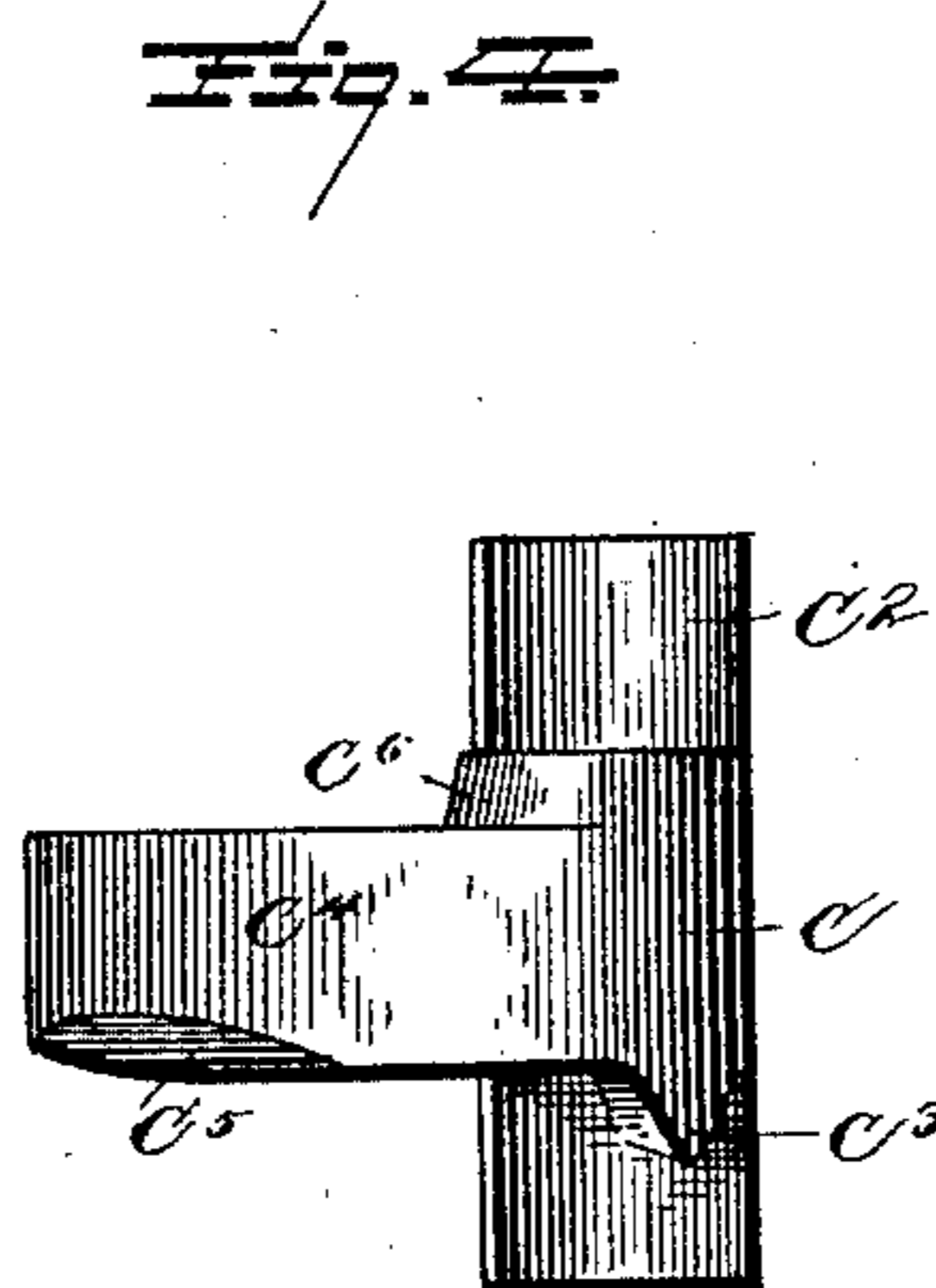
