

(No Model.)

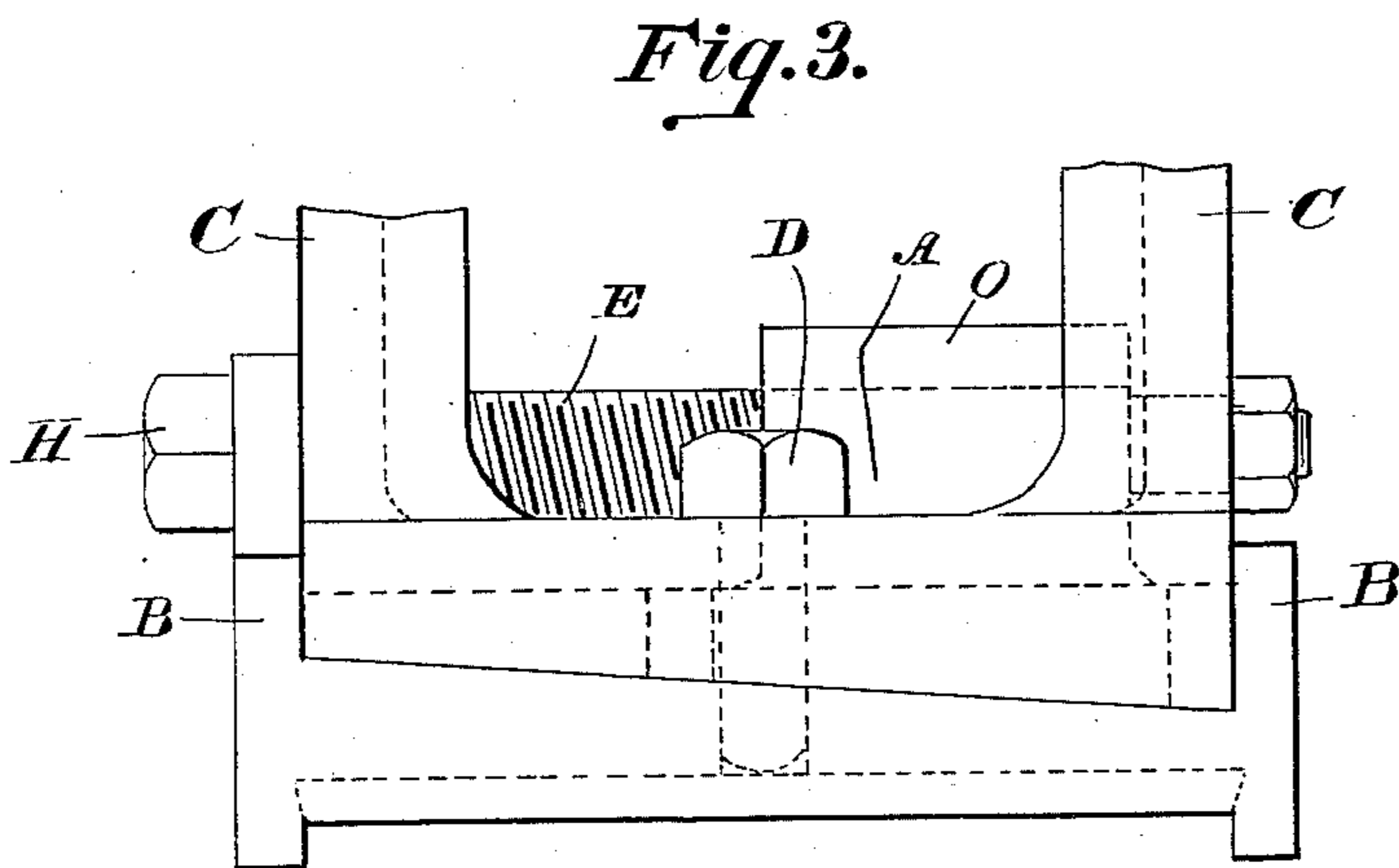
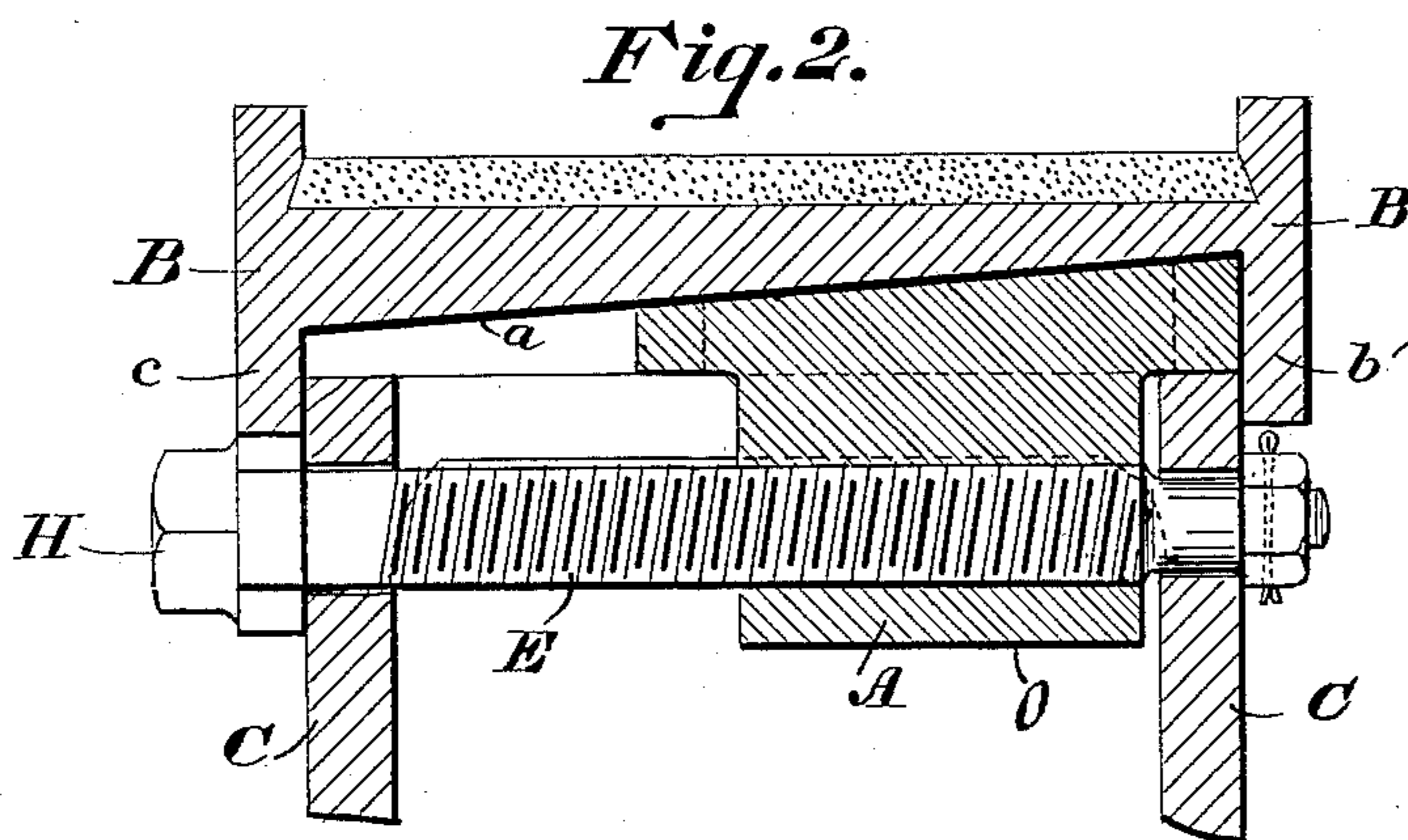
