

(No Model.)

G. B. WEBB.

CALIPERS.

No. 251,662.

Patented Dec. 27, 1881.

Fig: 1.

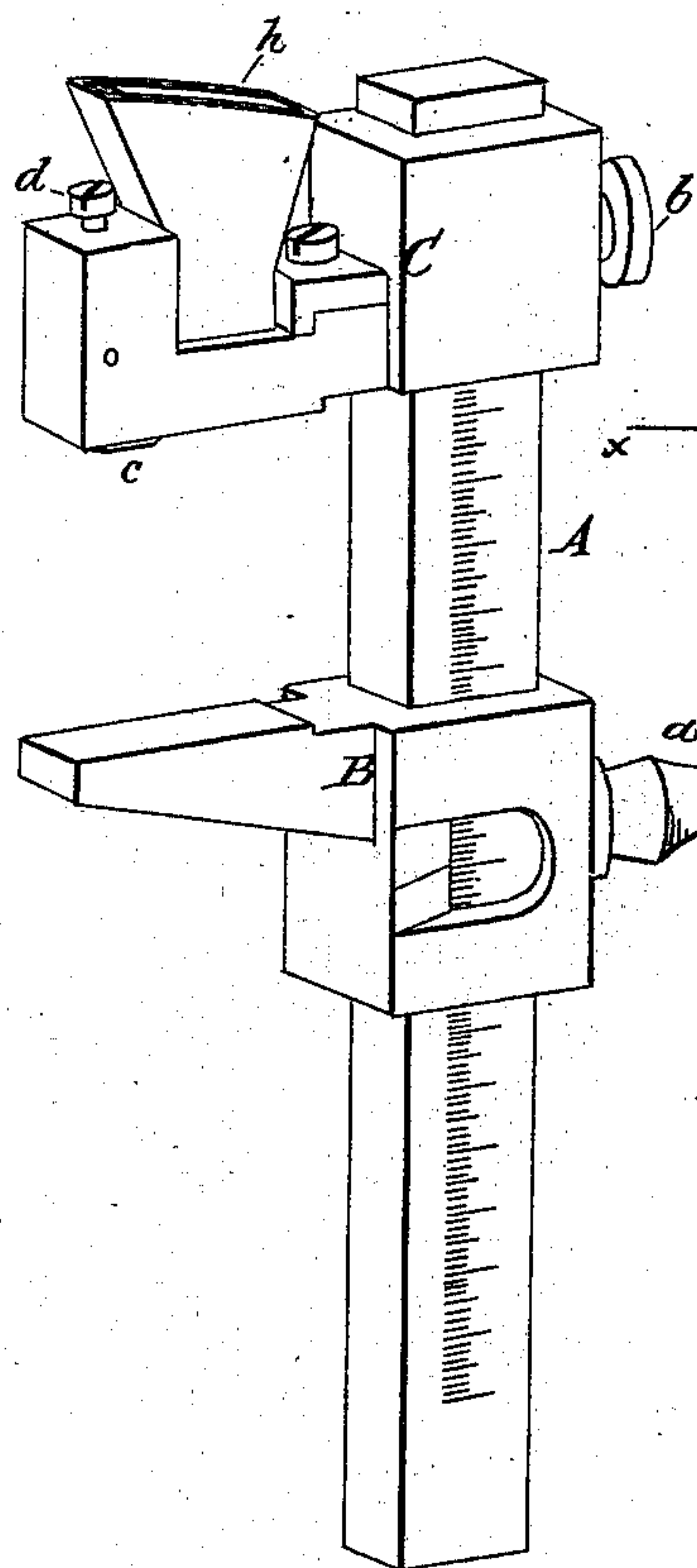


Fig: 2.

