

J. H. PEMBER.
MICROMETER ATTACHMENT FOR MACHINISTS' CALIPERS.
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962,583.

Patented June 28, 1910.

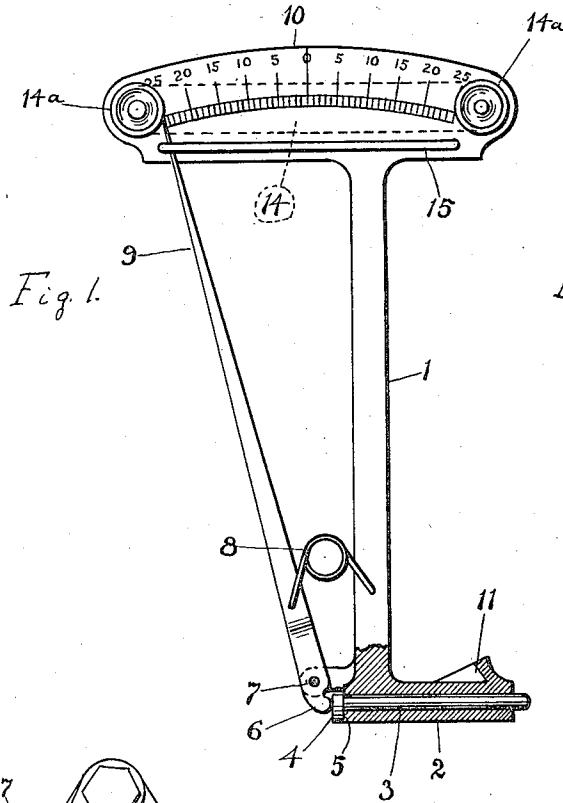


Fig. 1.

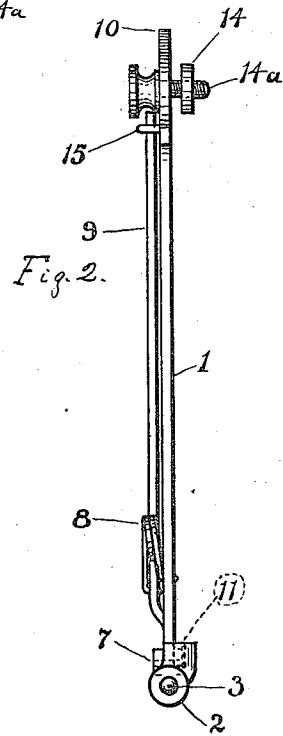


Fig. 2.

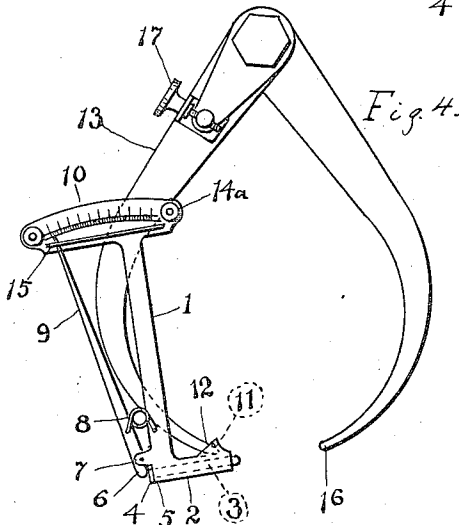


Fig. 4.

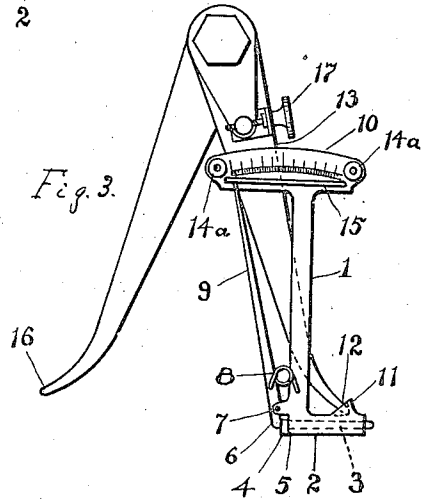


Fig. 3.

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MICROMETER ATTACHMENT FOR MACHINISTS' CALIPERS.

962,583.

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To all whom it may concern:

Be it known that I, JOHN H. PEMBER, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented a new and useful Micrometer Attachment for Machinists' Calipers, of which the following is a specification.

My invention relates to a new and useful improvement in calipers, for the use of machinists or shop inspectors, and relates particularly to an attachment adapted to be clamped to one leg of a machinist's caliper whereby minute variations from a predetermined standard may be detected. I attain this object by the device hereinafter fully described reference being had to the accompanying drawing, in which—

Figure 1 is a front view of the attachment partly in section, Fig. 2 a side view, Fig. 3 shows the attachment applied to an inside caliper and Fig. 4 shows it applied to an outside caliper.

Like numerals refer to similar parts in the several figures.

At the lower end of a bar (1) and extending at right angles thereto is a cylinder (2) in which slides a piston (3) having a head (4) held yieldingly in contact with a shoulder (5) by the short arm (6) of a lever pivoted at (7) and actuated by the spring (8). The long arm of said lever is extended to form a pointer (9) traversing a graduated arc (10) to indicate movements of the piston (3).

Formed in the wall of the cylinder (2) is a recess (11) adapted to engage the point (12) of one leg of a caliper (13) while the bar (14) and clamping screws (14^a) hold the attachment in place. A guard (15) serves to protect the pointer (9) and limit its travel.

As constructed for ordinary shop use the piston (3) is about one-tenth of an inch longer than the cylinder (2) and the proportions of the lever arms are such that a movement of the piston of five one-hundredths of an inch causes the pointer (9) to traverse the entire length of the arc which is graduated to indicate movements of the pis-

ton of thousandths of an inch, zero being the center of the scale.

It is used as follows:—The caliper is opened to approximately the dimension which is to be tested, the leg (13) inserted between the bar (14) and the graduated arc (10), the point (12) inserted in the recess (11), the bar (1) rotated about the point (12) until the axis of the piston (3) is in a straight line with the opposite point (16) and the clamping screws (14^a) tightened to hold the attachment in place, the caliper is then applied to a standard gage and its width adjusted by means of the adjusting screws (17) until the pointer (9) stands at zero. When the caliper is applied to the piece which is to be tested the pointer will come to zero if its diameter conforms to the gage, any variation therefrom, either larger or smaller, being indicated in thousandths of an inch within range of the instrument.

What I claim as novel and desire to secure by Letters Patent is:—

1. An attachment for a caliper consisting of a body portion having a cylindrical portion, a recess therein adapted to receive the point of one leg of the caliper in such manner as to allow rotation of said body portion about said point to aline the central axis of said cylinder with the opposite point of the caliper, a clamp to secure the body portion against rotation, a piston capable of longitudinal movement within the cylinder, a spring tending to move said piston, a head limiting said movement, and a pointer indicating on a graduated arc the movements of said piston, substantially as set forth.

2. An indicator of the spring actuated piston type having a recess adapted to receive the point of one leg of a caliper in such manner that the indicator may be rotated about said point to correct the alinement of the piston with the opposite point of the caliper and a clamp to secure the indicator against rotation, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN H. PEMBER.

Witnesses:

DOWNS SCHAAF,
S. H. CARMACK.