

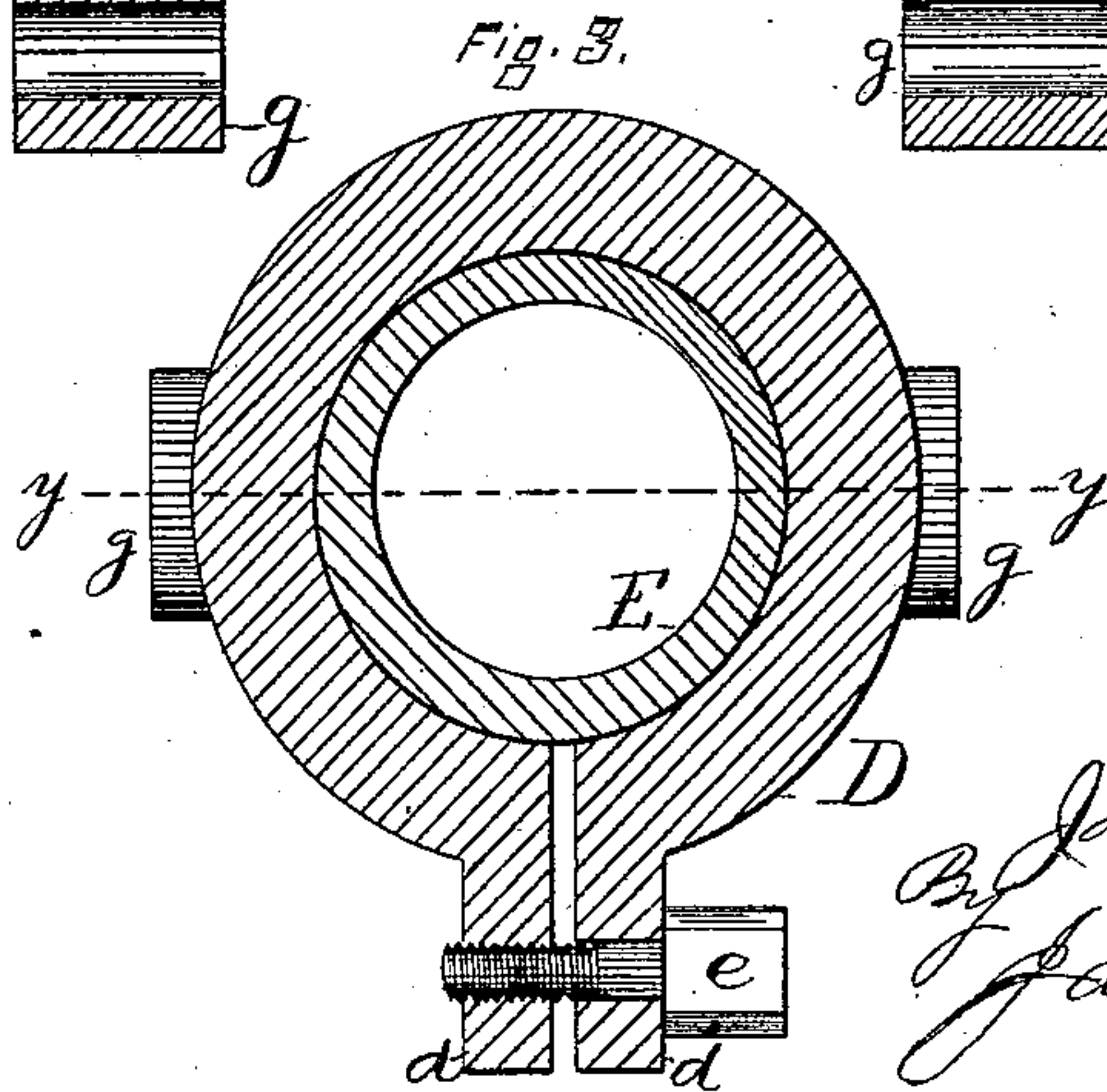
