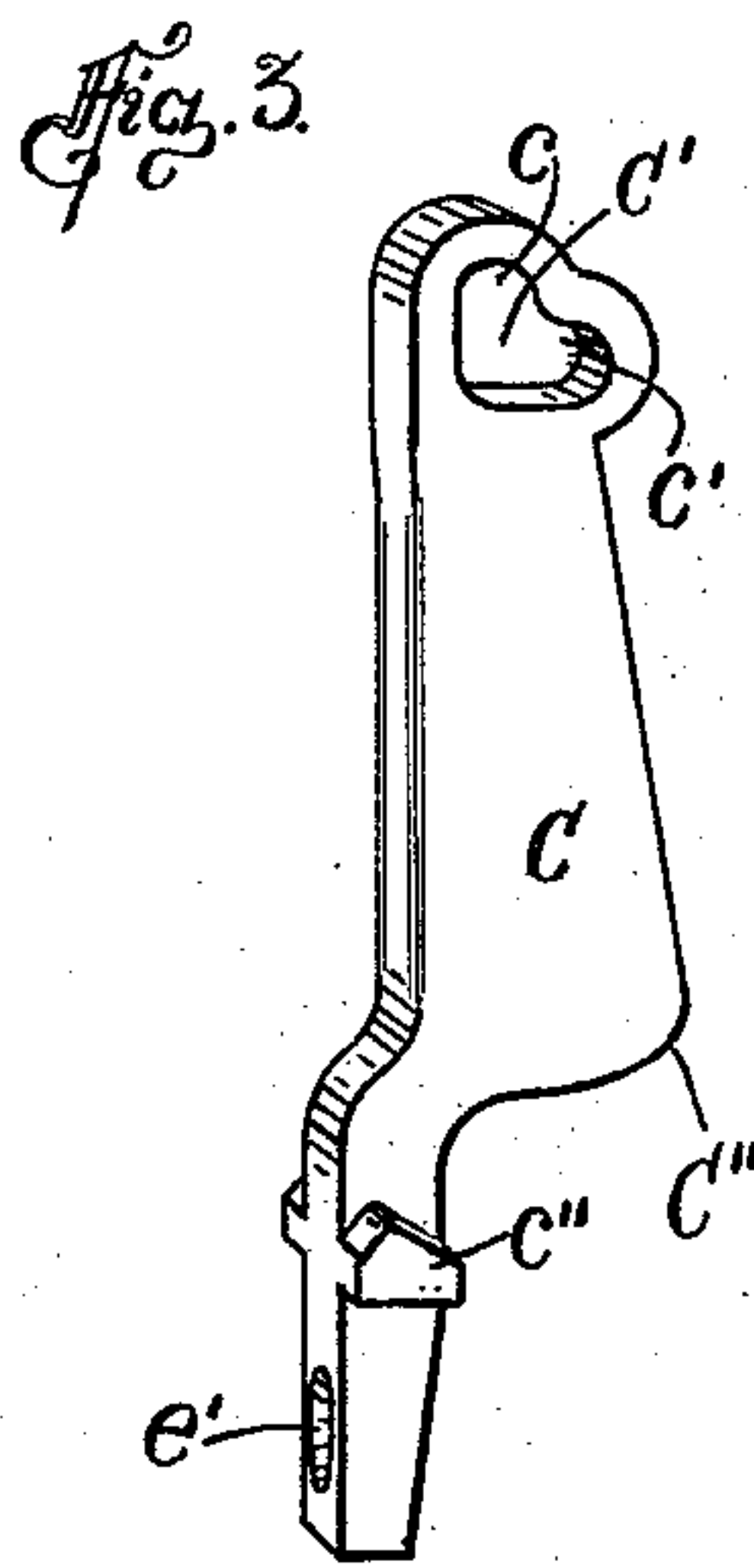
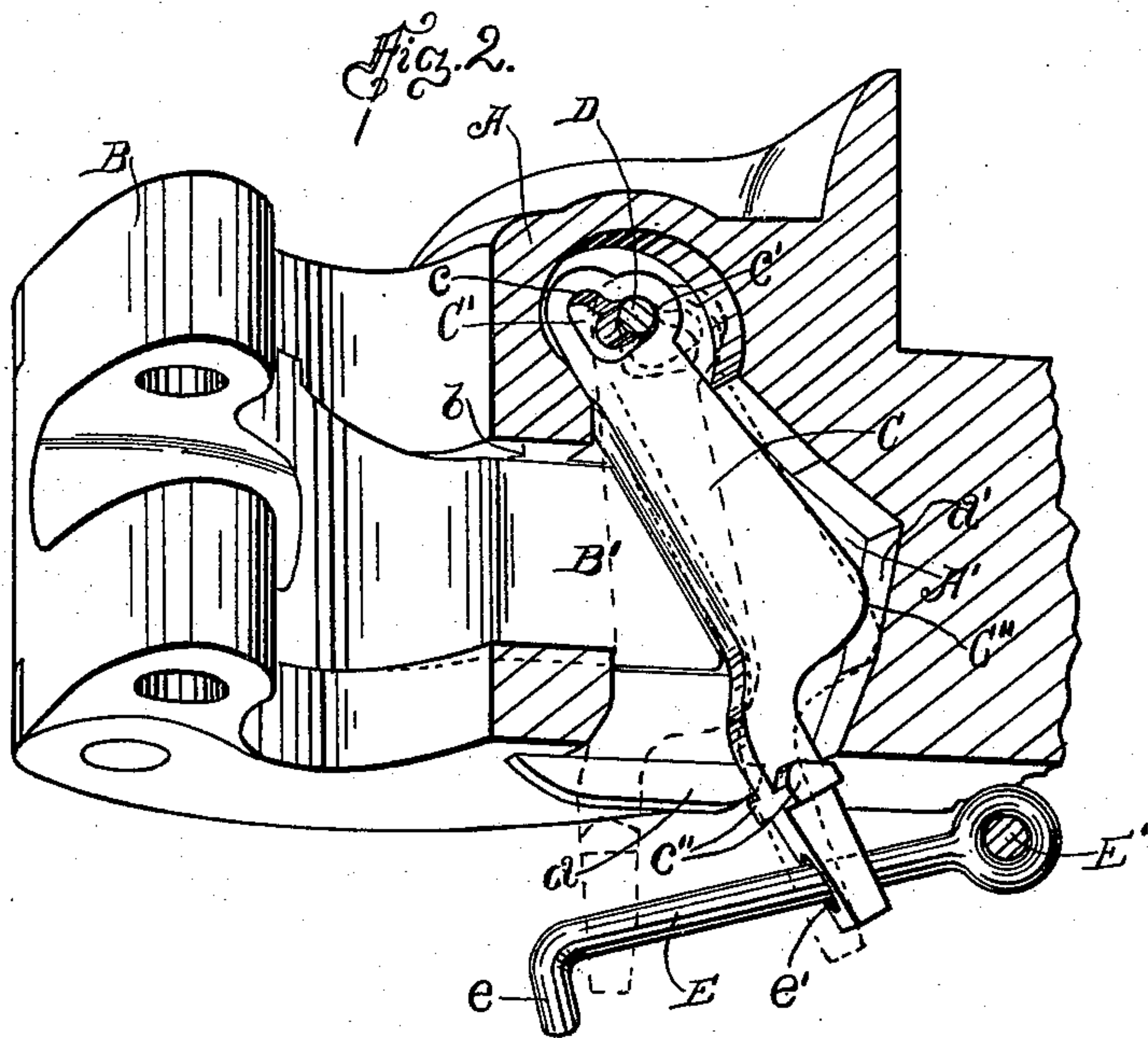
