

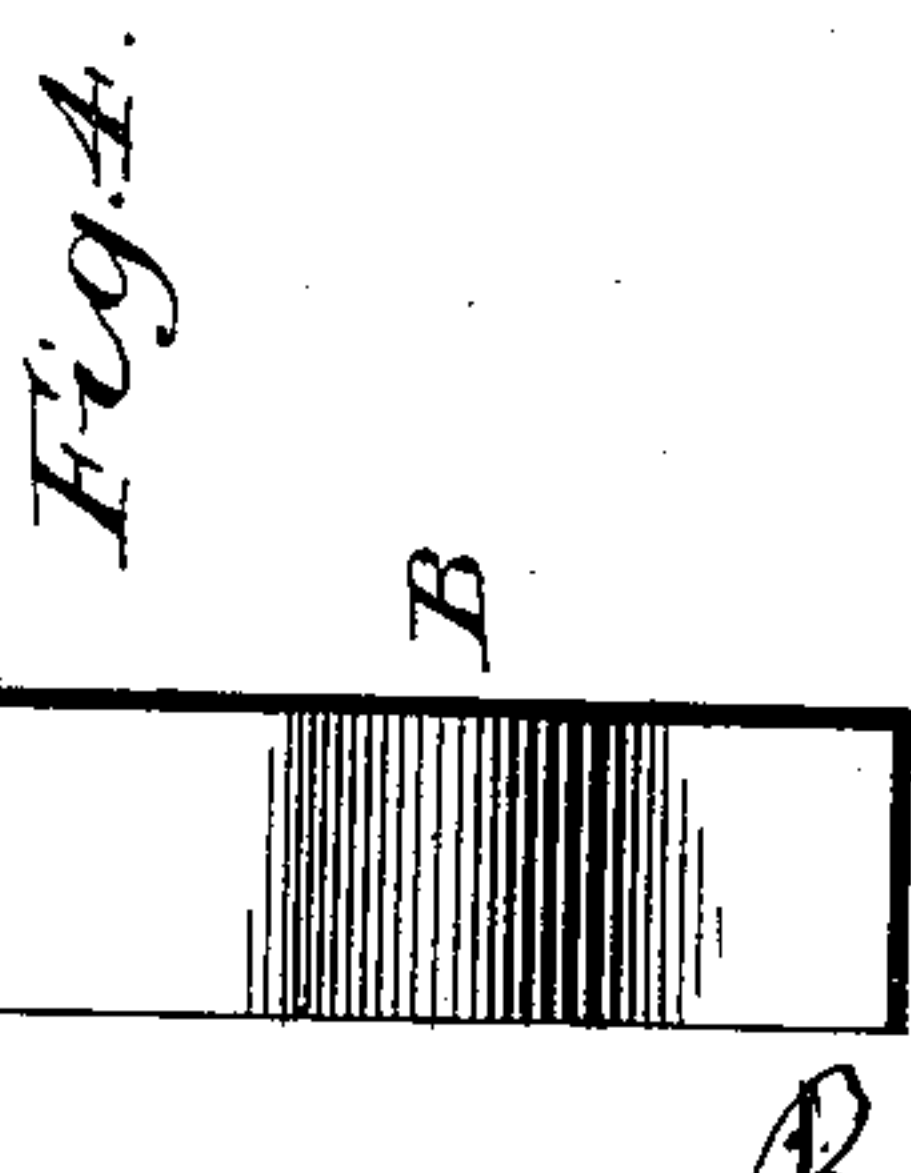