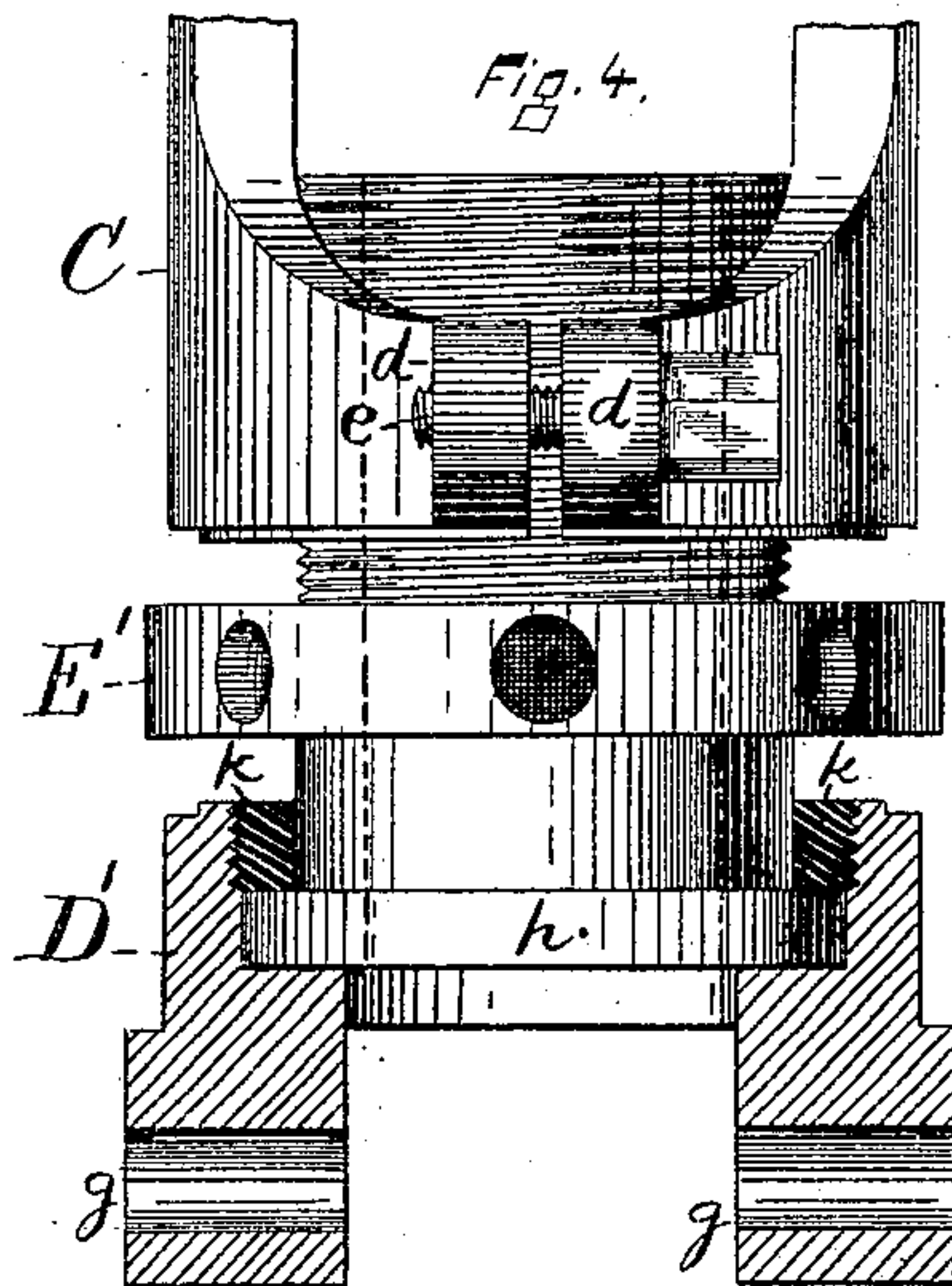
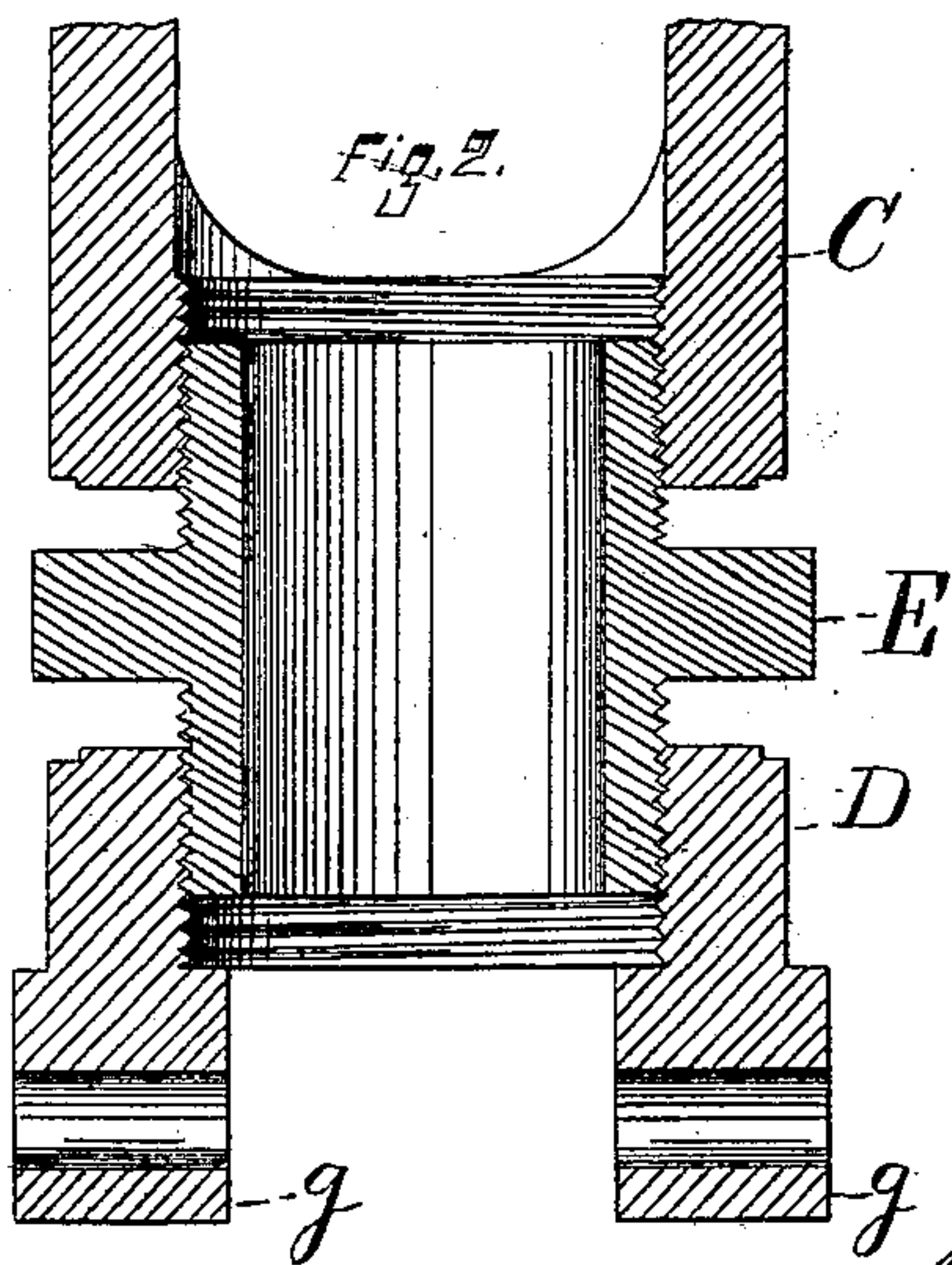