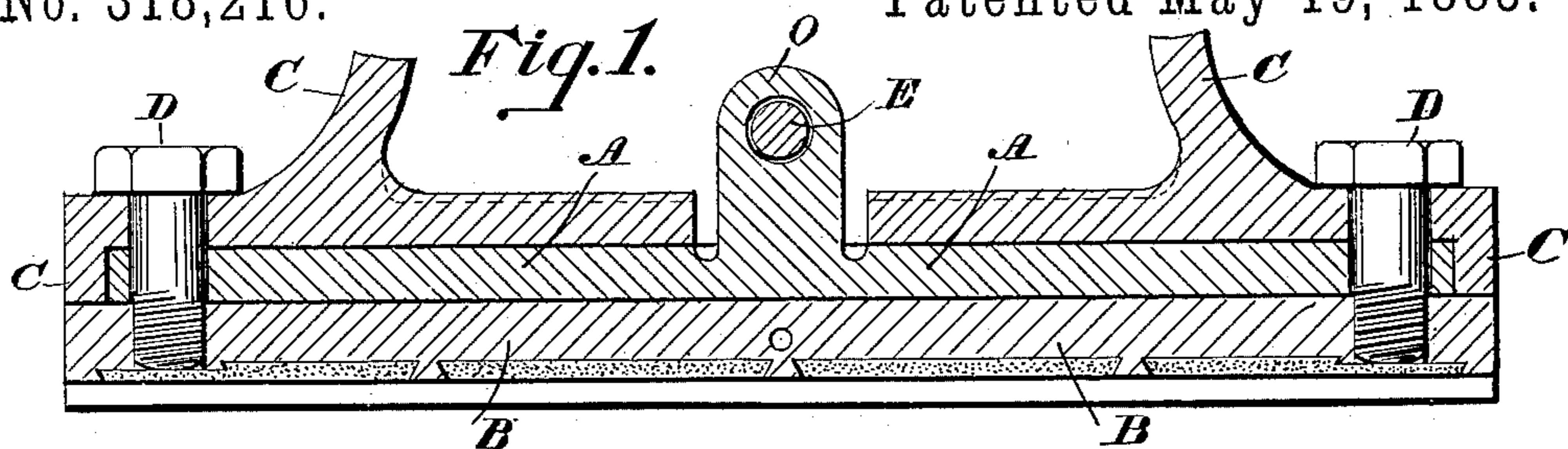
2 Sheets—Sheet 1.

