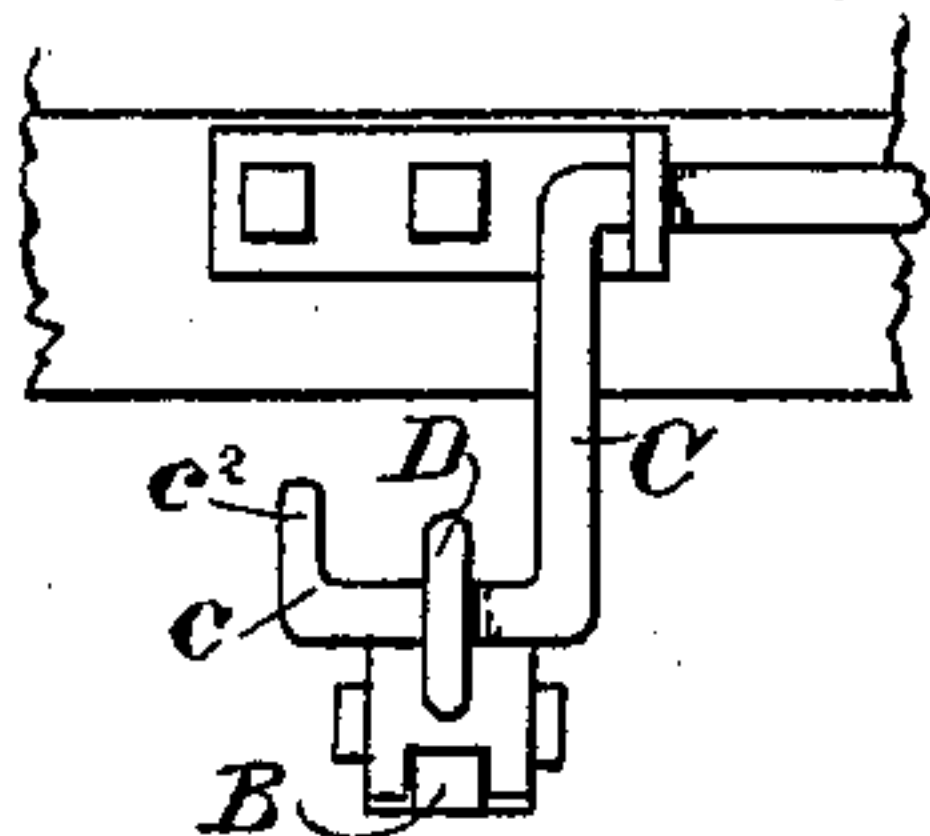


Fig. 5.

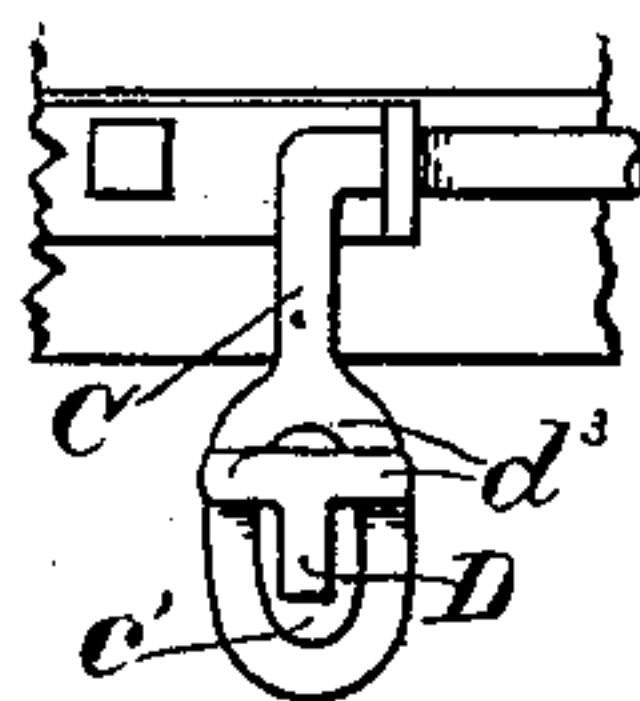


Fig. 6.

