No. 806,836. PATENTED DEC. 12, 1905.

C. J. PRINTZ.

RUNNER OR CURSOR.

APPLICATION FILED MAY 3, 1905.

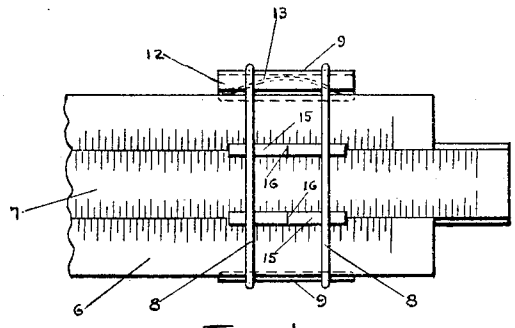


Fig. 1.

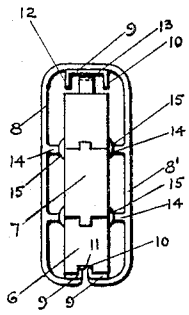


Fig. 5.

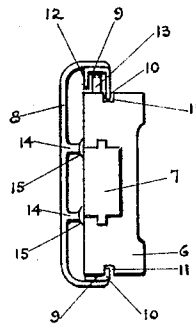


Fig. 3.

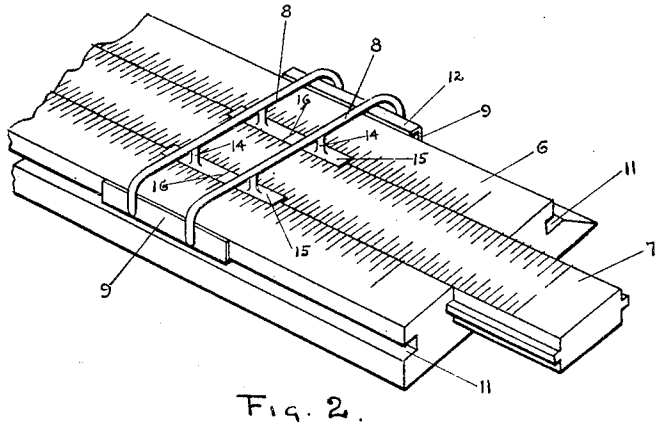


Fig. 2.

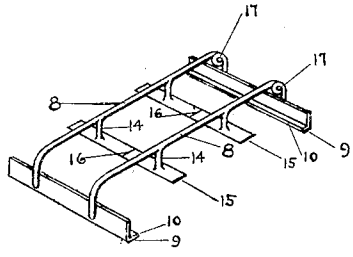


Fig. 4.

WITNESSES.

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RUNNER OR CURSOR.

No. 806,836. Specification of Letters Patent. Patented Dec. 12, 1905.

Application filed May 3, 1905. Serial No. 258,590.

To all whom it may concern:

Be it known that I, CARL J. PRINTZ, residing in Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented new and useful Improvements in Runners or Cursors for Rules, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

My invention has relation to improvements in runners or cursors for rules, more particularly adapted for use, although not necessarily, in connection with so-called "slide-rules."

As is well known, a sliding runner or cursor is a common attachment for slide-rules. These runners or cursors as ordinarily constructed are of such character that some of the figures or marks upon the scales are obscured by the runner or cursor, or where not obscured some suitable transparent material is required to be used.

It is the primary object of my invention to provide a construction wherein a runner or cursor is employed which is of such character and construction that none of the figures or marks upon the scales are obscured, this being accomplished without the necessity of employing a transparent medium or plate.

With the above primary object and other incidental objects in view the invention consists of the devices and parts or their equivalents, as hereinafter set forth.

In the accompanying drawings, Figure 1 is a plan view of a slide-rule equipped with my invention. Fig. 2 is a perspective view of Fig. 1. Fig. 3 is an end view. Fig. 4 is a detail view of the runner or cursor, illustrating a slight modification; and Fig. 5 is an end view of a modified form of construction.

Referring to the drawings, the numeral 6 indicates the stationary part of an ordinary form of slide-rule, and 7 the so-called "slide" or movable portion thereof. As these parts are of an ordinary and well-known form of construction, no detail description thereof is necessary.

