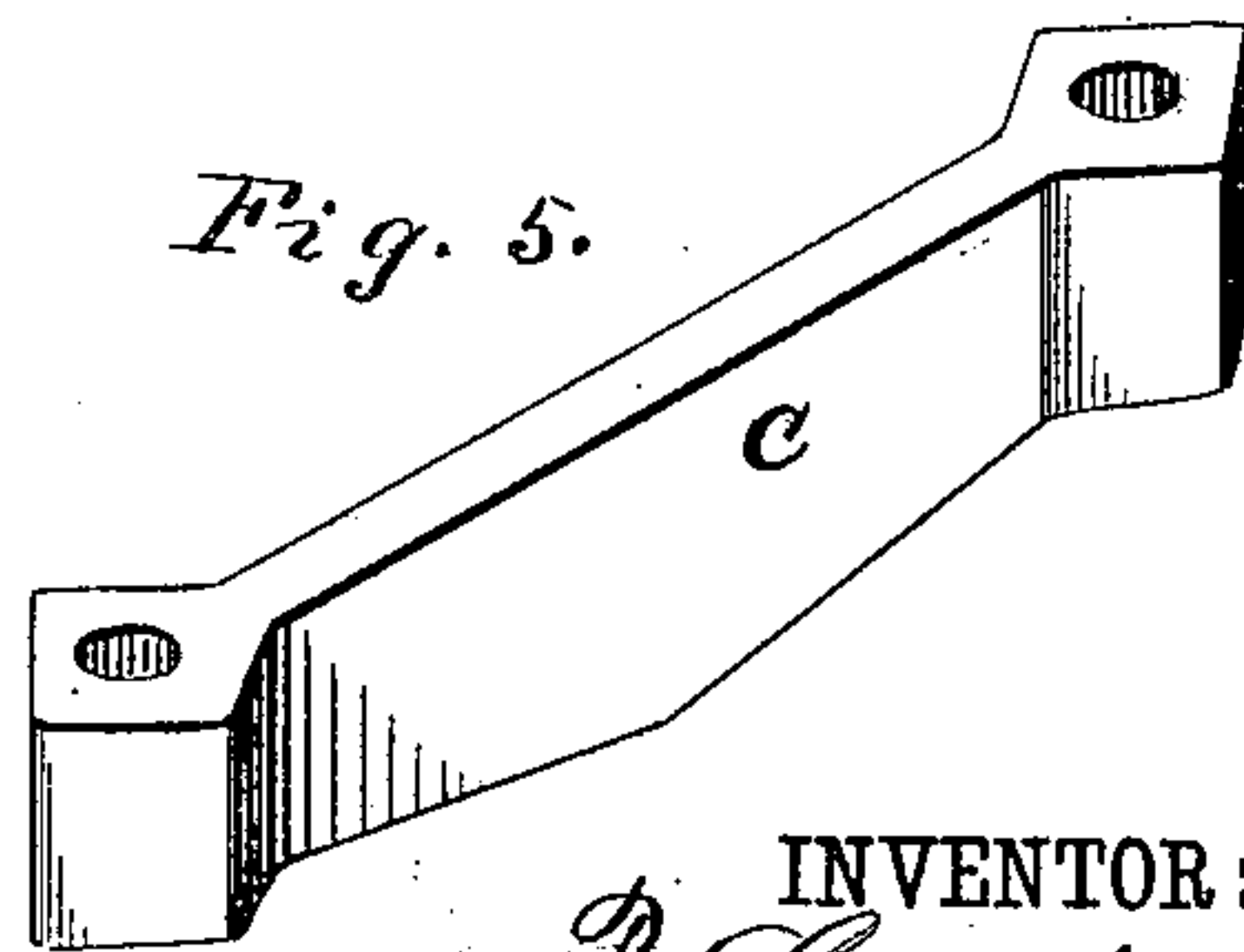
