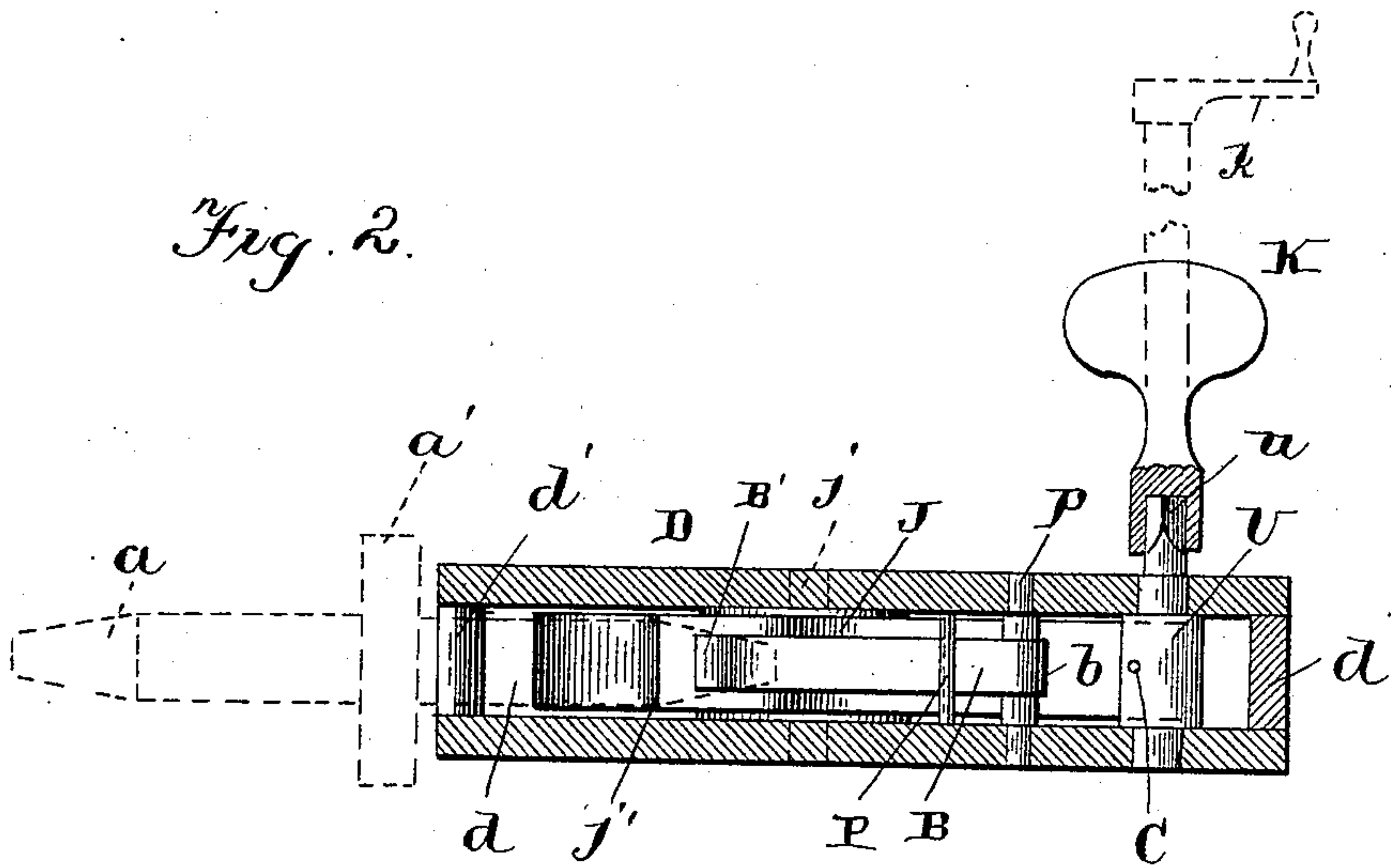