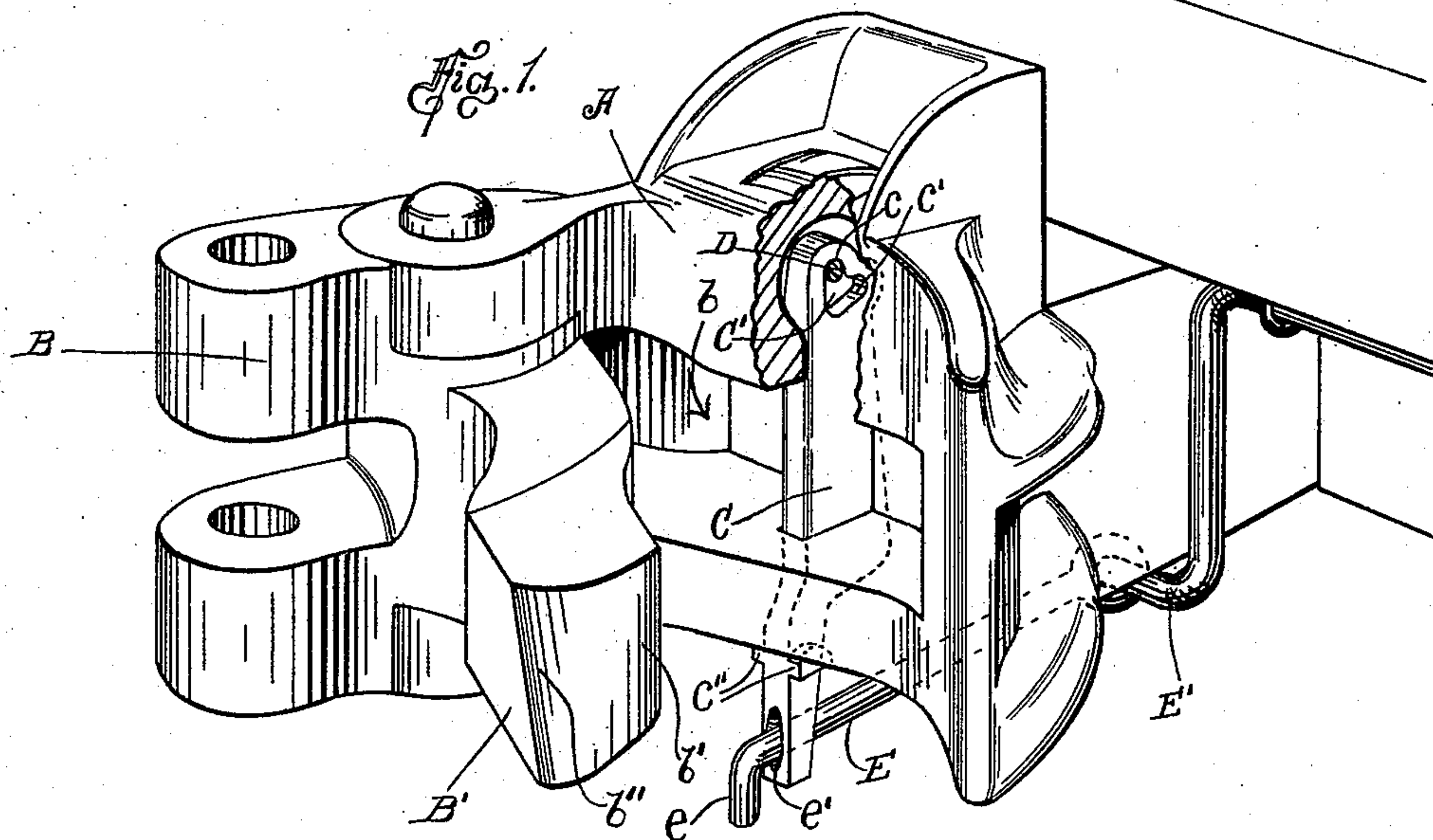