J. B. STANWOOD.

CROSS HEAD FOR STEAM ENGINES.

No. 318,216.

Patented May 19, 1885.



WITNESSES:

Abram May

Thos Marty

INVENTOR

James B. Stanwood

BY

L. M. May R. M. H. H. H.

ATTORNEY

(No Model.)

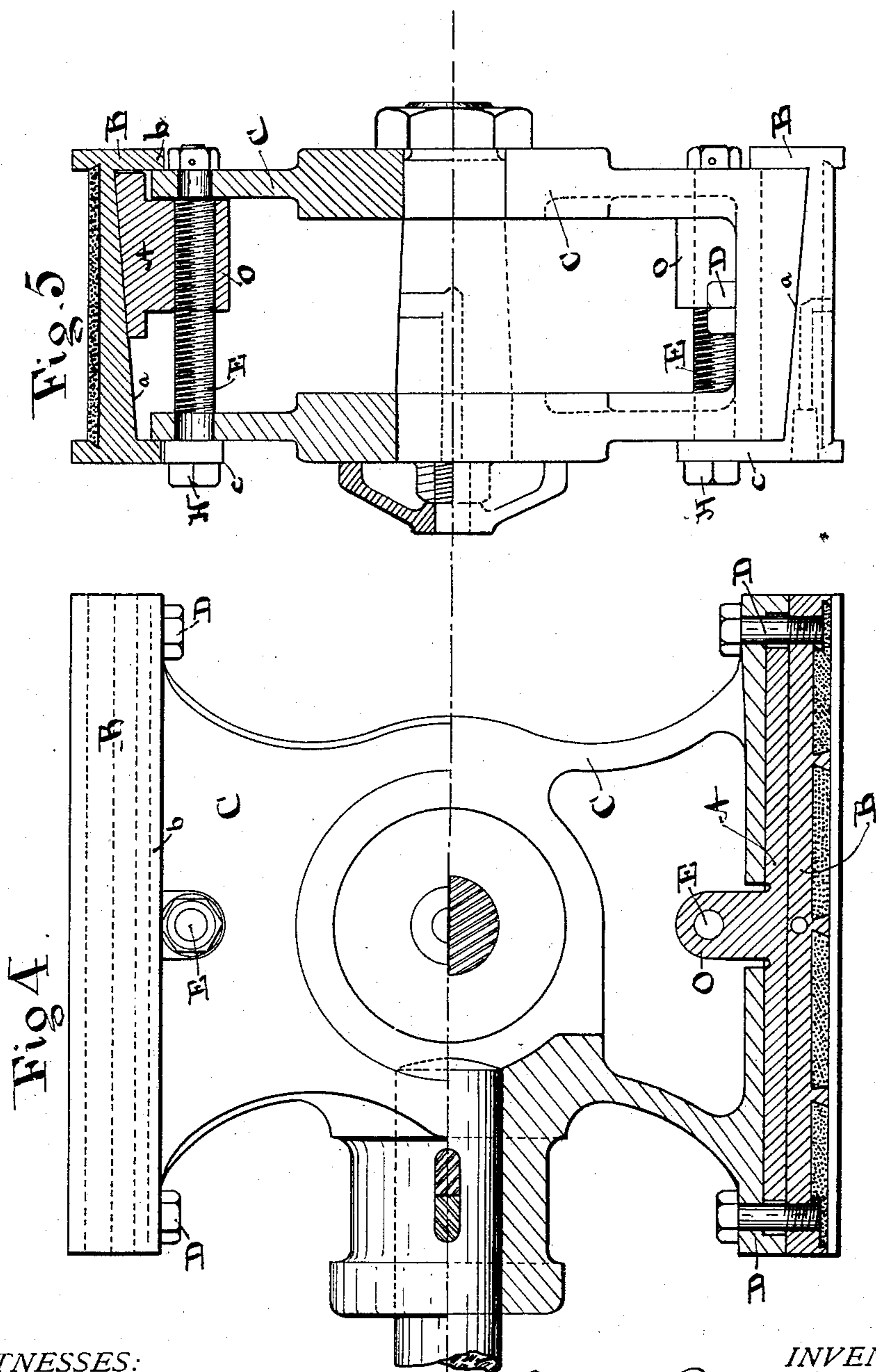
2 Sheets—Sheet 2.

