

(No Model.)

H. SUERSTEDT.
CALIPERS OR DIVIDERS.

No. 414,954.

Patented Nov. 12, 1889.

Fig. 1.

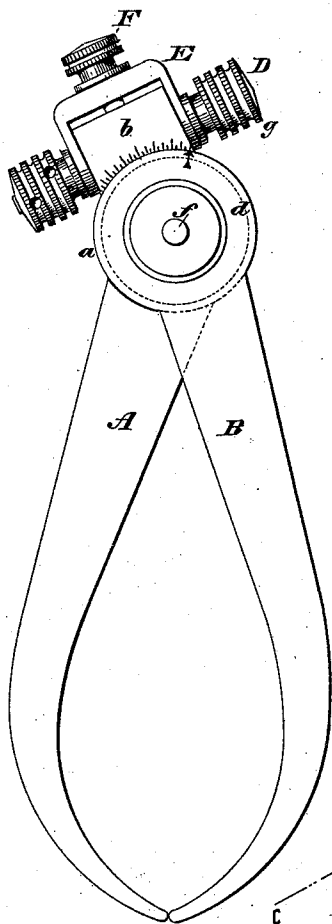


Fig. 2.

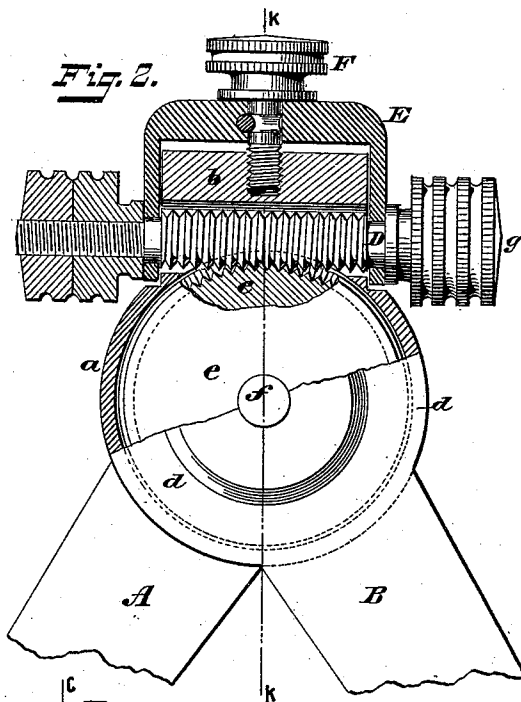


Fig. 3.

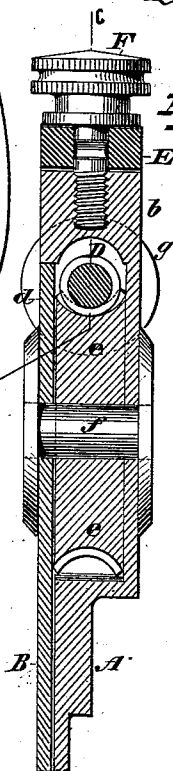
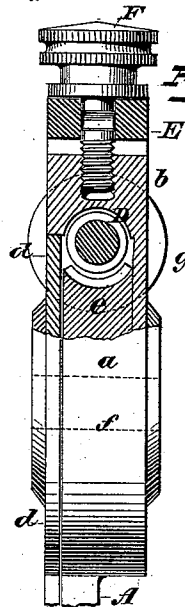


Fig. 4.



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CALIPERS OR DIVIDERS.

SPECIFICATION forming part of Letters Patent No. 414,954, dated November 12, 1889.

Application filed March 20, 1889. Serial No. 303,994. (No model.)

To all whom it may concern:

Be it known that I, HERMANN SUERSTEDT, a resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Calipers, Dividers, and the Like, reference being had to the accompanying drawings, forming part hereof, in which—

Figure 1 is a face view of my improved calipers. Fig. 2 is an enlarged face view, partly in section, of the joined portion thereof. Figs. 3 and 4 are cross-sections on the line *k*, Fig. 2, showing the parts in different positions.

The object of this invention is to provide dividers and analogous tools with means for locking their legs in definite positions, and with means, also, for allowing the most exact adjustment of said legs in determining the distance between them.

The invention consists, principally, in combining with the movable jaw or member of such an instrument an adjustable worm which can be thrown into gear with the movable jaw or out of gear therewith, as may be desired.

The invention also consists of other details of improvement, that are more fully herein-after specified.

In the accompanying drawings, the letter A represents one leg or member, and the letter B the other leg or member, of a pair of calipers; but for the purpose of this specification I shall call the leg A the "stationary leg" and the leg B the "movable leg." The stationary leg A carries a circular socket *a* and above the same a block or projection *b*. The movable leg B carries a disk *d*, which is adapted to cover the socket *a*, and it carries also a worm-wheel *e*, which is adapted to enter said socket. The members A B are united by the pivotal pin *f*, that may be rigidly secured to one of them or otherwise held in place. The member B can travel on the pivot *f* as a center, and when so traveling varies its distance from the member A.

D is a worm which passes through the block *b* and has its bearings in a yoke E, that straddles the block *b*, as shown. A screw F connects the yoke E with the block *b*, and when turned will lift or lower said yoke, and with

it the worm D. When lowered, the worm D engages with the teeth of the worm-wheel *e*; but when raised the worm D is free from said worm-wheel, as in Fig. 4. The worm D carries suitable handles *g*, by means of which it may be turned.

The operation of the apparatus described is as follows: When the screw F is turned to lift the worm D out of gear, the member B will be perfectly free to swing on its pivot *f*, as in ordinary calipers, dividers, and the like, and can then be used to determine distances in the usual manner; but when the screw F is turned to bring the worm D into operative gear with the wheel *e* the member B can no longer be turned on its pivot *f*, except by turning the worm D by means of its handle *g*, and hence by turning said worm a very accurate and exact adjustment of the distance between the two legs A B is obtained. Fig. 2 shows the operative position for adjusting the angle of the legs A B by means of the worm D. By still further screwing down the yoke E into the position shown in Fig. 3 the worm D will be pressed against the wheel *e* with sufficient tightness to prevent any further motion of the legs, thus locking the instrument in the desired position.

Thus it appears that with my invention I can use calipers, dividers, or the like with absolute freedom in the ordinary manner, or I can use them by throwing the movable member into gear with the worm D, and then use them by turning said worm, and I also can lock the instrument into a suitable position, so that when once found such position cannot be disturbed until the screw F is again turned. A suitable scale may be arranged on the block *b* and disk *d*, as in Fig. 1, for measuring the distance between the legs A B.

Having now described my invention, what I claim is—

1. In calipers, dividers, or the like, the members A B, the member A being pivotally connected with the member B, in combination with the worm-wheel *e*, which is rigidly connected with the member B, adjustable support E, and worm D, carried by the adjustable support E and adapted to be moved in and out of gear with the worm-wheel *e* by the

movement of the adjustable support, substantially as described.

2. The combination of the worm D, yoke or support E, carrying said worm D, screw F, supporting the yoke E, and block b, carrying
5 the screw F, with the leg A, rigidly connected to the block b and with the leg B and worm-

wheel e, rigidly connected with leg B, as specified.

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Witnesses:

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