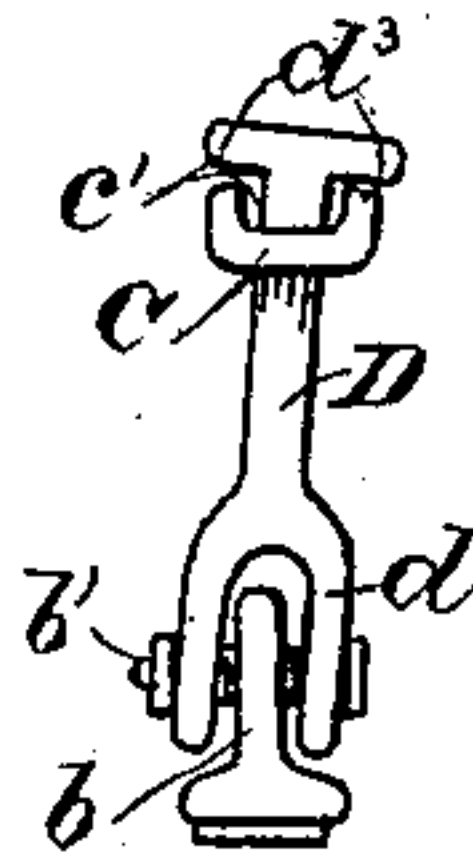
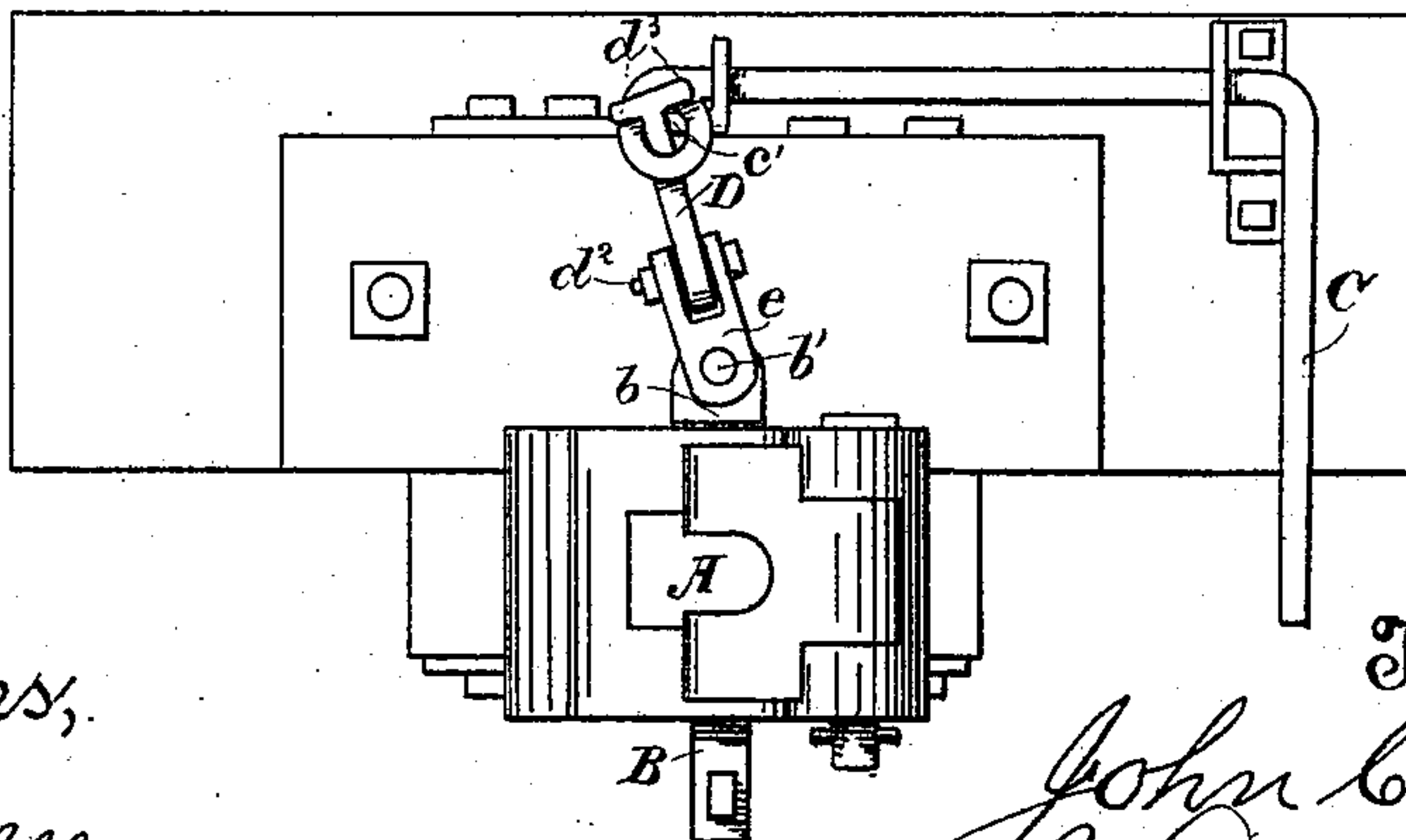


