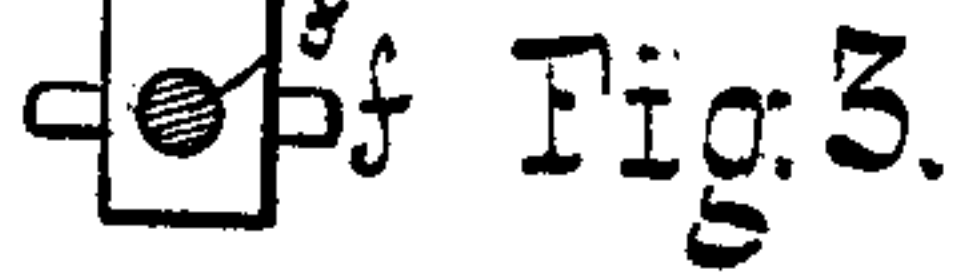
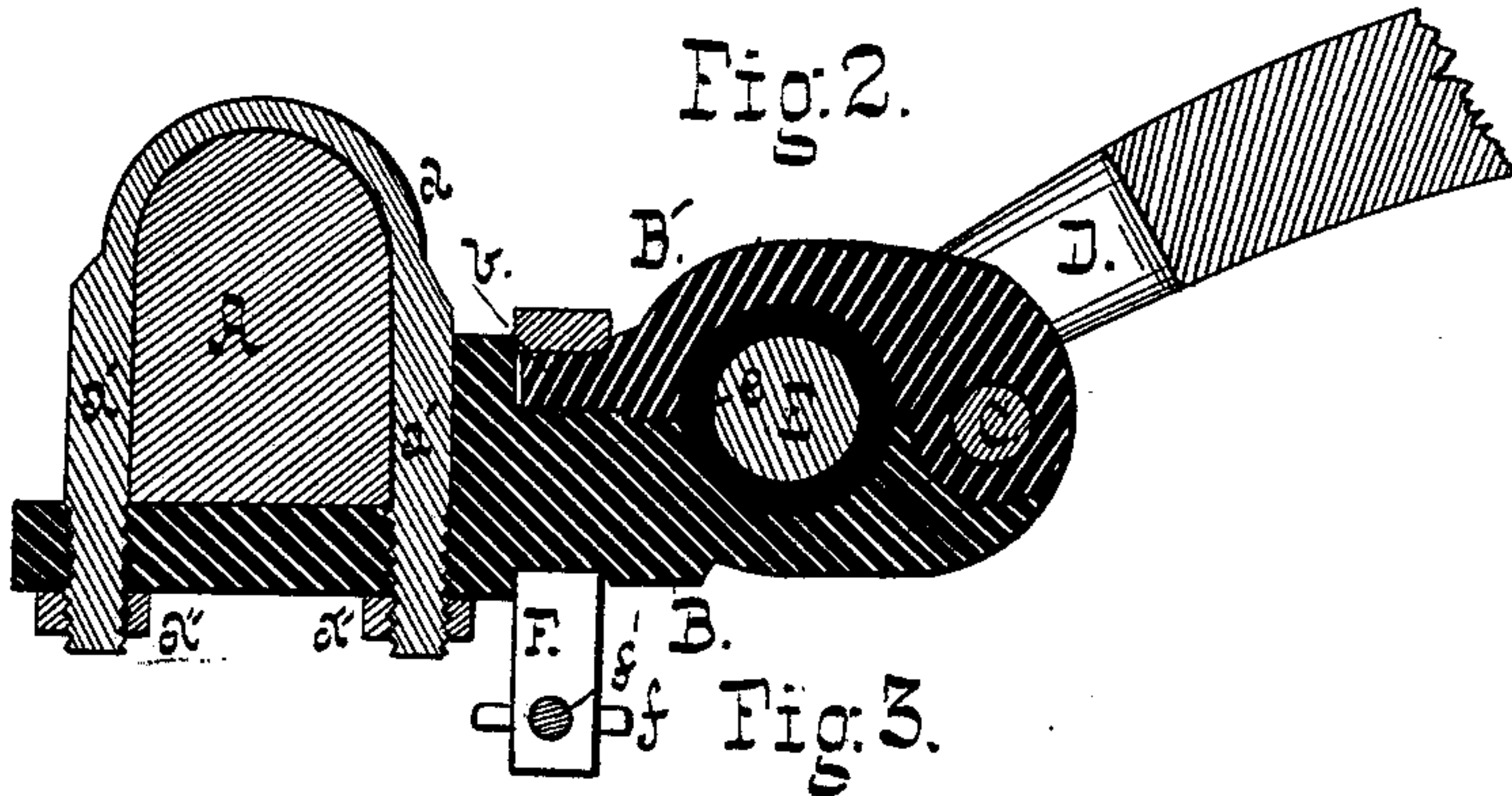