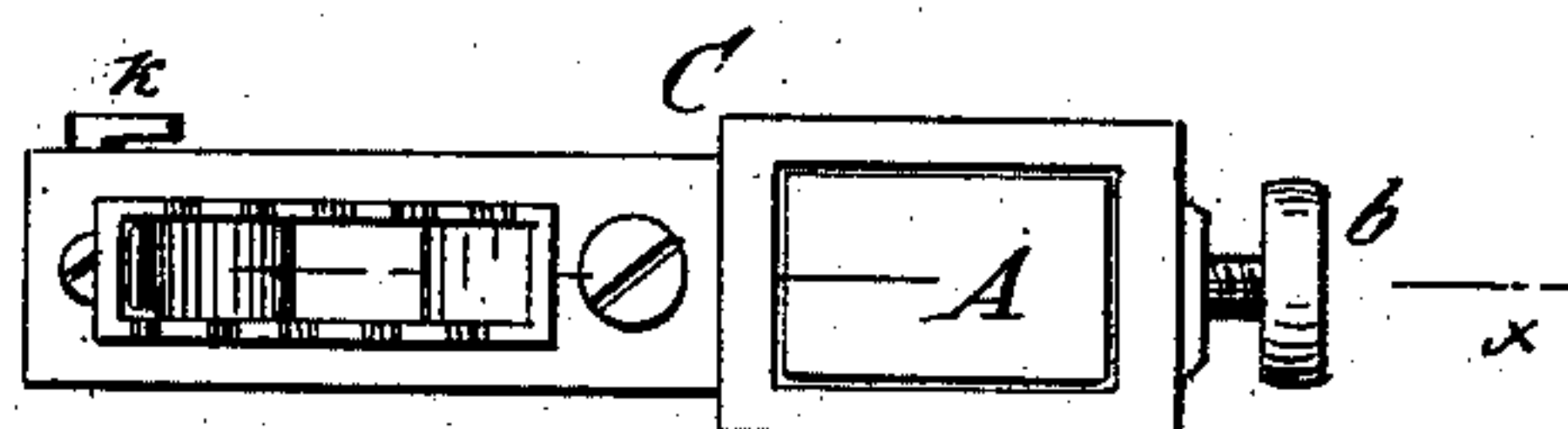


Fig: 4.



Fig: 5.

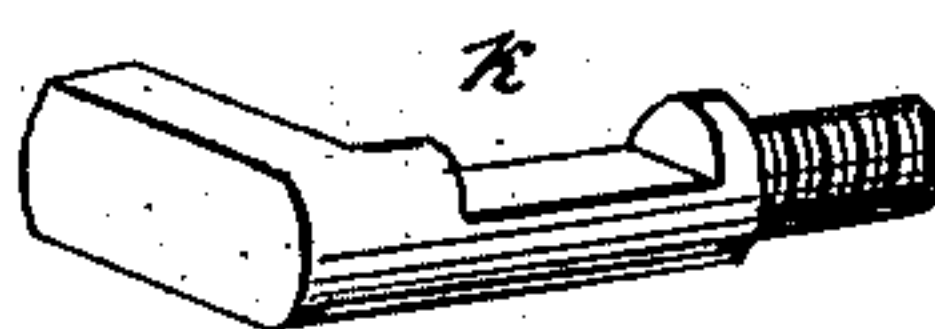
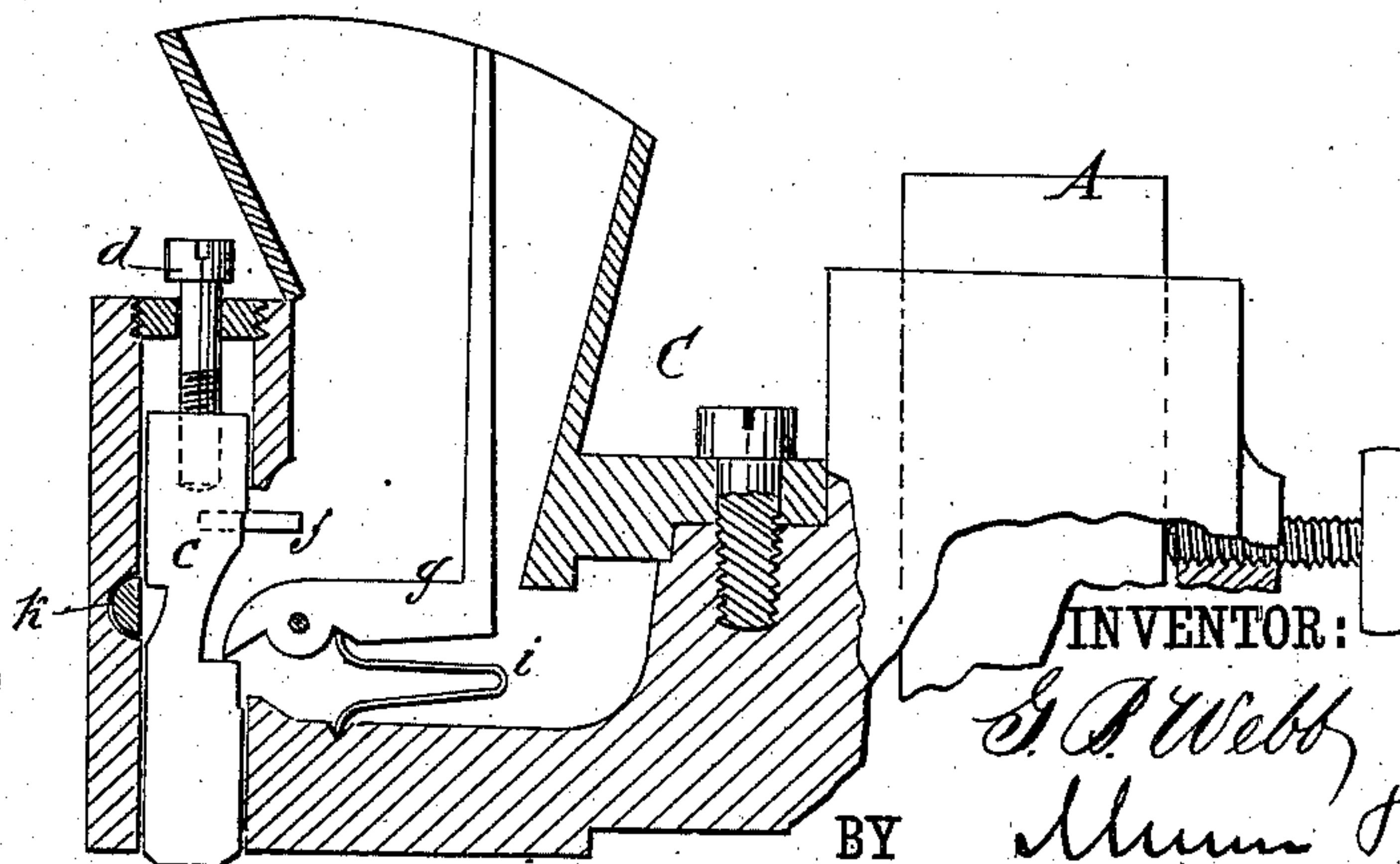