The improved form of runner or cursor consists, as specifically shown in the drawings, of two members 8 8, which span or bridge across the rule and are bent into approximate inverted-U-shape form. The opposite ends of these members 8 8 are connected by means of connecting-plates 9 9, the lower edges of said connecting-plates being bent inwardly to form inwardly-projecting lips 10 10, which fit and are guided in grooves 11 11 in the opposite longitudinal edges of the stationary portion 6 of the rule. If desired, one of the end-connecting plates 9 may also be provided at its upper edge with an inwardly-extending lip 12. The said plate is thereby made to serve as a keeper for a flat spring 13, said spring secured at its center to the plate 9 and having its free ends bearing against the adjacent side edge of the stationary portion 6 of the rule. This spring forms a yielding bearing against the edge of the rule, and thereby serves to yieldingly hold the runner or cursor at the position to which it may be adjusted and against accidental displacement, while at the same time the free movement of the runner to another position or adjustment is not interfered with. The transverse members 8 8 have depending therefrom short legs 14, the lower ends of which legs are connected by flat arms 15 15, said arms preferably having their upper surfaces white enameled and provided centrally with the transverse hair lines or marks 16. These flat arms are so located to lie over the joints between the stationary portion of the rule and the longitudinal edges of the slide 7. In this position they do not obscure the graduations or marks of the respective scales, inasmuch as said marks extend laterally beyond the arms 15, and they necessarily do not obscure the figures or numerals on the scales, inasmuch as they lie between said figures or numerals.

It will be observed that even though some of the graduated marks or the numbers on the scales may be hidden from sight when looking directly down upon the rule, yet by reason of the fact that the members 8 8 are arched transversely over the rule these marks or numbers which may be hidden from sight when looking directly down upon the rule are clearly visible by glancing beneath the members 8.

Fig. 4 of the drawings illustrates a slight modification in the construction of the runner or cursor. In this modification the upper lip 12 of one of the plates 9 is omitted and also the flat spring 13. In lieu of these parts the wire members 8 8, near the extremities thereof which join one of the plates 9, are coiled, as indicated by the numerals 17 17. This has the effect of causing a yielding pressure to be exerted on the said plate 9, and hence the coils 17 perform substantially the same function as that described with refer-

ence to the spring 13 illustrated in the other figures of the drawings.

In Fig. 5 of the drawings I have shown another modification, wherein the runner is duplicated upon the opposite side of the rule. This is secured by continuing each member 8 around edge end of the rule, thence beneath the rule to form the under member 8′, and thence upwardly adjacent to the opposite longitudinal edge of the rule, the two ends of each integral member 8 8′ being joined by means of the plates 9 9, said plates being provided with the inwardly-extending lips 10, which fit and are guided in the groove 11. The member 8′ is also provided with the projecting legs 14, which carry the arms 15. The portions of the wires 8 8′ which bend around one longitudinal edge of the rule have secured thereto the plate 9, provided with the lips 10 and 12, and the flat spring 13 is secured to this plate and at its free ends bears against the longitudinal edge of the rule.

My invention is well adapted for use in connection with a rule having only one series of graduations in conjunction with the graduations upon the slide. In such construction of rule only one of the members 15 need be provided. My invention, furthermore, contemplates the employment of only one of the members 8 instead of two bridging members, and in such modified form of the device a single arm 15 or a plurality of such arms, as may be required, would project from the single member 8. I furthermore do not wish to be understood as confining my invention necessarily to the employment of the end-connecting plates 9 9, inasmuch as these plates might be omitted entirely and the downwardly-bent ends of the members 8 made to embrace closely the longitudinal side edges of the rule or be bent inwardly to engage and be guided in the grooves 11.

What I claim as my invention is—

1. A runner or cursor for a rule, consisting of a transverse arch-shaped member bridging or spanning the graduated face of the rule, and being above said face of the rule, and having its ends movably fitted to the rule, and an arm carried by the bridging member and below the same and resting on the rule at such point as not to obscure the full length of the graduated marks of the rule, nor to obscure the figures or numerals of the rule, the said arm being provided with a mark.

2. A runner or cursor for a rule, consisting of a transverse arch-shaped member bridging or spanning the graduated face of the rule, and being above said face of the rule, and having its ends movably fitted to the rule, and arms carried by the bridging member and below the same and resting on the rule at such points as not to obscure the full length of the graduated marks of the rule, nor to obscure the figures or numerals of the rule, each of said arms being provided with a mark.

3. A runner or cursor for a rule, consisting of transverse arch-shaped members bridging or spanning the graduated face of the rule and being above said face of the rule, and having their ends movably fitted to the rule, and an arm connecting the bridging or spanning members and resting on the rule at such point as not to obscure the full length of the graduated marks of the rule, nor to obscure the figures or numerals of the rule, the said arm being provided with a mark.

4. A runner or cursor for a rule, consisting of transverse arch-shaped members bridging or spanning the graduated face of the rule and being above said face of the rule, and having their ends movably fitted to the rule, and arms connecting the bridging or spanning members and resting on the rule at such points as not to obscure the full length of the marks of the rule, nor to obscure the figures or numerals of said rule, each of said arms being provided with a mark.

5. A runner or cursor for a rule, consisting of a transverse arch-shaped member bridging or spanning the graduated face of the rule and being above said face of the rule, an arm extending from the bridging or spanning member and resting on the rule at such point as not to obscure the full length of the marks of the rule, nor to obscure the figures or numerals of said rule, the said arm provided with a mark, and plates at the opposite ends of the bridging member, said plates movably fitted to the side edges of the rule.

