

No. 761,328.

PATENTED MAY 31, 1904.

F. SPALDING.
MICROMETER CALIPERS.
APPLICATION FILED MAY 28, 1903.

NO MODEL.

Fig. 1.

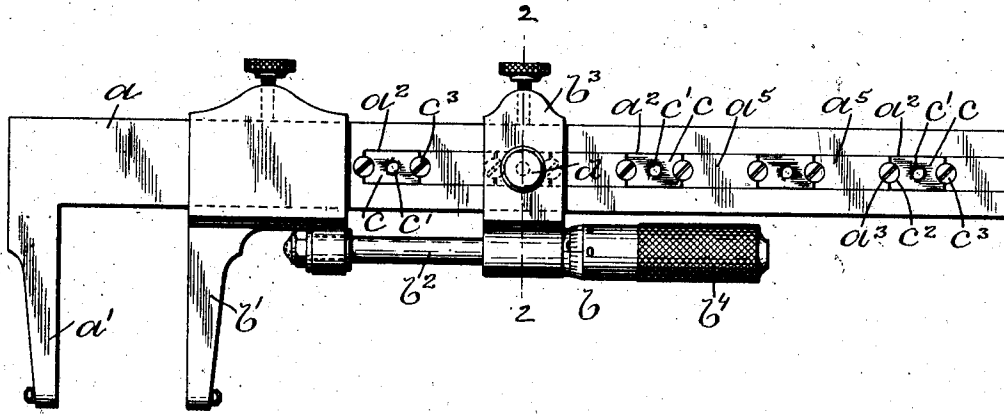


Fig. 2.

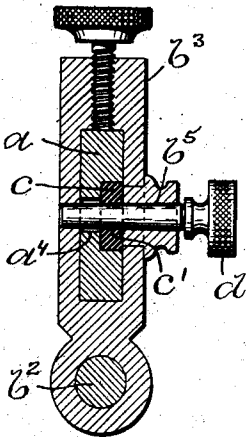


Fig. 3.

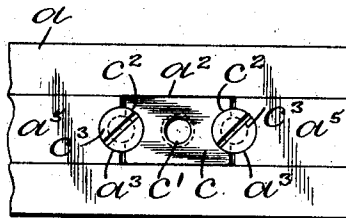


Fig. 4.



WITNESSES:

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UNITED STATES PATENT OFFICE.

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MICROMETER-CALIPERS.

SPECIFICATION forming part of Letters Patent No. 761,328, dated May 31, 1904.

Application filed May 28, 1903. Serial No. 159,123. (No model.)

To all whom it may concern:

Be it known that I, FRANK SPALDING, a citizen of the United States, residing at Providence, in the county of Providence and State of Rhode Island, have invented a new and useful Improvement in Micrometer-Calipers, of which the following is a specification.

This invention has reference to an improvement in beam micrometer-calipers, and more particularly to an improvement in the construction of the beam or bar of the caliper.

In beam micrometer-calipers the movable jaw is attached to the micrometer-adjusting mechanism, and this in turn is adjustably secured to the beam of the caliper by a pin through holes in the beam. These holes are drilled a predetermined distance apart, usually one inch. In practice I find it extremely difficult to drill the holes in the beam the exact distance apart required in calipers measuring to one one-thousandth of an inch or less. The slightest inaccuracy in drilling the holes ruins its fine adjustment and gives an inaccurate reading of the caliper.

The object of my invention is to construct a more perfect and accurate beam micrometer-caliper than has heretofore been done by drilling the holes for the pin in blocks and adjusting the blocks lengthwise on the beam to bring the hole in the exact position required for the pin in the micrometer mechanism.

My invention consists in the peculiar and novel construction of the beam or bar of the caliper, having a plurality of blocks with holes for the micrometer-pin and means for adjustably securing the blocks to the beam, as will be more fully set forth hereinafter.

Figure 1 is a side view of a beam micrometer-caliper, showing the blocks with the holes for the micrometer-pin adjustably secured in the beam of the caliper. Fig. 2 is an enlarged transverse sectional view on line 2 2 of Fig. 1, showing the frame of the micrometer-adjusting mechanism secured to the beam by the tapered micrometer-pin passing through the slide and the adjustable block in the

beam. Fig. 3 is an enlarged detail view of the end of the beam, showing one of the blocks and the screws for adjustably securing the block in the beam; and Fig. 4 is a sectional view taken lengthwise through Fig. 3, showing the beveled semicircular recesses in the ends of the block coinciding with the beveled heads of the screws for adjusting the blocks lengthwise by an inward-and-outward movement of the screws.

In the drawings, *a* represents the beam of the caliper, having the fixed jaw *a'*, and *b* the micrometer-adjusting mechanism on the beam, having the adjustable jaw *b'* attached to the spindle *b²*, secured in the slide *b³* in the usual way for adjusting the jaw *b'* on the beam *a* by rotating the sleeve *b⁴*, the inner beveled end of the sleeve having the usual scale indicating the movement of the jaw *b'*. The beam *a* passes through the jaw *b'* and the slide *b³* and has the rectangular cavities *a² a²* with the semicircular concave recesses *a³ a³* in the ends and the central hole *a⁴* in the side of the beam. The cavities are formed by cutting a groove in the side of the beam the width and depth of the cavities and securing the filling-pieces *a⁵ a⁵*, having the semicircular concave recesses *a³ a³*, in the groove by brazing or other means. The block *c* has the central tapered hole *c'* and the semicircular concave recesses *c² c²*, beveled to coincide with the beveled heads *c³ c³* of the screws *c⁴ c⁴*, as shown in Fig. 4. The screws *c⁴ c⁴* are in screw-thread engagement with the holes *c⁵ c⁵* in the beam *a* and adjustably secure the blocks *c* in the cavities *a² a²*. The tapered pin *d* is pushed into the tapered hole *b⁵* in the slide *b³* and through the tapered hole *c'* in the block *c*, firmly and accurately securing the micrometer-adjusting mechanism to the caliper-beam in the exact position required on the beam.

In constructing the caliper the holes *a⁴ a⁴* are drilled through the beam *a* as accurately as possible a predetermined distance apart and are sufficiently large to allow for the adjusting of the hole *c'* in the block *c*, which is shorter than the cavity *a²*. The block after the adjust-

ment lengthwise by the screws is firmly secured in the cavity a^2 by the screws.

In the use of my improved caliper a more accurate adjustment and reading of the caliper
5 are attained than has heretofore been done.

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

1. A micrometer-caliper, consisting of a bar having a fixed jaw, and an adjustable jaw, a
10 slide on the bar supporting a micrometer-adjusting mechanism attached to the adjustable jaw, a plurality of blocks in the bar having
central holes, a pin adapted to enter the holes in the blocks through the slide, and means for
15 adjusting the blocks in the bar, for the purpose as described.

2. A micrometer-caliper, consisting of a bar having a plurality of cavities and holes centrally located in the cavities, a fixed jaw and
20 an adjustable jaw, a plurality of blocks in the

cavities and having each a central hole, means for adjusting the blocks in the cavities, a slide on the bar supporting a micrometer-adjusting mechanism attached to the adjustable jaw, and
means for securing the slide in a predetermined position on the bar, as described. 25

3. In a micrometer-caliper, a bar having a series of blocks each provided with a central hole, and means consisting of screws in screw-thread engagement with the bar for adjusting
the blocks lengthwise on the bar, for the purpose as described. 30

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FRANK SPALDING.

Witnesses:

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