Fig: 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

GEORGE B. WEBB, OF THOMASTON, CONNECTICUT.

CALIPERS.

SPECIFICATION forming part of Letters Patent No. 251,662, dated December 27, 1881.

Application filed May 19, 1881. (No model.)

To all whom it may concern :

Be it known that I, GEORGE B. WEBB, of Thomaston, Litchfield county, Connecticut, have invented a new and useful Improvement in Calipers, of which the following is a specification.

The object of my invention is to furnish beam calipers, with devices for automatically registering or indicating variations in the size of work to which they are applied, so that small differences in size can be readily detected, and in filing, grinding, or turning, the amount removed and to be removed can be quickly and exactly shown.

The invention consists in a slide and indicating-lever combined with one moving jaw of the calipers, as hereinafter described and claimed.

In the drawings, Figure 1 is a perspective view of beam-calipers fitted with my improvement. Fig. 2 is an end view of the calipers. Fig. 3 is a longitudinal section of the outer jaw, which contains the indicating devices. Fig. 4 is a side view of the indicating-lever detached, and Fig. 5 is a perspective of the cam used for raising the slide.

Similar letters of reference indicate corresponding parts.

A is the bar, having one face or side provided with graduations, preferably in hundredths. B is the lower jaw, fitted to slide on the bar and provided with a set-screw and handle, *a*, as usual; and C is the outer jaw, also fitted to slide, and provided with a set-screw, *b*. The outer end of the jaw C is apertured or recessed in a direction parallel with bar A, in which aperture is a slide, *c*, fitted to move freely. A pin, *d*, extending from the slide through the jaw, limits the movement of slide, so that the latter may project beyond the face of the jaw a certain distance. A pin, *f*, projecting into a slot, is used to prevent the slide turning. The jaw C is also recessed or formed to receive a lever, *g*, one end of which is formed with a toe that enters a notch formed in slide *c*, while the longer end is bent to extend to the upper surface of the jaw, where a graduated arc or scale, *h*, is provided. This

arc will preferably be graduated in thousandths. A spring, *i*, is fitted beneath the lever and retains the toe upon the side of the notch in the slide and forces the slide outward. The jaw C is also fitted with a shouldered cross-pin or cam, *k*, provided with an outer bent end, by which it can be turned clear of a notch in the slide or engaged with the notch to move the slide inward.

To set the calipers, the lower jaw is first set on the zero-mark of the bar, and the upper jaw, C, then moved until the end of slide *c* presses upon the face of jaw B and the outer end of lever *g* is upon the zero-point of arc *h*. The jaws will then be separated by the distance the slide projects, which, for example, may be .02. Then, supposing the work is to be finished to .423, the lower jaw, B, will be set at .42, and the work turned, filed, or ground until the lever indicates .003 on the arc, when the calipers are applied.

With these calipers the amount taken off at each filing or grinding can be determined exactly, as may also the amount requiring removal.

When used as a simple beam-gage the slide will be raised by the cam *k*, and the lower jaw should have a second line for use with the graduations on the bar to indicate the distance between the jaws correctly.

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

1. The combination, with the sliding jaw of beam-calipers, of slide *c* and lever *g*, fitted for movement in connection with a graduated arc or scale, substantially as and for the purposes set forth.

2. In beam-calipers, the slide *c* and lever *g*, in combination with the apertured or recessed jaw C, substantially as and for the purposes set forth.

3. In calipers, the cam *k*, in combination with the shouldered slide *c*, lever *g*, and jaw C, substantially as and for the purpose set forth.

GEORGE BOARDMAN WEBB.

Witnesses:

JNO. GROSS, Jr.,
JOHN C. DAVIES.