Sept. 30, 1952 M. F. BENNETT 2,611,967

MICROMETER

Filed July 5, 1950

Fig. 1

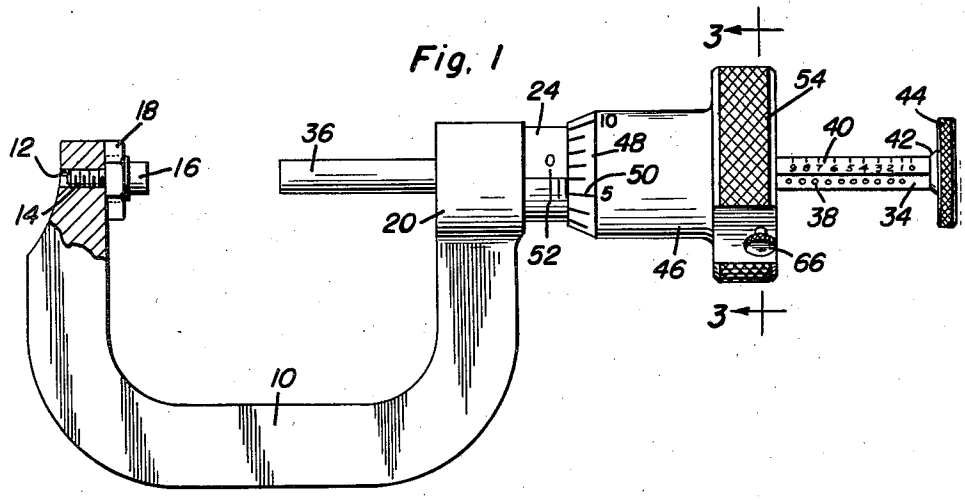


Fig. 2

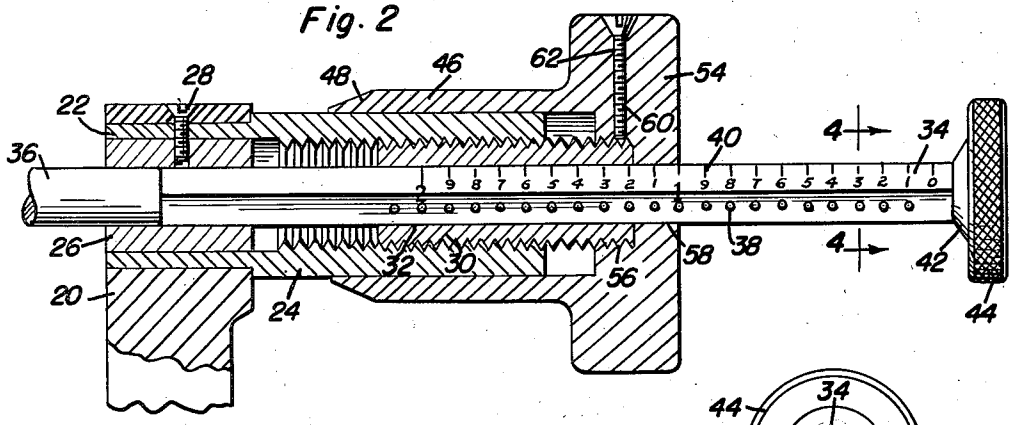
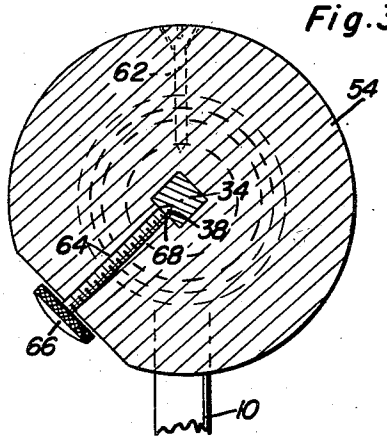


Fig. 3



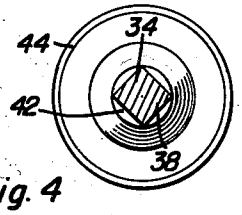


Fig. 4

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MICROMETER

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2 Claims. (Cl. 33—165)

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This invention relates to new and useful improvements in micrometers and the primary object of the present invention is to provide a micrometer so constructed as to reduce to a minimum the amount of movement necessary to the contact rod of a micrometer during the gaging of objects.

Another important object of the present invention is to provide a micrometer including a barrel slidably and rotatably receiving a contact rod and novel and improved means rotatably supported on and threaded to the barrel and adjustably secured to the rod for moving the rod through the barrel.

A further object of the present invention is to provide a micrometer involving a graduated cylindrical body and an interlocking means between the body and a graduated contact rod slidably carried by the body whereby initial adjustment of the rod may be made to reduce the length of gaging time to a minimum without sacrifice of accuracy.

A still further aim of the present invention is to provide a micrometer that is simple and practical in construction, efficient and reliable in use, convenient to manipulate, inexpensive to produce, and otherwise well adapted for the purposes for which the same is intended.

