May 3, 1932. R. E. ALVEY 1,856,824

MICROMETRIC DIVIDER

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Fig. 1.

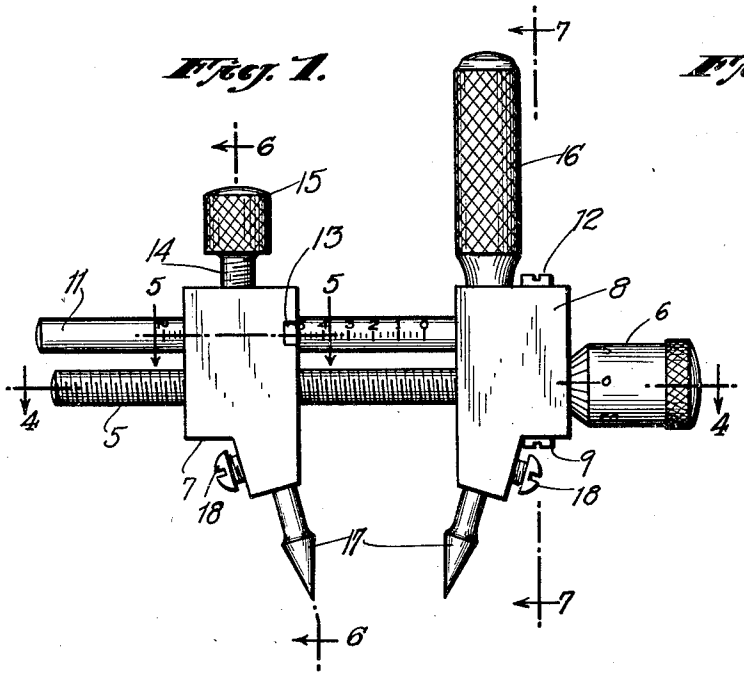

Fig. 2.

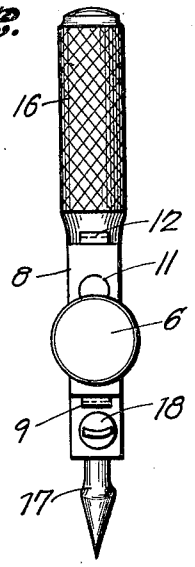

Fig. 3.

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Fig. 4.

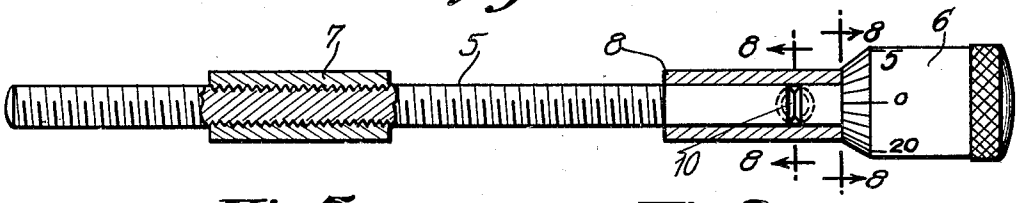


Fig. 5.

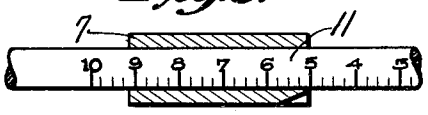


Fig. 8.

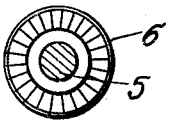


Fig. 7.

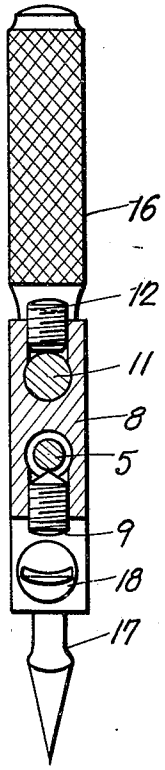


Fig. 6.

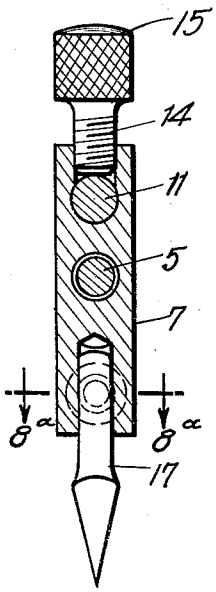
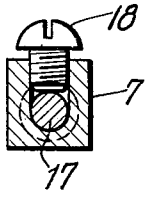


Fig. 8α



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UNITED STATES PATENT OFFICE

ROY EMERSON ALVEY, OF BRIDGEPORT, CONNECTICUT

MICROMETRIC DIVIDER

Application filed April 30, 1929. Serial No. 359,347.