Fig. 7.



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Fig. 8.

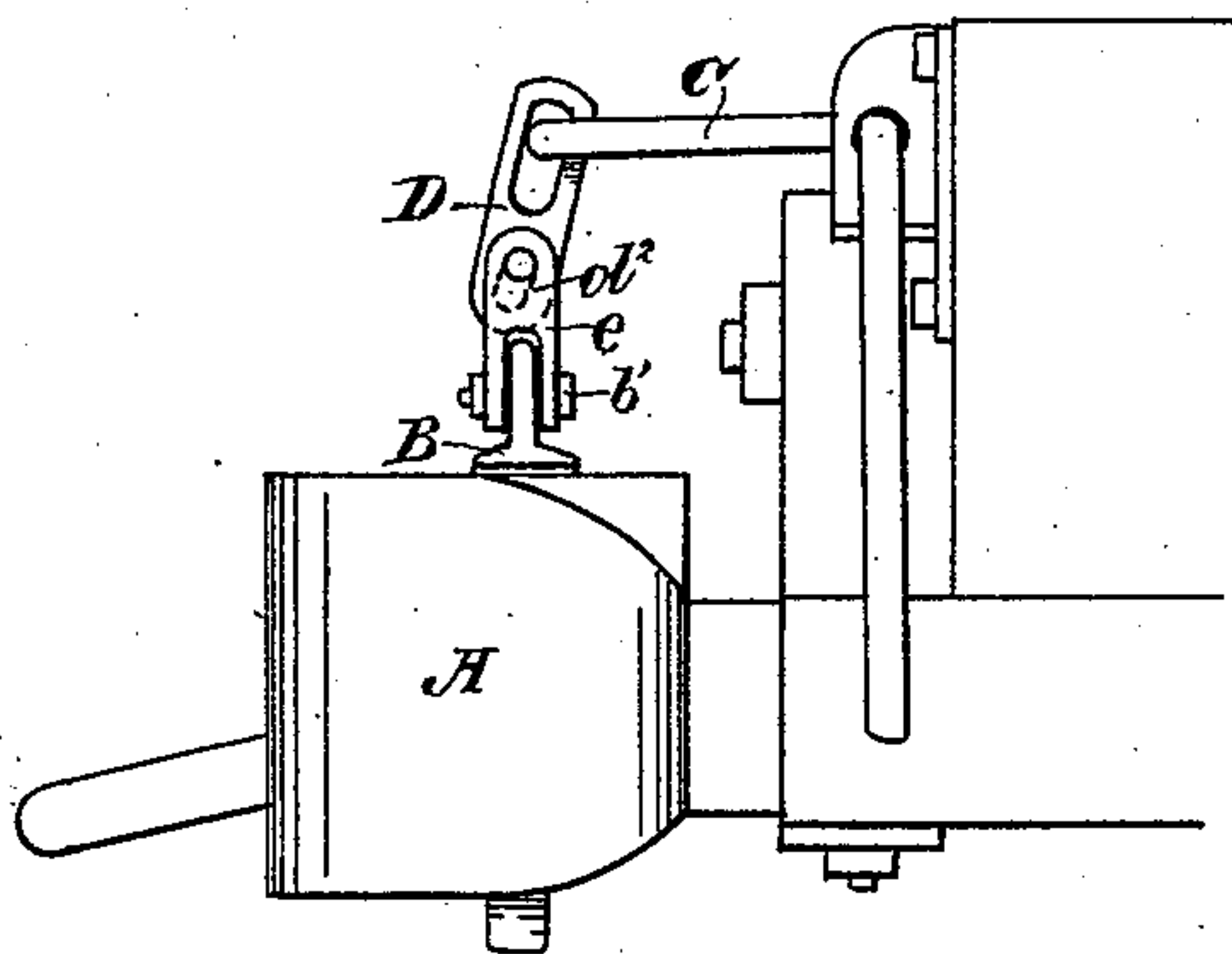


Fig. 9.

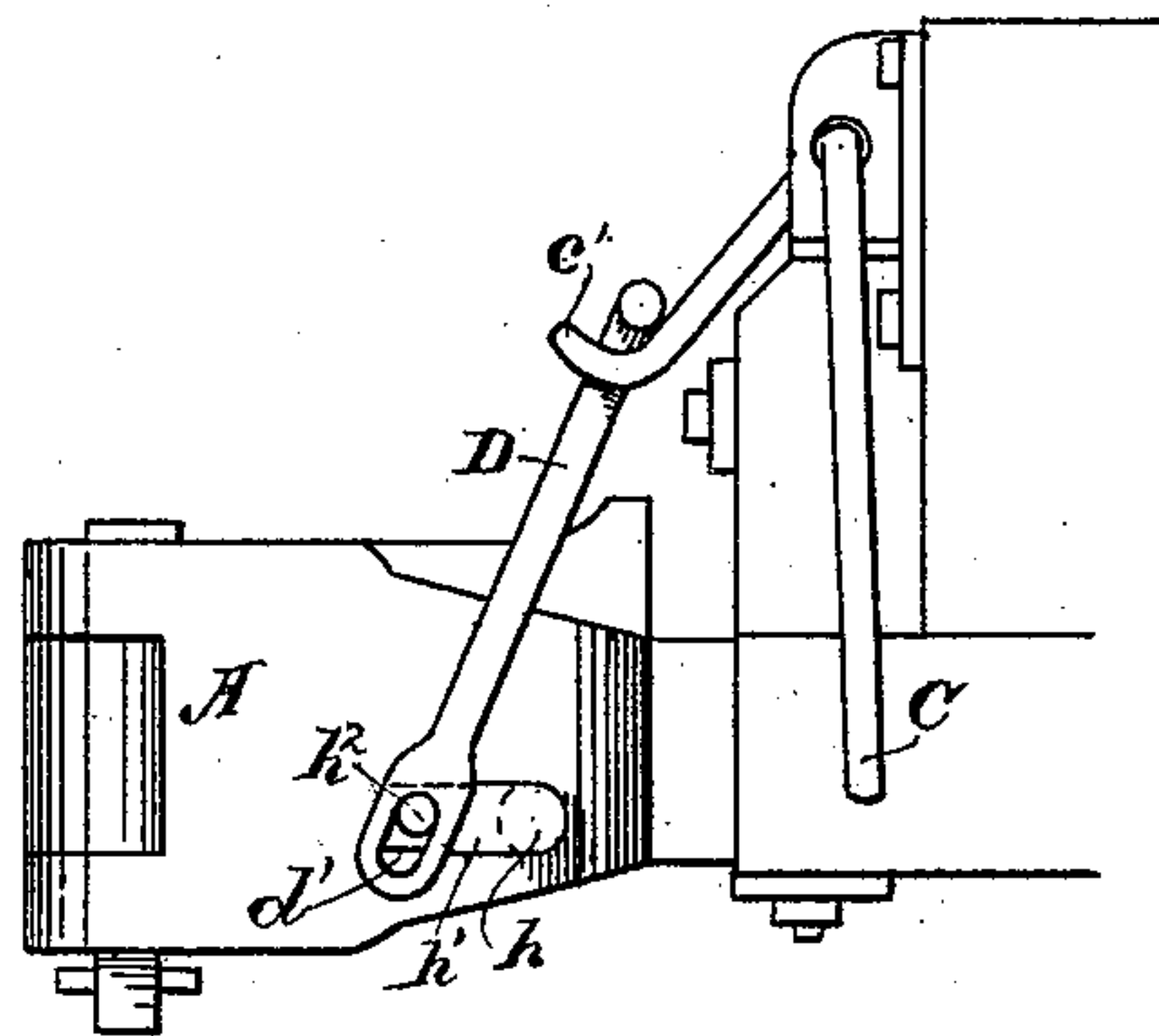


Fig. 10.

