

(No Model.)

B. V. NORDBERG & C. M. CONRADSON.
ADJUSTABLE BEARING.

No. 430,143.

Patented June 17, 1890.

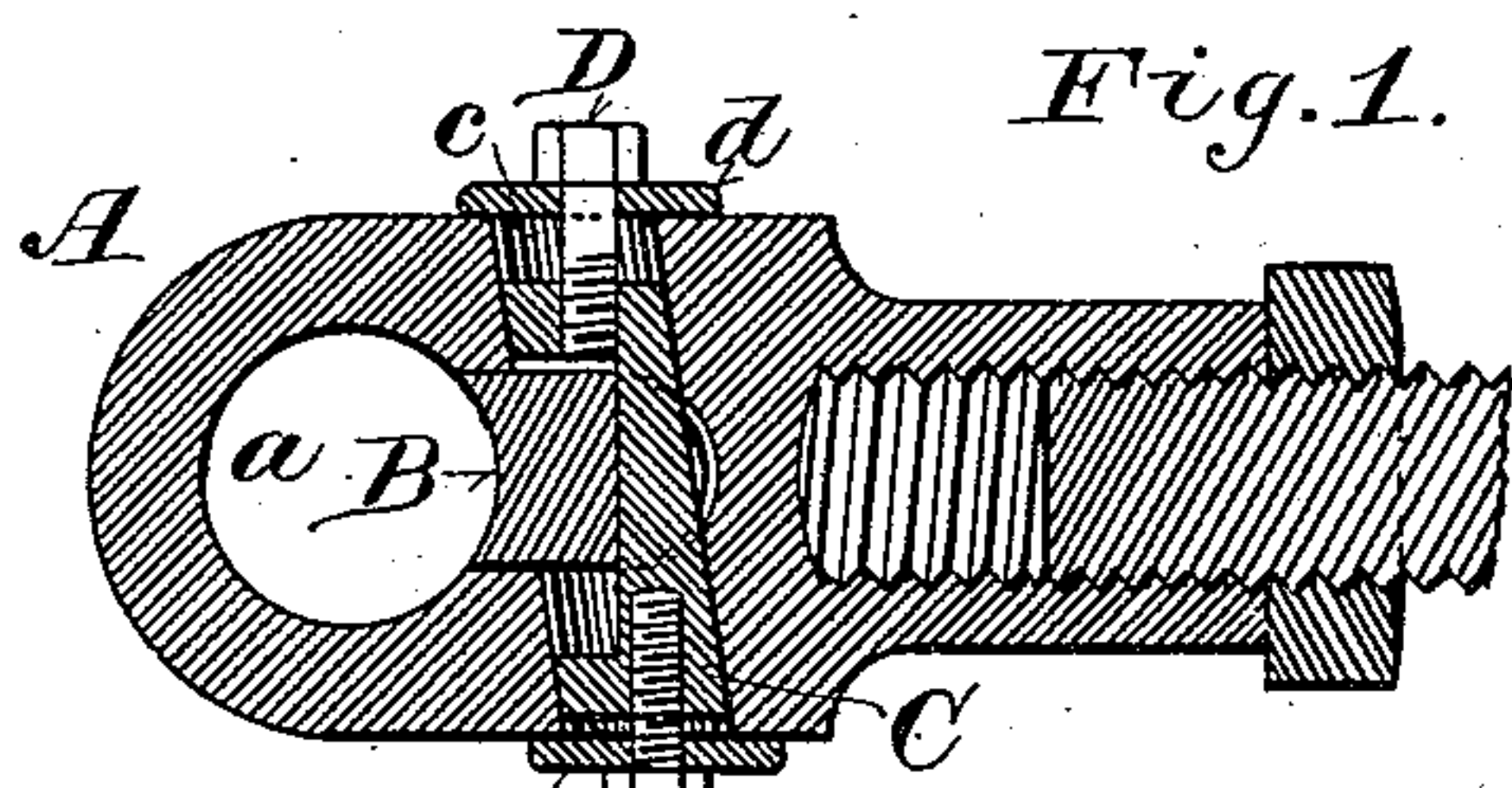


Fig. 1.

