

(Model.)

W. H. MITCHELL.
CALIPERS AND DIVIDERS.

No. 286,469.

Patented Oct. 9, 1883.

Fig. 4

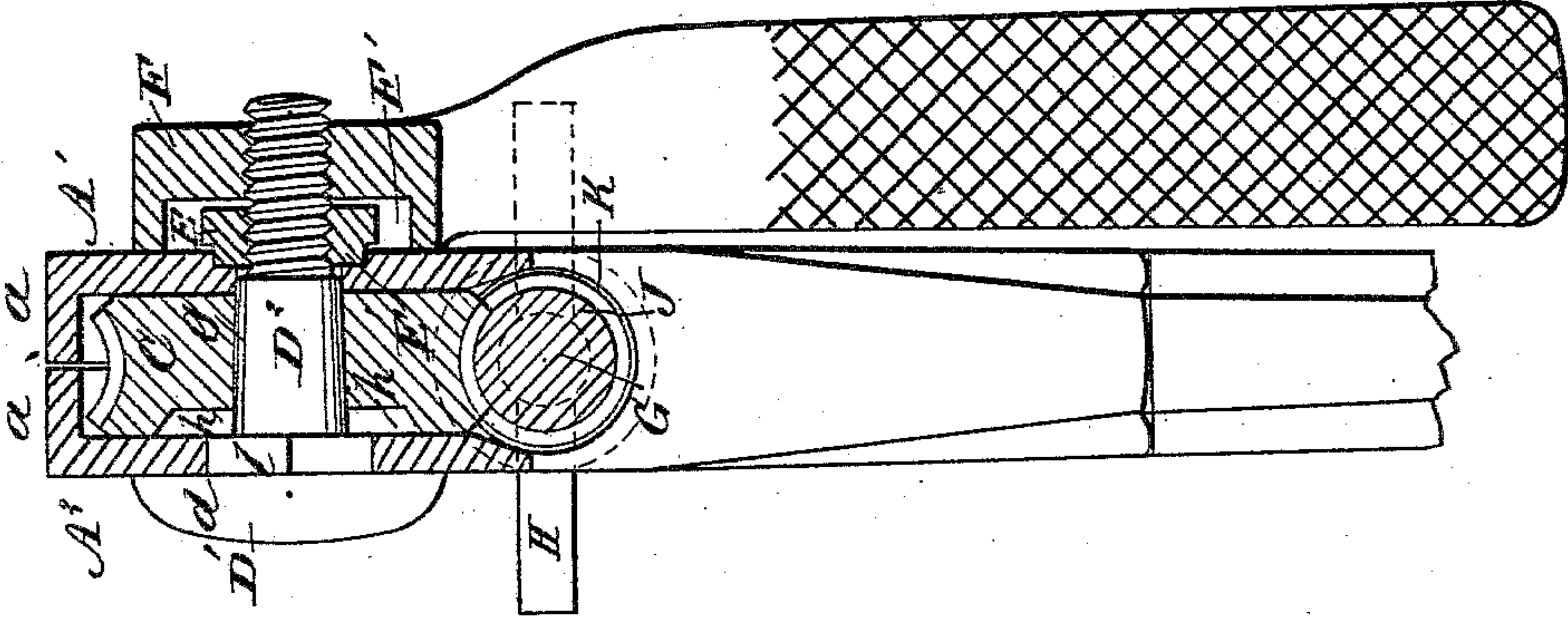


Fig. 3

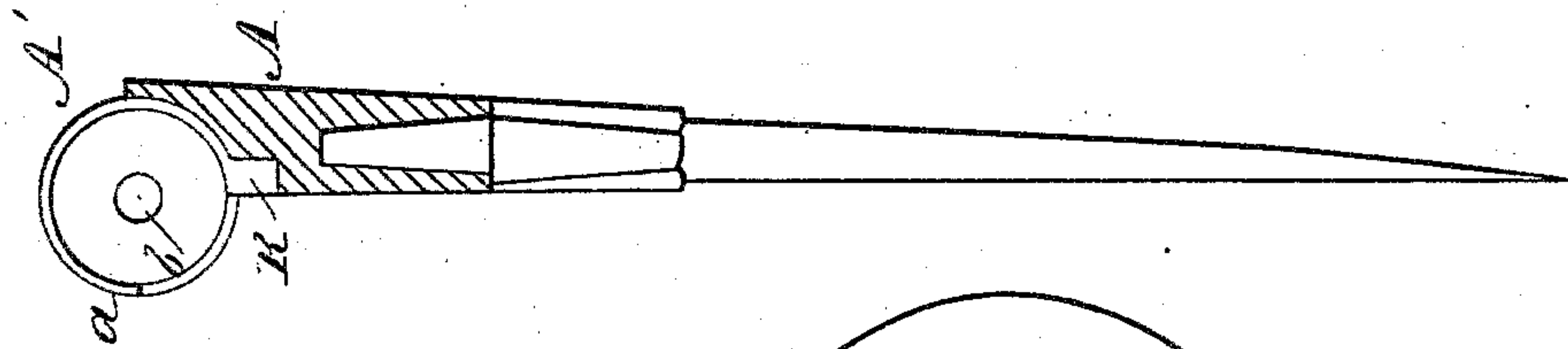