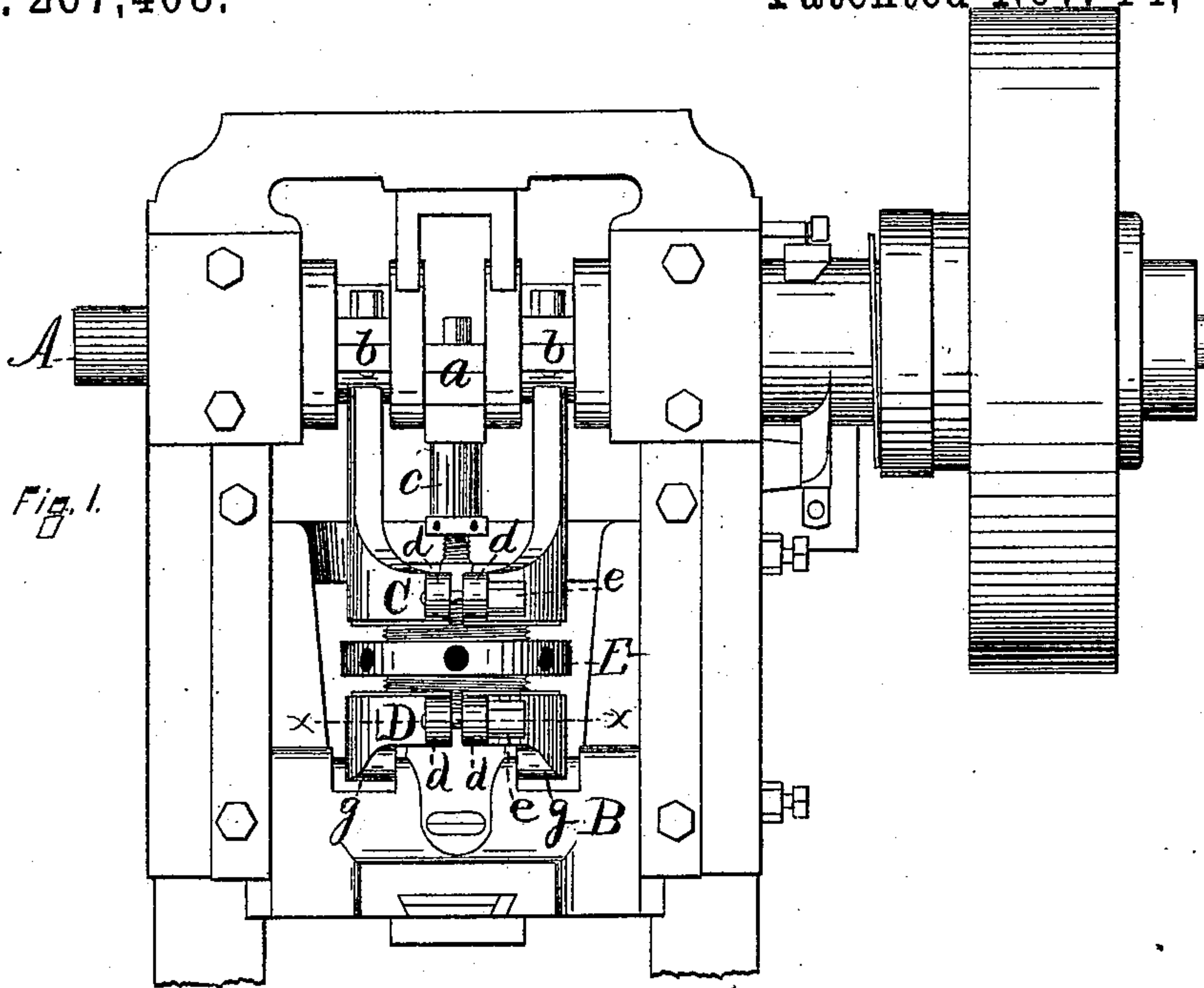
(No Model.)

