

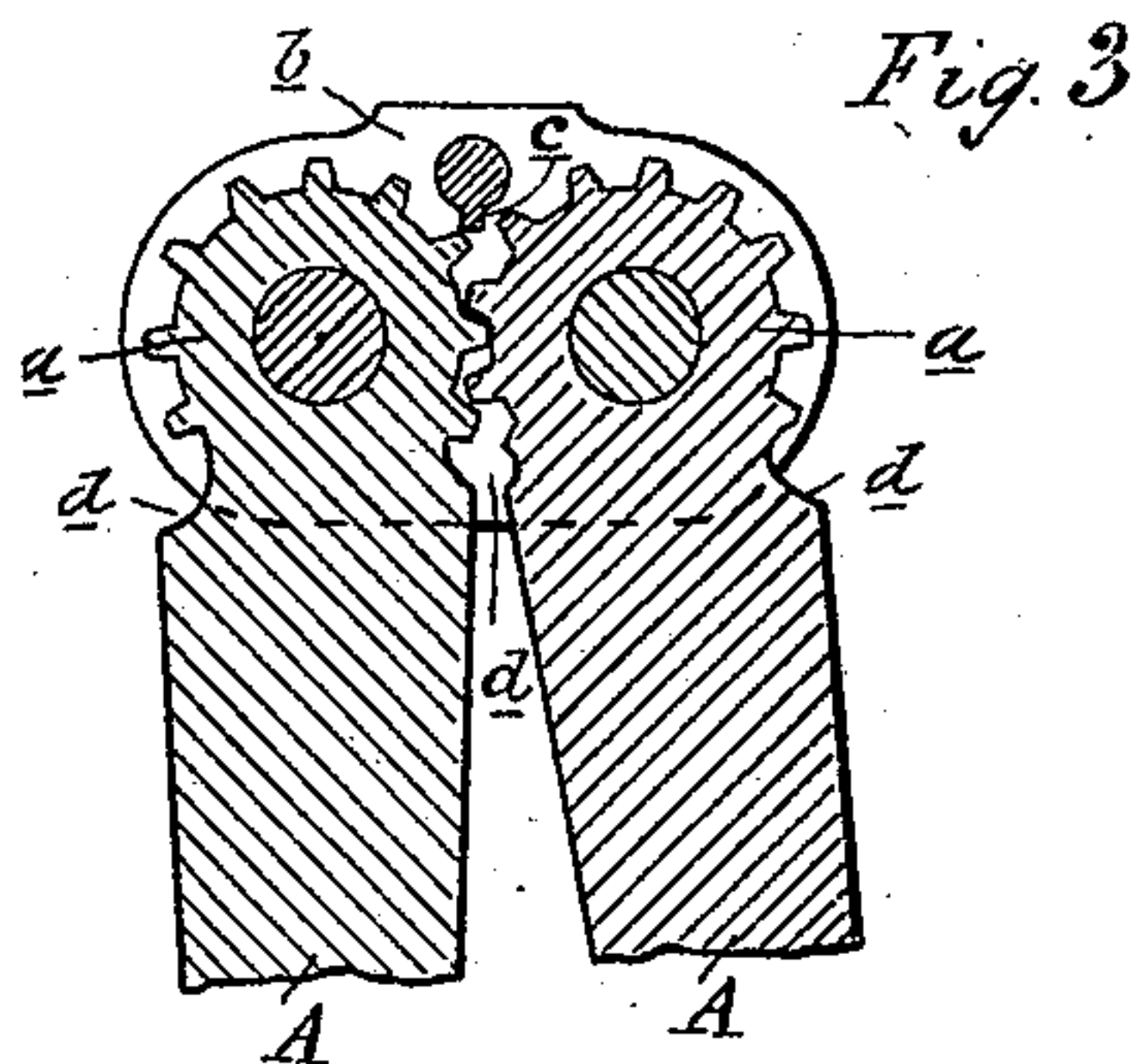
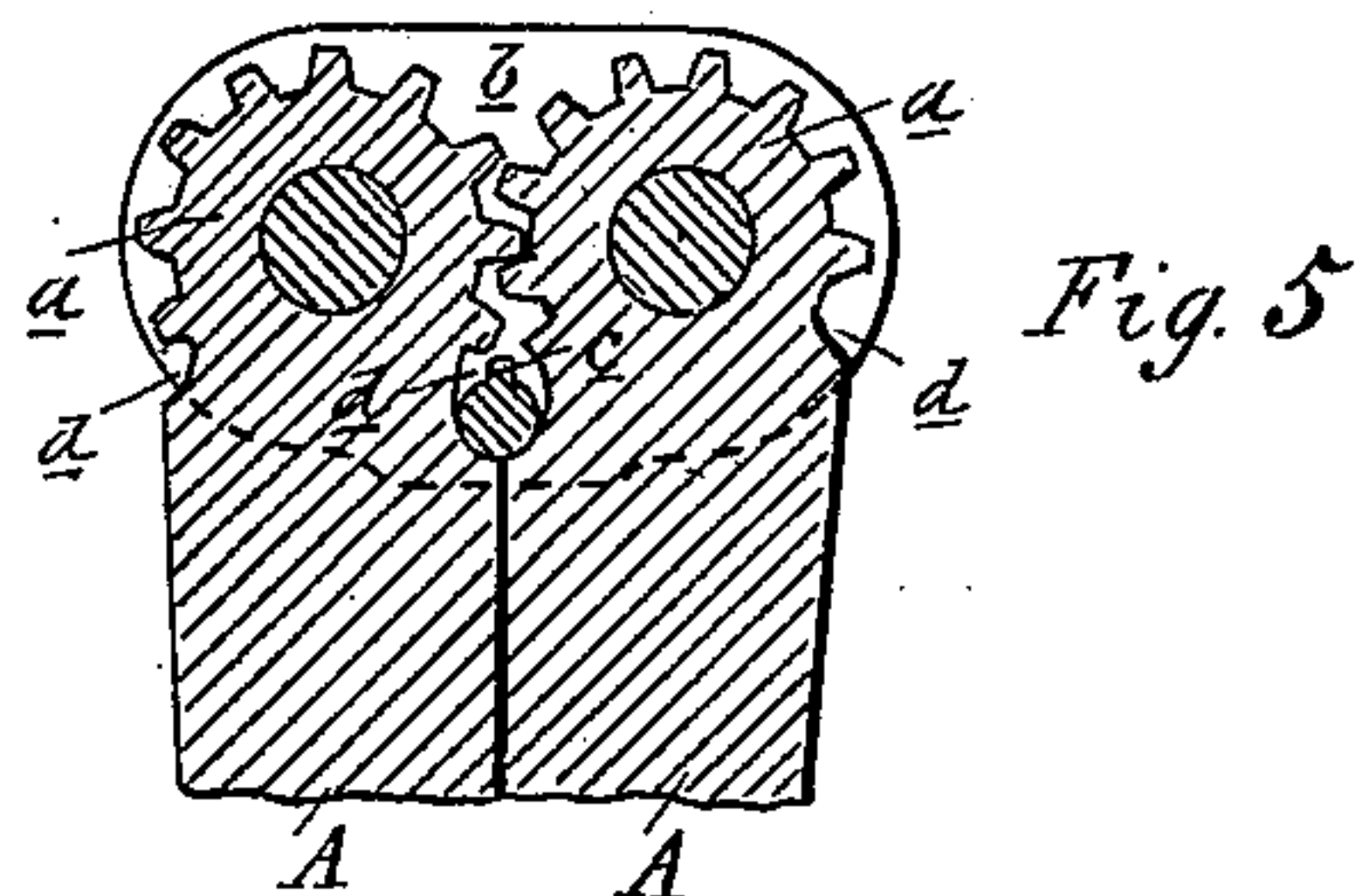