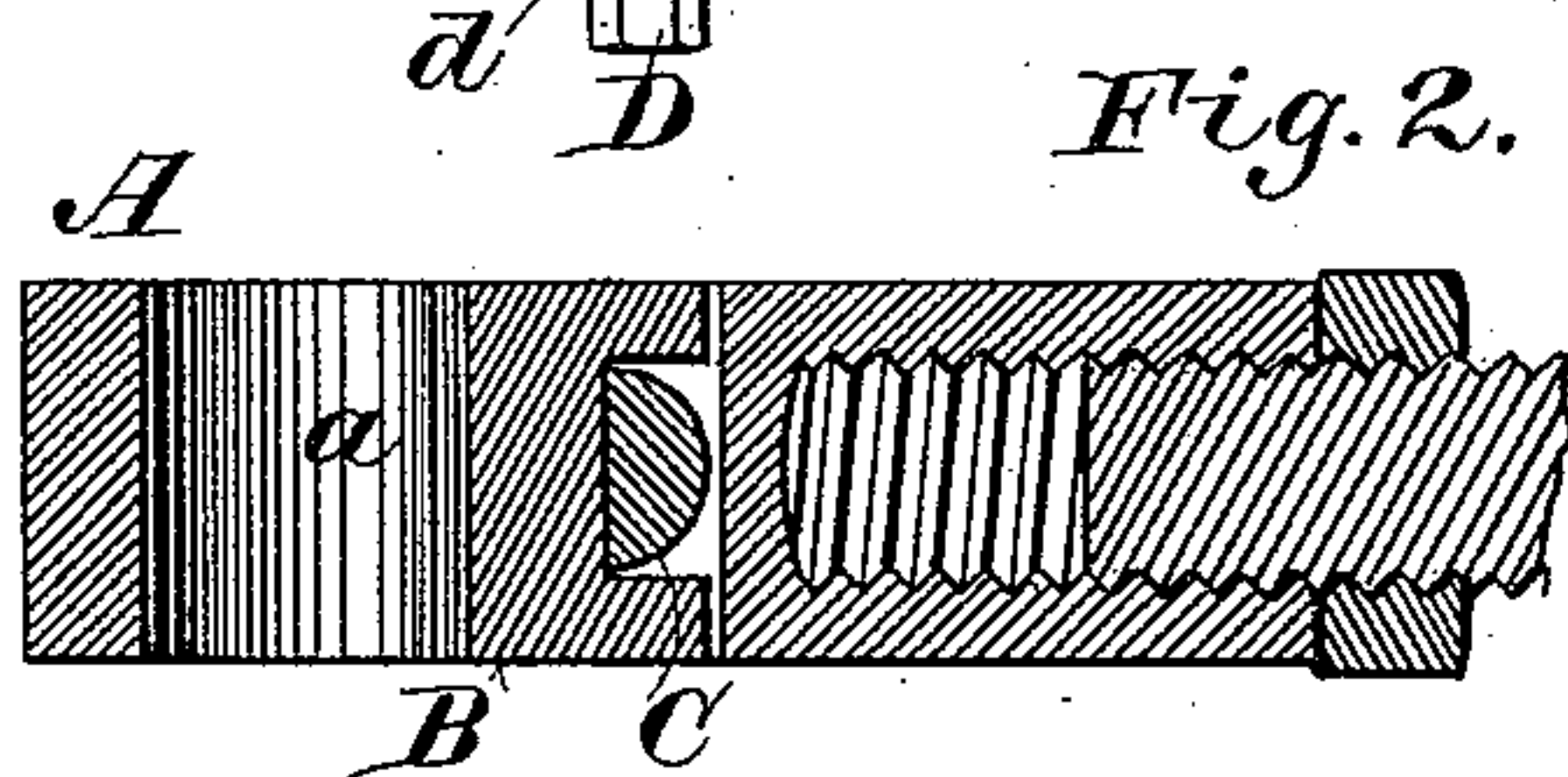


Fig. 2.