J. M. ELLIS.

PITMAN FOR DOUBLE ACTING PRESSES.

No. 267,408.

Patented Nov. 14, 1882.



Witnesses.
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UNITED STATES PATENT OFFICE.

JAMES M. ELLIS, OF MILLDALE, CONNECTICUT.

PITMAN FOR DOUBLE-ACTING PRESSES.

SPECIFICATION forming part of Letters Patent No. 267,408, dated November 14, 1882.

Application filed October 2, 1882. (No model.)

To all whom it may concern:

Be it known that I, JAMES M. ELLIS, of Milldale, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Pitmen for Double-Acting Presses, of which the following is a specification.

My invention relates to improvements in pitmen for double-acting presses, in which the two pitmen-arms which connect the two outside cranks with the two sides of the press-slide are adjusted by a single mechanism, also in which said adjusting mechanism is of a peculiar construction; and the objects of my invention are to more conveniently adjust the throw of the main slide, and to so adjust it that the two cranks of the press-shaft shall always bear evenly upon the slide and allow it to work free and easy, and so that the pitman, when adjusted, shall be very firm and rigid. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of my double pitman and so much of a double-acting press as is necessary to show the connection therewith. Fig. 2 is a vertical section of the main portion of my pitman on line *yy* of Fig. 3. Fig. 3 is a horizontal section of the same on line *xx* of Fig. 1, and Fig. 4 a partial section and elevation of a modified form of the same.