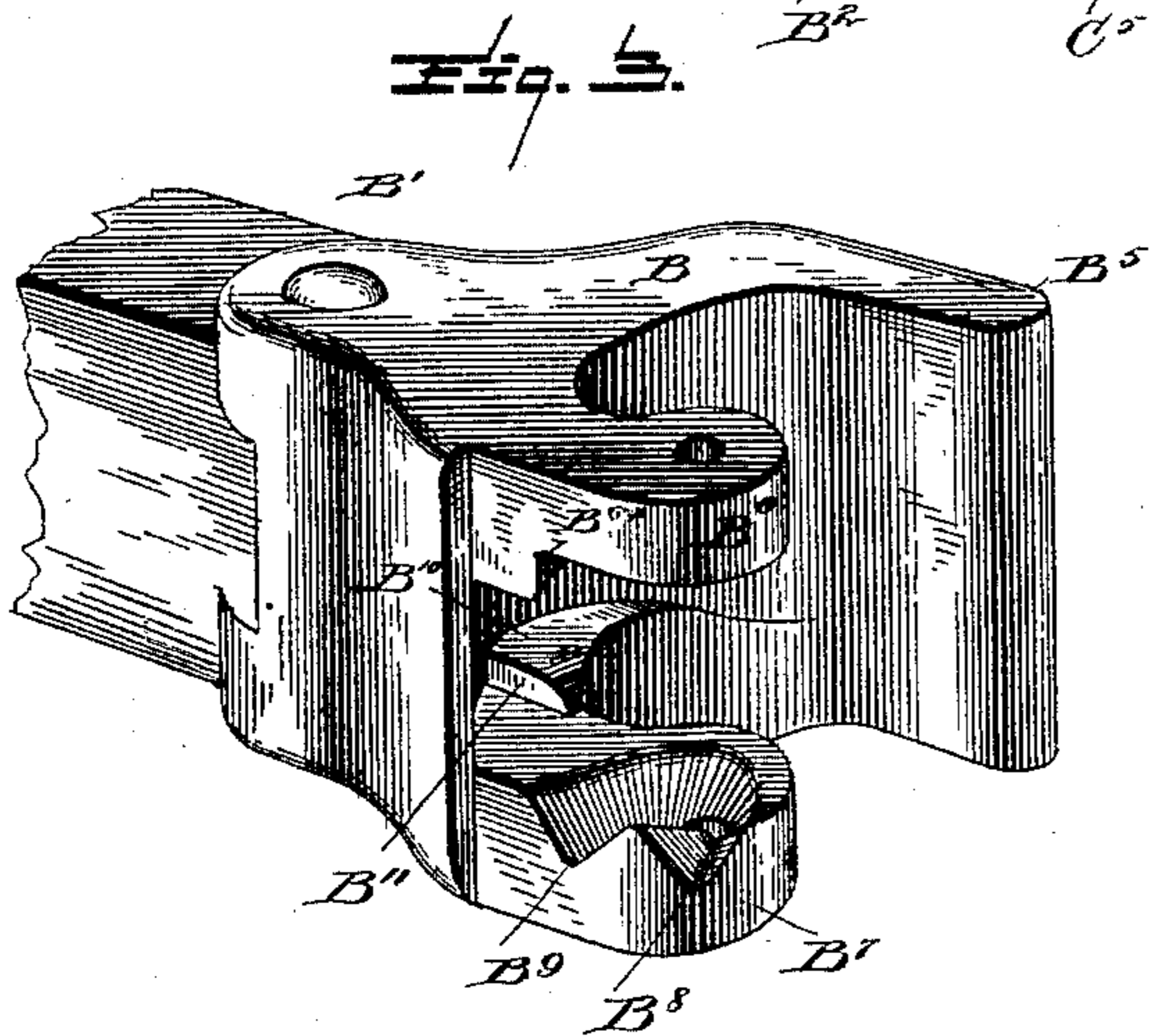
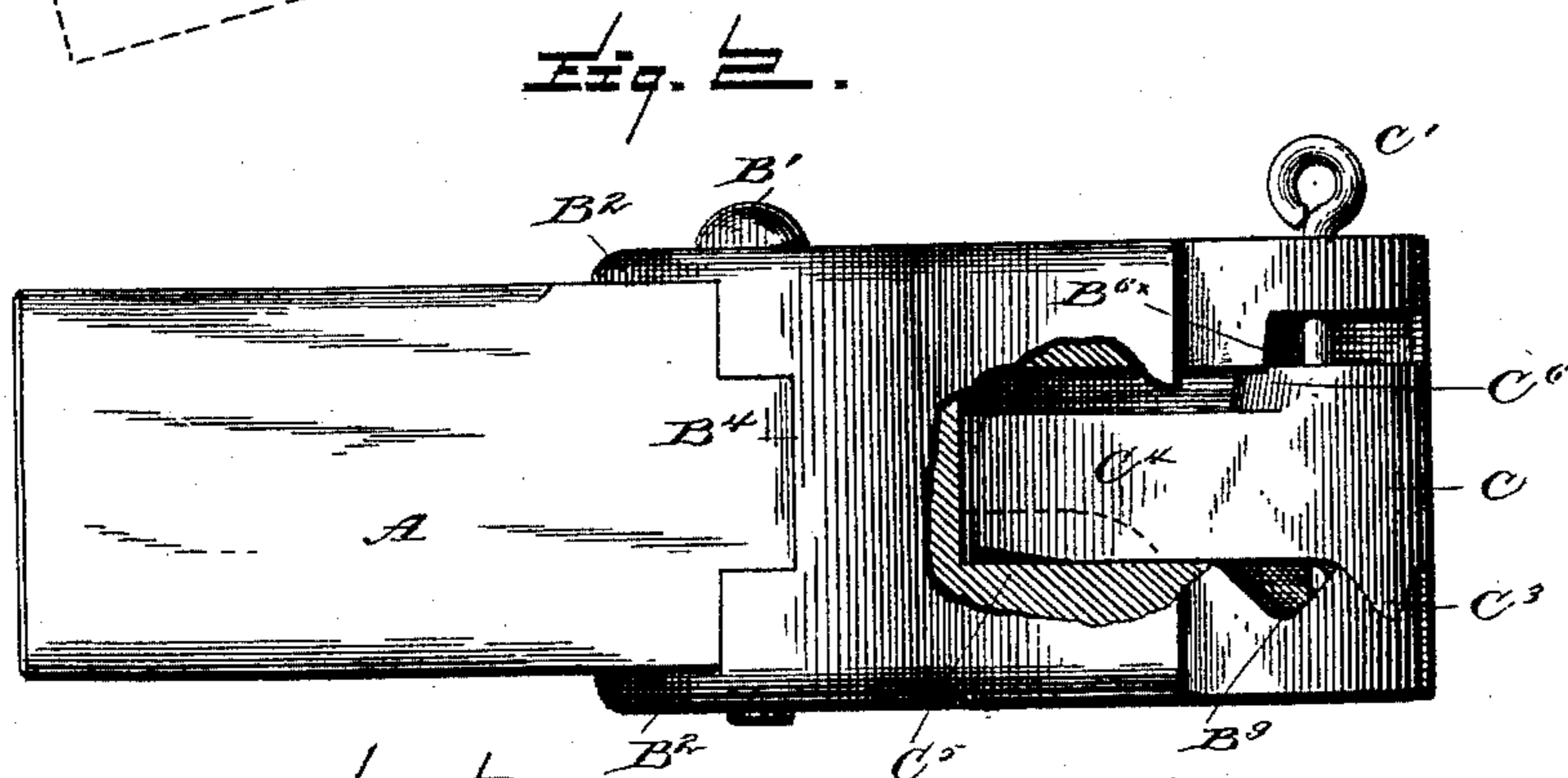
