Feb. 6, 1951

D. S. RITCHIE

2,540,292

TOOL

Filed July 21, 1945

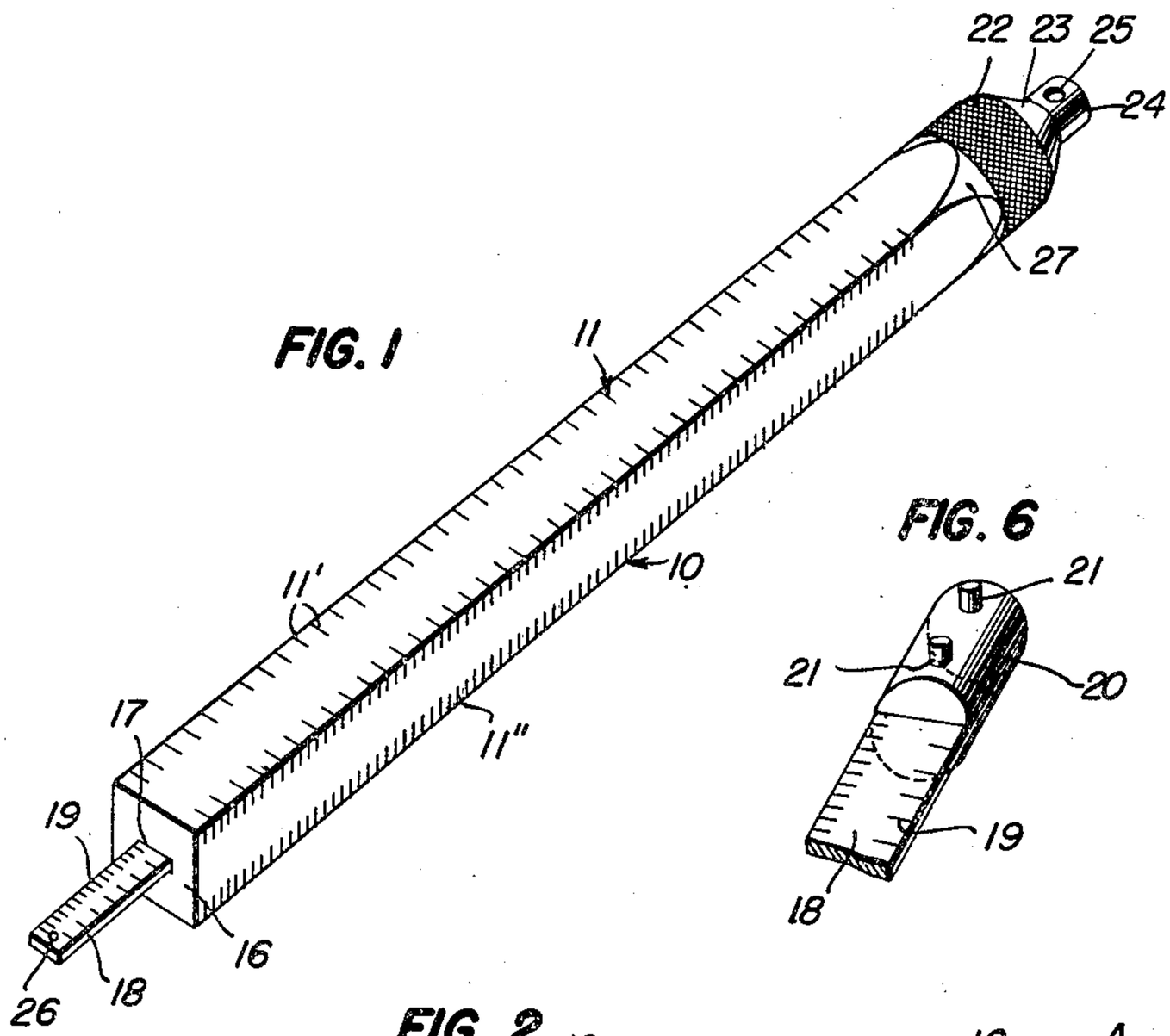

FIG. 1

FIG. 6

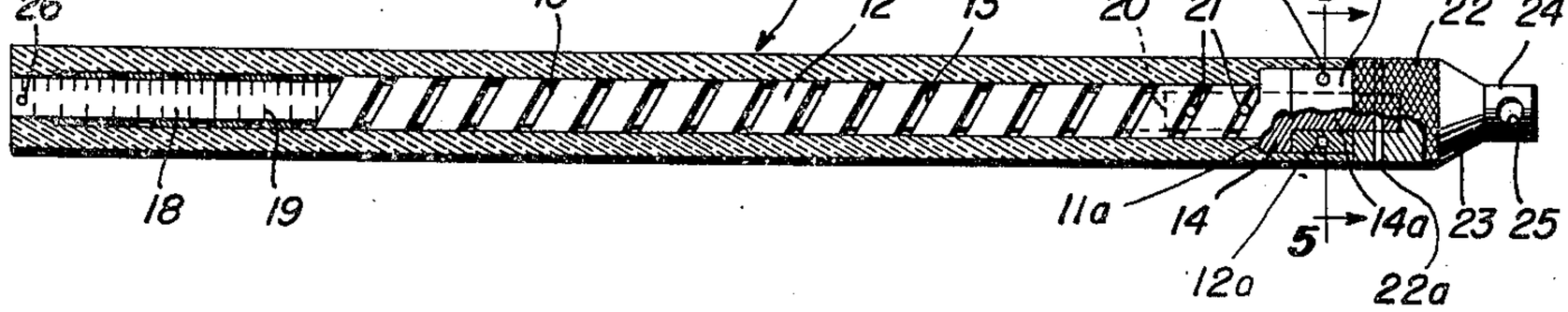

FIG. 2

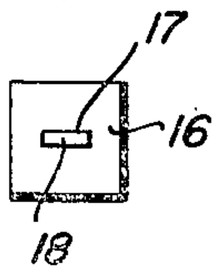

FIG. 3

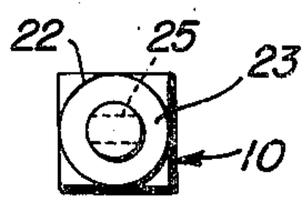

FIG. 4

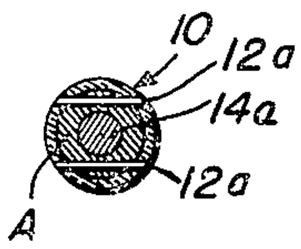

FIG. 5

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TOOL

Dayton S. Ritchie, Lincolnton, N. C.

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1 Claim. (Cl. 33—170)

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This invention relates to a tool, and more particularly to a measuring tool.

A primary object of this invention is the provision of an improved measuring tool, which may serve as a straight edge for a rule, and provided with an extensible portion which may be used for additional measurements, either to supplement the length of the initial rule, or for supplementary measurements on a relatively small scale, or as a depth gauge, or the like.

A further object of the invention is the provision of such a device which is particularly adapted for the use of artisans, such as model makers, machinists, electrical workers, students, and others.

A still further object of the invention is the provision of means comprising apertures in either end thereof, permitting the insertion of suitable points whereby the device may be utilized to scribe circles.

Still another object is the provision of improved means for varying the relative position in the inner rule with respect to the casing, in such manner as to provide relatively fine adjustments thereof.

A still further object is the provision of such a device which will be sturdy and durable in construction, reliable and efficient in operation, and relatively simple and inexpensive to manufacture and assemble.

Other objects reside in the combinations of elements, arrangements of parts, and features of construction, all as will be more fully pointed out hereinafter and shown in the accompanying drawing wherein there is disclosed a preferred embodiment of this inventive concept.

