(No Model.)

# E. SAUTER.

## CALIPER GAGE.

No. 285,684. Patented Sept. 25, 1883.

*Fig. 1.*

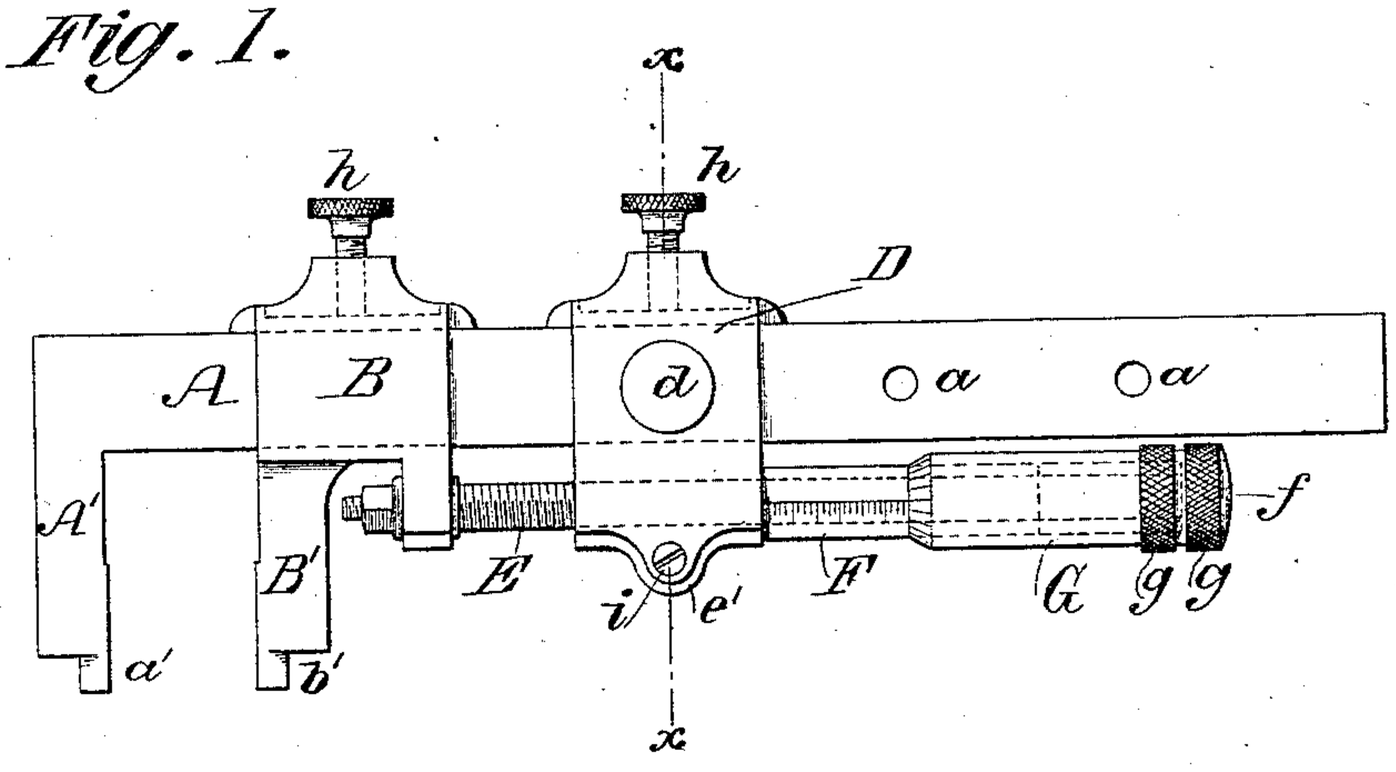



*Fig. 2.*

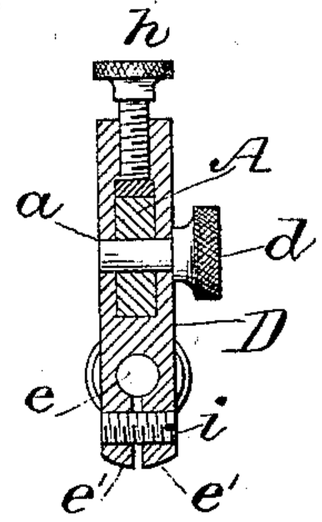
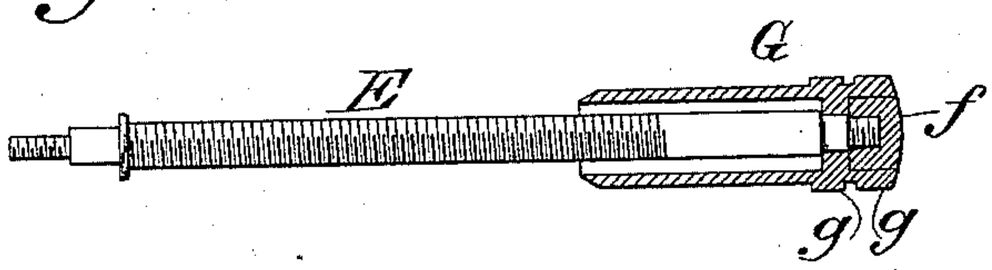



*Fig. 3.*

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EDUARD SAUTER, OF HARTFORD, CONNECTICUT.