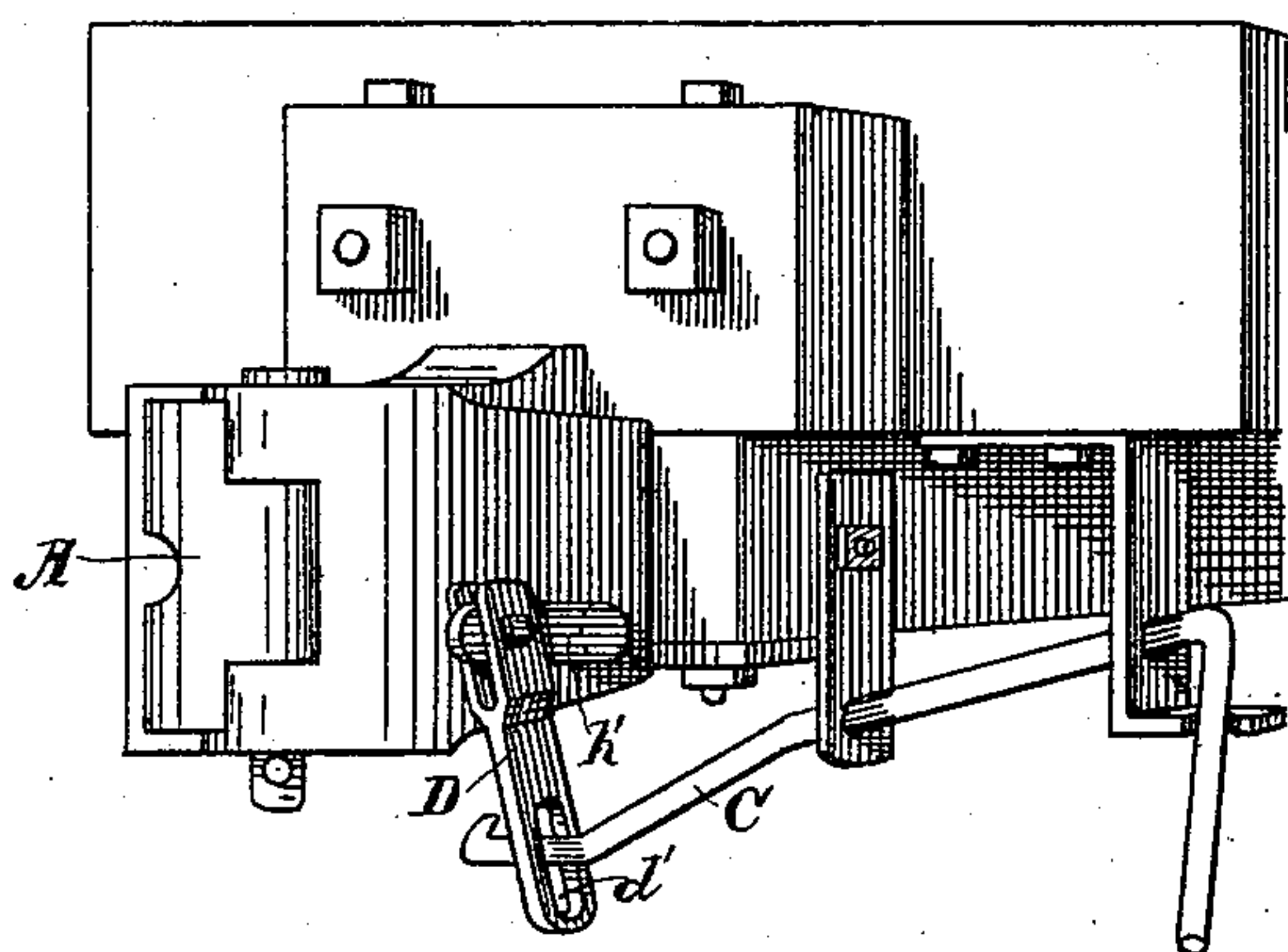