(No Model.)

C. W. HINTON.  
CAR COUPLING.

No. 538,076.

Patented Apr. 23, 1895.



Inventor.

Witnesses.

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# UNITED STATES PATENT OFFICE.

CHARLES W. HINTON, OF LOS ANGELES, CALIFORNIA.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 538,076, dated April 23, 1895.

Application filed July 13, 1894. Serial No. 517,415. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES W. HINTON, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in Car-Couplers, of which the following is a specification.

My invention relates more particularly to that class of couplers known as the "Janney" type of couplers, which are provided with a swinging knuckle having an arm fixed thereto projecting therefrom, and adapted to be chambered in the drawhead and to be engaged by a locking bar or other device which holds the knuckle in its coupled position.

My invention relates more particularly to the locking bar which engages the arm of the knuckle to hold the knuckle in its coupled position.

The object of my invention is to produce a locking device for couplers of this class, which will be simple in its construction, and one which will be perfectly automatic in its operation, whereby the coupling may be effected at any time when the knuckle is in its uncoupled position, irrespective of the position of the locking bar.

A further object of my invention is to provide a locking bar and to arrange such bar so it will be engaged by a suitable catch when the locking bar is thrown out of the path of the arm to allow the arm to swing out of its seat in the drawhead, but to so arrange and proportion the various parts that the operation of swinging the arm into and out of its seat in the drawhead will release the locking bar from the catch and allow it, after the arm has passed, to swing down into its normal or coupled position.

My invention comprises the various features of construction and combination of parts hereinafter fully set forth and claimed.

The accompanying drawings illustrate my invention.

