

No. 776,897.

PATENTED DEC. 6, 1904.

W. H. FERRIS.
COMBINATION RULER.
APPLICATION FILED FEB. 3, 1904.

NO MODEL.

Fig. 1.

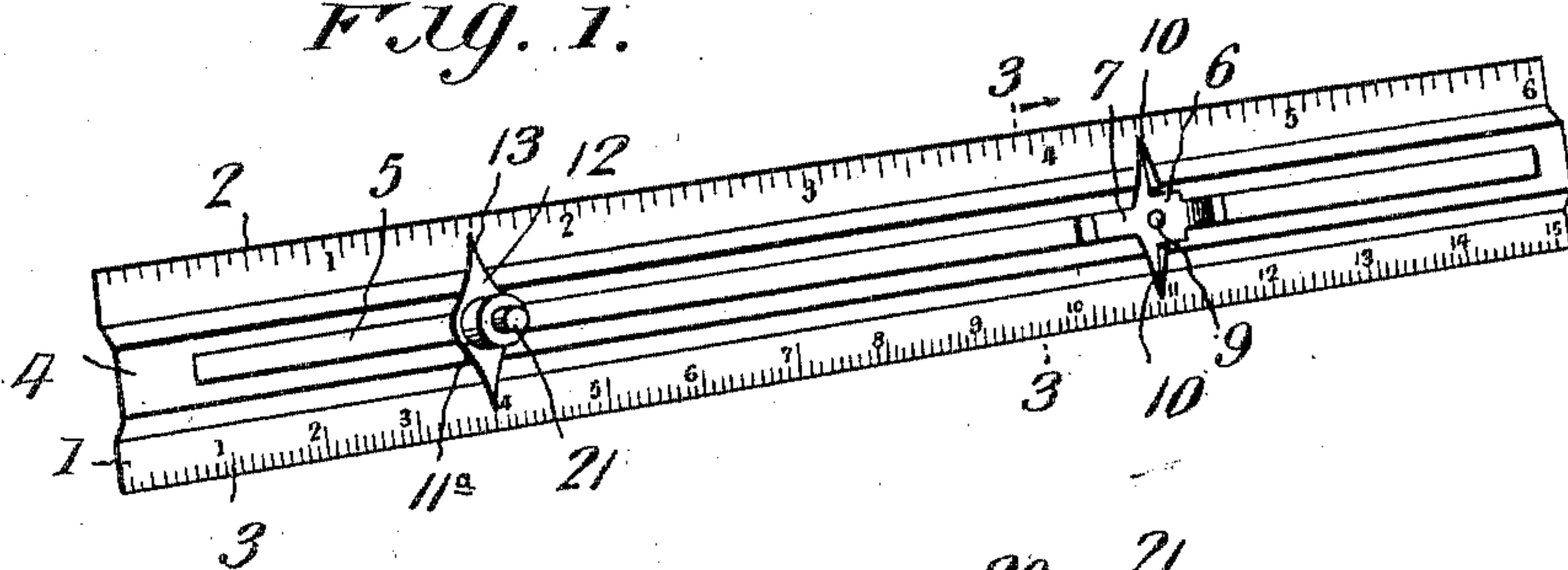


Fig. 2.