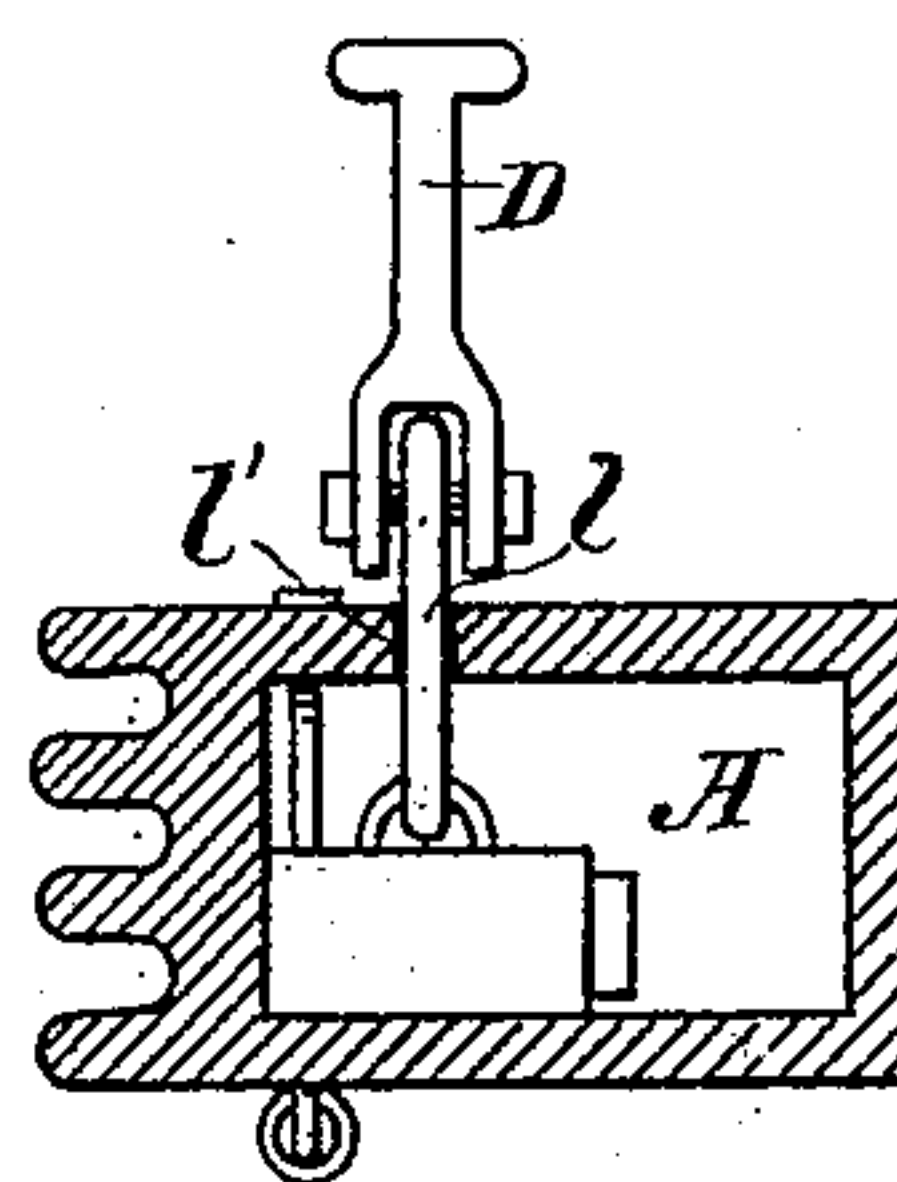