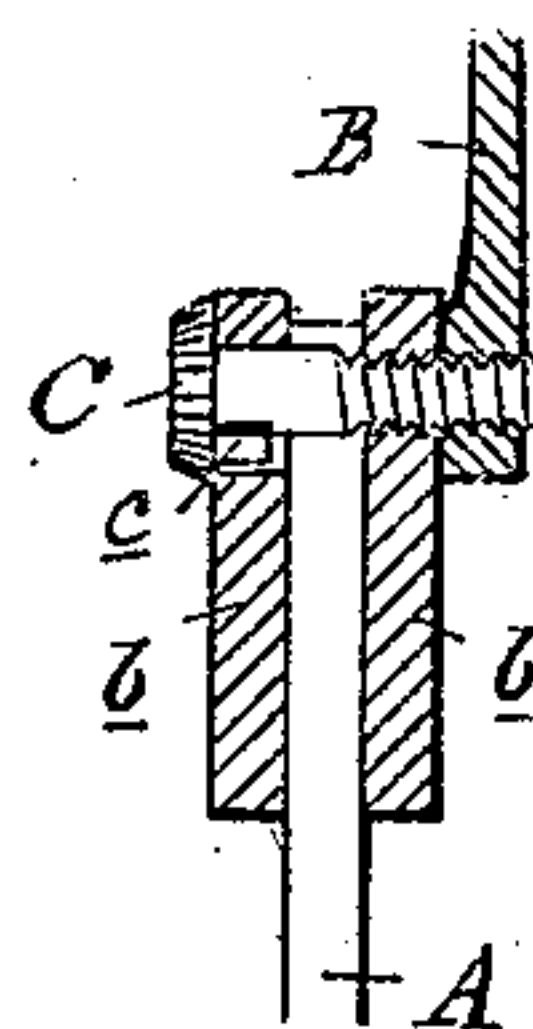
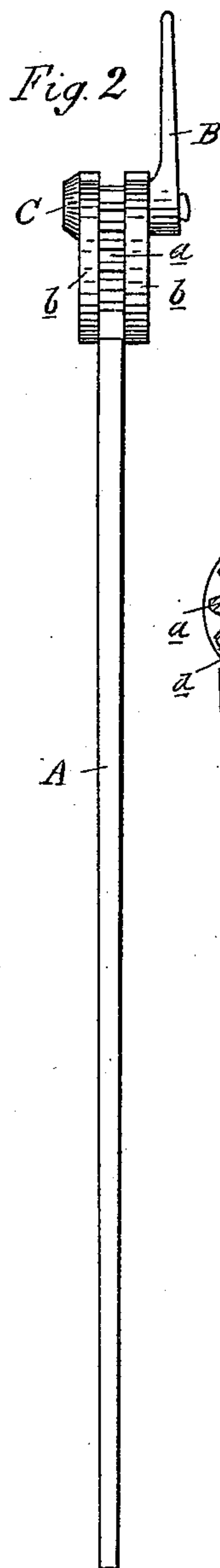