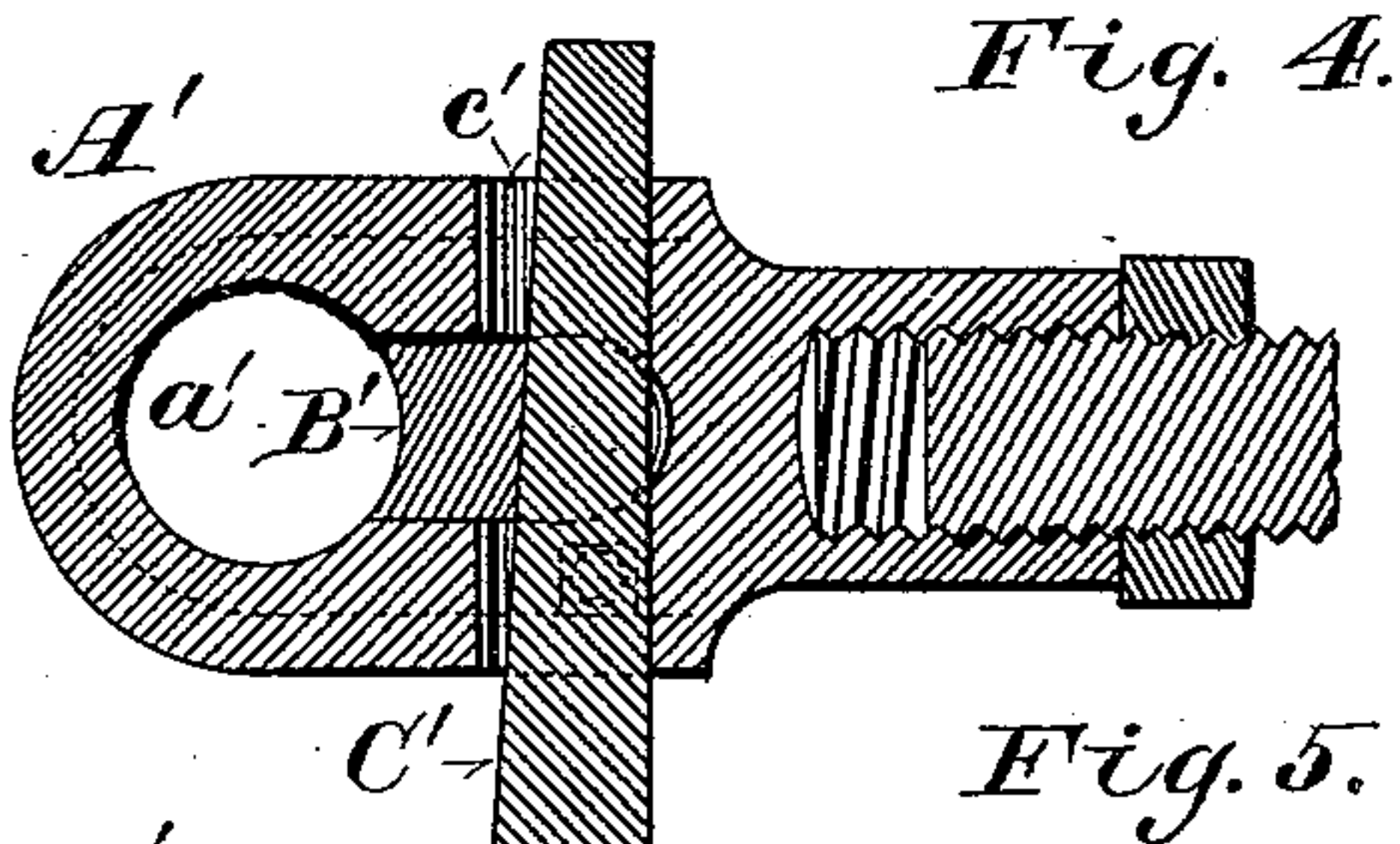


Fig. 4.

