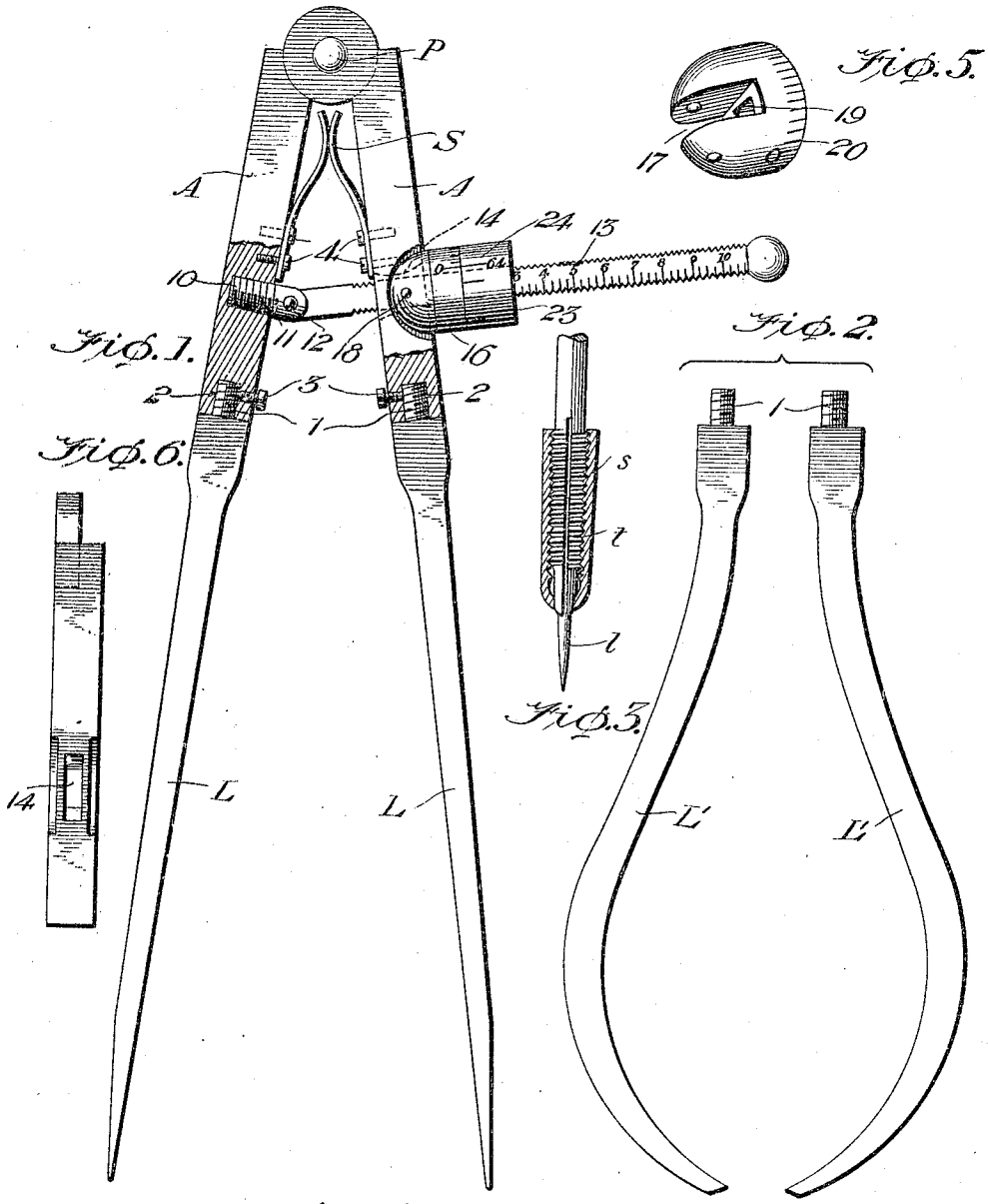
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DIVIDERS.

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1,303,747. Patented May 13, 1919.



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DIVIDERS.

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To all whom it may concern:

Be it known that I, CLINTON E. WALTON, a citizen of the United States, residing at Livingston, in the county of Park and State of Montana, have invented new and useful Improvements in Dividers, of which the following is a specification.

This invention relates to geometrical instruments, and more especially to distance measures having pivoted arms; and the object of the same is to produce an instrument of this character possessing an improved micrometer adjustment, together with means for taking up wear.

This and other objects are accomplished by constructing the device in the manner hereinafter more fully described and claimed, and as shown in the drawings wherein:—

Figure 1 is a side elevation of this instrument complete, the same herein shown as having a pair of straight legs.

Fig. 2 is a side elevation of a pair of curved legs which may be substituted to convert the instrument to caliper.