Figure 1 is a fragmental perspective view of a drawhead provided with my invention. A portion of the drawhead is broken away for clearness of illustration. Fig. 2 is a perspective fragmental sectional view of the same. Fig. 3 is a perspective view of my improved locking bar removed from the drawhead.

In the drawings A represents the drawhead, which is provided with a swinging knuckle B, having an arm B' rigidly fixed thereto, and adapted to be chambered in a chamber *b* provided in the drawhead.

C is a swinging locking bar which is pivoted in the drawhead by a pivot D, which as shown, is arranged near the upper end of the bar. This locking bar is provided with an elongated pivot-hole C', having two pivot seats *c* and *c'*, one arranged above the other, and the bar is also provided with a lug *c''* which is arranged to engage with a shoulder *a*, (which is provided upon the bottom face of the drawhead) when the bar is arranged to seat one of the pivot seats (*c'*) of the bar upon the pivot D, and to be released from such shoulder when the bar is shifted to seat the other pivot seat (*c*) upon the pivot. The locking bar is arranged to reciprocate vertically in the drawhead to allow the bar to be moved upon the pivot to seat either pivot seat upon the pivot. The pivot seat *c* is arranged above the pivot seat *c'* so that when the locking bar is shifted to seat the pivot seat *c* upon the pivot, the force of gravity will cause the bar to move downward to seat the pivot seat *c* upon the pivot and to thereby release the lug *c''* from the shoulder *a* upon the drawhead, which will let the bar swing down across the path of the arm B'. The rear face C'' of the locking bar is arranged to engage with the rear wall *a'* of the locking bar chamber A' in the drawhead, and to act as a fulcrum when the bar is swung to the rear to remove it out of the path of the arm, whereby the upper end of the bar is forced upward and forward and causes the pivot seat *c'* to seat upon the pivot D, thus to bring the lug *c''* to engage with the shoulder *a* upon the drawhead to hold the bar in its uncoupled position until the bar is again shifted upon the pivot.

The rear face *b'* of the arm B' is beveled, as shown in Fig. 1, so that when the arm is thrown to the rear during the operation of coupling, the beveled face *b'* engages with the locking bar, and the bar slides therealong and is swung to the rear out of the path of the arm. After the arm is fully chambered in the drawhead the latch C swings down in the path of the arm, into the position shown in



Fig. 1, and engages the arm and prevents it from being again swung out to uncouple the coupler until the bar is again swung to the rear out of the path of the arm. It will be  
 5 seen that when the arm B' is forced into the drawhead and engages with the bar C to force the swinging bar toward the rear, it has no tendency to reciprocate the bar in the drawhead, and therefore the lug c'' is not thrown  
 10 into engagement with the shoulder a, and as soon as the arm passes the locking bar, it is free to swing down into its coupled position, as shown in Fig. 1. The arm B' is also slightly rounded at its front edge b'', as shown  
 15 in Fig. 1, so that if the bar C is thrown into its uncoupled position, as shown in solid lines in Fig. 2, when the arm B' is thrown outward to swing it past the bar in the operation of uncoupling the rounded end of the arm en-  
 20 gages with the bar and throws it toward the rear, thus shifting the bar into position to seat the pivot seat c upon the pivot D, thus to release the lug c'' from the shoulder a. As soon as the arm passes the bar, the bar, by the force  
 25 of gravity swings forward into its coupled position, as shown in Fig. 1. If the latch is thrown into its uncoupled position, shown in Fig. 2, with the knuckle B and arm B' in the position shown in Fig. 1, when the arm B' is  
 30 forced into its seat, its rounded end b'' engages with the bar C and shifts it upon the pivot D to seat the pivot in the pivot seat c and to thus disengage the lug c'' from the shoulder a, and allow the bar C to swing into  
 35 its coupled position. Thus it is seen that it does not matter in what position the bar is arranged, either in its coupled or uncoupled position, the coupling will be effected automatically and without liability of failure.  
 40 The means I have shown for operating the locking bar consists of the reciprocating rod E, which is provided on one end with a hook e and is journaled at its other end upon a crank rod E', which is secured to the frame  
 45 of the car and extends out to the side of the car and is provided with a handle, (not shown) which is arranged to be actuated to cause the rod E to swing the bar toward the rear, thus to throw the bar into its uncoupled position,  
 50 shown in Fig. 2. This rod E passes through an opening e' which is provided in the lower end of the bar and the rod slides freely therein, so that after the bar is thrown into its uncoupled position, shown in Fig. 2, the rod E  
 55 is free to slide forward through the opening without disengaging the bar from its engagement with the shoulder a. The various parts should be so arranged that the force of gravity will normally hold the rod E in the position shown in solid lines in Fig. 2, so that as  
 60 soon as the handle is released by the brakeman, the rod will assume the position shown in Fig. 2, and the bar C will be free to swing down into its coupled position as soon as it is released from its engagement with the lug  
 65 c''. I have not illustrated the arrangement

of this handle for operating the rod nor the rod extending to the side of the car, for the reason that such means do not constitute any part of my invention, and no claim is made  
 70 thereto, the construction being old and well known.