Fig. 11.



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UNITED STATES PATENT OFFICE.

JOHN C. LOOK, OF SAN JOSÉ, CALIFORNIA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 563,389, dated July 7, 1896.

Application filed December 17, 1895. Serial No. 572,415. (No model.)

To all whom it may concern:

Be it known that I, JOHN C. LOOK, a citizen of the United States, residing in San José, county of Santa Clara, State of California, have invented an Improvement in Car-Couplings; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to all classes of couplings having a locking device or pin adapted to be raised to uncouple by means of a lever or rock-shaft extending to the side of the car.

My invention consists of a lever mounted on the car, with its inner extremity substantially over or under the locking device of the coupling, to which is attached a rod or device connecting with the locking device, said rod or device being flexibly connected to both the lever and the locking device, and so arranged, as by being slidable in an eye in the device or in an eye in the lever on the car or at any convenient place, as to allow and accommodate itself to all the movements of the coupling or locking device.

The object of my invention is to provide such a means or device for connecting the lever on the car to the locking device of the coupling as will maintain in itself a line from the locking device to the said lever on the car, said line to be substantially vertical.

Heretofore the connection between the said parts has usually been a chain, or loosely-pivoted links, or links and clevises, suspendingly disposed, consisting of a great number of parts, which would be liable to become easily disarranged and broken, and also quite expensive to apply and maintain. The connection has been thought to demand a great number of loose parts, as most couplings have considerable lateral and longitudinal play, and the locking devices have also other separate movements. An upright rod has also been suggested, connected to the locking device and held perpendicular, when the locking device is in its seat, by its manner of connection to the said locking device, or by guides in the draw-head, or in such other manner that the lever end of the said rod moves forward and rearward with the coupling,

thus necessitating a long lever-arm that projects well forward, and by reason of its projection is liable to become distorted or broken by coming in contact with levers on other cars or by other objects; but my improvement provides a rod or parts so arranged that they will maintain their position in a line from the locking device to the lever on the car without the aid of being held in suspension by the lever above, or will act in a rigid manner from below when operated, and that is connected to the locking device and to the lever in such a flexible manner as to adapt and permit the locking-device end to follow the forward movement of the coupling, when the locking device is in its seat, while the lever end remains rearwardly, thus permitting the use of a short lever-arm.

Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1 is a perspective view of the coupling, showing the lever and connecting device for uncoupling. Fig. 2 is a side view showing the coupling unlocked. Fig. 3 is a side view showing a different kind of connection. Fig. 4 is a top view of the device shown in Fig. 2. Fig. 5 is a top view of the device shown in Fig. 3. Fig. 6 is a front view of the device shown in Fig. 3. Fig. 7 is an extended application of Fig. 3, and Fig. 8 is an extended application of Fig. 2, to suit various kinds of pins. Fig. 9 is a view of the device as applied to a coupling having a lock rotated within by a crank-rod extending through the side of the draw-head. Fig. 10 is a view of the device as it would be applied from below. Fig. 11 is a front cross-section of a coupling having a lock inside lifted by a rod through the top.

Referring to Fig. 1, A represents generally a form of coupling, of which B is the locking-pin. C is the lever. D is the connecting device, which in this figure is made in one piece, ending in jaws *d* at the lower end, which pass over and are suitably fastened to the locking-pin at *b* by a pin or bolt *b'*, which may be better seen by reference to Fig. 6. Above this fastening is an elongated eye *d'*, through which the lever on the car is made to freely

pass, the top view of which may be seen by reference to Fig. 4. Now, it will be seen that by the use of this elongated eye the pin and connection can move up and down without interfering with the lever on the car, as seen in dotted lines, Fig. 2, or the distance between the lever on the car and the locking-pin may be more or may be less as the coupling moves forward and rearward, as may be seen in dotted lines in Fig. 3, it being a different kind of connection explained presently. In Fig. 3 a different form of connection is used from that in Fig. 2. In this figure the rod D is single and passes up through an eye c' in the lever C, (see Figs. 5 and 6,) above which the rod has lugs $d^3 d^3$ to serve as a stop whereby to lift the device.

The lateral movement of the coupling may be taken up by the bent portion c of the lever C (see Fig. 4) or the loose fitting of the rod D on the pin-head b and in the enlarged eye c' in the lever C, as shown in Figs. 5 and 6.