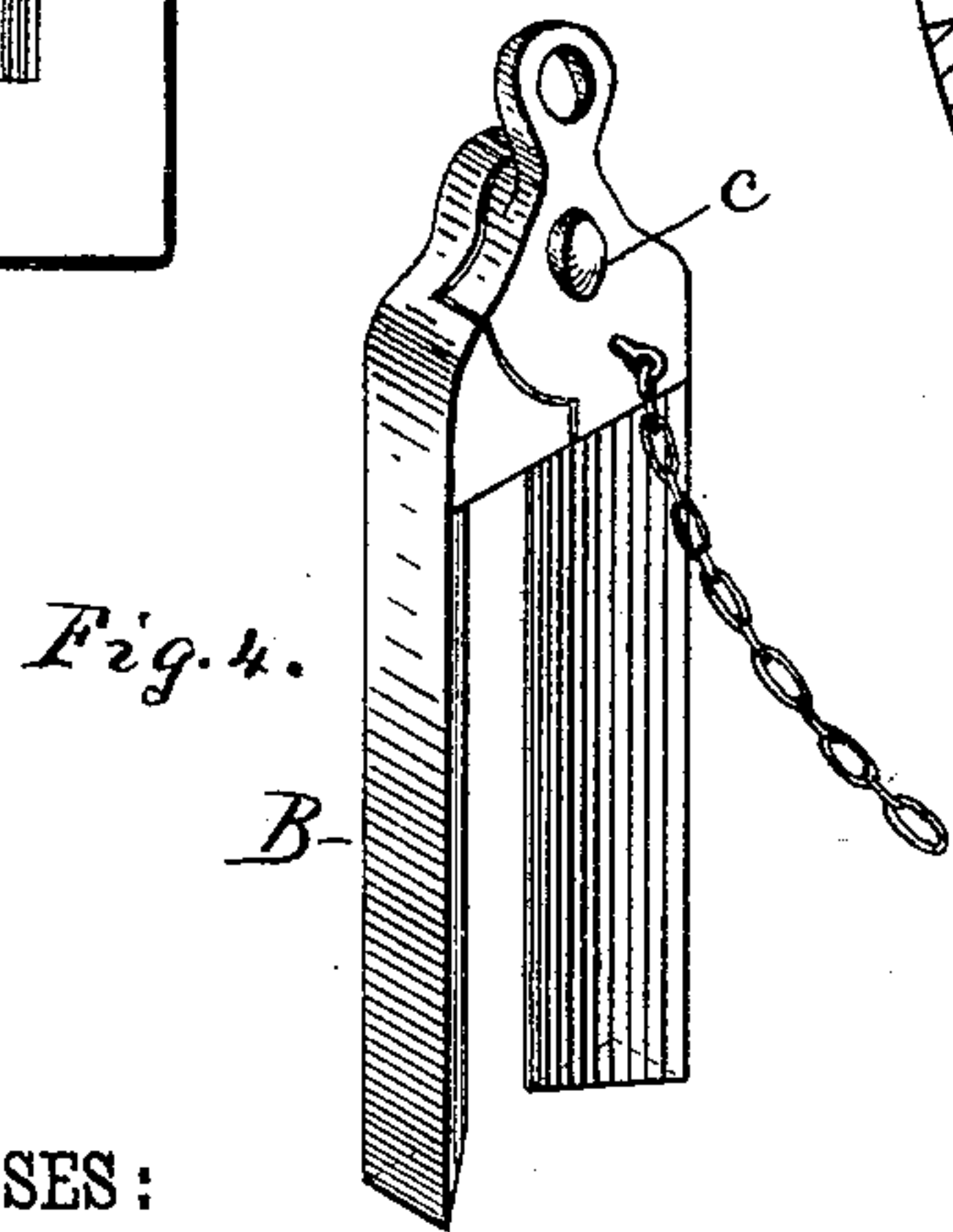