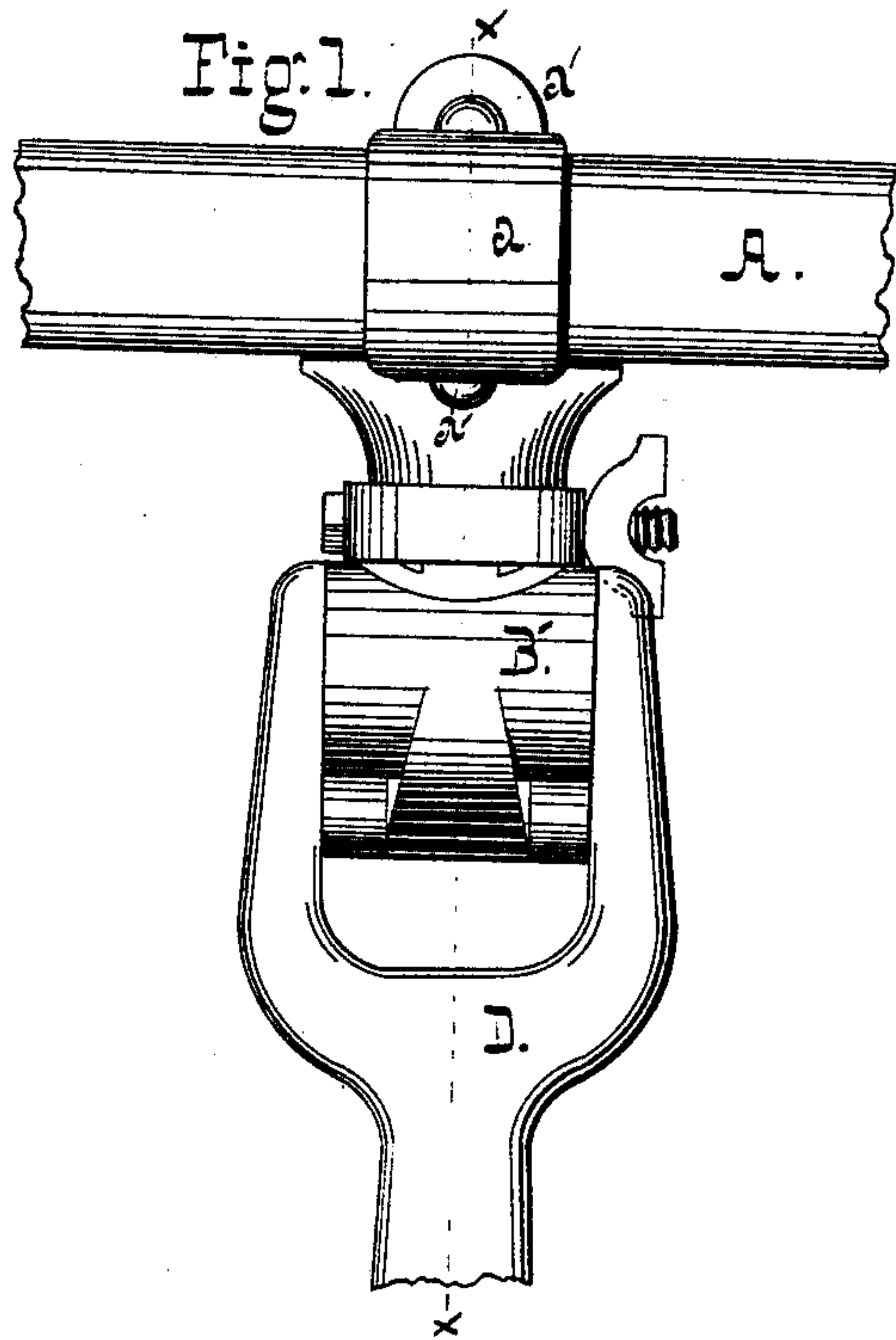