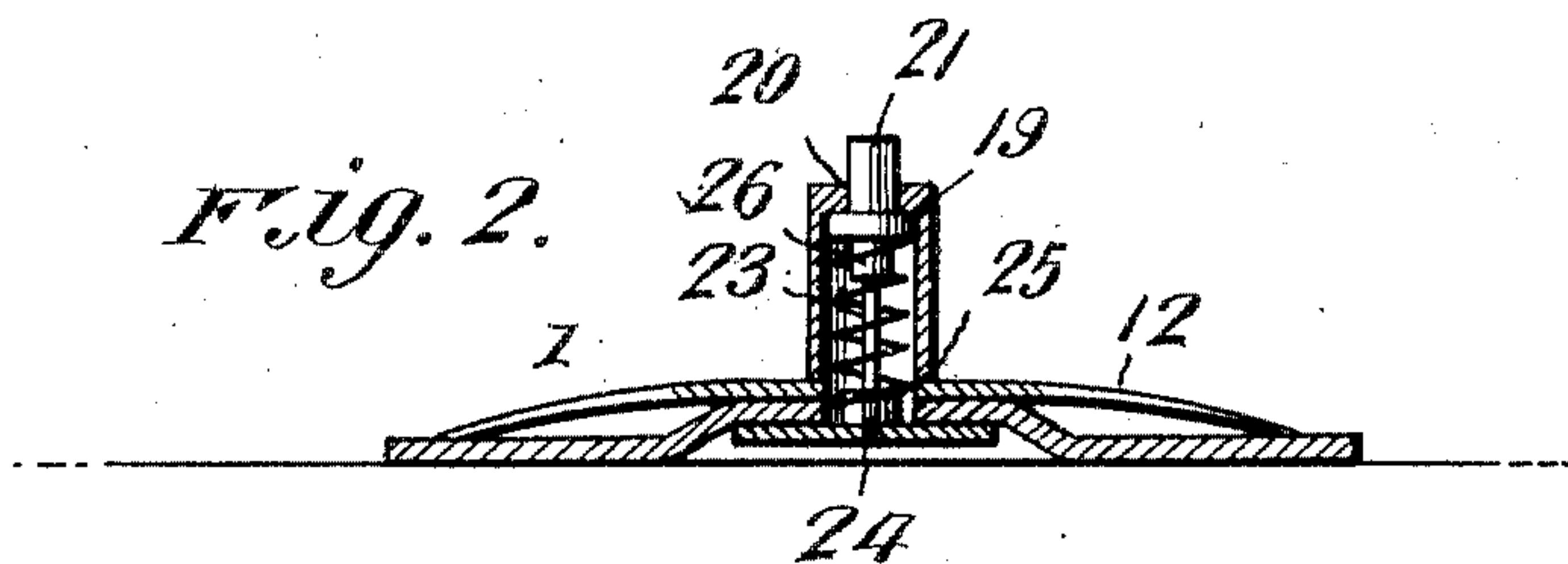


Fig. 3.

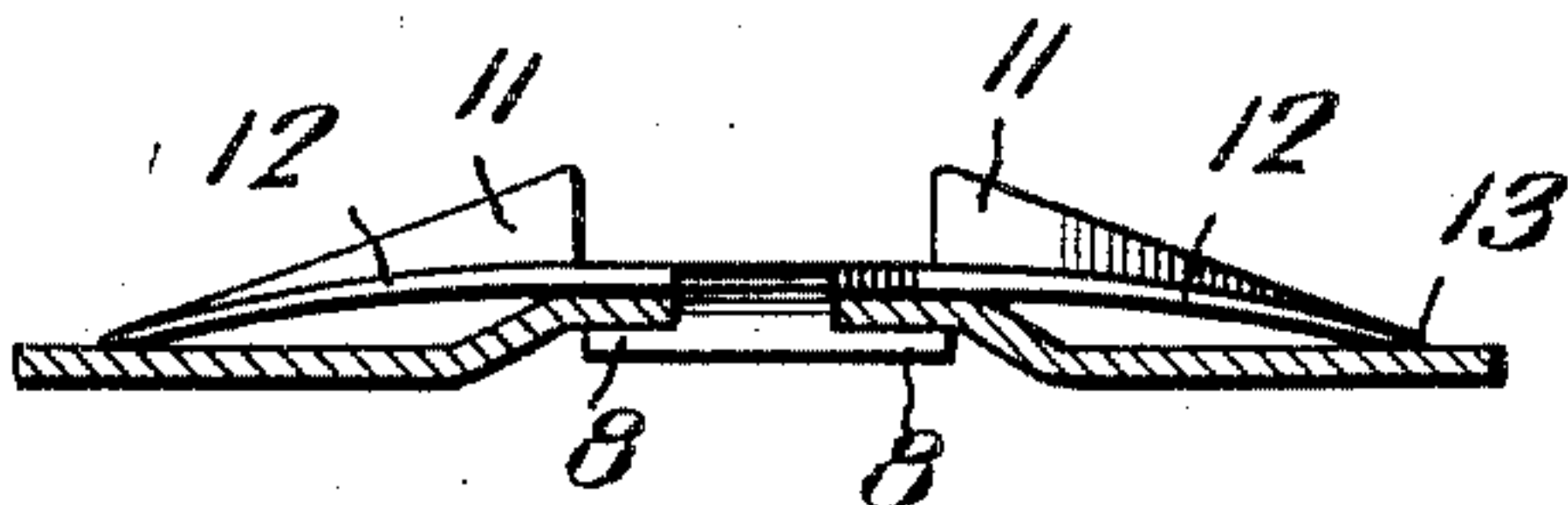


Fig. 4.

