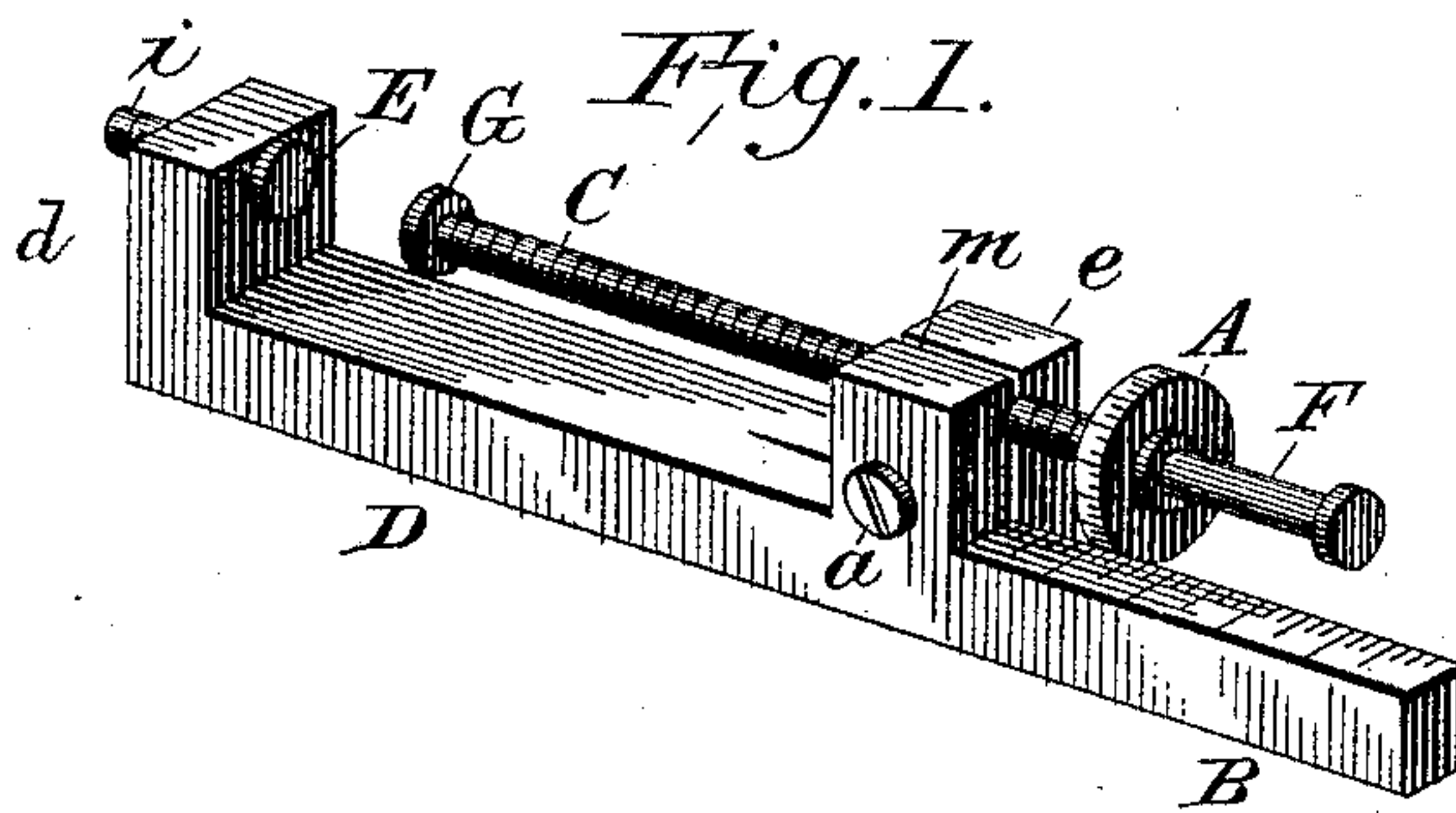


(No Model.)

J. M. IRMEN.  
MICROMETER CALIPERS.

No. 411,444.

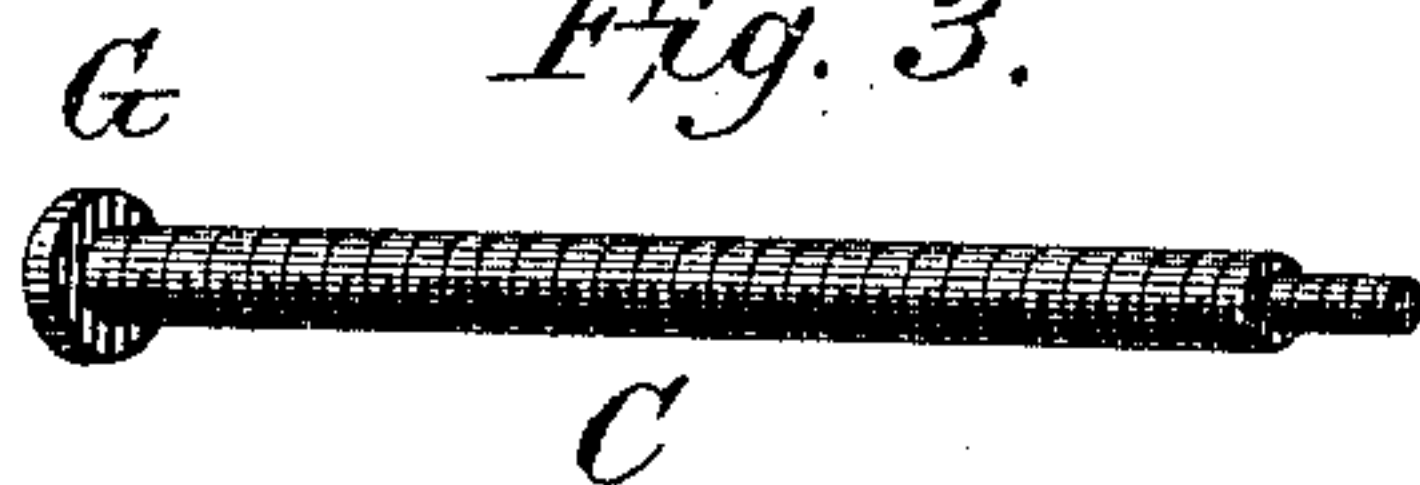
Patented Sept. 24, 1889.