This invention relates to new and useful improvements in geometrical instruments, especially to that type of instrument known as dividers, and aims to provide an efficient, simple and accurate instrument of this nature that is a considerable improvement from a standpoint of accurate measurement, and simplicity of use over the spring type of dividers now generally in universal use.

Other objects will become apparent as the nature of the invention is better understood from a consideration of the following specification in conjunction with the accompanying drawings, and in said drawings:—

Figure 1 is a side elevation of my improved micrometric divider.

Figure 2 is a rear end elevation thereof.

Figure 3 is a top plan view.

Figure 4 is an enlarged detailed longitudinal section taken substantially upon the line 4—4 of Figure 1.

Figure 5 is a fragmentary longitudinal section taken substantially upon the line 5—5 of the same figure.

Figures 6 and 7 are detailed vertical sections taken upon the lines 6—6 and 7—7 of said Figure 1, and

Figures 8 and 8*a* are detailed transverse sections taken upon the lines 8—8 and 8*a*—8*a*, respectively, of Figure 4.

Now having particular reference to the drawings, my novel micrometric dividers consist of a threaded stem 5 of predetermined length having mounted upon one end a thumb turning barrel 6 tapered at its inner end and provided at the tapering surface with predetermined graduations as indicated in Figures 1 and 4. The stem 5 preferably is threaded to provide approximately forty threads per inch, and said stem 5 is threaded through a carriage block 7, complementary to which is a stationary block 8, through which the stem 5 projects, that portion of the stem within the block 8 being unthreaded, as is clearly illustrated in Figure 4.

The stem 5 is prevented from endwise movement with respect to the stationary block 8 through the medium of a set screw 9 threaded through the lower end of the block, and engaging at its inner end within a channel 10 at the adjacent unthreaded portion of said stem, see Figures 4 and 7.

One side of the stationary block 8 at a point adjacent the graduations of the barrel 6 is provided with a hair line to register with the micrometric position of the graduations on said barrel 6.

Secured at one end within the upper end of the staionary block 8 is a horizontal measuring bar 11, having securing means consisting of a set screw 12. This measuring bar 11 is graduated preferably in .025″ spaces and each fourth line represents .100″ and is marked with a number starting from zero in predetermined spaced relation with respect to the stationary block 8. When the dividers are set up one-half degree or .500″, a marker 13 at the rear edge of the carriage block 7 will be on the line marked 5 of the measuring bar 11, and the zero line on the barrel 6 will be exactly in line with the said hair line at the rear edge of the stationary block 8, see Figure 1.

In order that the carriage 7 may be secured at predetermined adjusted positions with respect to the measuring bar 11, the upper end of said carriage is provided with a thumb screw 14, that may be tightly engaged with the measuring bar 11. This thumb screw is provided with a large knurled head 15 while the upper end of the stationary block 8 is provided with a somewhat elongated knurled handle stem 16, said head and stem providing handles for the dividers.

The lower ends of the blocks 7 and 8 are formed with oppositely extending diagonal sockets in order to receive the stems of divider points 17—17, said sockets and said points being such that the work engaging surfaces of the points will be exactly parallel as shown in Figure 1. These points may be interchangeable through the medium of set screws 18, threaded within the lower ends of the blocks 7 and 8, respectively.

In view of the foregoing description when considered in conjunction with the accompanying drawings, it will be apparent that I have provided a novel, simple, efficient and accurate micrometric divider, and even though I have herein shown and described

the invention as consisting of certain detailed structural elements, it is nevertheless to be understood that some departures may be had therefrom without affecting the spirit and scope of the appended claim.

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

An instrument of the character described comprising a threaded stem having an enlarged integral graduated head on one end thereof and an unthreaded portion adjacent the head provided with an annular groove, a block rotatably mounted on the unthreaded portion of the stem having a marker thereon for cooperating with the graduations on the head, a screw threaded into the block for engagement in the groove in a manner to retain said block against longitudinal movement on the stem, a graduated measuring bar rigidly and detachably anchored in the block and extending therefrom in spaced, superposed, parallel relation to the stem, an adjustable block threaded for longitudinal movement on the stem and having an opening through which the measuring bar slidably extends, said measuring bar constituting means for preventing rotation of the adjustable block with the stem, a set screw, having an enlarged head, threaded into the adustable block for engagement with the measuring bar for releasably securing said adjustable block in adjusted position, divider points detachably secured on the blocks and an upstanding handle member rigidly mounted on the first named block.

In testimony whereof I affix my signature.

ROY EMERSON ALVEY.