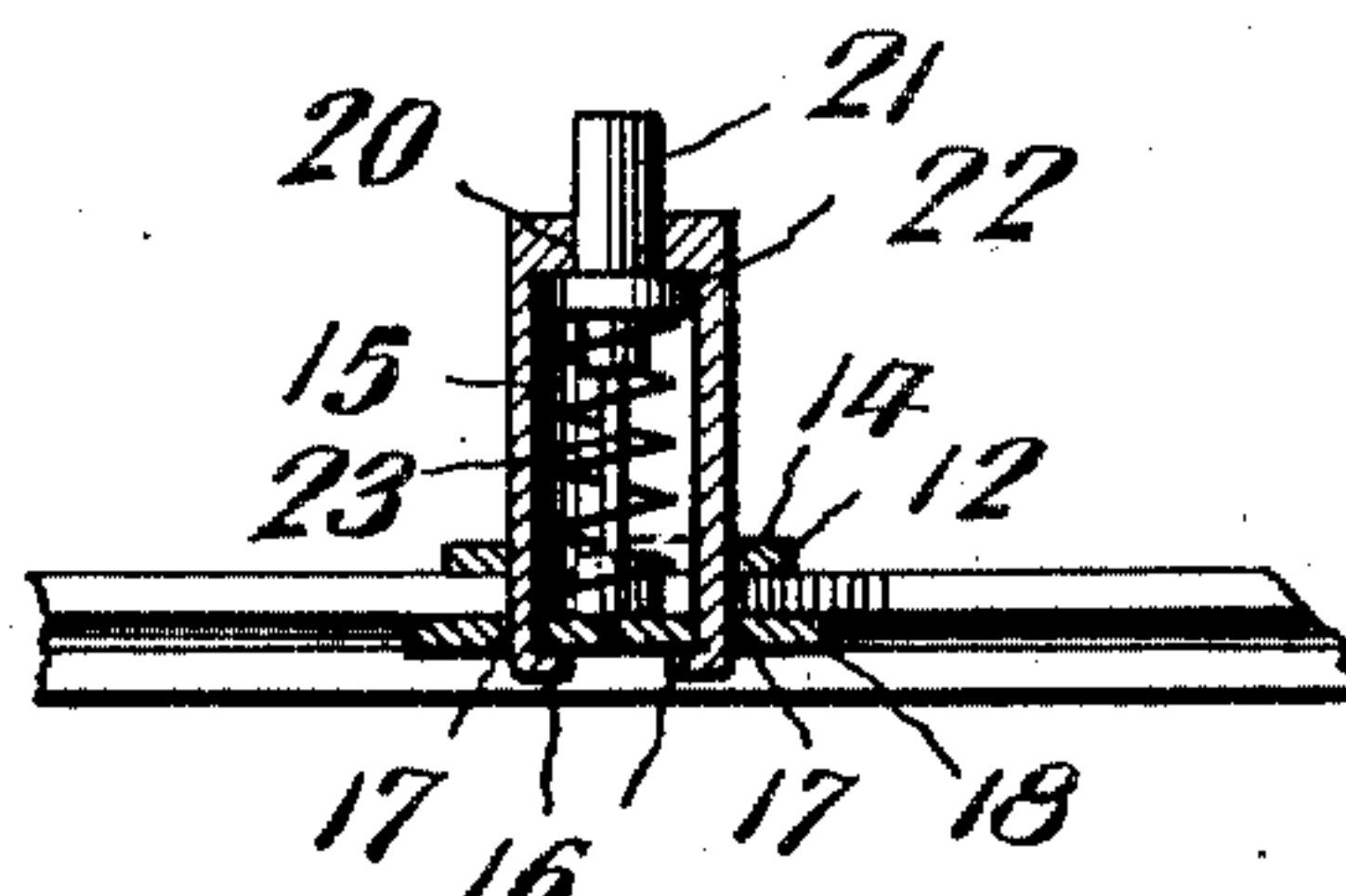


Fig. 5.