Fig. 2

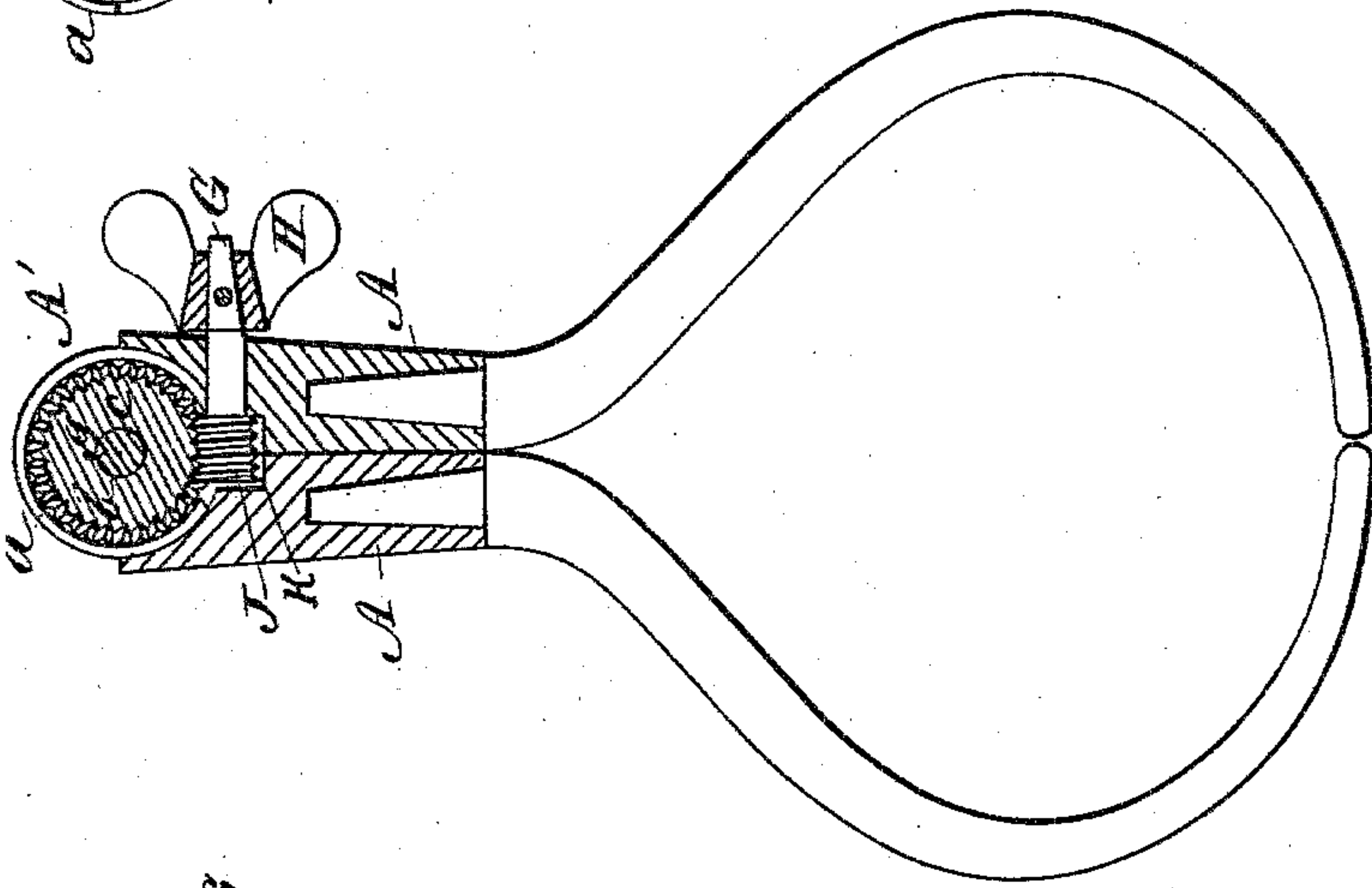
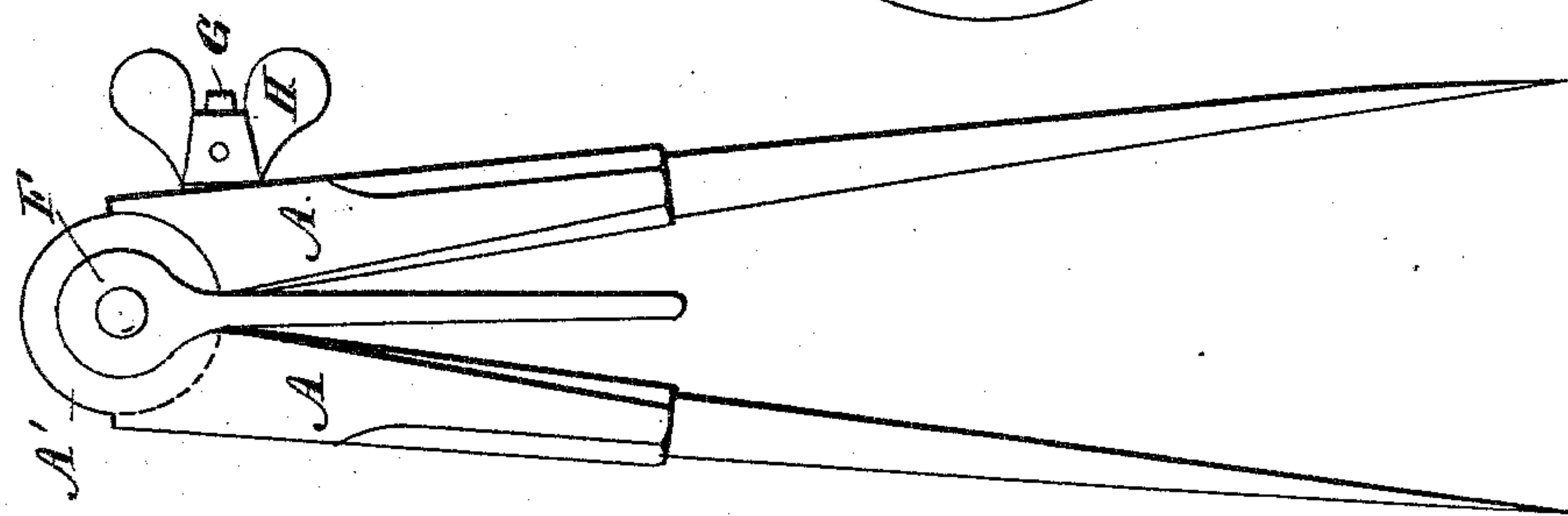