The manner of connecting the rod D in Fig. 1 is to slide it over the bent portion c^2 of the lever C, and then fasten it to the locking device, (see also Fig. 4,) and the manner of connecting the rod in Fig. 3 is to turn the lugs half-way and pass them up through the elongated eye in the lever on the car, then turn back and fasten to the locking device. (See also Fig. 5.)

In some kind of couplings the pin-head is across the draw-head from that shown in Figs. 1, 2, and 3. This is shown in Fig. 7, which would be a front view of Fig. 3. Then it becomes necessary to put on an additional top to the pin or other device, which is shown at e . This false head may fit close, or just enough to let it turn on the bolt b' , and then the rod D bolted loosely in this false head at d^2 , above which the rod D may be of any pattern. Should this false head be made to turn on the bolt at b , the bolt d^2 should then be at right angles to it, and the device will then maintain itself in the upright position.

In Fig. 9 the lock is on a crank-shaft h , which passes into the draw-head, and the rod D is fastened to the crank h' and made to slide on the crank-pin h^2 and also in the lever C at c' , as the sliding movement may be located at any convenient place.

Fig. 10 has a similar crank-shaft to Fig. 9, with the rod D extending below, and is connected to the lever on the car below. In this figure the rod D is pushed up, the elongated eye d' being for the same purpose as in Fig. 7, that of allowing the requisite play.

In Fig. 11 the lock is in the draw-head and a rod l extends through the top to which the rod D is attached, the aperture l' serving as a guide to keep the rod l in position. The rod D in this case, as in others, may be of any pattern.

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

1. In a car-coupling having a locking de-

vice, a lever on the car to operate the locking device, and a connection between the locking device and the lever, consisting of a substantially vertically-disposed rod, flexibly attached to the lever on the car by means of an enlarged eye in one part in which the other part is freely fitted, and flexibly attached to the locking device by means of a hinge, with the hinge-rod running in a direction transverse to the coupling, and the said rod sliding perpendicularly at one or both ends to permit the movements of the coupling.

2. In a car-coupling having a locking device, a lever on the car to operate the locking device, and a connection between the locking device and the lever consisting of a substantially vertically-disposed rod or device flexibly attached to the lever on the car by means of an enlarged eye in one part in which the other part is freely and slidingly fitted and flexibly attached to the locking device by means of a hinge which consists of two projections of the said rod or device passing over the connection of the locking device with suitable eyes in the said parts for a hinge-bolt, said hinge being arranged and adapted to permit a tilting movement of the said rod longitudinally to the coupling, when the locking device is in its seat.

3. In a car-coupling having a locking device, a lever on the car to operate the locking device, and a connection between the locking device and the lever, consisting of a substantially vertically-disposed rod, or device, flexibly attached to the lever on the car by means of an enlarged eye formed in the rod or device, opening in the direction of the side of the car, with a bent portion of the said lever passing through the said eye, and flexibly attached to the locking device by means of a hinge, said hinge being arranged and adapted to permit a tilting movement of the said rod longitudinally to the coupling when the locking device is in its seat.

4. In a car-coupling having a locking device, a lever on the car to operate the locking device, and a connection between the locking device and the lever, consisting of a substantially vertically-disposed rod, flexibly attached to the lever on the car by means of an enlarged and elongated eye in the said rod opening in the direction of the side of the car, with a bent arm of the said lever passing through the said eye, and flexibly attached to the locking device by means of a hinge, with the hinge-rod running in the direction toward the side of the car.

5. In a car-coupling having a locking device, a lever on the car to operate the locking device, and a connection between the locking device and the lever, consisting of a substantially vertically-disposed rod flexibly attached to the lever on the car, and flexibly attached to the locking device by means of two hinges, one at right angles to the other, said rod sliding at a convenient place, all to permit the movements of the coupling.

6. In a car-coupling having a locking device, a lever on the car to operate the locking device, and a connection between the locking device and the lever, consisting of a
5 substantially vertically-disposed rod made slidable and flexible at its union with the lever on the car and flexibly attached to the locking device by means of two hinges, one

at right angles to the other, all to permit the movements of the coupling.

In witness whereof I have hereunto set my hand.

JOHN C. LOOK.

Witnesses:

C. M. WOOSTER,
M. W. PUTNAM.