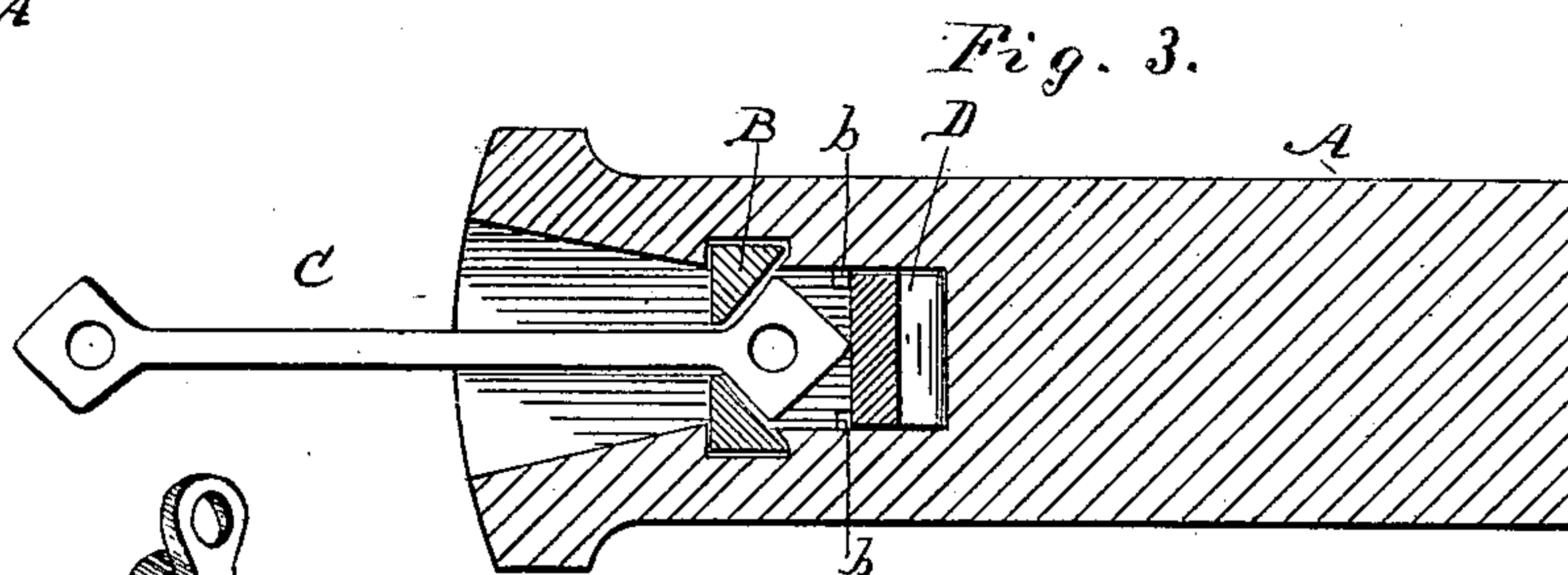