Fig. 1



WITNESSES:

C. Stevens
C. Sedgwick

Fig. 5

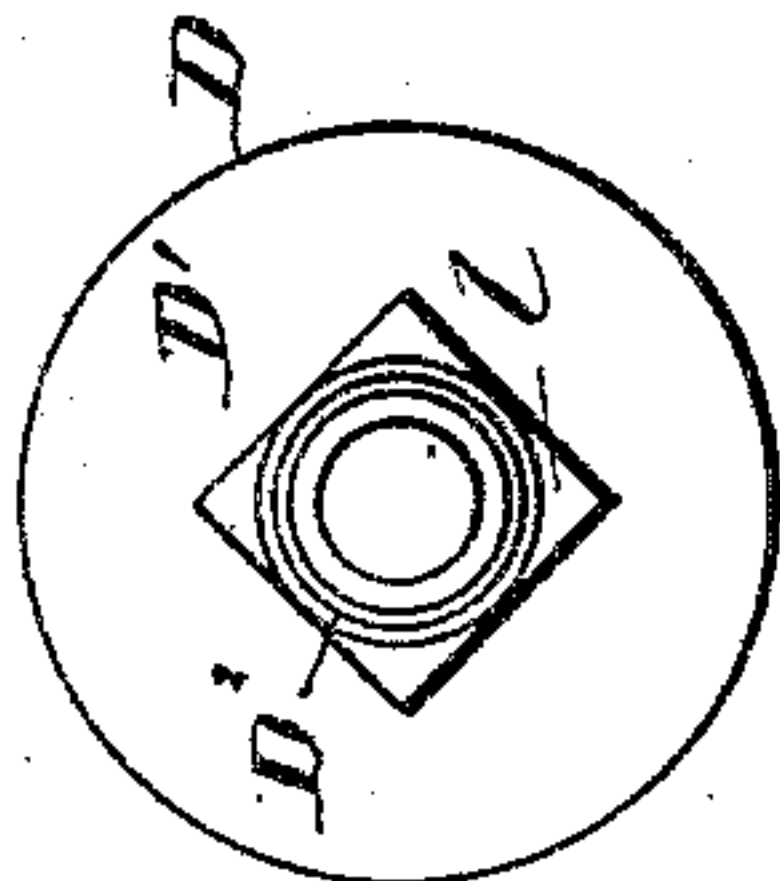
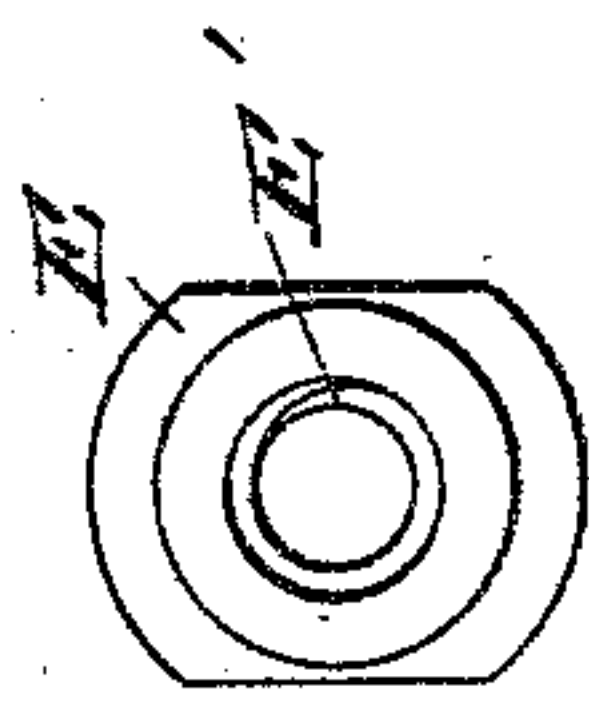


Fig. 6



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WILLIAM H. MITCHELL, OF BOSTON, MASSACHUSETTS.

CALIPERS AND DIVIDERS.

SPECIFICATION forming part of Letters Patent No. 286,469, dated October 9, 1883.

Application filed June 13, 1883. (Model.)

To all whom it may concern:

Be it known that I, WILLIAM HOLLAND MITCHELL, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and Improved Calipers and Dividers, of which the following is a full, clear, and exact description.

The object of my invention is to provide new and improved calipers or dividers which have devices for accurately and readily adjusting the distance from the point of one leg to the point of the other leg.

The invention consists in a pair of dividers or calipers provided in the joint with a disk having a worm-threaded edge with which a screw-pintle engages, which is held loosely in one of the legs, thus permitting the points to be adjusted accurately by turning the screw after the legs have been adjusted in the usual manner. The worm-threaded disk is provided with one flat surface and with a recessed surface, so that the friction on one surface will be greater than on the other, so that the disk will be held on the cap of one leg by friction while adjusting the points by turning the screw, all as will be fully set forth and described hereinafter.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side view of a pair of my improved dividers. Fig. 2 is a longitudinal sectional elevation of a pair of calipers. Fig. 3 is a sectional view of one of the legs of the dividers. Fig. 4 is an enlarged detail cross-sectional elevation of the front of the same. Fig. 5 is a back view of the joint-bolt. Fig. 6 is a face view of the nut.