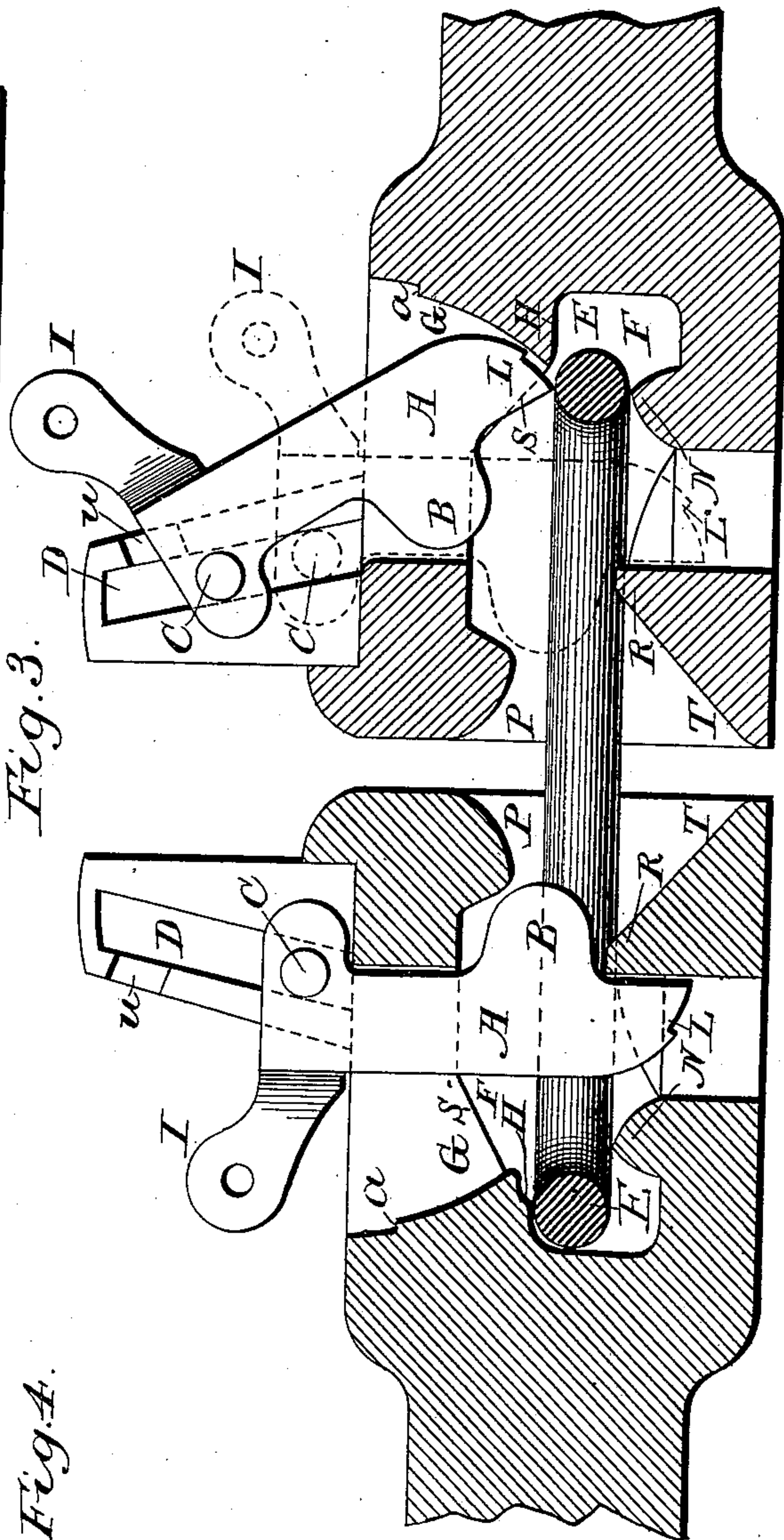
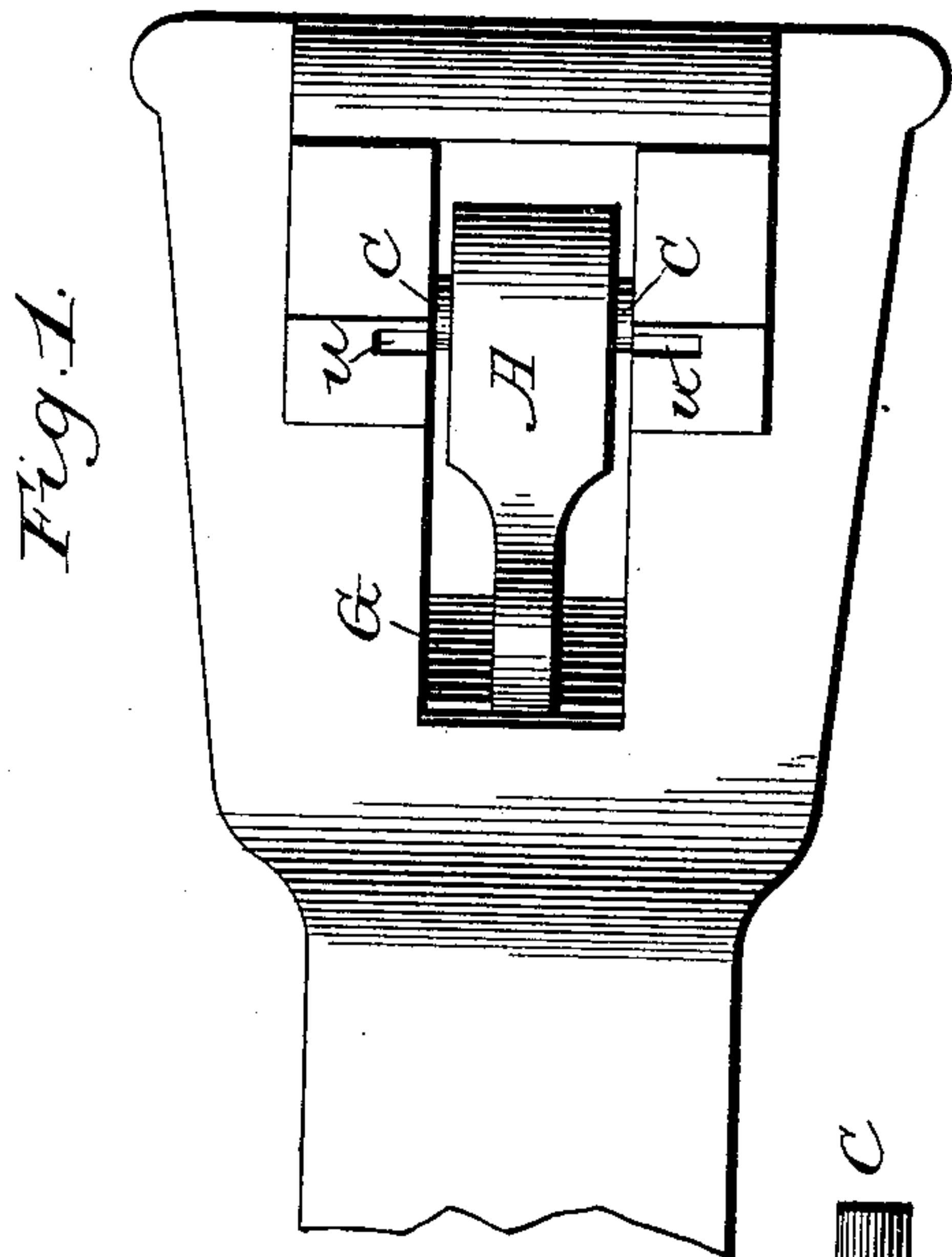
