

No. 708,931.

Patented Sept. 9, 1902.

J. T. SLOCOMB.
MICROMETER CALIPERS.
(Application filed May 12, 1902.)

(No Model.)

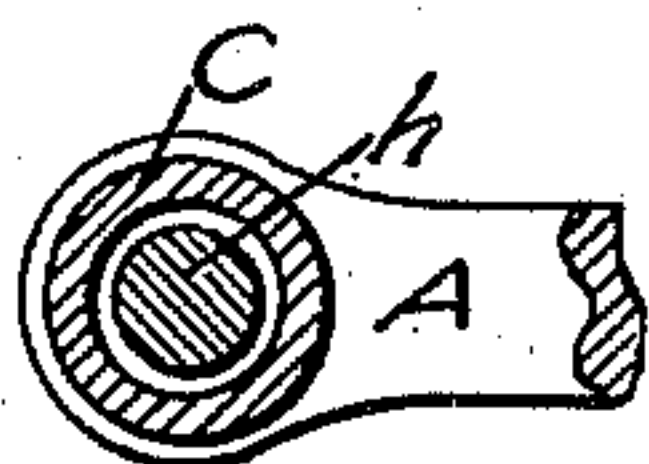


FIG. 3.

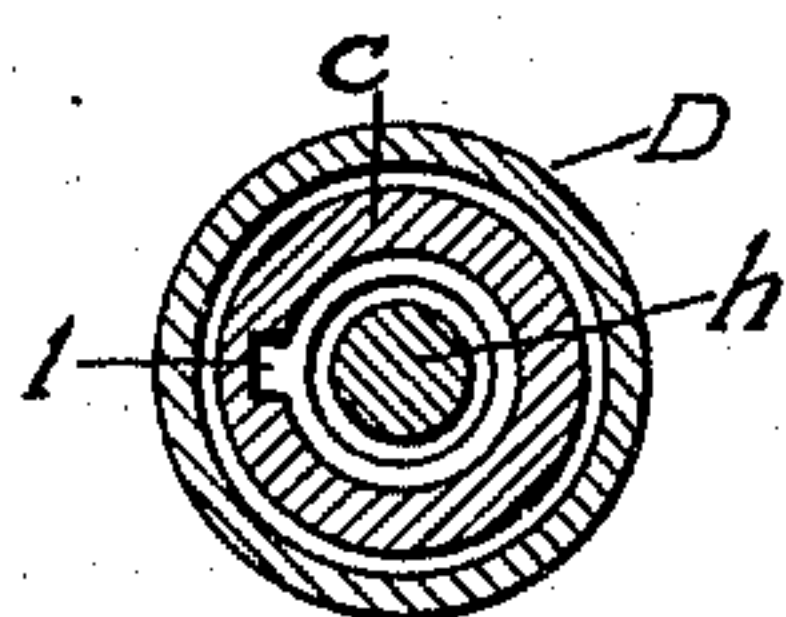


FIG. 4.