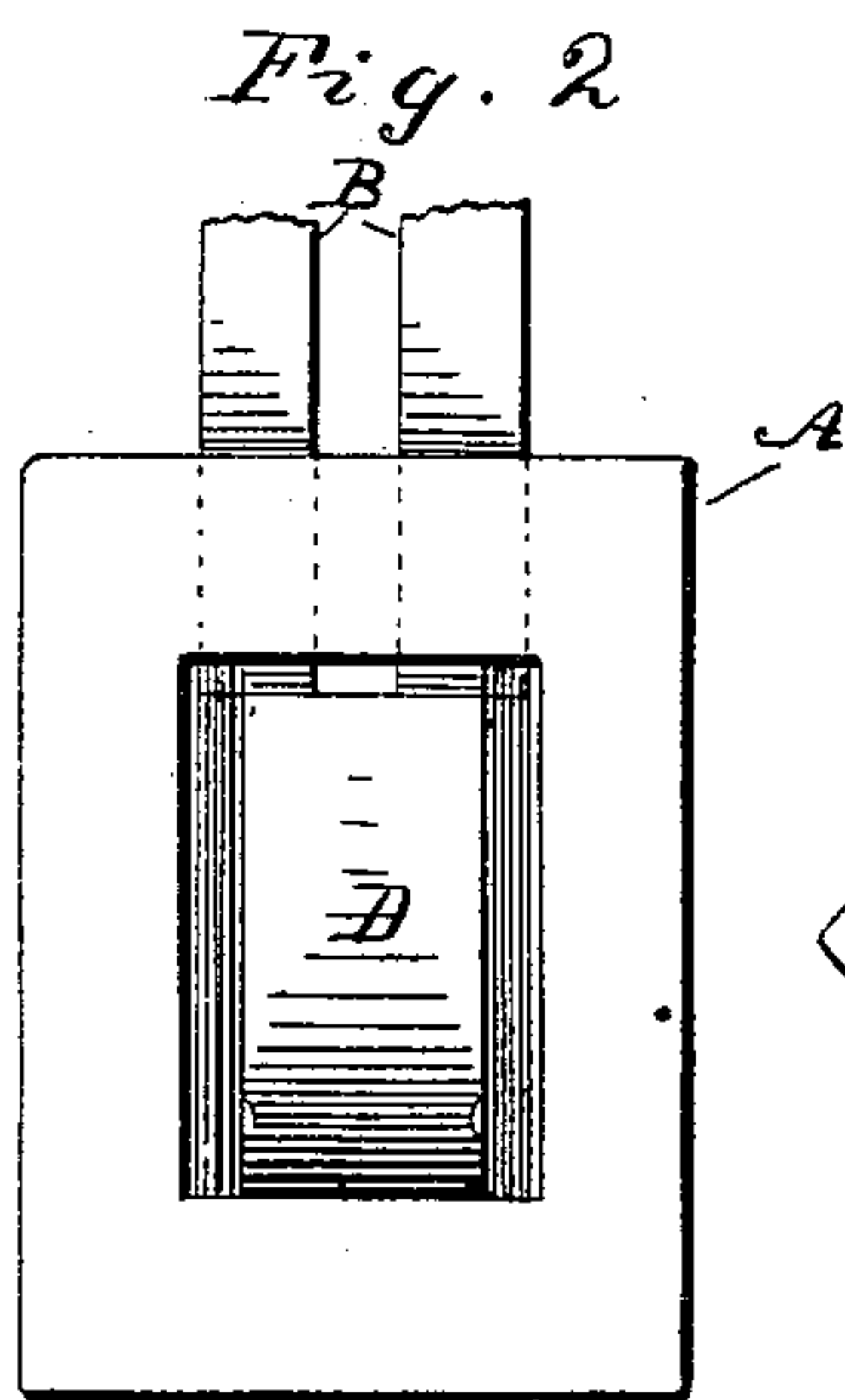