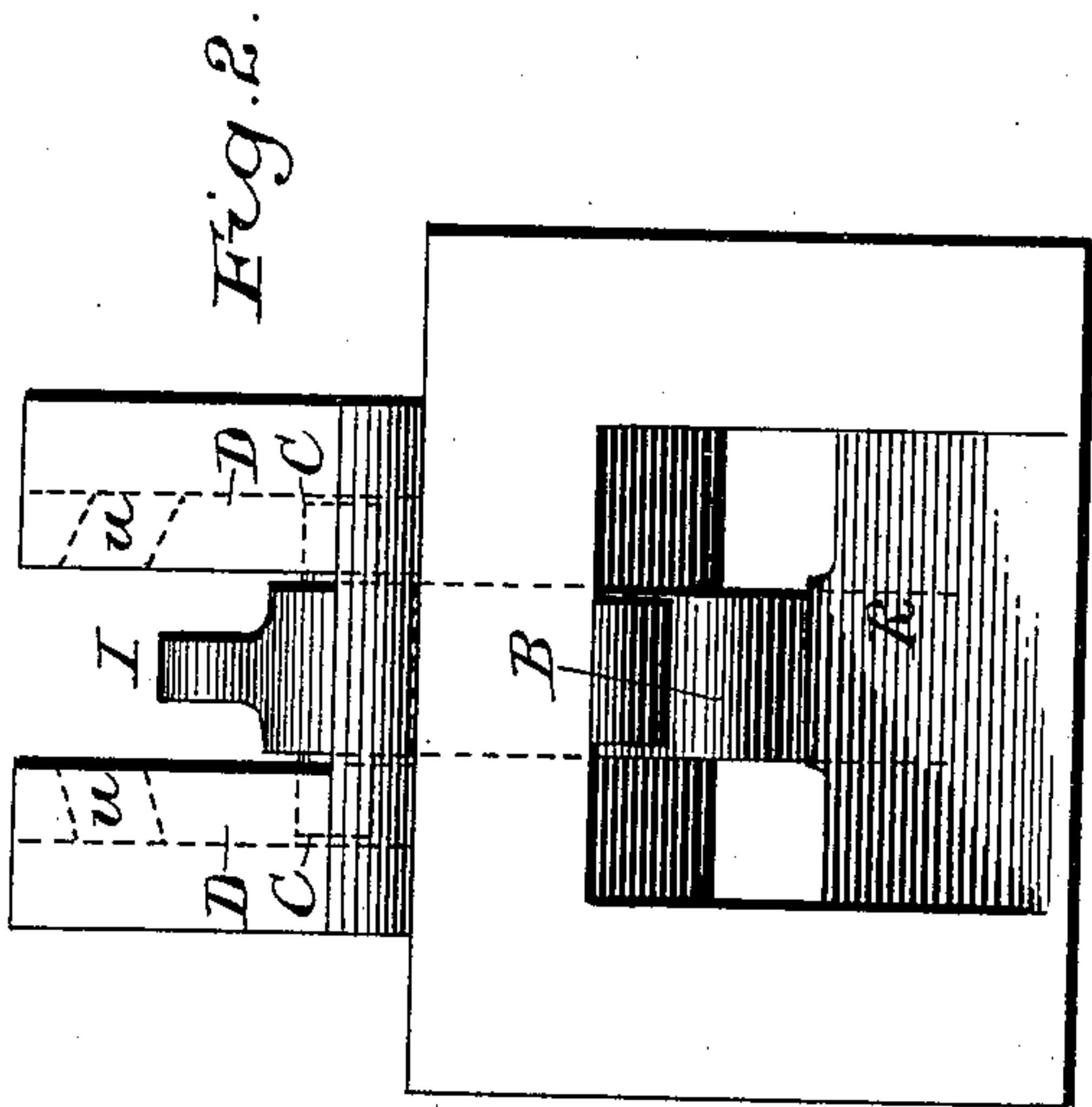
(No Model.)