Fig. 3 is a detail of the lower end of one leg showing how a lead or marking point may be attached.

Fig. 4 is a perspective detail of the screw and its nut on an enlarged scale. Fig. 5 is a still further enlarged perspective detail of a vernier block.

Fig. 6 is a side view of the upper part of one of the arms.

The two arms A of this instrument are pivotally connected at their upper ends at P and are normally separated at their lower ends by interposed springs S, and the arms are adapted to carry legs which may be straight as shown at L or curved as shown at L′ to produce calipers. In Fig. 3 I have shown how the lower end of one leg may be split and threaded as at *t*, and a threaded sleeve *s* may inclose this portion so as to hold a marking point or lead *l* therein in case this leg is to be used as one of a pair of compasses. No novelty is claimed for the details thus far set forth.

The legs are detachably and interchangeably connected to the lower ends of the arms by appropriate means, and as herein illustrated said means comprise studs 1 rising from the upper ends of the legs and threaded as shown, sockets 2 in the lower ends of the arms threaded to engage threads on the studs, and set screws 3 in the arms which may be set to bear on the studs when the latter are screwed into the sockets. The springs S may be leaf springs as shown, their free upper ends contacting with each other near the pivot P and their lower ends secured by screws 4 to the inner faces of the two arms A. The legs may be given a variety of shapes, but I have considered it necessary to illustrate only two.

In the inner face of one arm is formed a threaded socket 10 and screwed into the same is a threaded screw 11 whose projecting inner extremity is bifurcated. Pivoted at 12 in the bifurcation is a bar 13 flattened on two sides and rounded on the other two sides and hereinafter called a "screw," its flattened sides being graduated and the graduations being numbered as desired. The other arm A is provided with an upright slot indicated in dotted lines at 14 in Fig. 1, through which the screw 13 projects loosely and in which it may have some swinging movement as necessary in the action of this instrument. Also the front and rear sides of said arm are cut out to receive the bifurcated inner end 17 of the block 16, and a pin or screw 18 passes through the arms of the bifurcation and into the arm A but not into the slot 14 where it would interrupt the passage of the screw 13. The block itself is provided with a longitudinal opening 19 through which the screw passes loosely, and on its surface it is marked around outer end with a vernier scale as indicated at 20.

Next outside the block and mounted on the threads of the screw 13 is a nut 23 whose inner end adjacent the block is marked on its periphery with a scale or with a series of marks as indicated at 24 coacting with the scale on the block. The normal expansion of the spring or springs S holds the arms A apart as far as permitted by the contact of the nut with the block.

The use of instruments of this character is too well known to need detailed description here. I may say, however, that the legs L are adjusted quickly by pressing them manually toward each other so as to take the spring tension off the nut, and then running the nut rapidly on the threads of the screw 13 by hand until the tips of the legs are nearly at the desired distance apart. Thereafter pressure on the legs is removed and the nut is turned rather more slowly by hand until the proper graduation and figure is exposed on the side of the screw

13 at the outer end of the nut. Now by turning the latter yet a little farther so that each mark or marks coact with the graduations on the block, the operator secures the vernier adjustment to perhaps a thousandth of an inch. While the wear in an instrument of this kind is exceedingly small, it can be taken up from time to time by adjusting the stud 11 in the socket 10. This can be accomplished by disconnecting the screw from the stud at their pivot 12, and after adjusting the stud the pivot is reinserted.

What is claimed as new is:—

1. The herein described dividers comprising a pair of arms pivotally connected at one end and having legs detachably connected with their other ends respectively, one arm having a threaded socket in its inner face and the other having a slot opposite the socket, a threaded stud screwed into said socket and having its inner end bifurcated, a screw passing loosely through said slot and pivoted at its inner end within the bifurcation of said stud, said screw being flattened along opposite sides and graduated and marked with numerals, a block pivoted to the second-named arm opposite its slot and itself having an opening through which the screw passes loosely, the outer end of the block being rounded and provided with vernier graduations, and a nut threaded on the screw outside said block and provided with a mark to coact with the graduations on the block.

2. The herein described dividers comprising a pair of arms pivotally connected at one end and carrying legs at their other ends, a spring normally spreading said arms, a stud on the inner face of one arm, the opposite arm having a slot in line with the stud, a screw passing loosely through said slot and connected at its inner end to the stud, its opposite side being flattened and marked with graduations and figures, a vernier block having its inner end bifurcated and the arms of the bifurcation passing astride the last-named arm and pivoted thereto, the block having a longitudinal opening in line with the slot in said arm and its outer end marked with graduations and numerals, and a nut threaded on the screw outside said block and provided with a mark to coact with the graduations on the block.

In testimony whereof I affix my signature.

MR. CLINTON E. WALTON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."