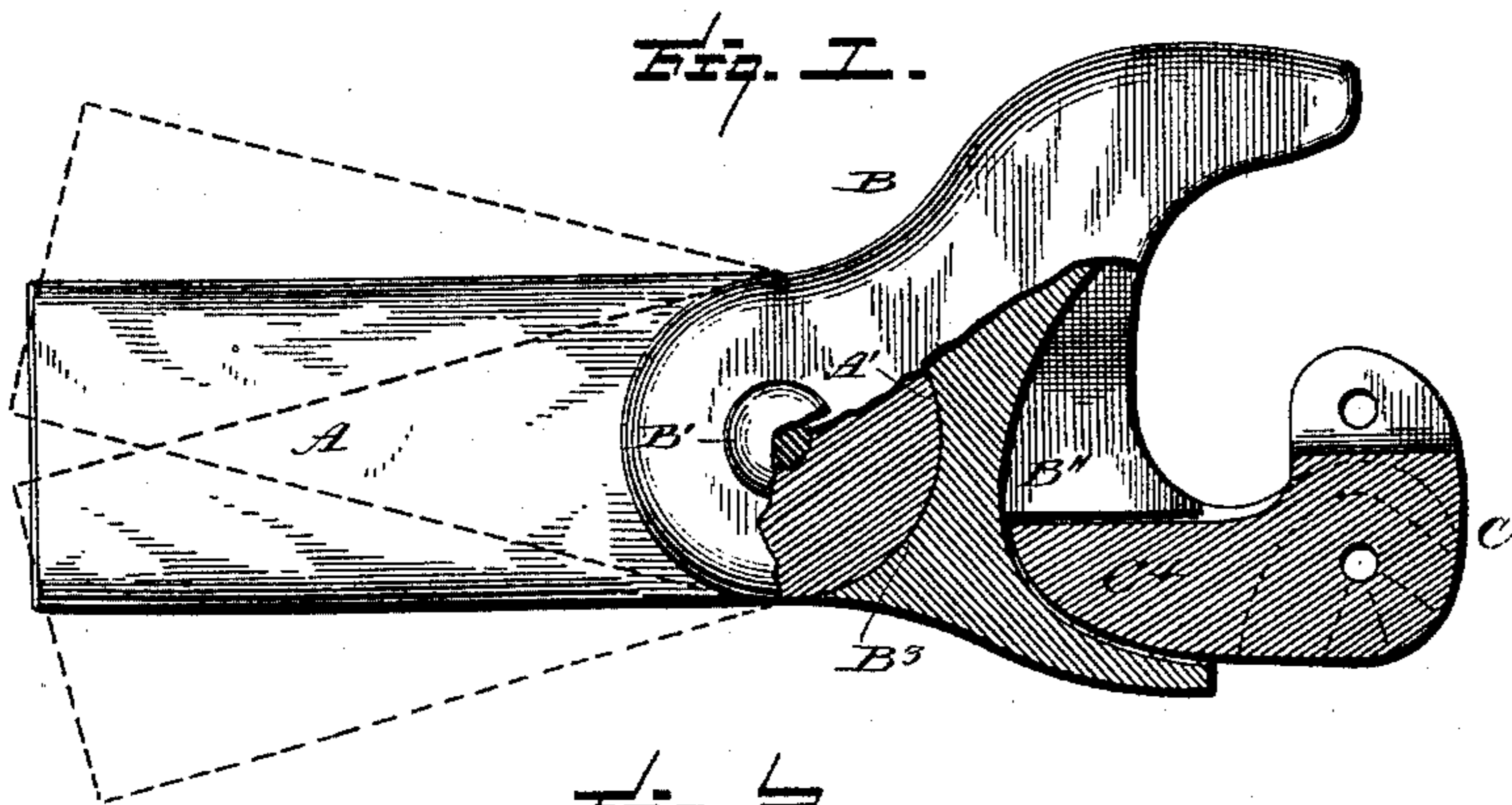