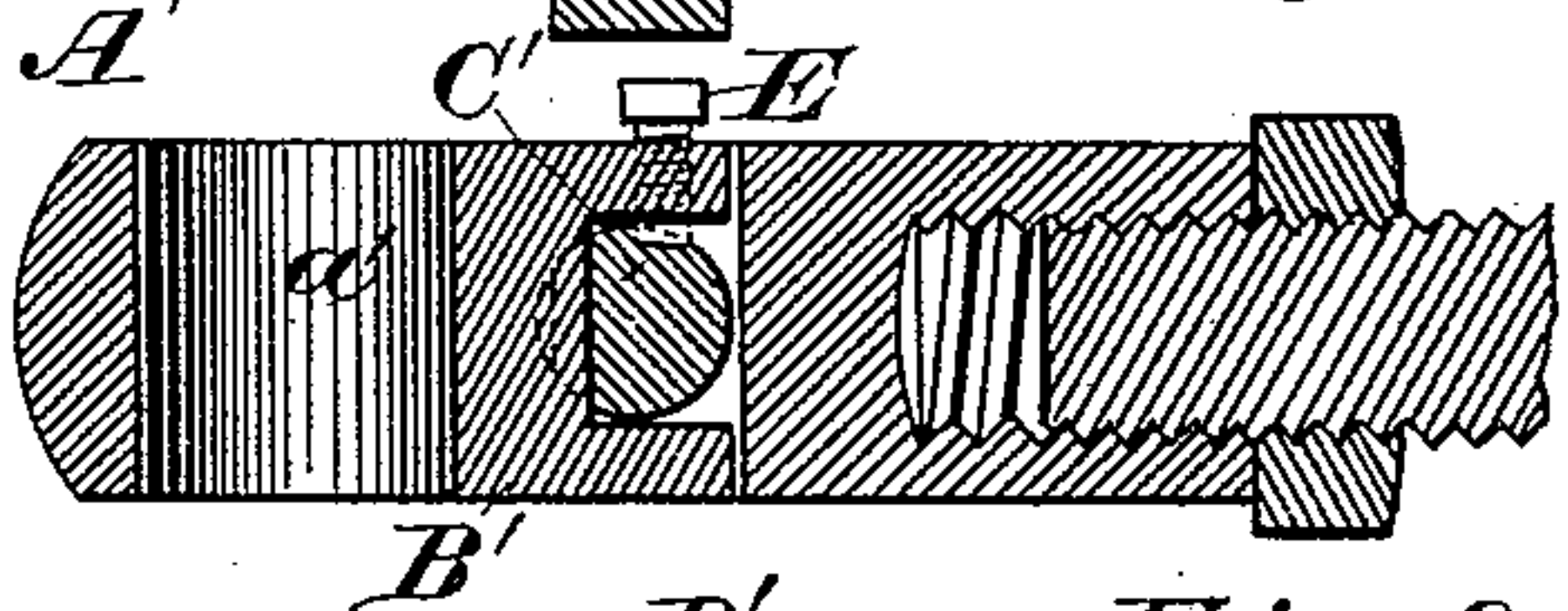


Fig. 5.