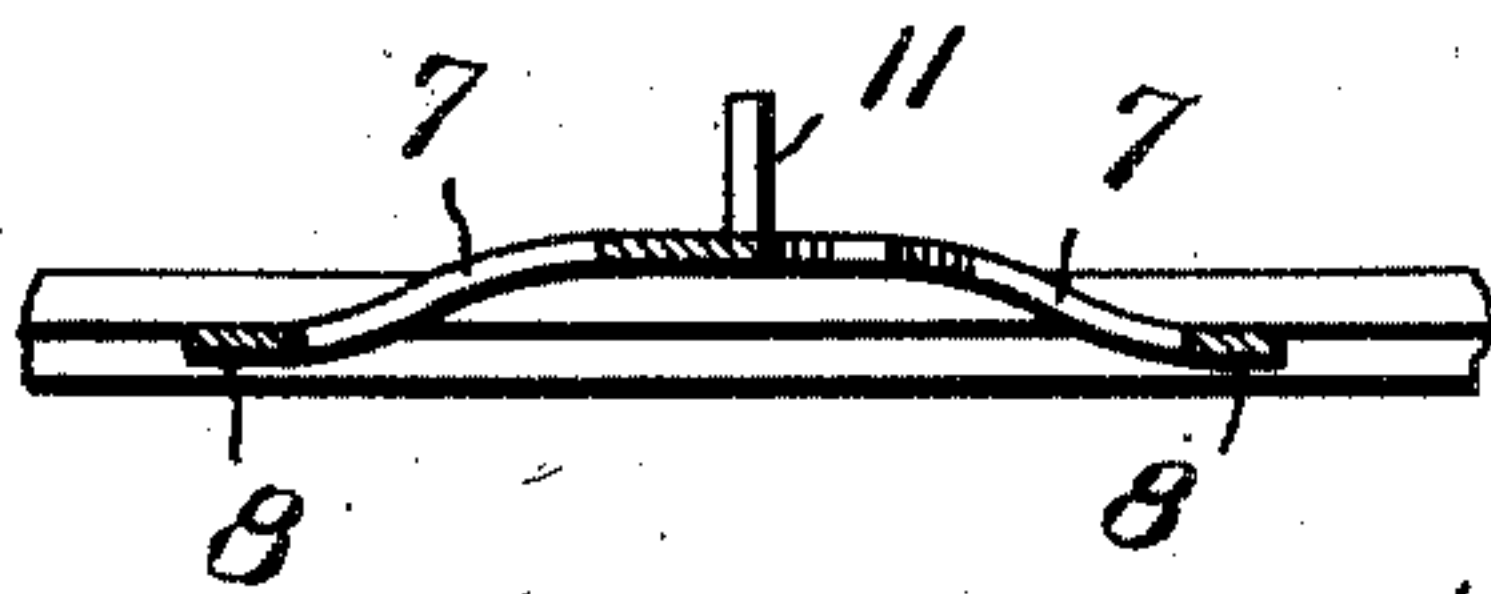
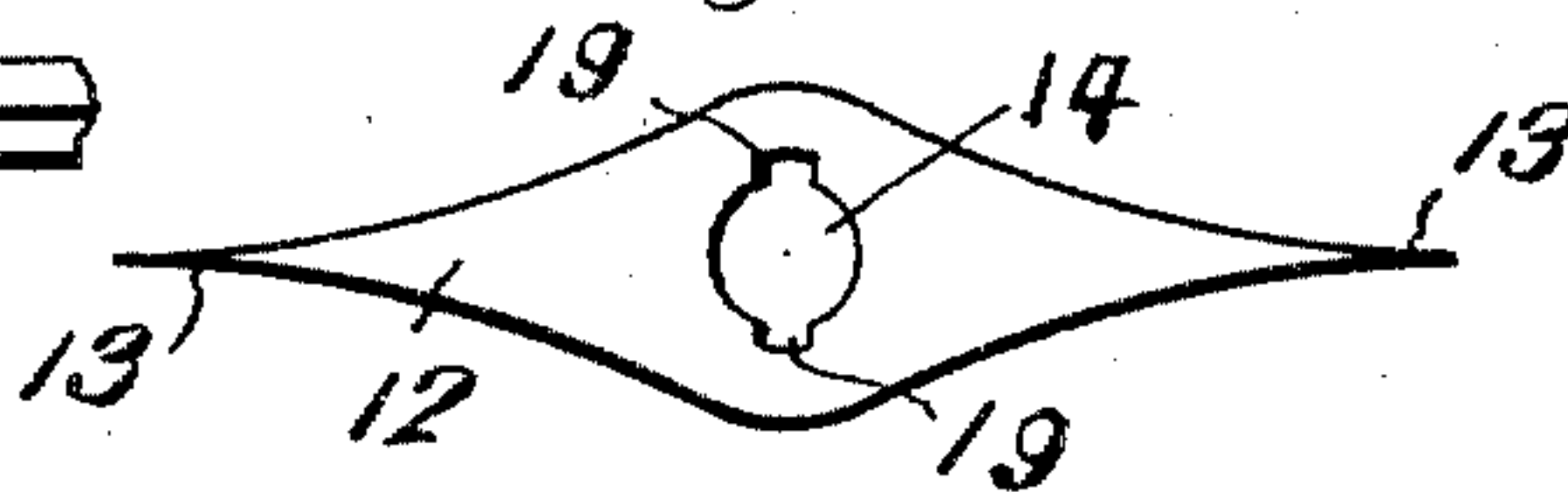