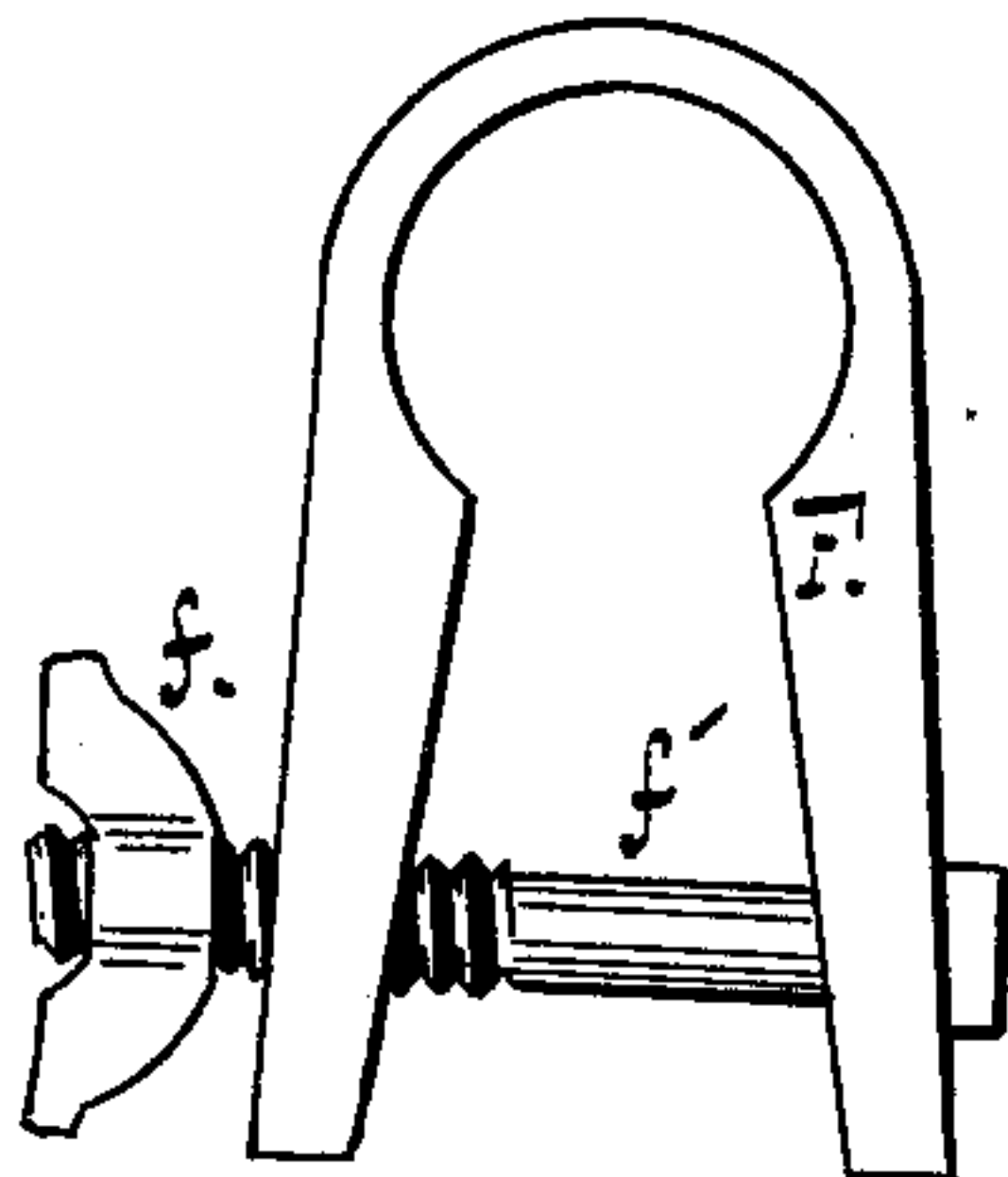
H. E. BRAUNFELD.
Thill-Coupling.