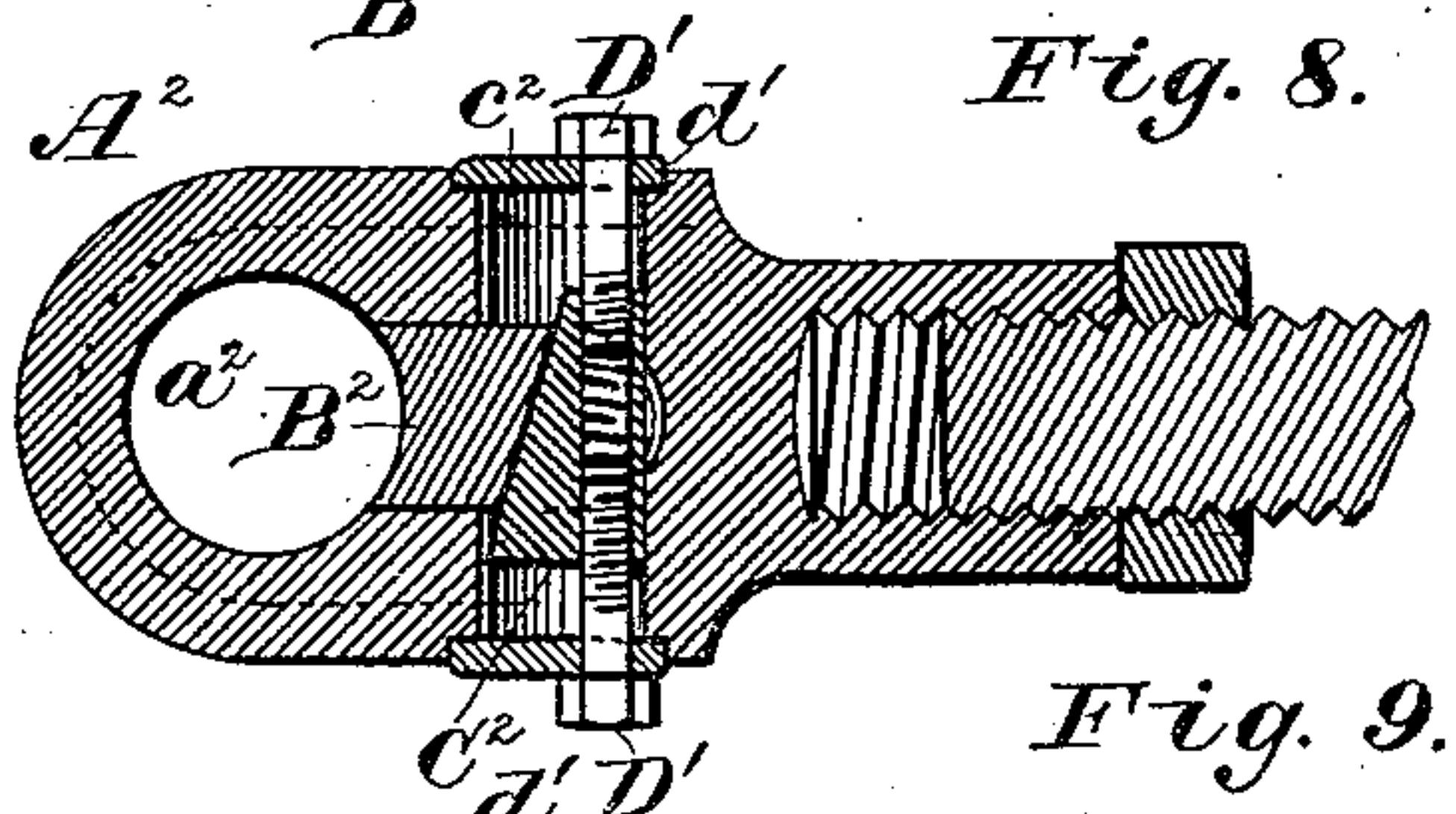


Fig. 8.



Fig. 9.

Fig. 3.

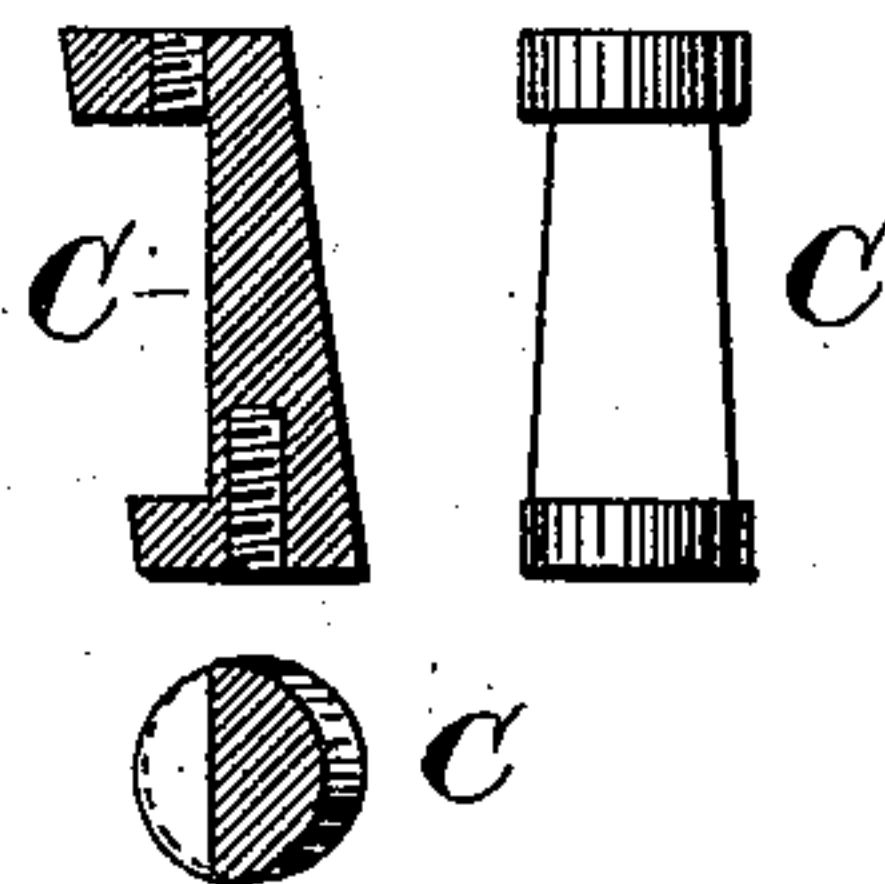


Fig. 7.