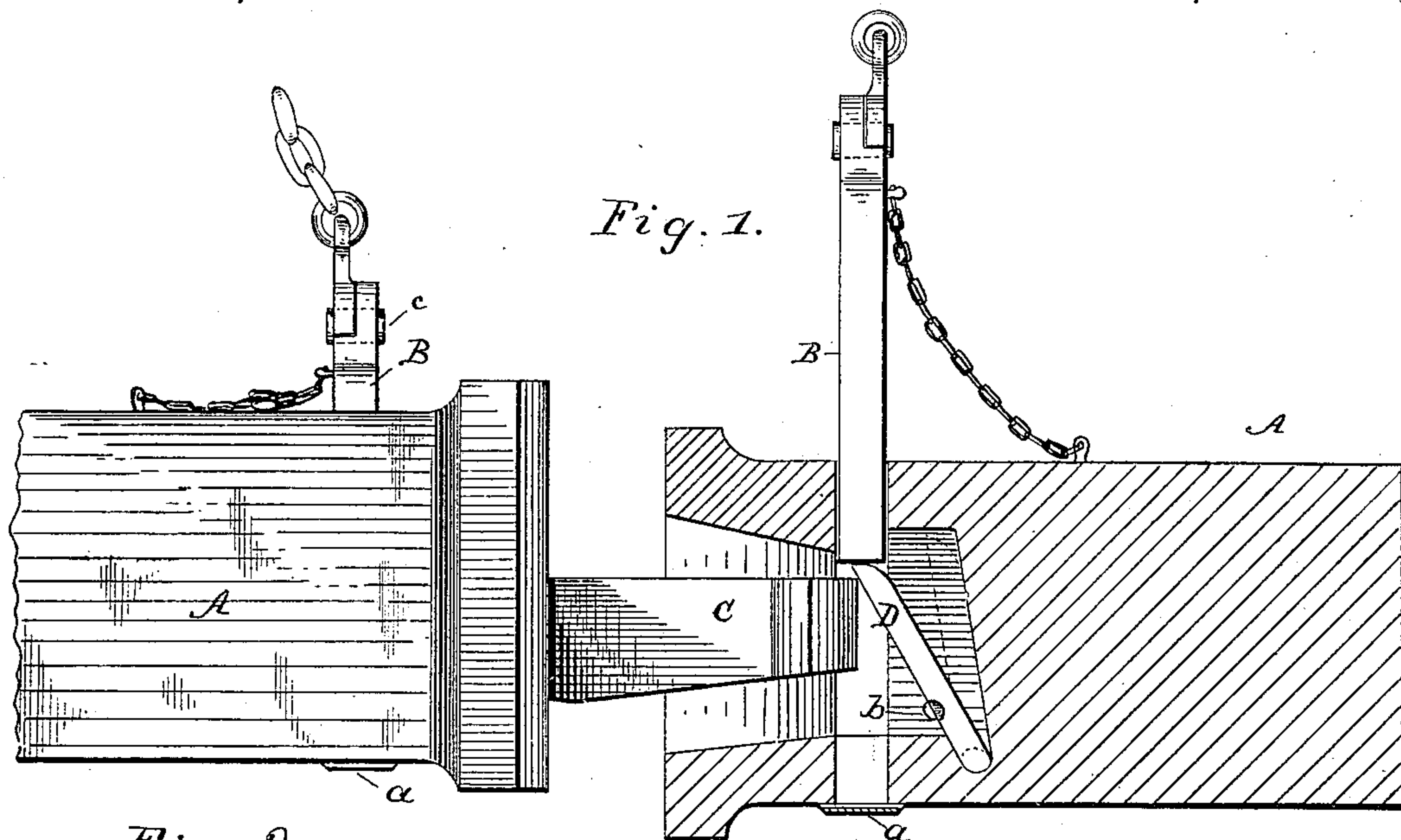