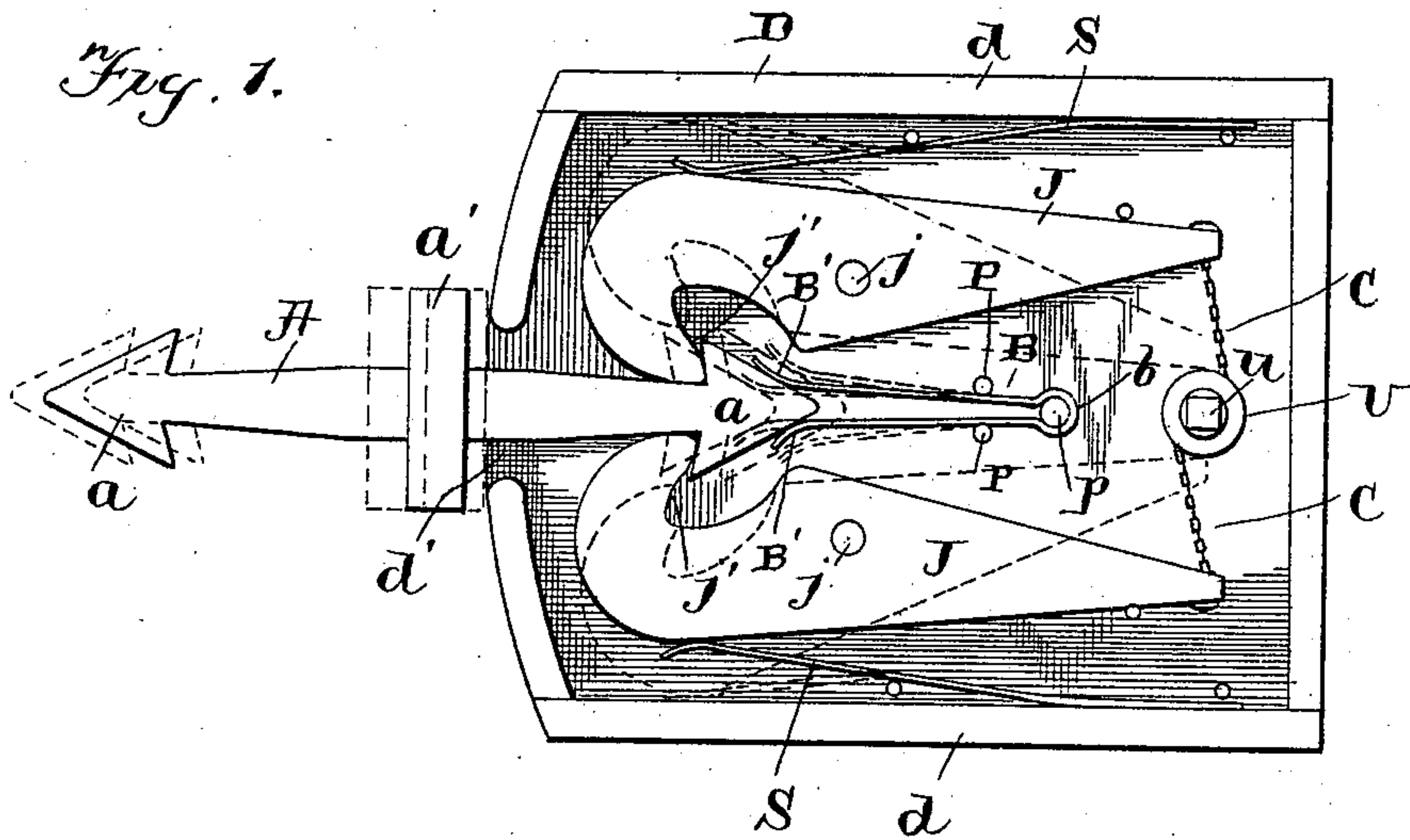