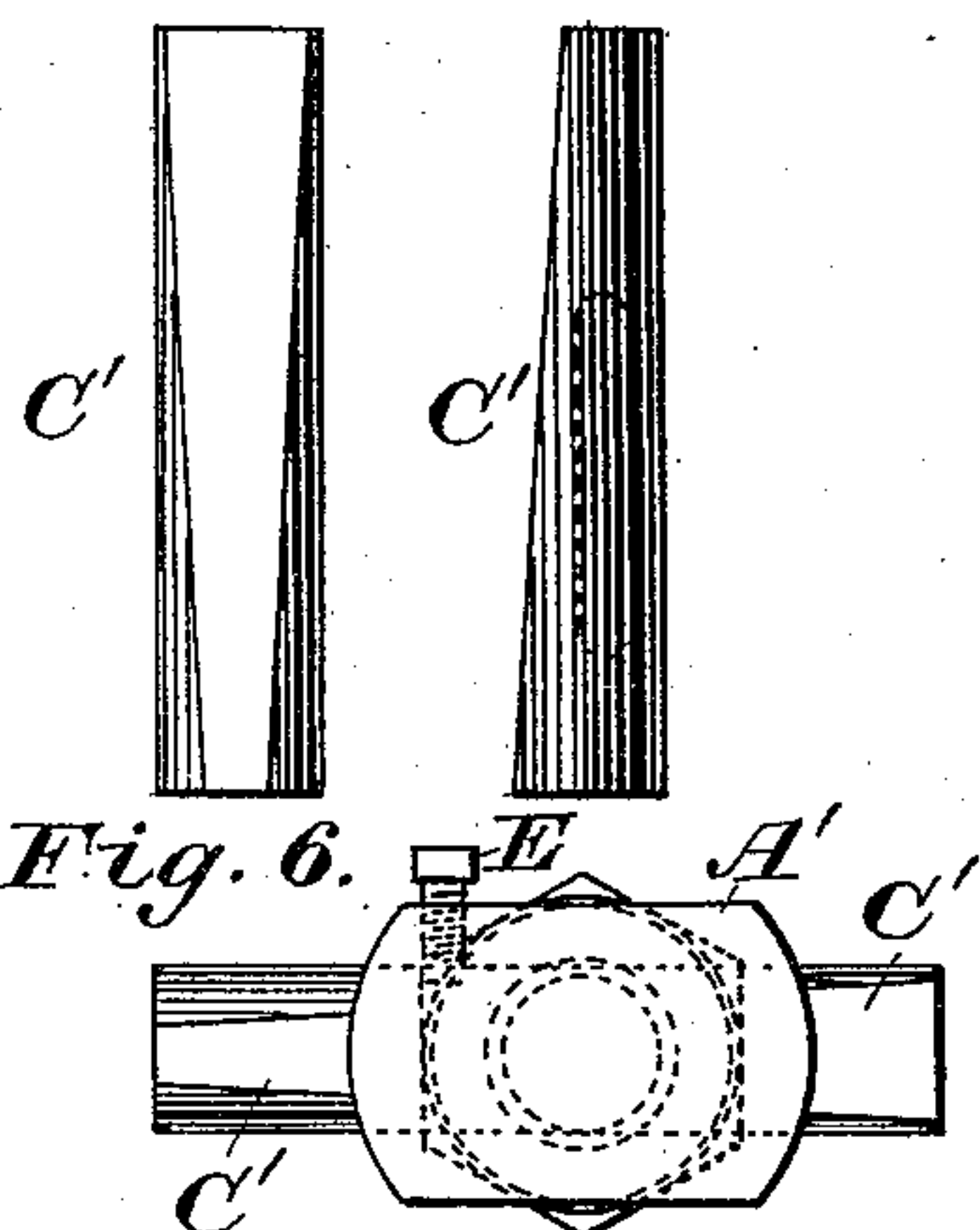
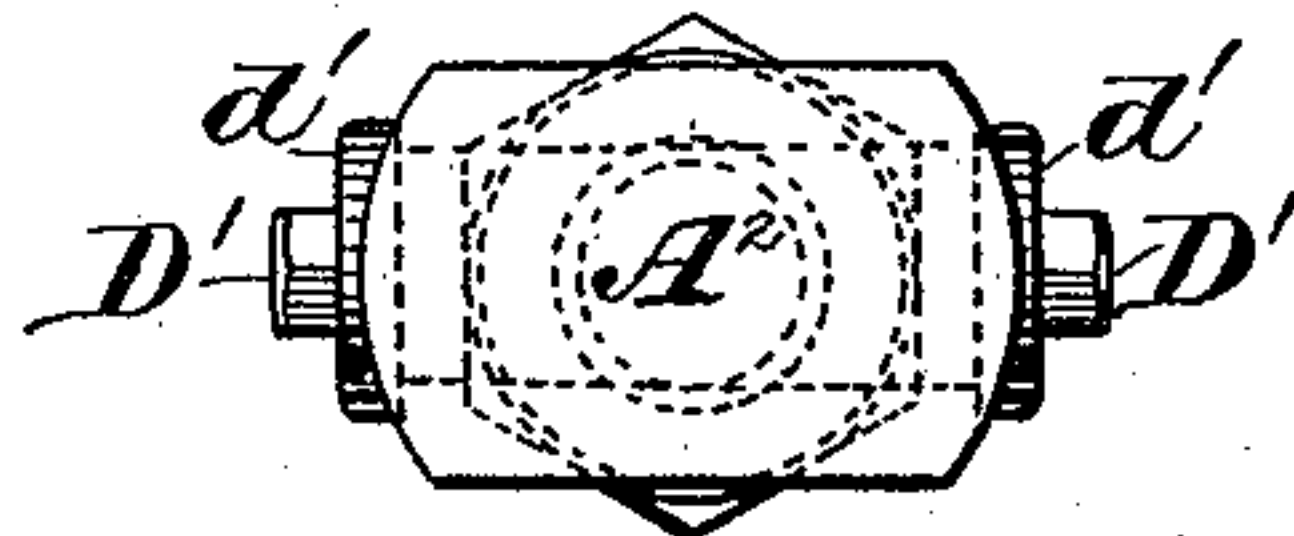