B. W. SMITH.

CAR COUPLING.

No. 352,582.

Patented Nov. 16, 1886.



Witnesses:  
J. S. Armstrong,  
Calvin Jones

Inventor:  
Benjamin W. Smith



# UNITED STATES PATENT OFFICE.

BENJAMIN W. SMITH, OF ROCKPORT, INDIANA.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 352,582, dated November 16, 1886.

Application filed August 21, 1885. Serial No. 175,004. (No model.)

*To all whom it may concern:*

Be it known that I, BENJAMIN W. SMITH, of the town of Rockport, county of Spencer, and State of Indiana, have invented certain  
5 Improvements in Draw-Bars and Coupling-Pins for Railroad-Cars, of which the following is a specification.

My said invention consists in an improved construction of car-couplings by which the  
10 operation of coupling is automatically performed and the variations in the heights of different cars may be suited, so as not to prevent the successful operation of my invention, thus overcoming a common disadvantage in  
15 automatic couplings.

Referring to the accompanying drawings, which are made a part hereof and on which similar letters of reference indicate similar parts, Figure 1 is a top or plan view of one of  
20 the draw-bars of my improved coupling; Fig. 2, an end elevation of the same; Fig. 3, a longitudinal section through one of my improved couplings, the pin and other parts being shown in coupled position at the left and in the po-  
25 sition they occupy while in the act of coupling at the right; and Fig. 4, a view in front elevation of the coupling-pin separately.