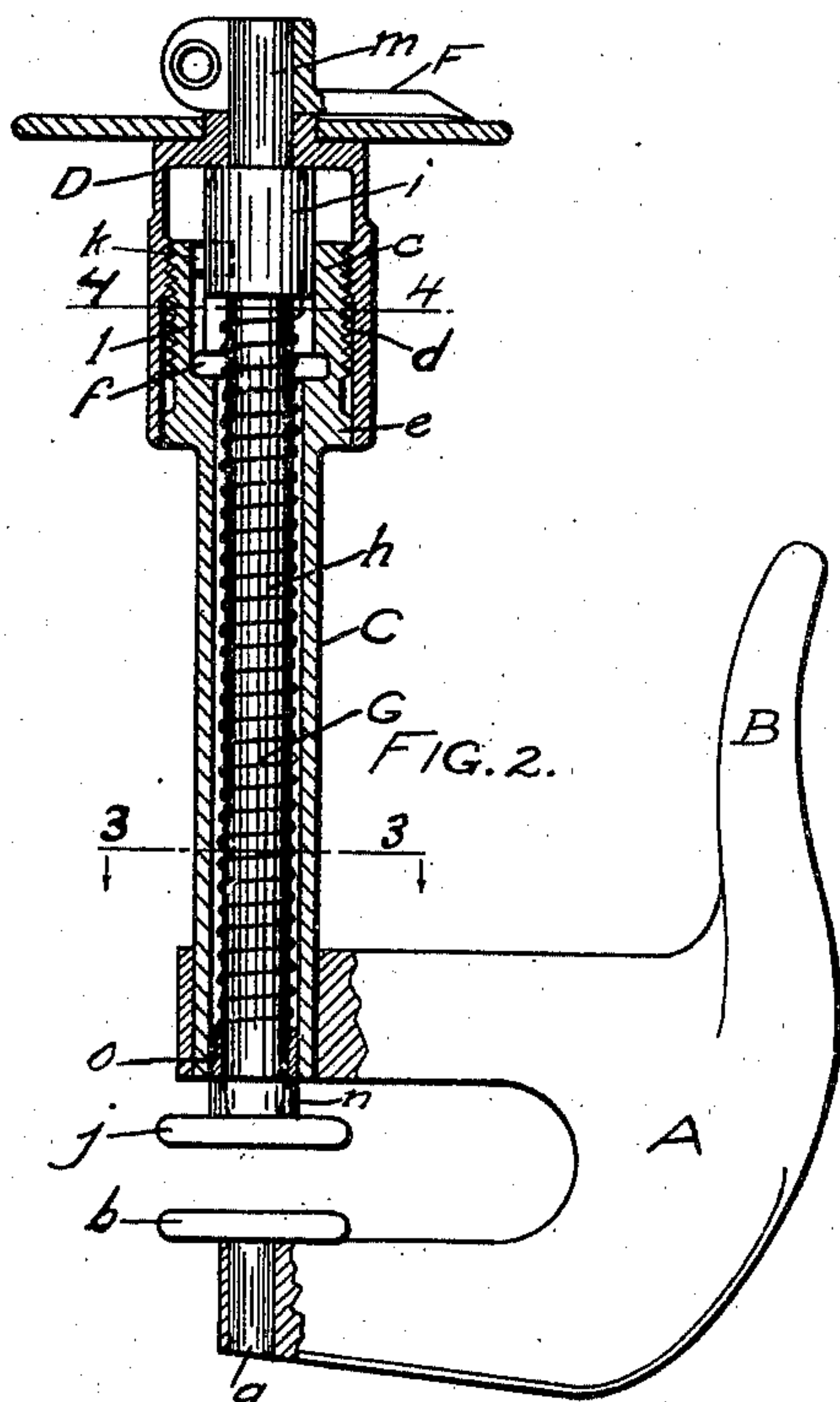


FIG. 2.

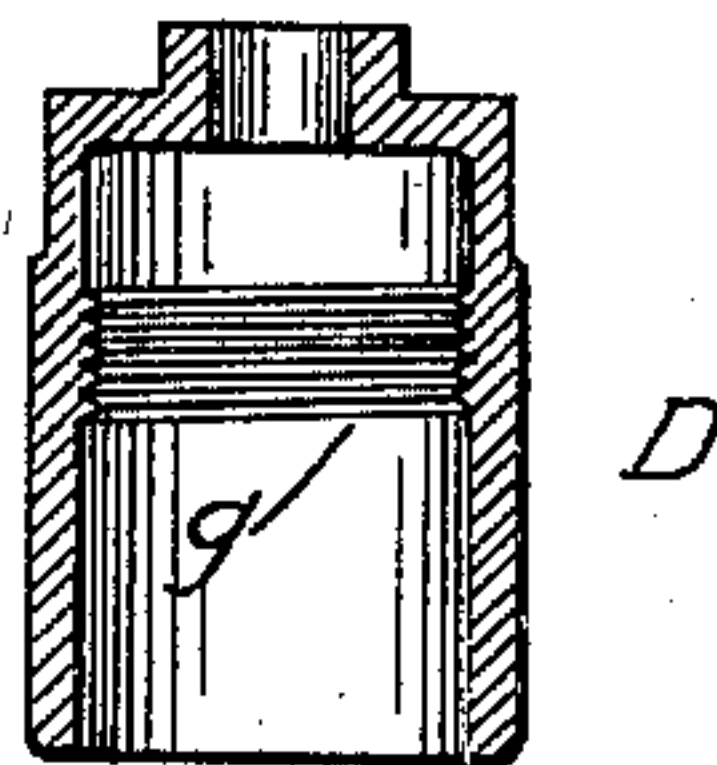


FIG. 5.