## CALIPER-GAGE.

SPECIFICATION forming part of Letters Patent No. 285,684, dated September 25, 1883.

Application filed June 6, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, EDUARD SAUTER, of Hartford, in the county of Hartford and State of Connecticut, have invented a new and Improved Caliper-Gage, of which the following is a full, clear, and exact description.

This invention relates to that class of caliper-gages arranged to be set by means of a screw and micrometer-gage graduations, whereby both internal and external measurements may be accurately made; and it consists in the construction and combination of parts hereinafter described and claimed, whereby the instrument may be quickly adapted to apply the same degree of accuracy in measurement either to short or long distances.

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 elevation of my new and improved caliper-gage. Fig. 2 is a transverse sectional elevation of the same, taken on the line *x x* of Fig. 1; and Fig. 3 is a sectional elevation of the screw and graduated sleeve removed from the gage.

A represents the beam of the gage. This is formed with the transverse holes *a a* through it, which are one inch apart, and with the right-angled arm A′ at one end, which is pointed or reduced in size, as shown at *a′;* and B represents a sliding jaw placed upon the long arm of the beam A, so that the arm B′ thereof stands parallel with the arm A′ of the beam A, and this arm B′ is also pointed or reduced in size, as shown at *b′*, to correspond with the arm A′, and is of the same length as the said latter arm A′.

D is a block or yoke adapted to slide upon the long arm of the beam A, but may be made fast to the beam by the pin *d* passing through it and through one or other of the holes *a*, and it is screw-tapped below and parallel with the lower edge of the beam A, as shown at *e*, Fig. 2, for receiving and holding the screw-rod E, which is attached by a suitable nut and collar at its forward end to the jaw B, for sliding jaw B upon the beam A to and from the arm A′ for making both internal and external measurements.

To the rear edge of the yoke D, parallel with the screw-tap *e*, is formed or secured the sleeve F, which, in this instance, is graduated for the space of one inch into fifty equal parts, and constitutes the stationary graduation of the tool.

G is a revolving graduated sleeve, which is attached to the outer end of the screw E, and is divided into twenty equal parts, and in connection with the graduated sleeve F constitutes the complete graduation of the tool, acting on the well-known "micrometer-gage" principle.

The graduated sleeve G surrounds the stationary graduated sleeve F, and is clamped to the rear end of the screw E by the nut *f*, as shown in Fig. 3, and is milled, as shown at *g g*, to facilitate the turning of the screw-rod E for moving the jaw B to and from the arm A′. By means of the nut *f*, which is screwed upon the rear end of the rod E, the said rod E may be adjusted in the first instance while assembling the parts of the tool, or for taking up any wear occasioned by the use of the tool independently of the sleeve G, so that in order to set the tool in any instance it is only necessary to place the standard-piece between the arms A′ and B′ and to set the jaw B′ firmly against it, and then loosen nut *f* and set scales F G at zero, and then turn the nut *f* to fasten the sleeve G upon screw E.

The jaw B and sliding yoke D are each provided with thumb-screws *h h*, by which the same may be held fast to the beam A.

To take up any wear of the screw-rod E in the screw-tap *e*, I split the lower edge of the yoke D to form the members *e′ e′*, which are screw-tapped to receive the screw *i*, by which the members *e′ e′* may be drawn together and clamped upon the screw-rod E.

By means of the holes *a a* and the sliding yoke D and removable pin *d*, it will be seen that the jaw B and yoke D may be moved backward on the beam A to extend the measuring capacity of the gage to any desired length, according to the length of the beam, without interfering with the convenience of the gage or with its accuracy, which is one of the principal advantages of the gage.

Another advantage of my new and improved caliper is that it can be set with greater ease and more accuracy than the vernier-gage, since any deviation in the registration of the lines of the graduations will not amount to more

than one ten-thousandth part of an inch, while with the vernier-gage the breadth of a line will make a variation in the measurement of nearly one-thousandth part of an inch. Furthermore, my improved gage is simple, and can be used by anybody at first sight, and is cheap and durable, and is adapted for a great variety of work.

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

1. The beam A, formed with arm A′, in combination with jaw B, fitted to slide on beam A, yoke D, provided with the graduated sleeve F, adapted to slide on beam A, and to be made fast thereon at different points, the screw E, journaled to revolve in jaw B, and engaging a screw-thread in yoke D, and the graduated sleeve G on screw E, as shown and described.

2. The beam A, formed with arm A′ and holes *a*, in combination with sliding jaw B, sliding yoke D, screw E, and micrometer-indexes F G, substantially as described.

EDUARD SAUTER.

Witnesses:
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