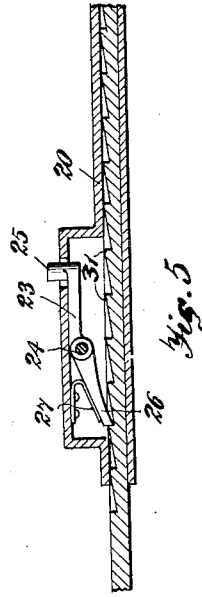
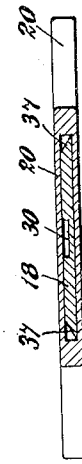
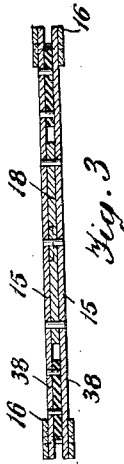
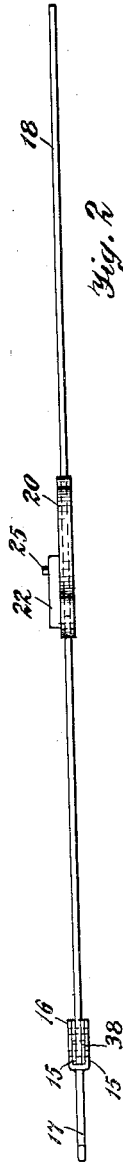
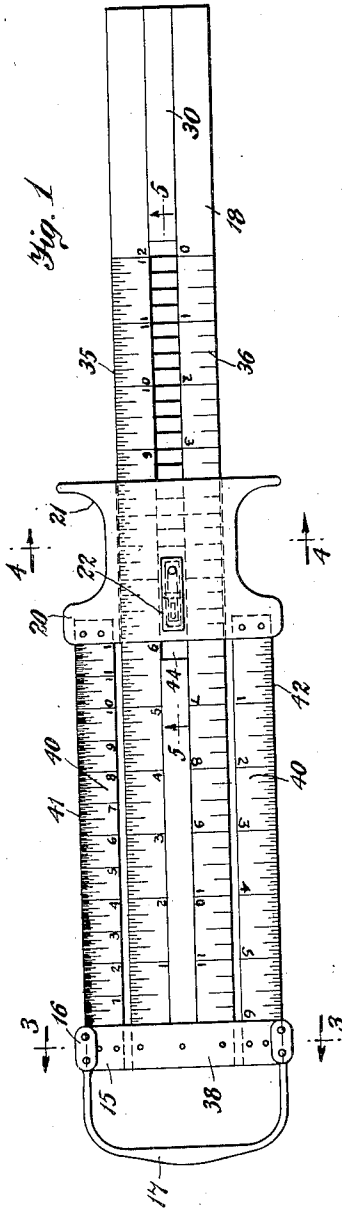


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B. FERRUGHELLI
PROPORTIONAL SLIDE RULE
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PROPORTIONAL SLIDE RULE

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1 Claim. (Cl. 235-70)

This invention relates to slide rules, for use by architects, artisans, engineers, mechanics and others engaged in work requiring scale measurements.

5 It is an object of the invention to provide a rule readily settable and unusually accurate, certain of the graduated scales being composed of elastic, contractile material.

10 A further feature is in the provision of a plurality of well defined stops of definite accuracy, which avoid the danger of accidental displacement after setting.

15 Another purpose is to produce a rule provided with scales the normal graduations of which may be uniformly varied with respect to spaced relation.

20 These and other objects are accomplished by the novel construction and arrangement of parts hereinafter described and illustrated in the accompanying drawing, constituting a material part of this disclosure, and in which:

Figure 1 is a top plan view of an embodiment of the invention.

Figure 2 is an edge view of the same.

25 Figure 3 is an enlarged cross sectional view taken on line 3-3 of Figure 1.

Figure 4 is a similar sectional view taken on line 4-4 of Figure 1.

30 Figure 5 is a further enlarged fragmentary longitudinal sectional view taken on line 5-5 of Figure 1.

Referring to the drawing in greater detail, the numeral 15 designates a pair of thin bars held in clamped relation at their ends by the riveted

35 jaws 16 of a bowed handle 17. Fixed centrally between the bars 15 is a broad scale blade 18 extending to a considerable distance oppositely outward with respect to the handle.

40 A slide 20 is mounted to move along the bar 18, the slide having lateral recesses 21 to provide an efficient grip.

A raised housing 22 on the upper surface of the slide carries a lever 23, pivoted at 24, one arm 45 of the lever having a knob 25 projecting through the raised cover of the housing, the other arm terminating in a pawl 26 pressed downwardly by a spring 27.

The central portion of the bar 18 has a longitudinal channel 30 in which are formed ratchet teeth 31 engageable by the pawl as the slide 20 is drawn outwardly, the teeth being accurately spaced to agree with the graduations on the scale.

55 The bar 18 bears graduations 35-36 on its upper side, adjacent its respective edges, which are preferably bevelled, as at 37, and is firmly secured in the head 38 formed by the bars to which the handle 18 is attached.

Spaced outwardly from the edges of the graduated bar 18 are elastic strips 40, such as rubber, these strips being confined to the slide 20 and head 38 at their respective ends, as best seen in Figure 1.

These strips bear graduations 41-42 respectively and can be read in connection with the graduations on the bar 18.

The effect of the elastic strips is to maintain the slide 20 against a stop 44, set in the channel, or if the slide is drawn outwardly, maintain the slide carried pawl 26 in contact with any of the teeth 31 to which it may be adjusted.

Thus the rule may be used by artisans where an enlarged or diminished scale must be employed, such for instance as pattern makers, and architects who ordinarily employ what is known as "shrink" rules in which the scale is proportionately increased over that which is normal.

To use the present slide rule in which the extensible members 40 are graduated to read to one-half the scale on the rigid bar 18, it will be apparent that a reduction of 2 to 1 is its normal condition; if the members 40 be stretched until the index numerals 1-1 are in register the scales will be alike, while if the numeral 1 on member 40 be brought to register with the numeral 2 on the rigid scale, a proportion of 1 to 2 is obtained, or in other words, a double size is indicated.

As an example in the use of the scale, let it be assumed that a drawing is to be reduced in size so that 7 inches equals 12 inches of the original. The edge of the slide 20 is placed at the 7 inch mark on the scale 35 of the permanent or fixed bar 18, thereby the 12 inch scale of the elastic scale 40' will have been reduced to a proportion of 7 to 12.

Obviously other similar proportions can readily be attained.

Having thus described the invention, what is 40 claimed as new and sought to secure by Letters Patent, is:

A proportionate rule comprising a thin, flat rigid graduated straight scale bar having a central longitudinal channel throughout its entire 45 length on one side thereof, ratchet teeth disposed transversely in said channel in uniformly spaced definite relation, a slide movable on said scale, a spring pressed manually operable pawl pivoted in said slide selectively engageable with 50 said teeth, a cross bar fixed on one end of said scale, a loop handle combined with said bar, elastic scales fixed at their respective ends to said slide and bar, parallel and closely adjacent said stationary scale, and series of graduations on said 55 elastic scales normally half the distance apart as the graduations on said stationary scale.

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