In the drawings, wherein like reference characters refer to like parts throughout the several views:

Figure 1 is a perspective view of one form of device embodying features of the instant invention,

Figure 2 is a longitudinal sectional view taken substantially along the center line of the device disclosed in Figure 1,

Figure 3 is an end elevational view of the device as viewed from the left in Figures 1 and 2,

Figure 4 is an end elevational view of the device as viewed in the opposite direction,

Figure 5 is a sectional view taken substantially along the lines 5—5 of Figure 2, and

Figure 6 is an enlarged perspective view of a constructional detail.

Having reference now to the drawings, there is generally indicated at 10 a casing, of any

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desired material, such as metal, plastic, or the like, of polygonal, preferably rectangular, cross-section. In the illustrative embodiment shown, the four sides of the casing 10 are provided with graduations 11 to any desired scale, as, for example, the markings on two sides may be in graduations of an eighth of an inch, as shown at 11', while the markings on the other two sides may be in graduations of sixteenths of an inch, as shown at 11''.

Obviously, if desired, other scales may be used, as for example, two sides of the device may be graduated in accordance with the metric system of measurement.

The casing 10 has a cylindrical bore therein, within which is contained a helix 12 including a helical groove 13. The upper extremity of the helix 12 is provided with a collar 14, as best shown in Figure 2, rotatably resting on a shoulder 11*a* at the socketed end of casing 10. Beyond collar 14 helix 12 terminated in a reduced cylindrical extension 14*a* surrounding which is a bushing A, beyond which the extremity 14*a* extends. Bushing A is suitably pinned to casing 10 as by pins 12*a*. As best shown in Figure 3, one end of the casing is provided with a closure 16 having a rectangular slot 17 therein, through which is adapted to extend the extremity of a rule 18, suitably graduated as at 19, in conformity with the graduations or calibrations on the exterior of the casing 10, and terminates, at its inner end, as best shown in Figure 6, in a cylindrical traveller 20 provided with aligned projections 21, spaced longitudinally at a distance substantially equal to the spacing between the grooves 13 in the helix 12. The outer extremity of extension 14*a* is pinned as at 22*a* to knurled cap 22, positioned exteriorly of the end of casing 10.

The cap 22 terminates in a frusto-conical portion 23, from which extends a cylindrical portion 24 having a bore 25 therethrough. A small aperture or hole 26 extends through the end of the rule 18.

As best shown in Figure 1, the upper extremity of the casing 10 merges into a circular portion 27 adapted to merge smoothly into the contours of the knurled cap 22.

From the foregoing, the operation of the device should now be readily understandable. The casing 10 may be used for ordinary linear measurements, and when additional measurements are desired, the rule 18 may be moved out of the casing through the slot 17 to any desired extent, and additional readings taken thereon as desired. It

will be readily understood that rotation of the knurled nut 22 causes corresponding rotation of the helix 12, which, through the prongs 21, occasions linear movement of the traveller 20, which, in turn, through the engagement of the spaces 13 with the pins 21, causes the rule 18 through the traveller 20 to move in a linear direction into and out of the casing 10 as desired.

When it is desired to scribe a circle with the device, it should be readily understandable that a pin may be passed through either the hole 26 or 25, and a lead or similar marker through the opposite hole, and the circle scribed. Obviously, the radius of the circle may be varied in accordance with the relative position of the rule 18 in or out of the casing.

From the foregoing, it will now be seen that there is herein provided a device accomplishing all of the objects of this invention, and others, including many advantages of great practical utility and commercial importance.

As many embodiments may be made of this inventive concept, and as many modifications may be made in the embodiment hereinbefore shown and described, it is to be understood that all matter herein is to be interpreted merely as illustrative and not in a limiting sense.

I claim:

A measuring device comprising a flat sided housing having aligned therein, a slot and bore, graduations on the exterior surfaces of said housing, a rule slidably received in said slot and said bore, means for adjustably sliding said rule, said means including a sleeve with helical grooves and disposed in said bore, a slide member rigidly secured to said rule, protuberances on said slide member operatively engaging the grooves of said sleeve, means rotatably journaled on said housing for rotating said sleeve, and means for preventing rotational movement of said slide member.

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