Fig. 6.

Fig. 11.



Fig. 10.



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UNITED STATES PATENT OFFICE.

BRUNO VICTOR NORDBERG AND CONRAD M. CONRADSON, OF MILWAUKEE,
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ADJUSTABLE BEARING.

SPECIFICATION forming part of Letters Patent No. 430,143, dated June 17, 1890.

Application filed July 9, 1889. Serial No. 316,988. (No model.)

To all whom it may concern:

Be it known that we, BRUNO VICTOR NORDBERG and CONRAD M. CONRADSON, both of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Adjustable Bearings; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The main object of our invention is to avoid hand-fitting, and thereby diminish the cost of the class of bearings to which our invention relates.

It consists, essentially, of a cylindrical key having a surface inclined to its axis, a block or head having a recessed opening and a cylindrical key-seat communicating with said opening, an adjustable bearing block or brass inserted in said opening, and a key adapted to said cylindrical key-seat and having a bearing-surface on one side inclined to its axis, and of certain other peculiarities of construction and arrangement hereinafter particularly described, and pointed out in the claims.

Figure 1 is a medial longitudinal section, taken at right angles to the axis of the journal-bearing, of a pitman-head embodying our improvements. Fig. 2 is a medial longitudinal section of the same, taken in a plane at right angles to that of Fig. 1. Fig. 3 illustrates details of the key employed in the device shown in Figs. 1 and 2. Figs. 4 and 5 are views, like Figs. 1 and 2, of a modified form of pitman-head also furnished with our improvements. Fig. 6 is an end elevation of the same. Fig. 7 shows details of the key employed therein. Figs. 8 and 9 are sectional views, like those shown in Figs. 1 and 2, of still another modification embodying our invention. Fig. 10 is an end elevation of the pitman-head, and Fig. 11 shows details of the key employed therein.

Although for convenience of illustration we have shown our improvements in connection with a pitman or connecting-rod head,

they are equally applicable to other bearings, such as pillow-blocks, hangers, &c.

Referring to Figs. 1, 2, and 3, A represents a pitman-head having the bore *a* to receive the journal and on one side thereof a slotted extension, in which is fitted an adjustable bearing block or brass B. The slotted opening for the reception of the brass B is made of smaller diameter or width than the bore *a* for the journal, so as to permit of its being formed by a milling-tool entered through the bore *a*. The brass B may also be formed by milling-tools to fit said slotted opening without hand-work. Through the head A, transversely to the bore *a* and intersecting or opening into its slotted extension, is formed a cylindrical key-seat *c*, oblique to the axis of the head or to the direction of the movement of the brass B, and in said seat is fitted a key C, conveniently formed of round rolled iron or steel and cut away on one side between the ends to form a bearing-surface inclined to its axis. In the rounded back of the brass B is cut a slot to receive the key C, the inclined face of which bears against the plain bottom of said slot when the parts are associated, as shown in Figs. 1 and 2.

The round hole or cylindrical key-seat *c* is drilled and finished by a reaming-tool, and is much less expensive to make than the ordinary squared key-seat, which requires exact hand-fitting. In fact, the several parts constituting the entire device are produced complete by machine-work, and the hand-work necessary in fitting the key, key-seat, gibbs, &c., of an ordinary strap or pitman head is entirely dispensed with by our construction, which thus effects a great saving in the cost of manufacture.