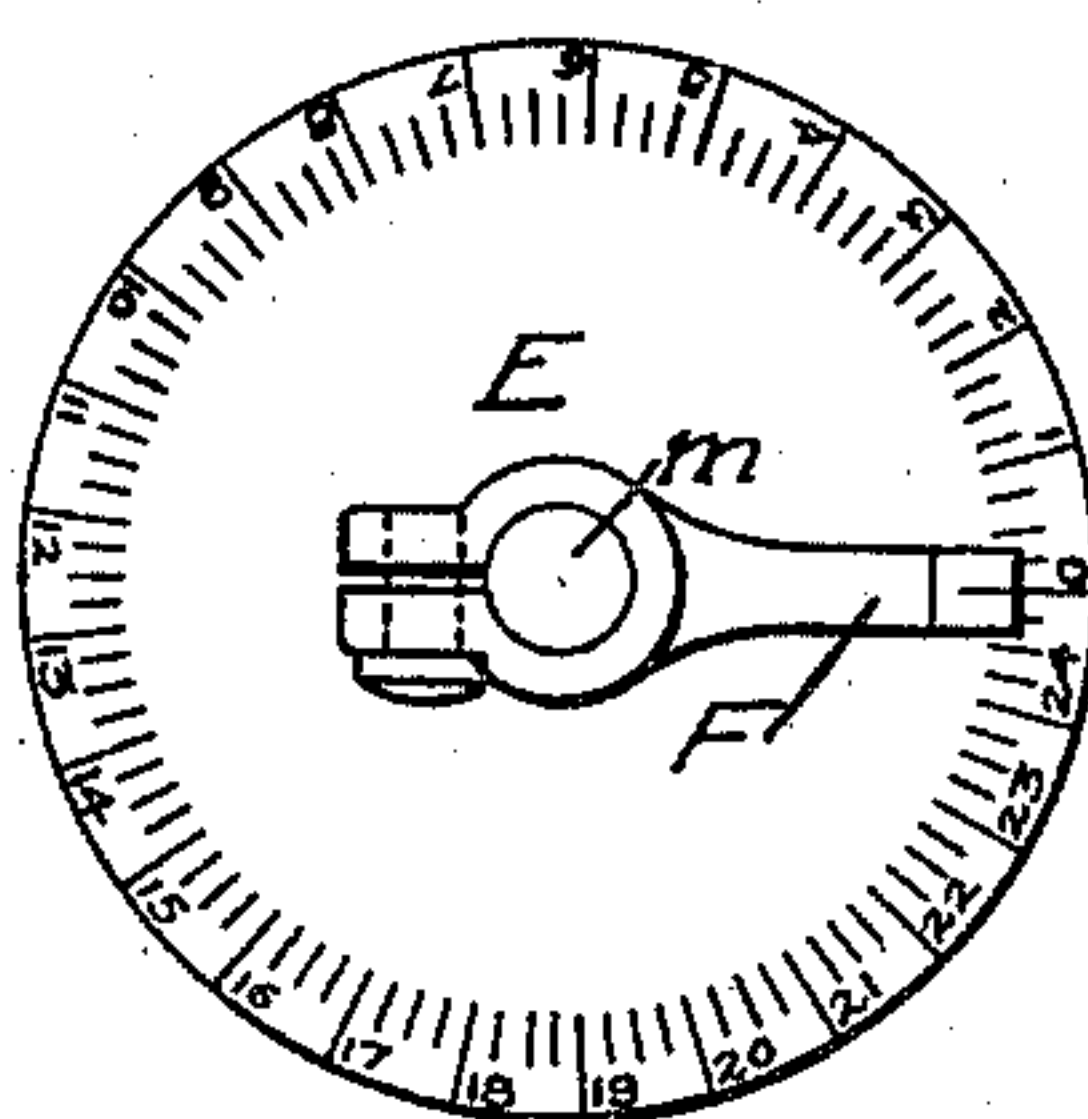


FIG. 6.