The dividers are constructed with two legs, A, each of which is provided at its upper end with a disk, A' or A², each having an annular flange, a, forming a circular cap. The disk A' is provided with a circular aperture, b, and the disk A² is provided with a square aperture, d.

A disk, C, is provided in its edge with a worm-thread, and has a central aperture, g. One surface of the disk is made flat, and the other side is provided with a circular recess, h, forming a raised annular part, so that the

friction-surface on one side of the disk will be smaller than on the opposite side.

A bolt, D, provided with a head, D', has a tapering shank, D², the free end of which is screw-threaded. A squared part, l, is formed at the head end, which squared part fits into the square aperture d of the disk A².

The disk C is placed in the caps formed by the disks A' A², the edges of the flanges a resting against each other, and the bolt D is passed through the apertures in the caps and in the disk C. A nut, E, is provided on one side with an annular projection, E', which fits in an annular groove or recess around the outer edge of the aperture b in the disk A', which nut is drawn up tight. A screw-key, F, is then screwed on the threaded end of the bolt D. A pintle, G, is held loosely in one of the shanks or legs A, directly below the disk A², one end projecting from the inner and the other from the outer edge of the leg. On the outer end of the pintle wings H are fastened, and on the inner enlarged end, J, a screw-thread is cut, which engages with the worm-thread of the disk C. Each leg A is provided at the upper end of the inner edge with a recess, K, forming a cavity adapted to receive the screw-threaded part J of the pintle. The legs A can be provided with fixed or removable legs of different shapes or forms. The key F is provided with a recess, F', so that the edges can pass against the disk A'.

The operation is as follows: If the dividers or calipers are to be opened or closed, the nut F is unscrewed or loosened, and then the legs are separated or moved toward each other. The flat surface of the disk C rests against the inner surface of the disk A', so that the friction on the disk A' will be greater than on the disk A², against which the recessed side of the disk C rests, which disk A² is on the leg A, through which the pintle G passes. The nut E presses the surfaces of the disks A' A² against the surfaces of the disk C. If the legs are separated or pressed together, the disk C moves with the leg through which the pintle G passes, which pintle holds the disk C. If the pintle G is turned by means of the wings H, the friction will hold the disk C on the disk A', against which the flat surface of the disk C rests, and the legs will be separated or brought

together, for if the disk C is held to the disk A' and the pintle G is turned it travels on the edge of the disk C, and as the pintle is held in one leg, the said leg will be moved toward or from the other leg. If the legs are pressed together or separated by hand, the flat surface of the disk C must slide or turn on the inner surface of the disk A'. The disk C can easily be held by friction on the disk A', as that surface of the disk C presented to the disk A' is made greater than the surface presented to the disk A². After the dividers have been set in the usual manner, the points can be adjusted short distances very accurately.

The above-described improvement can be applied on all kinds of dividers. After the legs have been set, they are locked in place by the screw-key F.

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

1. Calipers or dividers having a worm-threaded disk held within the joint and a screw-spindle held in one shank or leg, substantially as herein shown and described, and for the purpose set forth.

2. In calipers or dividers, the combination, with the legs, of a worm-threaded disk held in the joint, a joint-bolt, a nut screwed on the joint-bolt, and a screw held in one of the shanks or legs, the said screw engaging with the worm-threaded disk, substantially as herein shown and described, and for the purpose set forth.

3. In calipers or dividers, the combination, with the legs, of a worm-threaded disk held in the joint of a joint-bolt passed through the disks and the worm-threaded disk, a nut screwed on the said bolt, a key screwed on the said bolt and over the nut, and a screw held in one of the shanks or legs, the said screw engaging with the worm-threaded disk, substantially as herein shown and described, and for the purpose set forth.

4. In calipers or dividers, the combination, with the legs, of a worm-threaded disk held in the joint, which disk is flat on one side and has a recess in the other side, a joint-bolt passing through the joint-disks and the worm-threaded disk, a nut screwed on the bolt, and a screw held in one of the shanks or legs, the said screw engaging with the worm-threaded disk, substantially as herein shown and described, and for the purpose set forth.

5. In dividers or calipers, the combination, with the legs A A, having disks A' A² and recesses K K, of the worm-threaded disk C, held between the disks A' A², the screw joint-bolt D, the nut E, the screw-key F, and the screw J, held in one of the legs and engaging with the worm-threaded disk C, substantially as herein shown and described, and for the purpose set forth.

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Witnesses:

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