Fig. 6.



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COMBINATION-RULER.

SPECIFICATION forming part of Letters Patent No. 776,897, dated December 6, 1904.

Application filed February 3, 1904. Serial No. 191,859. (No model.)

To all whom it may concern:

Be it known that I, WILL H. FERRIS, a citizen of the United States, residing at Franklinville, in the county of Cattaraugus and State of New York, have invented new and useful Improvements in Combination-Rulers, of which the following is a specification.

This invention relates to a measuring-ruler adapted to be used for various purposes; and the primary object of the same is to provide a simple device of this class having means whereby it may be employed as an ordinary ruler, a compass, a gage, and a square, the parts being of such simple arrangement that the adjustment thereof can be easily accomplished to arrange the ruler for its various uses.

The invention consists in the construction and arrangement of parts, which will be more fully hereinafter set forth.

In the drawings, Figure 1 is a perspective view of a ruler embodying the features of the invention. Fig. 2 is a vertical transverse section through the ruler and a centering-slide forming part of the latter. Fig. 3 is a vertical transverse section through another part of the ruler and a pencil-holding slide, also forming a feature of the invention. Fig. 4 is a longitudinal vertical section through a part of the ruler and the centering-slide. Fig. 5 is a longitudinal vertical section through a part of the ruler and the pencil-holding slide. Fig. 6 is a detail plan view of one of the slide members.

Similar numerals of reference are employed to indicate corresponding parts in the several views.

The numeral 1 designates a ruler which may be of any length and material and formed with opposite horizontal edges 2 and 3, respectively, bearing scale-marks designating inches and fractions thereof and divisions in accordance with the metric system. The ruler, as shown, is about six inches long, and the two edges 2 and 3 are connected by an intermediate arcuate member 4, extending the full length of the ruler and having a longitudinal slot 5 in the center thereof. A pencil-holding slide 6 is adjustably mounted on the ruler and frictionally held in relation to the latter by an inter-

mediate body 7 of such width as to fit within the slot 5 and formed with oppositely-projecting keepers 8 at the ends which closely bear against the under side of the arcuate member 4. The slide 6 is constructed of resilient material, and the body 7, with the keepers 8, is arranged in such close relation to the arcuate member 4 and slot 5 that a frictional binding will be set up to maintain the said slide in adjusted position with such resistance as to avoid loose movement of said slide. In the center of the body 7 an opening 9 is formed, and in transverse alinement with said opening are opposite indicating-points 10, which firmly bear on the upper side of the arcuate member 4 and have their extremities bent downwardly and engaging the edges 2 and 3. These indicating-points diverge toward the body, and each has an upstanding wing or operating projection 11, whereby the slide may be manually moved.

A centering-slide 11^a is also applied to the ruler and consists of a slide member 12, having an intermediate enlarged body and oppositely-extending indicating-points 13, the said body being closely held against the upper side of the arcuate member 4 and the points 13 bent downwardly and bearing on the edges 2 and 3, similar to the points 10 of the pencil-slide. The center of the body of the member 12 is disposed over the slot 5 and has an opening 14 formed therein, through which is projected the lower end of an upstanding tubular support 15, the said support having bendable securing-prongs 16, which are inserted through oppositely-disposed openings 17 in a friction-plate 18, bearing against the under side of the arcuate member 4, the prongs 16 being bent inwardly. The opening 14 in the member 12 is of less diameter than that of the lower end of the support 15, the bendable prongs 16 being projected through diametrically-opposed slots 19, communicating with said opening, as clearly shown by Fig. 6. Consequently when the support 15 is applied, as clearly shown by Figs. 2 and 4, the lower end thereof bears on the upper surface of the intermediate portion of the member 12 around the opening 14, and as the prongs 16 are secured against the under side of the friction-plate 18 a binding engage-