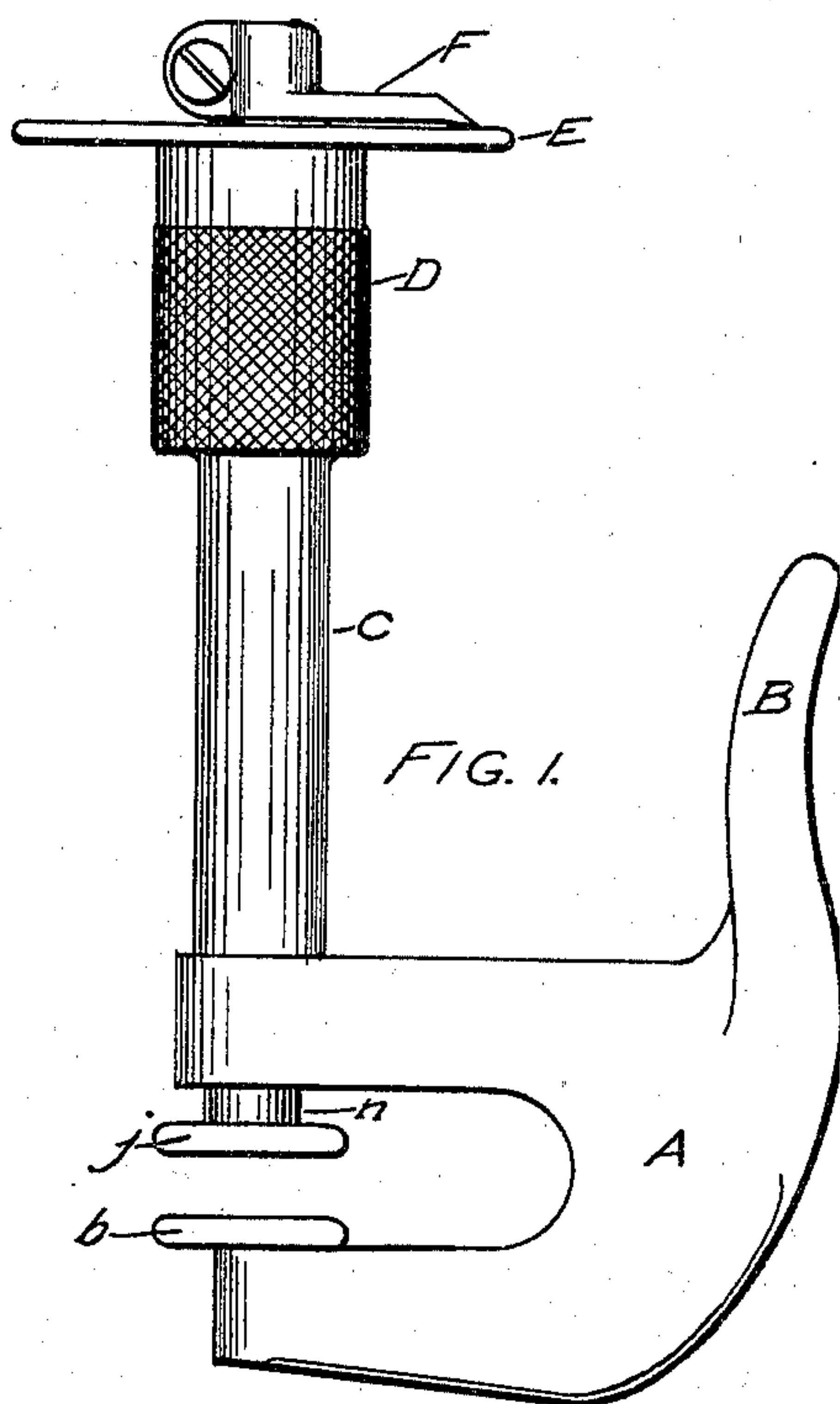


FIG. 1.

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MICROMETER-CALIPERS.

SPECIFICATION forming part of Letters Patent No. 708,931, dated September 9, 1902.

Application filed May 12, 1902. Serial No. 106,858. (No model.)

To all whom it may concern:

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

My invention relates to that class of micrometer-calipers adapted to manipulation with one hand and available for the measurement of rubber and other elastic materials.

Among the ends sought in my device is a non-revoluble rest for the fingers of the operator when operating the mechanism, a direct vertical movement of the plunger to facilitate action when elastic objects are measured, to cover the limit of the plunger's travel by a single revolution of the scale-disk, and to effect the latter end without increasing the size of the plunger-threads, thereby making the diameter of the body ungainly.