A designates the ordinary shaft of a double-acting press, having the middle crank or eccentric for the box *a* for driving the ordinary middle slide, and upon the sides thereof the two cranks or eccentrics for the boxes *b b* for driving the main slide B. In Figs. 2 and 4 the arms upon which said boxes *b b* are formed are represented as broken off; but these boxes are of any ordinary construction, and the full length of said arms is shown clearly in Fig. 1. Heretofore three pitmen have been employed on such presses—the pitman *c* for the middle and smaller slide, and two pitmen for driving the main slide B, one upon each side of the middle pitman, *c*. These two pitmen, although for driving a single slide, had to be separately adjusted, and it is not only a difficult task to adjust them properly, requiring considerable time, but oftentimes one pitman would be a trifle longer than the other, so as to cause the

slide to bind. I overcome these difficulties by connecting the cranks, boxes *b b*, and slide B by means of one double pitman having only one adjusting mechanism, instead of two separate pitmen with two separate adjusting mechanisms.

I form the boxes *b b* for the outside cranks of the shaft A upon the upper end of the hollow piece C, said piece being left slightly open at the front, and provided with ears *d d* and binding-screw *e*. The lower end of the pitman is formed of a similar piece, D, with like ears *d d* and binding-screw *e*, and two knuckles, *g g*, by which to pin it to the two sides of the slide B. The interior of both pieces C and D is threaded to correspond with the respective ends of the adjusting-head E, one end of which has a right-hand thread and the other a left-hand thread. The middle portion of the head E is provided with holes to receive a lever for turning the head. The head E as well as the pieces C D are made hollow, or bored out of such size as to allow the middle pitman, *c*, to work freely therein. By loosening the binding-screws *e e* and turning the head E the length of the pitman may be adjusted at pleasure, and the parts can be held rigidly together by tightening said screws. This will adjust the pitman for both of the boxes *b b* and knuckles *g g* at one and the same time, so that if they are properly constructed the main slide will always be true and square, so as not to bind, and the adjustment can be effected much more rapidly than it can when two separate pitmen are employed for the two sides of one slide.

I have herein shown and described the right-and-left-hand threaded head with a binding-piece and screw at each end, because I prefer such an adjustment; but other adjusting mechanisms may be employed, so long as the two cranks and the two sides of the main slide of a double-acting press are so connected as to be adjusted simultaneously by a single adjusting mechanism. In Fig. 4 an adjusting mechanism is shown in which the piece C is the same as before described and the head E' is threaded only on one end. The lower end is provided with a flange, *h*, and is received in the piece D', where it is held by a nut, *k*, which, for convenience of assembling the parts, may

be made in two or more pieces. This head is hollow or bored out to allow free play of the middle pitman.

5 In both kinds of adjusting mechanisms herein described there is a hollow cylindrical adjusting-head of a size large enough to allow the middle pitman free play, and therefore the hollow and internally-threaded piece or pieces of the pitman which are left open or slotted at
10 the front must necessarily be on a large circle. This enables said piece or pieces to yield readily under the pressure of the binding-screw, and in so yielding to fit snugly the entire circumference of the threaded head less the width
15 of the slot or opening at the front, thereby binding the head very rigidly in place.

I do not claim a pitman having a right-and-left-hand-threaded head and sockets correspondingly threaded and provided with binding-screws when the sockets are slit on two or
20 more sides or when they are provided with caps; but

I claim as my invention—

1. In a double-acting press, the herein-described double pitman having boxes or bearings for the two outside cranks of the press-shaft, knuckles or bearings for the two sides of the slide, and a single mechanism for adjusting both sides of said pitman, substantially as described, and for the purpose specified. 25 30

2. In a pitman for presses, the combination of the threaded head and the hollow and the internally-threaded end piece which receives the threaded portion of said head, slit open at the front side only, and provided with the forwardly-projecting lugs and binding-screw, substantially as described, and for the purpose specified. 35

JAMES M. ELLIS.

Witnesses:

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