(No Model.)

F. W. PARSONS.  
CAR COUPLING.

No. 433,695.

Patented Aug. 5, 1890.



Witnesses

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# UNITED STATES PATENT OFFICE.

FRANCIS W. PARSONS, OF WIANNO, MASSACHUSETTS.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 433,695, dated August 5, 1890.

Application filed August 2, 1889. Serial No. 319,527. (No model.)

*To all whom it may concern:*

Be it known that I, FRANCIS W. PARSONS, a citizen of the United States, residing at Wianno, in the county of Barnstable, State of Massachusetts, have invented certain new and useful Improvements in Car-Couplings, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention has relation to certain new and useful improvements in car-couplings; and it has for its object to provide an improved device of this character, wherein the pivot of the coupling is relieved of strain, the  
15 hook being so formed and arranged in relation to its co-operating parts that under abnormal conditions there is a firm bearing independent of its pivot. It has also, among other objects, to provide an automatic lock  
20 for the coupling-hook and to provide for the coupling and uncoupling upon sharp curves. These and other objects and advantages of the invention will appear in the following description, and the novel features thereof will  
25 be particularly pointed out in the claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

30 Figure 1 is a top plan with parts broken away, illustrating my improved coupler. Fig. 2 is a side elevation with parts broken away. Fig. 3 is a perspective of the coupler with the coupling-hook removed, and Fig. 4 is a side  
35 elevation of the jaw removed.

Referring to the details of the drawings by letter, A designates a suitable draw-head, to which is attached the coupler B by means of the pin B', on which the coupler is free  
40 to turn to a limited extent, as indicated by dotted lines in Fig. 1, the coupling being formed with the upper and lower rear extensions B<sup>2</sup>, which embrace the upper and lower face of the draw-head, the rear face of the  
45 coupler being concaved, as shown at B<sup>3</sup>, the forward end of the draw-head being rounded, as shown at A', to fit the concavity of the coupler, as shown best in Fig. 1, the rear end of the coupler being cut away, as shown at  
50 B<sup>4</sup>, to lessen the contact-surface in the coupler and the draw-head and allow the parts to move more freely. This forms a sort of ball-

and-socket joint with a limited movement, and is deemed especially important, as it allows movement of the couplers at their junction with the draw-heads, which prevents binding of the couplers in going around sharp curves, the couplers turning on their pivot B', which leaves the couplers in their normal position as upon a straight track. 55 60