To the above ends my invention consists of the novel construction and arrangement of parts hereinafter described, and illustrated in the accompanying drawings, wherein like letters indicate like parts throughout the views.

Figure 1 is a side elevation of my improved micrometer-calipers; Fig. 2, a central vertical section of the same, showing parts in side elevation; Figs. 3 and 4, cross-sectional views of the same on lines 3 3 and 4 4 of Fig. 2, respectively; Fig. 5, a central vertical section of the thimble, and Fig. 6 a plan view of the upper end of the calipers.

An embodiment of my invention is as follows:

The yoke A is provided with an extension B to form a bearing for the palm of the operator. In this yoke is mounted an anvil *a*, provided with flat circular head *b*. The caliper-body consists of a barrel C, fixed in the leg of the yoke A opposite the anvil. The upper portion of this barrel *c* has an increased exterior and interior diameter and is provided with an exterior thread *d* for some distance from its top. Below this thread is an annular shoulder *e*, which prevents any ingress of dust upon the thread. An interior annular channel *f* is formed at the point where the increased diameter begins. This channel performs no function in the mechanism,

but assists in the mechanical construction of the parts. A sleeve D, having a small portion of its interior threaded *g*, is mounted upon the upper end *c* of the barrel with its threads *g* engaging the threads of the latter. Fixedly mounted on top of the sleeve D is the scale-disk E.

The plunger consists of a shank *h* and head *i*. The former carries upon its lower end a cap *n*, having a disk-shaped head or bearing-surface *j*. A bushing *o* in the lower end of the barrel C forms a bearing for the plunger-shank *h*. Fixed in the side of the plunger-head is a key *k*, which travels in a longitudinal channel *l* upon the inner surface of the enlarged portion of the barrel. Beyond its head *i* a portion of the spindle *m* projects upwardly, traversing the sleeve D, and to this projecting portion is clamped or otherwise conveniently fixed the pointer F.

A spiral spring G surrounds the shank of the plunger, extending from the bushing *o*, in which one end is fixed to the plunger-head, to which the other extremity is attached. This spring not only takes up the vertical backlash of the device, but brings a transverse or torsional strain upon the plunger-head, thus overcoming any wear of the key *k* in its channel *l*, either of which contingencies would cause a variation of the pointer F.

To operate my new device, the operator grasps the same with the shank B resting against the palm and his fingers embracing the barrel C, which, it will be noted, is non-rotatable, thus affording a sure grasp. The thumb and index-finger rotate the milled sleeve D, thereby rotating the scale-disk, whose zero-point is immediately below the pointer when the plunger is at its highest position. A single revolution of the disk is sufficient to bring the two bearing-disks *b* and *j* into contact, which is an important advantage over the common structure requiring a plurality of complete rotations of the parts to bring together the bearing-plates. If, however, it is desired to double the distance between the bearing-plates, my calipers may have lines measuring the lead of the screw marked upon the exterior of the barrel.

It will be noted that the direct vertical movement of the plunger in alinement with the anvil facilitates the measurement of elas-

tic or rubber bodies which adhere to the bearing-plates when the common rotary plungers are used.

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

1. In micrometer-calipers, the combination with a yoke of a barrel having an enlarged exteriorly-threaded upper portion, an annular shoulder thereon, a plunger within the barrel, means intermediate the barrel and plunger for holding the latter from rotation, a threaded sleeve mounted upon the enlarged portion of the barrel, a scale-disk fixed to the sleeve, and a pointer fixed to the plunger.

2. In micrometer-calipers, the combination with a yoke of a barrel having an enlarged exteriorly-threaded portion, an annular shoulder thereon, a plunger within the barrel, means intermediate the barrel and plunger

for holding the latter from rotation, a sleeve mounted upon the enlarged portion of the barrel provided with a lesser number of threads than the barrel, a scale-disk fixed to the sleeve, and a pointer fixed to the plunger.

3. In micrometer-calipers, the combination with a yoke, of a barrel fixed to said yoke, a plunger traversing said barrel, a bearing-plate upon the lower extremity of the plunger, a head near the upper end of the plunger, a coiled spring surrounding the reduced portion of the plunger, and means upon the plunger-head and engaging the barrel to guide the plunger longitudinally.

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

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Witnesses:

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