A great advantage over the ordinary method of construction accrues from our invention in that any number of parts may be made exactly alike, rendering the parts of one bearing interchangeable with those of another.

To move the key C lengthwise in its seat for the purpose of adjusting the brass B, we provide two adjusting-screws D D, threaded into the ends of said key and bearing at their heads on washers *d d*, placed over the ends of the key-seat *c*. By turning one screw in and

the other out the key is moved as desired, and by screwing the heads of both snugly against the washers the key is locked in place.

5 Referring to Figs. 4, 5, 6, and 7, the cylindrical key-seat c' is bored at right angles to the longitudinal axis of the head A' , the key C' is made longer, so as to project beyond the faces of the head at the ends of said key-
10 seat, and is cut down on one side from end to end to form a bearing-surface inclined to its axis, and a set-screw E , working in a threaded opening in the side of the head into the key-seat, is provided to lock the key in place.

15 Referring to Figs. 8, 9, 10, and 11, the key-seat c^2 is bored straight through the head A^2 , as in Fig. 4. The key C^2 is made shorter than the seat c^2 and has a threaded perforation passing longitudinally through it from
20 end to end.

D' D' are adjusting-screws working in opposite ends of said perforation and passing through and bearing against washers $d' d'$, placed over the ends of the key-seat in de-
25 pressions formed therefor in the faces of the head A^2 .

The adjusting-screws $D D$ (shown in Fig. 1) and the adjusting-screws $D' D'$ (shown in Figs. 8 and 10) may be formed with suffi-
30 ciently wide heads to overlap the ends of the cylindrical key-seat and bear upon the adjacent faces of the pitman-head, so as to dispense with the washers $d d$ or $d' d'$.

Our improvements may be applied to strap-
35 heads as well as solid pitman-heads, and to pitman-heads having two brasses or adjustable bearing-blocks as well as to those having but one, and various changes in the details of construction and arrangement of the
40 parts composing our improved bearing may be made without departure from the spirit and intent of our invention.

We claim—

1. The combination, with a head or block
45 having a recessed bore and a cylindrical key-seat, of a bearing-block inserted and adjustable in said head or block, and a key adapted to said cylindrical key-seat and having one of its sides inclined to its axis, substantially
50 as and for the purposes set forth.

2. The combination, with a block or head having an adjustable bearing-block and a cylindrical key-seat transverse to the direc-
55 tion in which said adjustable bearing-block is movable, of a key adapted to said cylindrical key-seat and having on one side a surface inclined to its axis, whereby said adjust-

able bearing-block may be moved in the block or head in which it is inserted by the end-
wise movement of said key, substantially as 60 and for the purposes set forth.

3. The combination, in a bearing having a relatively fixed and a relatively movable bearing part and a cylindrical key-seat trans-
verse to the direction in which said movable 65 bearing part is moved, of a key adapted to said cylindrical key-seat and having on one side a bearing-surface inclined to its axis and presented to said movable part, substantially as and for the purposes set forth. 70

4. The combination, with a head having an adjustable bearing-block and a cylindrical key-seat, of a key adapted to said cylindrical seat and having an inclined bearing-surface presented to said adjustable block, and an
75 adjusting-screw engaging with said key and arranged to move it lengthwise in its seat, substantially as and for the purposes set forth.

5. The combination, with a head having an
80 adjustable bearing-block and a cylindrical key-seat oblique to the direction of movement of said bearing-block, of a key having a bearing-surface inclined to its axis pre-
sented to said block, substantially as and for 85 the purposes set forth.

6. The combination, with a head having an adjustable bearing-block and a cylindrical key-seat passing through the recess in which
said bearing-block works, of a key having a 90 bearing-surface inclined to its axis, adjusting-screws engaging screw-threaded openings in the ends of said key, and washers placed over the ends of the key-seat and furnishing
bearings for said adjusting-screws, substan- 95 tially as and for the purposes set forth.

7. In an adjustable bearing, the combina-
tion, with a block or head having an eye or bore for the reception of a journal, and a
slotted recess opening at one end into said 100 bore and half-round at the other end, of less width or diameter than the diameter of said eye or bore, of an adjustable bearing-block inserted in said recess and concaved on one
side to fit said journal, substantially as and 105 for the purposes set forth.

In testimony that we claim the foregoing as our own we affix our signatures in presence of two witnesses.

BRUNO VICTOR NORDBERG.
CONRAD M. CONRADSON.

Witnesses:

JAMES SKIBA,
CHAS. L. GOSS.