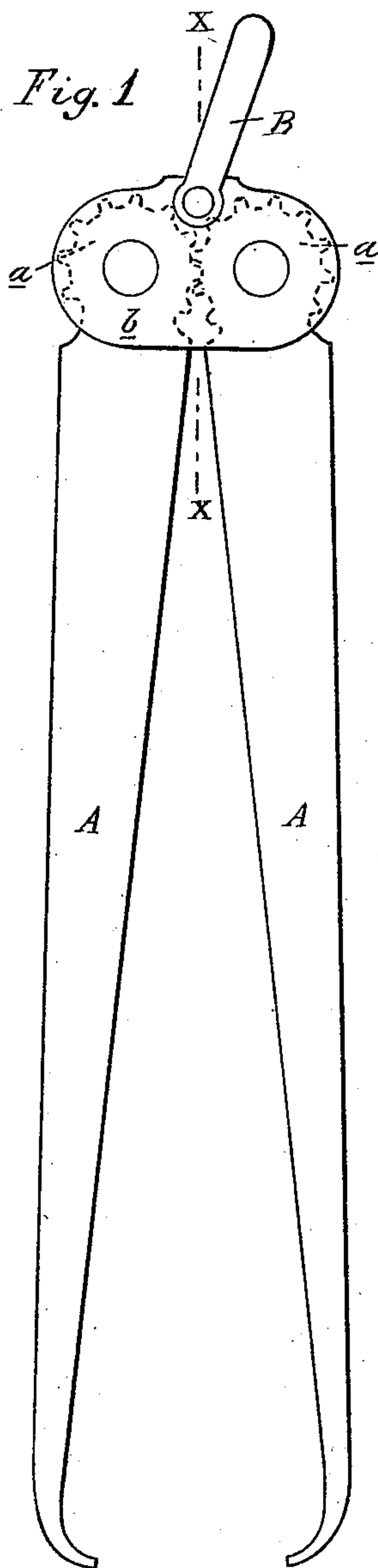
(No Model.)