6. A runner or cursor for a rule, consisting of transverse arch-shaped members bridging or spanning the graduated face of the rule, and being above said face of the rule, an arm connecting said bridging members and resting on the rule at such point as not to obscure the full length of the marks of the rule, nor to obscure the figures or numerals of said rule, the said arm provided with a mark, and plates connecting the opposite ends of the bridging members and movably fitted to the side edges of the rule.

7. A runner or cursor for a rule, consisting of a transverse arch-shaped member bridging or spanning the graduated face of the rule, and being above said face of the rule, an arm extending from the bridging or spanning member and resting on the rule at such point as not to obscure the full length of the marks of the rule, nor to obscure the figures or numerals of the rule, the said arm provided with a mark, and plates at opposite ends of the bridging member, one of said plates provided with an inwardly-extending lip adapted to fit a groove in the side edge of the rule.

8. A runner or cursor for a rule, consisting of transverse arch-shaped members bridging or spanning the graduated face of the rule and being above said face of the rule, an arm connecting said bridging or spanning members and resting on the rule at such point as

not to obscure the full length of the marks of the rule, nor the figures or numerals of said rule, the said arm provided with a mark, and end plates connecting the opposite ends of the bridging members, one of said plates provided with an inwardly-extending lip adapted to fit a groove in the side edge of the rule.

9. A runner or cursor for a rule, consisting of a transverse arch-shaped member bridging or spanning the graduated face of the rule and being above said face of the rule, and having its ends movably fitting the rule, one of the ends having a yielding spring-pressure against one of the longitudinal edges of the rule, and an arm carried by the bridging member and below the same and resting on the rule at such point as not to obscure the full length of the graduated marks of the rule, nor to obscure the figures or numerals of the rule, said arm provided with a mark.

10. A runner or cursor for a rule, consisting of a transverse arch-shaped member bridging or spanning the graduated face of the rule and being above said face of the rule, and having its ends movably fitting the rule, one of said ends connected to a spring-carrying plate, the spring bearing yieldingly against the longitudinal edge of the rule, and an arm carried by the bridging member and resting on the rule at such point as not to obscure the full length of the graduated marks of the rule, nor to obscure the figures or numerals of the rule, the said arm provided with a mark.

11. A runner or cursor for a rule, consisting of transverse arch-shaped members bridging or spanning the graduated face of the rule and being above said face of the rule and having their opposite ends movably fitted to the rule, corresponding ends of the bridging members having a yielding spring-pressure against one of the longitudinal edges of the rule, and an arm carried by the bridging member and resting on the rule at such point as not to obscure the full length of the graduated marks of the rule, nor to obscure the figures or numerals of the rule, the said arm provided with a mark.

12. A runner or cursor for a rule, consisting of transverse arch-shaped members bridging or spanning the graduated face of the rule and being out of contact with said face of the rule and having their opposite ends movably fitting the rule, and corresponding ends connected to a spring-carrying plate, the spring bearing yieldingly against one of the longitudinal edges of the rule, and an arm connecting the bridging members, and in contact with the rule at such point as not to obscure the full length of the graduated marks of the rule, nor to obscure the figures or numerals of the rule, the said arm provided with a mark.

13. A runner or cursor for a rule, consisting of transverse arch-shaped members bridging or spanning the graduated face of the rule and being out of contact with said face of the rule, an arm connected to the bridging or spanning members and resting on the rule at such point as not to obscure the full length of the graduated marks of the rule, nor to obscure the figures or numerals of the rule, the said arm provided with a mark, a plate connecting corresponding ends of the bridging members, said plate provided with an inwardly-extending lip adapted to engage a groove in the side edge of the rule, a plate connecting opposite corresponding ends of the bridging members, and a spring carried by said plate and having its ends bearing against the longitudinal edge of the rule.

14. A runner or cursor for a rule, consisting of a bridging or spanning member extending over but not in contact with one face of the rule, thence extended around one longitudinal edge of the rule, thence beneath the rule but not in contact with the opposite face of said rule, the ends of said bridging member having a movable connection with the rule, and arms carried by the portions of the bridging or spanning members which lie over the opposite faces of the rule, the said arms resting on the rule at such points as not to obscure the full length of the graduated marks of the rule, nor to obscure the figures or numerals of the rule, and each of said arms provided with a mark.

15. A runner or cursor for a rule, consisting of bridging or spanning members extending over but not in contact with one face of the rule, thence extended around one longitudinal edge of the rule, thence beneath the rule but not in contact with the opposite face of said rule, the ends of said bridging members having a movable connection with the rule, and arms carried by the portions of the bridging members which lie over the opposite faces of the rule, said arms being in contact with said opposite faces of the rule at such points as not to obscure the full length of the graduated marks of the rule, nor to obscure the figures or numerals of the rule, and each of said arms provided with a mark.

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

CARL J. PRINTZ.

Witnesses:

ANNA F. SCHMIDTBAUER,

A. L. MORSELL.