The draw-bars illustrated are of substantially the well-known form, having a longitudinal cavity, F, to receive the coupling-link, and a vertical perforation or pin-hole, G, for the coupling-pin. The mouth of said opening in said draw-bar is formed flaring, and is provided with a bridge, R, to support the coupling-link, and a projection, P, across its top  
35 edge to guide the end of the link in its entrance to the draw-bar. On their tops said draw-bars are provided with standards D, in which grooves are formed to receive the projections C on the upper end of the coupling-pins, as will be presently described.

The coupling-pins are in the general form of a straight bar of iron, having a round-faced projection, B, on their front sides, so arranged as to  
45 fit into the mouth of the cavity of the draw-bars when in coupled position, as shown at the left in Fig. 3. On their upper ends they are provided with a pin, C, extending out from each side, (or may be projections formed thereon,) 50 the ends of which enter the grooves in the standards D by means of notches *u*, extending out from said grooves to the side of the stand-

ard, as shown, and thus adapting said coupling-pins to be slid up and down. The lower ends of said pins are preferably formed rounded 55 on their back corners, and are provided with a notch, L, which, as said pins are elevated, are adapted to engage with notches *a* at the rear of the pin-hole G, near its top. A handle, I, is also preferably formed on the top of 60 each pin, by which it may be adjusted when desired.

The link E is any suitable link for the purpose and needs no special description.

A projection, N, having a curved front face, 65 is formed in the lower part of the cavity F, just behind the lower end of the coupling-pin when in coupled position, and thus as said pin is forced back when struck by the link of the approaching car it strikes said curved 70 surface and is given an upward movement, permitting said link to pass under and behind said pin and complete the operation of coupling the cars, as will be readily understood.

At the left, in Fig. 3, I have shown a notch, 75 H, in the top of the cavity for holding the end of the link when desired. As when the car to which the one carrying the link is to be coupled is the lowest it will be desired to lower the end of said link to enter the ap- 80 proaching draw-head, which is accomplished by simply placing the end of the link in said notch, thus allowing the outer end to drop down. When it is desired to drop said outer end farther than allowed by the notch, the in- 85 ner end may be allowed to slide up and rest in the extreme top of said cavity, which will allow the outer end to fall considerably, so that it will strike the mouth F of the approaching draw-head, even though it be con- 90 siderable lower than the draw-head carrying the link. When it is desired to hold the link in a substantially horizontal position, as when the two cars are of the same height, it is simply pushed back to bring its inner end under 95 the shoulder in the extreme rear end of the cavity, as will be readily understood.

Having thus fully described my said invention, what I claim as new, and desire to secure by Letters Patent, is— 100

1. In a car-coupling, the combination of a draw-bar having grooved standards on its top, coupling-pin mounted in said draw-bar, its top end being mounted and arranged to



slide in said grooved standards and having a round-faced projection on its front side, whereby as said projection is struck by the link of the other draw-head said pin is slid up in said grooves and said link permitted to pass under it, substantially as set forth.

2. The combination of the draw-bars provided with grooved standards on their tops, the coupling-pins A, having the projecting parts C at their top ends, said projecting parts being mounted in the grooves in said standards, and said pins A being formed with the round-faced projections B on their front sides, and also being formed with a tapered or curved lower end, and the curved projections N at the rear of said lower end of the pin, all substantially as described, and for the purposes specified.

3. The combination, with the draw-head of a car-coupling, of a coupling-pin arranged to be vertically adjustable in said draw-head, said coupling-pin being provided on its front side with a rounded or curved-out projection arranged to meet the end of the link of the

other draw-head, whereby said link operates upon said projection to lift said pin and permit itself to pass under it, substantially as set forth.

4. The combination of the draw-bar and coupling-pin A with the guide-grooves D, concave slope S in top wall of cavity F, the projection N in bottom wall of cavity F, the projection P in top wall of cavity F, and the slot G, with the shoulder a, the slot being so spaced and arranged as to form a backing for the rounded end of the pin A when in the act of coupling or raising up for the coupling-link to enter the cavity of the draw-bar, as shown and described, and for the purposes of an improved coupling apparatus for railroad-cars.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

BENJAMIN W. SMITH.

Witnesses:

C. JONES,

J. D. ARMSTRONG.