ment is set up between the arcuate member 4 and the centering-slide as an entirety, which will resist loose movement on the latter. The plate 18 is of resilient material and will yield sufficiently to permit the slide 11 to be manually adjusted longitudinally of the ruler. The upper end of the support 15 is increased in thickness, as at 19, to strengthen the same, and through the center of said upper end of the support an opening 20 is formed, in which a push-head 21 is slidably mounted and has a lower collar 22 to bear against the lower side of the upper end of the support. Below the collar 22 the head 21 is reduced and is provided with a pin 23, having a lower pointed end which is projectable through an opening 24 in the center of the plate 18. Rising from the center of the plate 18 is a guide-boss 25, which has an opening therethrough in alignment with the opening 24. The pin 23 moves through the boss and is held by the latter in positive position relatively to the opening 24, so that when said pin is depressed it will always register with the latter opening. Surrounding the pin 23 and bearing at opposite terminals against the boss and the collar 22 is a spring 26, which operates to throw the pin and its head upwardly into normal elevated position.

The improved device is adapted for use in ordinary linear measurements and also as a gage for measuring articles, and when employed as a gage either one of the slides may be moved, but preferably the pencil-holding slide 6, which will be shifted in relation to one end of the ruler that may be raised against the bottom of the article of which it is desired to ascertain the depth.

In utilizing the improved device as a scale a line is first drawn along one edge and the points of either slide are then caused to coincide with said line, thereby swinging the side edges of the ruler in a plane at right angles thereto, and when the ruler is so disposed another line may be drawn to intersect that first laid out, and thus form a perfect square. The slides 6 and 11^a are also particularly adapted for use in describing arcs or drawing circles of any desired length of radius within the capacity of the ruler, and when the latter is so used the pin 23 is pressed downwardly to engage the paper or other material on which it is desired to describe an arc or circle to form a center point, a pencil or other marking device being inserted through the opening 9 in the center of the body 7 and caused to engage the surface on which the ruler is held. In describing arcs or circles with the improved device measurements can readily be obtained by moving the slides so that an arc or circle of any desired length of radius may be pro-

duced. When the pin 23 is released after the arc or circle or a number of the latter have been formed, it will automatically move upwardly into the support 15 and adapt the ruler to be used for any other purpose on a surface without liability of scoring or injuring such surface.

Metal, wood, celluloid, or other suitable material may be used in forming the ruler, and the latter can also be ornamented by plating or otherwise. It is preferred that metal be used in the construction of the slides.

Having thus fully described the invention, what is claimed as new is—

1. A ruler having edge scale-marks and an intermediate raised portion with a longitudinal slot therein, a slide adjustably mounted on the ruler and provided with a movable center point, and a second slide movably engaging the ruler and having an opening therein for the insertion of a marking device therethrough, both slides being provided with oppositely-extending indicating-points projecting downwardly over the said raised portion to engage the scale-marks.

2. A ruler embodying edges having scale-marks thereon and an intermediate raised portion, and a pair of slides mounted on the raised portion of the ruler and having pointed extremities extending downwardly to and closely engaging the scale-marks at the opposite edges, the one slide having a spring-actuated means for holding the ruler in positive position to describe an arc and the other an opening for the insertion therethrough of a marking device, the raised portion of the ruler being longitudinally slotted.

3. A ruler embodying a raised central portion with a longitudinal slot therein and opposite edges having scale-marks thereon of different measuring systems, and a pair of slides adjustable on the said raised central portion and having oppositely-extending indicating-points to engage the said marks.

4. A ruler embodying a raised central portion with a longitudinal slot therein and opposite edges having scale-marks thereon of different systems, and slides adjustably mounted on the said raised central portion and provided with oppositely-extending indicating-points held in close relation to said marks, one slide having a depressible center point, and the other an opening for the insertion therethrough of a marking device.

In testimony whereof I affix my signature in presence of two witnesses.

WILL H. FERRIS.

Witnesses:

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E. J. REIMANN.