C. BOVENSIEP.

CALIPERS.

No. 297,492.

Patented Apr. 22, 1884.



Attest
J. Paul Mayer
By *[Signature]*

Inventor
Charley Bovensiep
By *Thos. S. Sprague* Atty

UNITED STATES PATENT OFFICE.

CHARLEY BOVENSIEP, OF DETROIT, MICHIGAN.

CALIPERS.

SPECIFICATION forming part of Letters Patent No. 297,492, dated April 22, 1884.

Application filed February 23, 1884. (No model.)

To all whom it may concern:

Be it known that I, CHARLEY BOVENSIEP, of Detroit, in the county of Wayne and State of Michigan, have invented new and useful
5 Improvements in Calipers; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

10 This invention relates to certain new and useful improvements in the construction of calipers, by means of which each leg thereof has its independent point of pivot, in contradistinction to those which have a pivotal
15 point common to both of the legs and adapted to be reversed, so that the same implement can be used at will, as inside or outside calipers, and provided with a locking device, which, while it does not interfere with the
20 perfect working of the implement, will perfectly lock the legs in any position in which they may be placed for use.

The invention consists in the peculiar construction of the parts and their combination,
25 as more fully hereinafter described.

Figure 1 is a plan view, partially in section, showing my improved implement. Fig. 2 is a side elevation of the same. Fig. 3 is a sectional elevation of the head or upper end.
30 Fig. 4 is a vertical central section on the line X X in Fig. 1. Fig. 5 is a sectional elevation of the head when the implement is employed as an inside calipers.

In the accompanying drawings, which form
35 a part of this specification, A A represent the two legs of a pair of calipers, the upper end of each leg terminating in an enlarged toothed segment, *a*, and these heads are pivotally secured between the plates *b b* in such manner,

as shown, that the teeth of each engage with
40 each, as shown. B is a lever-nut engaging with the threaded end of the bolt C, which passes through said plates, and adapted, when tightened upon the bolt, to lock the legs in
45 any desired position. This bolt is prevented from turning, under the actuation of the lever-nut, by a feather, *e*, upon the shaft of the bolt, which enters a corresponding slot in the
50 plate adjacent to the head of such bolt.

So far the implement has been described as
an outside calipers.

To enable the device to be used as an inside calipers the outer edges of the legs are recessed, as at *d*, for the purpose of allowing
55 such recesses, when the position of the legs is reversed to perform inside work, to embrace the bolt, as shown in Fig. 5, the lever-nut being employed to lock them, as in the first instance.

A like construction may be applied to the
60 legs of compasses within the spirit of my invention.

What I claim as my invention is—

1. A calipers consisting of the legs A, each
65 terminating in a toothed segment, and each leg being independently pivoted between the plates *b b*, through which passes the bolt C, provided with a lever locking-nut, substantially as described.

2. In a calipers having a locking-bolt, the
70 legs A, having recesses *d*, adapted to inclose or embrace the locking-bolt when the legs are reversed to form inside calipers, substantially as specified.

CHARLEY BOVENSIEP.

Witnesses:

H. S. SPRAGUE,
J. PAUL MAYER.