(No Model.)

B. CADE.  
CAR COUPLING.

No. 272,643.

Patented Feb. 20, 1883.



WITNESSES:  
*Thos. Houghton.*  
*Edw. W. Byr.*

INVENTOR:  
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BY *Wm. L.*  
ATTORNEYS.



# UNITED STATES PATENT OFFICE.

BAYLUS CADE, OF SCOTT'S DEPOT, WEST VIRGINIA.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 272,643, dated February 20, 1883.

Application filed June 24, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, BAYLUS CADE, of Scott's Depot, in the county of Putnam and State of West Virginia, have invented a new and Improved Car-Coupling; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

10 Figure 1 is a side view, with one of the draw-heads in section. Fig. 2 is an end view. Fig. 3 is a horizontal section. Figs. 4 and 5 are details in perspective of the duplex pin and link, respectively.

15 My invention relates to an improvement in automatic car-couplings of that class in which the pin is sustained by a tilting catch, which is removed from beneath the pin by the entrance of the link.

20 It also relates to that form of coupling in which the pin is made in the shape of a bifurcated bar sliding in vertical guides in the draw-bar throughout its length, and co-operating with a link-bar having enlarged heads that are caught between the branches of the bifurcated pin.

25 My invention consists in the peculiar construction of the pin and link, and in their combination with the other coacting parts, whereby the action of this class of couplings is improved and their efficiency increased, as will be fully described hereinafter.

30 In the drawings, A represents the draw-bar; B, the duplex coupling-pin; C, the bar-link, and D the tilting catch for sustaining the coupling-pin until struck by the link. The draw-bar is made with a throat quite deep in vertical direction, to permit of considerable variation in coupling with cars of different heights, and has beneath the pin-holes a stop or closure, *a*. The tilting catch D is pivoted in the bottom of the draw-bar, and its movement forward is limited by the stop-lugs *b b* to a position that brings its upper end immediately beneath the coupling-pin. The said coupling-pin B is made of two sections jointed together at the top at *c*, the said sections, where they pass through the draw-bar, being triangular in cross-section, and fitting in triangular holes in the top and bottom of the draw-bar, and having a bearing in the sides of the draw-

bar throughout their entire length. The relation of the triangle of the pin-section is such that the front face is at right angles to the line of draft, while the rear face sets obliquely thereto. The link-bar is made with diamond-shaped heads, whose inner shoulders fit between the inclined faces on the rear of the coupling-pin sections with a wedging action, and when the draft-strain is exerted has a tendency to throw the branches of the pin apart. This link has perforations through its diamond-shaped heads to receive the pin of a car having the ordinary form of coupling, so that said cars may be coupled to those having my improved coupling, which is a very necessary quality of any automatic car-coupling. The said link is also made with a greater depth transversely in the middle, and on the under side tapers from the middle upwardly. The object of this is to cause the outer or projecting end of the link to be elevated, in coupling with the next car, to a position where it readily passes above the bottom of the draw-bar on said next car.

Now, I do not claim, broadly, the supporting of the pin by a tilting catch and tripping the catch by the entrance of the link.

I am also aware that a branched or bifurcated coupling-pin of rectangular cross-section has been used in connection with a link-bar having a square shouldered head.

My invention is distinctive in the triangular cross-section of the branches of the pin, which, in combination with the diamond-shaped head of the link, secures an important advantage, in that when the draft-strain is exerted the wedging action of the diamond-shaped head has a tendency to spread the two sections of the pin apart in lines at right angles to the line of draft, whereas with a rectangular cross-section and a square shouldered head the draft-strain tends to twist the two sections of the pin about their longitudinal axes and jam them in their guides, so that they cannot be withdrawn. The inclined bearing between the link-head and pin-sections, it will be seen, causes the pin-sections to move at right angles away from each other, and when the draft-strain is removed they come back in the same path, and when the two sections are jointed at the top, as I prefer to make them, the du-

plex pin can be freely moved into and out of its guides.

The object in having the stop or closure at the bottom of the pin-hole in the draw-bar is to hold the pin-section in place against dropping out if the pin should become accidentally broken.

As the pin-sections have a bearing in the draw-bar throughout their full length from top to bottom, it will be seen that the draw-bar may be made with as deep throat as desired for coupling with high or low cars without involving any greater breaking-strain on the pin.

Having thus described my invention, what I claim as new is—

1. The combination, with a draw-bar, of a bifurcated or double-branched coupling-pin having its sections of a triangular shape, with their front faces at right angles to the line of draft, and their rear faces inclined thereto,

and a link-bar having diamond-shaped heads, substantially as and for the purpose described.

2. A duplex pin for a car-coupling, having the upper ends of its sections jointed together, in combination with a bar-link having enlarged heads or ends adapted to engage with the sides of said duplex pin, as and for the purpose described.

3. The draw-bar having vertical guides for the pin extending the full depth of the bar, and a stop or closure at the bottom, in combination with the duplex or double-branched pin, as shown and described.

The above specification of my invention signed by me in the presence of two subscribing witnesses.

BAYLUS CADE.

Witnesses:

EDWD. W. BYRN,  
 SOLON C. KEMON.