F. O. WASHBURN

Calipers.

No. 45,894. Patented Jan. 10, 1865.

Fig. 2

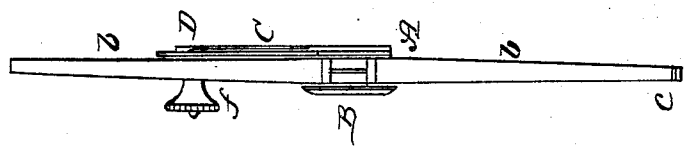
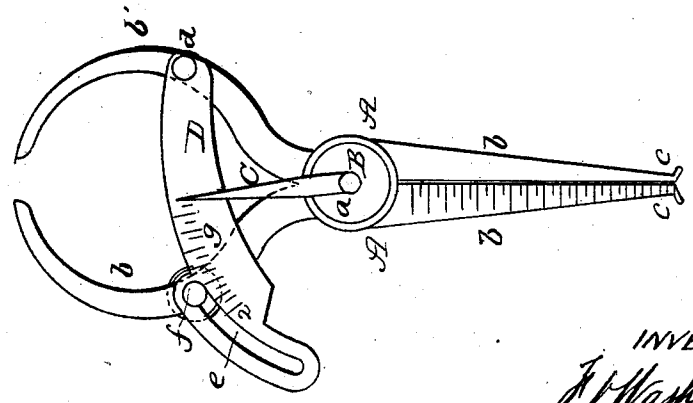


Fig. 1



WITNESSES

J. W. Coombs

G. W. Reed

INVENTOR

F. O. Washburn

by Munn & Co

attys.

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UNITED STATES PATENT OFFICE.

F. O. WASHBURN, OF MILLVILLE, MASSACHUSETTS, ASSIGNOR TO HIMSELF AND JOHN C. SCOTT, OF SAME PLACE.

IMPROVEMENT IN CALIPERS.

Specification forming part of Letters Patent No. 45,894, dated January 10, 1865.

To all whom it may concern:

Be it known that I, F. O. WASHBURN, of Millville, in the county of Worcester and State of Massachusetts, have invented a new and useful Improvement in Calipers; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable any person skilled in the art to make and use the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side view of a pair of calipers constructed according to my invention; Fig. 2, an edge view of the same.

Similar letters of reference indicate the same parts.

This invention consists in the arrangement of the index and graduated plate by which the distance between the ends of the prongs is indicated.

By means of this improvement the use of two separate tools, as is now required for the purpose, is avoided.

A A represent two bars which cross each other and are connected together by a joint, B, which may be constructed in the usual way or in any proper manner. The pintle *a* of this joint has an index C, attached to one end of it. The prongs *b b* at one side of the joint B are straight, but may be made of slightly taper form, and have each a small spur or projection, *c*, extending laterally from their outer ends, as shown clearly in Fig. 1, and one of said prongs *b* may be graduated into inches and fractional parts thereof to serve as a measure or rule, as is also shown in Fig. 1. The prongs *b′ b′* at the other side of the joint B are curved nearly in semicircular form, like those of an ordinary pair of calipers, (see Fig. 1,) and these prongs project from the joint B the same distance as the prongs *p*—that is to say, in a straight line without considering the extent of the curvature of the prongs *p′*. Hence it will be seen that when the prongs are moved and adjusted at one end, those at the opposite end will be correspondingly moved as the joint B is equidistant between the extreme ends of the prongs *b b b′ b′*.

To one of the curved prongs *b′* there is attached by a pivot, *b*, a plate, D, which is slightly curved and projects across the other prong, *b′*, and has a curved slot, *e*, made in it, through which a set-screw, *f*, passes into the other prong, *b′*. The plate D is graduated, as shown at *g*, and the index C works over the graduated portion *g* of said plate, and indicates the extent of the space between the ends of the prongs. The calipers may be set accurately by means of this index and the graduations on plate D.

From the above description it will be seen, that if a piece of shafting is to be turned to fit into a hole or bearing of a certain diameter, the prongs *b* are set to correspond to the desired diameter of the hole at the same time the prongs *b′* are set to correspond to the desired diameter of the shafting, and hence the trouble of setting two different implements to effect this end is avoided, and a very convenient and useful implement obtained.

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

The index C and graduated plate D, when arranged and applied to the calipers, substantially as and for the purpose specified.

F. O. WASHBURN.

Witnesses:

T. T. SMITH,

O. A. FAIRBANK.