*Fig. 2.*



*Fig. 3.*



Witnesses:

Frank Haven  
Edw. E. Johnson

Inventor:

John M. Irmann  
By Thomas B. Swan  
His Attorney

# UNITED STATES PATENT OFFICE.

JOHN M. IRMEN, OF ATLANTIC, IOWA.

## MICROMETER-CALIPERS.

SPECIFICATION forming part of Letters Patent No. 411,444, dated September 24, 1889.

Application filed April 23, 1889. Serial No. 308,341. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN M. IRMEN, a citizen of the United States, residing at the city of Atlantic, in the county of Cass and State of Iowa, have invented certain new and useful Improvements in Calipers, of which the following is a specification.

My invention relates to improvements in calipers in which one jaw is stationary and the other actuated by a threaded rod; and the objects of my improvements are to provide calipers that are accurate, durable, and adapted to measure the caliber of small things, and of any short small thing that projects from a larger body. I attain these objects by the device illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of the calipers. Fig. 2 is a detailed perspective view of the stationary jaw and screw or threaded stem attached thereto. Fig. 3 is a detailed perspective view of the movable jaw and threaded rod that actuates it.

Similar letters refer to similar parts throughout the several views.

The frame of the calipers is of ordinary construction, and consists of the base D, the upright support *d*, and the upright support *e*, having the slit *m* and screw *a*. The frame has secured to it a scale-bar B, and the threaded rod C has secured to it the graduated wheel A, both the scale and wheel being such as are ordinarily used in the construction of this class of calipers. The threaded rod C passes through a threaded aperture adapted to receive it in the support *e* and has secured to one end the thumb-piece F. The jaw G is firmly secured to the end of the rod C and has a greater diameter than the rod. The stationary jaw E is provided with a screw or threaded stem *i*, which passes through a threaded aperture in the support *d* adapted to receive it, thus adjustably securing the jaw to the support *d*. The diameters of the jaws are the same, and they extend upward flush with or above the top of the support *d*.

The calipers are of ordinary construction, excepting the jaws E and G. In this class of calipers as commonly made the jaws are formed by beveling the adjacent ends of the

screw *i* and threaded rod C, so that the jaws are usually of smaller and never of larger diameter than the screw and threaded rod, and the uppermost portions of the jaws are always below the top of the support of the stationary jaw, thus rendering it impossible to take the caliber of the short gudgeons or journals which are attached to watch-wheels and other wheels, because the wheel comes in contact with the top of one or both of the supports, thus preventing the gudgeon from being placed between the jaws. There are many other things the size of which cannot be measured with this class of calipers on account of the jaws being below the tops of their supports.

My improvement consists in enlarging the adjacent ends of the screw *i* and threaded rod C, and in placing the jaws in such a position that their upper parts are flush with or project above the top of the stationary-jaw support *d*.

By means of my improvement the size and caliber of many things can be measured, which cannot be with calipers as ordinarily constructed.

My improvement adapts this class of calipers to many new uses.

My improved calipers are operated, as this class of calipers usually are, by turning the threaded rod C, thus moving the jaw G to and from the stationary jaw E.

I am aware of calipers having the graduated wheel, scale, adjustable stationary jaw, the threaded rod, and a frame such as I have shown and described. Therefore I do not claim such calipers as my invention; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

1. The frame, the threaded rod which passes through a threaded aperture in its support adapted to receive it, the circular jaw having a longitudinal and revolving motion, which is secured to the inner end of the threaded rod, the stationary-jaw stem or shank which enters an aperture in its support adapted to receive it, and the circular stationary jaw which is secured to the inner end of its stem or shank and which extends upward above its support, the movable circular jaw being



constructed of larger diameter than the threaded rod to which it is secured and by which it is actuated, and the stationary jaw being constructed of larger diameter than its  
5 stem or shank, thereby providing means for taking the gage of internal diameters and spaces as well as external diameters, all combined substantially as described and shown.

2. Calipers provided with a movable circu-

lar jaw having a longitudinal and revolving motion and being of greater diameter than the rod to which it is secured and by which it is actuated, substantially as described.

JOHN M. IRMEN.

Witnesses:

MAGGIE IRMEN,

WILL LANDMESSER.