(No Model.)

J. L. RICHARDS.  
CAR COUPLING.

No. 539,306.

Patented May 14, 1895.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

JOHN LOGAN RICHARDS, OF WEST UNION, OHIO.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 539,306, dated May 14, 1895.

Application filed October 1, 1894. Serial No. 524,662. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN LOGAN RICHARDS, a citizen of the United States, and a resident of West Union, Adams county, State of Ohio, have invented certain new and useful Improvements in Car-Couplings; and my preferred manner of carrying out the invention is set forth in the following full, clear, and exact description, terminating with claims particularly specifying the novelty.

This invention relates to car couplings, and more especially to that class known as arrowhead and jaw; and the object of the same is to effect improvements in devices of this character.

To this end the invention consists in providing a special form of buffer between the jaws engaging the arrowhead of the link, which buffer serves not only to cushion the impact of coupling, but also to hold the parts coupled—all as hereinafter more fully described, and as illustrated in the accompanying drawings, wherein—

Figure 1 is a plan view of one of my improved couplings with the top plate of the draw-head removed, showing the arrow-head of the coupling-link locked therein, the dotted lines indicating how the jaws are opened and also how the buffer yields. Fig. 2 is a central longitudinal section through the draw-head with the coupling-link removed.

In the said drawings, the letter D designates the drawhead surrounded by suitable sides  $d$  forming a casing having an opening  $d'$  at its front end through which the coupling link A may pass. Each end of said link is provided with an arrowhead  $a$ , and its center preferably has an enlarged block  $a'$  adapted to abut against the front end of the casing  $d$  around the opening  $d'$  when the cars are backed.

Within the drawhead are two similar jaws J pivoted near the centers of their length on upright pins  $j$ , and having rearwardly inclined catches or engaging faces  $j'$  at their front ends.

S are springs arranged within the casing and bearing the front ends of the jaws inward so as to normally engage their catches  $j'$  with the arrowhead  $a$ .

U is an upright shaft journaled between the top and bottom plates of the drawhead D and having a squared upper end  $u$  projecting

above the upper plate to be engaged by a key K as seen in full lines in Fig. 2, or this shaft may rise through the platform of the car and carry a crank  $k$  as seen in dotted lines.

C are chains connected with the rear ends of the jaws J and with the shaft U, whereby when the latter is turned in either direction the chains will be partly wound on the shaft to draw the rear ends of the jaws together and separate their catches  $j'$  so as to release the arrowhead.

The letter B designates a buffer spring which consists of a single strip of metal bent upon itself to form a loop  $b$  in its body at its rear end which loop encircles an upright pin  $p$  in the drawhead, the sides of the loop then passing forward and between other upright pins P in the drawhead, and the free front ends of the spring B' curving outward slightly from each other so as to form a mouth standing directly in rear of the opening between the two catches  $j'$  to receive the point of the arrowhead  $a$ . All parts of this device are of the desired sizes, shapes, materials, and proportions, and considerable change may be made without departing from the spirit of my invention.

When the cars are brought together in the act of coupling, the arrowhead  $a$  enters the opening  $d'$ , strikes between the catches  $j'$  and separates them (the chains C permitting), and the point of the arrowhead then passes into the mouth of the buffer spring between its outturned ends B' which cushions the impact and prevents the block  $a'$  from striking the front end of the drawhead too forcibly. The wings of the arrowhead having passed beyond the tips of the catches, the front ends of the jaws are forced inward by the springs S and the catches pass behind said wings; and the force of the buffer spring B bearing against the sides of the arrowhead pushes the latter outward and into close contact with the rear faces of the catches  $j'$ , from which position it is extremely difficult, if not impossible, to disengage the arrowhead from the catches undesirably. To uncouple the cars, the key K is applied and turned (or the crank  $k$  is turned) in either direction, which motion draws on the chains C and opens the jaws  $j$ , after which the pinching force of the mouth of the buffer spring B will automatically



shoot the arrowhead forward sufficiently for the corners of its wings to pass beyond the points on the catches *j'*, and the inward pressure of the catches will thereafter shoot the  
5 arrowhead completely out of the drawhead; and hence it will be seen that by my improved construction when the parts are turned to uncouple the cars, the arrowhead is automatically thrown out of the drawhead.

10 What is claimed as new is—

1. In a car coupling, the combination with a coupling link having an arrowhead at each end and a block at the center of its body, a drawhead having an open mouth, two jaws  
15 within said drawhead, springs pressing the jaws normally toward each other, and means for separating them when desired; of a buffer spring within the drawhead and comprising a strip of spring metal bent upon itself to  
20 form a loop at its rear end with its free front ends bent slightly outward to produce a mouth standing in rear of said opening in the drawhead, an upright pin within said loop, and two upright pins outside the body of the spring  
25 forward of said other upright pin, as and for the purpose set forth.

2. In a car coupling, the combination with

a coupling pin having an arrowhead, a drawhead having an open mouth, a pair of jaws centrally pivoted within said drawhead and  
30 having inwardly facing and rearwardly inclining catches at their front ends, springs pressing said ends normally toward each other, an upright shaft between the rear  
35 ends of the jaws, means for turning this shaft when desired, and chains connecting the shaft with said rear ends; of a buffer spring within the drawhead and comprising a strip of spring metal bent upon itself to  
40 form a loop at its rear end with its free front ends bent slightly outward to produce a mouth standing in rear of said opening in the drawhead, an upright pin within said loop, and two upright pins outside the body of the spring forward of said other upright  
45 pin, as and for the purpose set forth.

In testimony whereof I have hereunto subscribed my signature on this the 30th day of August, A. D. 1894.

JOHN LOGAN RICHARDS.

Witnesses:

ROBERT W. LAWLER,  
WALTER L. RICHARDS.