Other objects and advantages reside in the details of construction and operation as more fully hereinafter described and claimed, references being had to the accompanying drawings forming part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a side elevational view of the present invention;

Figure 2 is an enlarged detail sectional view of Figure 1;

Figure 3 is an enlarged vertical sectional view taken substantially on the plane of section line 3—3 of Figure 1; and

Figure 4 is a vertical sectional view taken substantially on the plane of section line 4—4 of Figure 2.

Referring now to the drawings in detail, wherein for the purpose of illustration, there is disclosed a preferred embodiment of the present invention, the numeral 10 represents a U-shaped frame, one end of which is provided with a threaded opening 12 that receivably engages the threaded shank 14 of an anvil 16. A nut 18 is threaded on the anvil and contacts the frame.

The other end of the frame 10 is integrally formed with a collar 20 that receives the reduced end portion 22 of an internally threaded barrel 24. A guide bushing 26 is fitted in the reduced end portion 22 and end portion 22 and collar 20 are held assembled by one or more screws 28.

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An externally threaded sleeve 30 is threaded in the barrel 24 and includes a multi-sided axial bore 32 that slidably receives the square end portion 34 of a contact rod or spindle 36. The end portion 34 is provided with a plurality of longitudinally spaced recesses 38 that register with graduations 40 on the end portion 34. The outer extremity of the end portion 34 is fastened in a socket 42 of a finger grip 44 by any suitable means.

A finger gripping knob is provided for rotating the sleeve 30 and includes a cylindrical body 46 that is rotatably supported on the barrel 24. The tapered or beveled end 48 of the body 46 is provided with graduations 50 for registering with further graduations 52 on the barrel 24.

A circular end wall 54 is integrally formed with one end of the body 46 and is formed with an internally threaded, central recess 56 that receivably engages the outer end of the sleeves 30 and a central multi-sided or square aperture 58 that receives the end portion 34. The wall 54 is provided with radial opening 60 that intersects the recess 56. A fastener 62 is threaded in the opening 60 and bears against the sleeve 30 to lock the wall 54 to the sleeve 30.

Another radial opening 64 is provided in the wall 54 and receivably engages an adjusting screw 66 whose inner conical end 68 is received in a selected one of the recesses 38 in the end portion 34.

In practical use of the present invention, the graduations on the various parts are correlated so that by loosening the screw 66 and adjusting the spindle longitudinally of the barrel, a few turns of the body 46 is all that is required for the use of the device, thereby reducing to a minimum the number of turns of the sleeve 30 before an accurate measurement can be made.

The barrel 24 has about 40 threads per inch inside threads and is graduated in .025 of an inch from 0 to .100. The square end portion of the spindle is graduated in .100 of an inch from 0 to .900 and the body 46 is graduated in .001 of an inch from 0 to .025.

By loosening the screw 66, pulling the spindle to .900, tightening screw 66, a setting of .975 can be made with three turns of the body 46 instead of 39 turns.

The size illustrated is 0–1 inch, but by extending the graduations 40 and the recesses 38 another .100 or to 1 inch, the graduations could

then be run up to 2 inches or more and the operator would still be only four turns or less from any setting.

Having described the invention, what is claimed as new is:

1. A micrometer comprising a U-shaped frame, an anvil on one end of the frame, an internally threaded barrel on the other end of the frame having graduations on its outer periphery, a sleeve threaded in said barrel and having a multi-sided axial bore, a spindle having a multi-sided and graduated end slidably received in said bore, a cylindrical body embracing the barrel and rotatable on the barrel, said body having graduations about one end for registering with the graduations on said barrel, an end wall at one end of said body having a multi-sided aperture receiving the multi-sided end of said spindle, a finger grip attached to said spindle, said multi-sided end portion including a plurality of longitudinally spaced recesses in registry with the graduations on said multi-sided end portion, and an adjusting screw extending radially through said end wall and said aperture and received in a selected one of said recesses.

2. A micrometer comprising a U-shaped frame, an anvil on one end of the frame, an internally threaded barrel at the other end of said frame, said barrel having graduations on its outer periphery, a cylindrical body surrounding said barrel and slidable and rotatable on said barrel, said body having graduations about one of its ends for registering with the graduations on said barrel, an enlarged end wall at the other end of said body having a central multi-sided aperture therein and a recess in its inner face about the aperture, an externally threaded sleeve having one end secured in said recess, said sleeve being threaded in said barrel and including a multi-sided axial bore, a contact rod including an elongated multi-sided end portion extending through said barrel, said sleeve and said aperture, said multi-sided end portions having graduations thereon, said multi-sided end portion also having a plurality of longitudinally spaced recesses alongside of its graduations, a set screw extending radially through the end wall and said aperture and seated in a selected one of the plurality of recesses, and a bushing secured in one end of said barrel and slidably receiving the contact rod.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,389,028	Colburn	Aug. 30, 1921
1,504,680	Fernandez	Aug. 12, 1924
1,656,927	Wheelock	Jan. 24, 1928
2,047,887	Robillard	July 14, 1936
2,085,380	Muller	June 29, 1937
2,443,126	Whitaker	June 8, 1948
2,467,499	Sachtleber	Apr. 19, 1949