In practice, the rod E is reciprocated to carry the bar C to the rear into the position shown in solid lines in Fig. 2. Further rear-  
 75 ward movement of the arm brings the rear face C'' of the bar into engagement with the wall a' of the bar chamber of the drawhead and the leverage thus given, causes the bar to slide upward upon the pivot D, the elongated pivot-hole C' permitting of this. The  
 80 pivot D is thus seated in the lower pivot seat c' and the lug c'' is brought into engagement with the shoulder a of the drawhead and holds the bar in its uncoupled position. When the  
 85 arm B' is swung to the front to bring the knuckle into its uncoupled position, it engages with the bar, as hereinbefore explained, and forces the bar to move upon the pivot D to seat the pivot seat c upon the pivot, and as  
 90 soon as the arm passes the bar the bar swings down into its coupled position.

When the cars are to be coupled together, the arm B' is forced into the drawhead to bring it into its seat b and the rounded face  
 95 b' of the arm B' engages with the locking bar, and swings it to the rear to allow the arm to pass the bar, after which the bar swings down into its coupled position.

By providing the locking bar with the elongated pivot-hole having the two pivot seats, I am enabled to lock the bar in the drawhead by reciprocating the bar.

Now, having described my invention, what I claim as new, and desire to secure by Letters  
 105 Patent, is—

1. A car coupling comprising a swinging knuckle provided with an arm, a swinging locking bar adapted to lock the arm against  
 110 movement and to be swung out of the path of the arm, and suitable means arranged to engage and hold the bar in position to allow the arm to pass and means arranged to be operated by the arm to release the bar, and allow  
 115 it to swing into its normal position after the arm has passed out of the path of the bar.

2. A car coupling provided with a swinging knuckle having an arm rigidly fixed thereto, a locking bar pivoted to swing into and out of  
 120 the path of the arm, and arranged to be reciprocated to raise it in the drawhead, a locking device arranged to lock the bar in its elevated position, and suitable means arranged to be operated by the arm to release the bar from the locking device.  
 125

3. A car coupling provided with a swinging knuckle having an arm rigidly fixed thereto, a swinging locking bar pivoted by its upper  
 130 end in the drawhead and arranged to swing into and out of the path of the arm, and having its pivot hole elongated and provided with two pivot seats, one above the other, the bar



being arranged to engage a shoulder on the drawhead when the bar is swung to the rear out of the path of the arm and raised in the drawhead to seat the lower pivot seat upon the pivot, and to be released therefrom when the bar is lowered to seat the upper pivot seat upon the pivot, and suitable means for operating the bar.

4. A car coupling having a swinging knuckle provided with an arm projecting therefrom and adapted to be chambered in the drawhead: a swinging locking bar pivoted in the drawhead, and arranged to normally extend across the path of the arm, and to be swung to allow the arm to pass the bar: a suitable catch arranged to engage the bar when the bar is swung to allow the arm to pass: suitable means arranged to be operated by the arm to release the bar from the catch so the bar will swing into the path of the arm after the arm has passed thereby, the rear face of the arm being beveled and arranged to engage the bar to swing it out of the path of the arm when the arm is forced to the rear, and means for

swinging the bar to allow the arm on its forward movement to pass the bar. 25

5. In a car coupling having a swinging knuckle provided with an arm projecting therefrom and adapted to be chambered in the drawhead, the combination therewith of a locking bar provided with an elongated pivot hole having two pivot seats, one arranged above the other, and provided with a lug arranged to engage with a shoulder on the drawhead to allow the arm to pass the bar when the bar rests with the pivot in one of the pivot seats, and to be released from such shoulder to allow the bar to swing into the path of the arm when the bar is shifted to cause the bar to rest with the pivot in the other pivot seat, the pivot arranged to pivot the bar in the drawhead, and suitable means for operating the bar. 30 35 40

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