J. B. STANWOOD.

CROSS HEAD FOR STEAM ENGINES.

No. 318,216.

Patented May 19, 1885.



WITNESSES:
Geo. Cassatt
Abram May

INVENTOR,
James B. Stanwood,
by Lee & Rollinson,
ATTORNEYS.

UNITED STATES PATENT OFFICE.

JAMES B. STANWOOD, OF CINCINNATI, OHIO, ASSIGNOR TO THE LANE & BODLEY COMPANY, OF SAME PLACE.

CROSS-HEAD FOR STEAM-ENGINES.

SPECIFICATION forming part of Letters Patent No. 318,216, dated May 19, 1885.

Application filed October 27, 1884. (No model.)

To all whom it may concern:

Be it known that I, JAMES B. STANWOOD, a citizen of the United States, residing at Cincinnati, Ohio, have invented new and useful Improvements in Cross-Heads for Steam-Engines, of which the following is a specification.

My invention relates to the cross-heads of steam-engines employing double parallel guides; and it consists in certain devices for adjusting the slippers or bearing-surfaces of the cross-head with respect to the slides, and in means for securing the same in ultimate position; and it likewise consists in the employment of means to produce the above result, which at the same time will permit the slippers to be removed endwise from the cross-head without removing the latter from the slides.

Heretofore it has been customary, when use has loosened or worn the bushings on the cross-head next the guides to remove the cross-head from the guides and insert new bushings, or repair the old, so as to take up the lost motion and make a good fit in the guides. This is troublesome and causes much delay, and my invention seeks to do away with this difficulty, and substitutes a construction of the cross-head and slippers whereby the slippers can at any time be taken out of the cross-head for any purpose in a short time without disturbing the cross-head in the slides.

These improvements will be readily understood in connection with the accompanying drawings, in which mechanism illustrating my invention is shown, and in which—

Figure 1 is a longitudinal vertical section of one side of vertical cross-head embodying my improvement. Fig. 2 is a vertical cross-section of the same. Fig. 3 is an end view of the same. Fig. 4 is a vertical side elevation of a cross-head complete embodying my improvement, and Fig. 5 is an end elevation of the same.

The views taken are sufficient for the illustration of my improvement, and the parts hereinafter mentioned are designated by letters of reference.

In the drawings, C represents the cross-head frame.

B represents the slippers containing in their outer surface the Babbitt or other bushing; A,

the wedges which have full bearing lengthwise over the slippers; E, the horizontal adjusting-screws, one above, the other below, threaded in the projecting lugs O on the wedges, and shouldered in the sides of cross-head frame.