The mouth of the coupler is formed with the jaw B<sup>5</sup> and the lugs or ears B<sup>6</sup> and B<sup>7</sup>, perforated, as shown, to receive the pivot-pin C' of the coupling-hook C. This coupling-hook is formed with a vertical extension C<sup>2</sup>, having  
65 concaved inner face, which conforms and fits against the outer face of the ears B<sup>6</sup> and B<sup>7</sup>, so that in use the strain comes upon the said extension, and the ears and the pivot are thus relieved of strain. The ear B<sup>6</sup> is formed  
70 with a shoulder B<sup>6x</sup> upon its under side, as shown more clearly in Fig. 3, and the ear B<sup>7</sup> upon its upper face is formed with the depressions B<sup>8</sup> and B<sup>9</sup>, adapted to receive a depending lug C<sup>3</sup> on the body portion of the  
75 coupling-hook, for a purpose hereinafter described.

In the mouth of the coupler B there is a cam-surface B<sup>10</sup>, as shown clearly in Fig. 3, terminating in a square shoulder B<sup>11</sup> at the  
80 inner upper face of the ear B<sup>7</sup>. The under face of the hook portion C<sup>4</sup> of the coupling-hook is formed with an inclined surface C<sup>5</sup>. The body portion of the coupling-hook at its upper rear face is formed with a shoulder C<sup>6</sup>,  
85 as shown in Figs. 2 and 4.

In practice the parts are assembled as shown in Figs. 1 and 2, they being shown in these figures in the position they will occupy  
90 when the coupler is locked and coupled with the coupler on the adjoining car. It will be seen that in this position the lug C<sup>3</sup> is resting in one of the depressions of the ear B<sup>7</sup>, with the shoulder C<sup>6</sup> impinging against the shoulder B<sup>6x</sup> of the coupler. In this position the  
95 parts are firmly locked against accidental displacement. In coupling the hook will be at right angles to the position in which it is shown in Fig. 1. As the cars come in contact, the opposing hook will strike the lateral por-  
100 tion of the coupling-link and will raise it so that its lug C<sup>3</sup> will be lifted out of the depression B<sup>9</sup>, the hook riding over the cam-surface B<sup>10</sup> serving to accomplish its purpose. As

soon as the hook has passed the cam-surface B<sup>10</sup> it drops, the lug C<sup>3</sup> dropping into the depression B<sup>8</sup>, and the inner vertical face of the hook impinges against the shoulder B<sup>11</sup>.

- 5 The lug C<sup>3</sup> and the depressions B<sup>8</sup> and B<sup>9</sup> serve to hold the coupling-hook in its two positions, ready for either coupling or locked in its coupled position.

I deem it important that the rear end of  
10 the coupler be cut away, as at B<sup>4</sup>, to receive the draw-head, whereby the parts move more freely and with less friction.

What I claim is—

1. In a car-coupler, a draw-head having its  
15 outer end formed on the arc of a circle, combined with a coupler having concaved rear faces with integral upper and lower extensions embracing the upper and lower face of the draw-head and pivotally connected there-  
20 with, substantially as specified.

2. In a car-coupler, the combination, with the draw-head and the coupler pivoted thereto and formed with ears, one of which has depressions upon its upper face and the  
25 other formed of a square shoulder, of a coupling-hook pivoted between said ears and

formed with an upwardly-extending shoulder and with a downwardly-extending lug in different vertical planes, substantially as shown and described. 30

3. The combination, with a draw-head having rounded end, of a coupler concaved to fit said rounded end and formed with extensions B<sup>2</sup>, embracing the upper and lower faces of draw-head, and a vertical pin passed through  
35 said extensions and pivotally connecting the parts, substantially as described.

4. The combination, with the coupler formed with cam-surface B<sup>10</sup> and shoulder B<sup>11</sup> and with ears, one of which is formed on its  
40 upper face with depressions B<sup>8</sup> and B<sup>9</sup> and the other with square shoulder B<sup>6x</sup>, of the coupling-hook formed with extensions fitting said ears and formed with depending lug C<sup>3</sup>, inclined under face C<sup>5</sup>, and shoulder C<sup>6</sup>, sub-  
45 stantially as and for the purposes specified.

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

FRANCIS W. PARSONS.

Witnesses:

CHAS. HALL ADAMS,  
EDWARD B. SPIKE.