No. 214,235.

Patented April 15, 1879.



Witnesses,
W. A. Burton
W. C. Barclay.



Inventor
Henry E. Braumfeld.
by

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UNITED STATES PATENT OFFICE.

HENRY E. BRAUNFELD, OF BALTIMORE, MARYLAND.

IMPROVEMENT IN THILL-COUPPLINGS.

Specification forming part of Letters Patent No. **214,235**, dated April 15, 1879; application filed August 27, 1878.

To all whom it may concern:

Be it known that I, HENRY E. BRAUNFELD, of Baltimore city, State of Maryland, have invented certain new and useful Improvements in Thill-Couplings; and I hereby declare the same to be fully, clearly, and exactly described as follows, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view of the device; Fig. 2, a longitudinal sectional view on line *x x*, Fig. 1; and Fig. 3 is a plan view of the securing-clamp.

This invention relates to that class of devices in use for securing the shafts of vehicles to the axles; and it consists in certain means for facilitating the attachment and removal of the shafts, and for preventing rattling, as hereinafter fully described.

In the accompanying drawings, A represents the axle embraced by the clip *a*, which passes through holes in the coupling proper, and is secured, in the usual manner, by means of nuts *a'' a''*, screwed upon the arms *a' a'*. The coupling consists of two parts, B B', hinged together upon a bolt, C, at the forward end, the part B being secured to the axle, as above described. The part B' is provided with a lug, *b*, which falls into a correspondingly-shaped slot in the part B, and is secured by means of the clamp F. The shaft end D is forked, as shown, its ends being connected by a cross-bar, E, having an elastic cover, *e*, preferably of rubber. The clamp F is arranged to fit over that portion of the piece B within which the lug *b* falls and securely retain the parts together. The clamp is adapted to be tightened when in place by means of a bolt, *f'*, and thumb-nut *f*.

The operation of the device is as follows: In order to attach the shaft, the upper part, B', is thrown over to the front, and the cross-bar E is laid in place in the lower part, B. The part B' is then turned back, and the lug *b* is pressed into the slot. The clamp F is, of course, loosened and inverted, in order to ad-

mit of the passage of the lug *b* between its arms. Finally, the clamp is turned so as to bring the arms below the coupling, when the thumb-nut *f* is screwed home, securing all in place.

It will be observed that the rubber *e* is compressed between the parts of the coupling, and hence no rattling is possible. An accidental loosening of the parts, admitting of the detachment of the shafts, is equally out of the question, as, even should the thumb-nut *f* unscrew and the clamp become loosened, the weight of its arms will keep it in a vertical position, and prevent the escape of the lug *b* from its slot.

In order to detach the shafts it is only necessary to invert the clamp, open the coupling, and lift the shafts.

The device, in a word, is simple in construction, may be made at but a trifling cost, is thoroughly efficient and reliable in operation, and admits of the ready and rapid attachment and detachment of the shafts without necessitating the use of a monkey-wrench or tool of any kind.

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

1. The thill-coupling herein described, consisting of the parts B B', hinged together, and having the reversible clamp F, substantially as described.

2. In combination with the cross-bar E, having an elastic cover, the parts B B', hinged together, and having a revoluble spring-clamp, F, as set forth.

3. In combination with the parts B B' and shaft end, constructed as described, the U-shaped revoluble clamp, substantially as set forth.

HENRY E. BRAUNFELD.

Witnesses:

R. D. WILLIAMS,
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