D are vertical set-screws, threaded in the slippers and shouldered in the cross-head frame, whereby the wedge is clamped in final position, and which upon removal allow the slippers to be withdrawn endwise independent of the cross-head. The slippers B have transverse inclined inner faces, *a*, in contact with similar faces on the wedge-blocks A. Projecting lugs O on the latter receive the horizontal adjusting-screws E, threaded therein, by manipulation of which the wedges are moved and the slippers drawn away from or forced nearer to the slides. Retracted lips *b c* at the sides of the slippers furnish security from lateral displacement in contact with the sides of the cross-head frame C. A transverse slot in the base-plate of the cross-head frame (shown in section in Fig. 1) allows passage of the projecting lug O of the slipper. This slot extends across the frame of cross-head, limited by its sides.

The principal use of the adjustment is to take up lost motion from wear of the slides and bushings; but as adjustment will sometimes be needed in both directions I shoulder the head of the adjusting-screw E, as shown in Fig. 2, (performing the adjustment by manipulating the head H,) and insert a cotter through the nut at the other end to make it also a shoulder. The wedges have full bearing lengthwise over the slippers and are slotted to allow passage of the clamp-screws D, (transversely shown in section in Fig. 1 and in dotted lines elsewhere.) This secures a regular and even adjustment, and one not afterward affected by the movement of the cross-head in the slides.

Instead of the lips projecting downward at the ends of the cross-head frame—such as are usually employed to hold the slippers in place when the cross-head moves in the slides—I make the clamping-screws D perform that service by threading them in the slippers. Upon tightening these they not only hold the slippers firm, but clamp and bind the latter to

the wedge-blocks, and these, in connection with the wedge-adjusting screws E, securely hold the slippers from longitudinal displacement.

This construction, moreover, allows withdrawal of the slippers endwise in the slides, upon taking out the screws D, should occasion require the renewal of the bushings or other repairs, without removing the cross-head.

10 The operation of adjusting the slippers is as follows: To take up lost motion I loosen the vertical screws D, turn the screw E by head H in the proper direction to force the wedge-block A outward against the slipper, 15 and when sufficiently extended clamp it firmly by tightening the vertical clamp-screws D. In this operation care will be taken to preserve the alignment of the piston-rod by adjusting each slipper the amount required. 20 The downturned lips *c* and *b* will preserve the proper vertical and lateral adjustment.

Having now described and illustrated my invention, I claim and desire to secure by Letters Patent of the United States—

25 1. In a double-guide-engine cross-head, wedges A, adjustable transversely to the line of the guides, having full longitudinal bearing on both cross-head and slippers, and provided with adjusting-screws adapted for wedging out the slippers in closer contact with the 30 slides, substantially as described.

2. In an engine cross-head, in combination with wedge-blocks A, having full longitudinal bearing on cross-head and slippers, clamp-screws D, shouldered in the cross-head frame 35 and tapped into the slippers, substantially as and for the purpose specified.

3. In an engine cross-head, slippers B, adjustably secured to the cross-head by clamp-

screws D, wedge-blocks A, and adjusting-screws E, in combination, substantially as set forth. 40

4. In an engine cross-head, slippers B, having transverse inclined inner surfaces, *a*, in combination with wedge-blocks A, and adjusting-screws E, threaded in projecting lugs O on the wedge-blocks, substantially as and for the purpose specified. 45

5. In combination with the cross-head frame C and slippers B, having side flanges, *b c*, the wedge-blocks A, formed with lugs O, and adjusting-screws E and set-screws D, substantially as and for the purpose specified. 50

6. The herein-described arrangement in an engine cross-head of a transverse wedge-block A, having full longitudinal bearing on the slipper, and provided with lug O, having threaded or shouldered therein adjusting-screw E, passed through or threaded in the 55 sides of cross-head frame, and with slotted ends for passage of clamp-screws D, and slipper B, with retracted flanged sides *b c*, inclined inner bearing-surface, *a*, and having threaded therein at the ends clamp-screws D, and adapted in contact with the wedge-block and clamping-screws to be adjusted 60 with respect to the engine-slide, or to be removed from the cross-head independent thereof, the whole combined and operating substantially as described. 65 70

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JAMES B. STANWOOD.

Witnesses:

B. M. HOSEA,
R. M. HOSEA.