



Date of Application, 12th Aug., 1907—Accepted, 12th Dec., 1907

COMPLETE SPECIFICATION.

“Improved Slide Rule”.

I, SEINEN YOKOTA, Assistant Professor of Naval Architecture at the College of Engineering, Imperial University, Tokyo, Japan, do hereby declare the nature of this invention, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement;—

This invention relates to improvements in slide rules which are illustrated in the accompanying drawings, in which the various scales are drawn diagrammatically, and in which

- Fig. 1 is a plan view of the top side of my improved rule,
 Fig. 2 an end view thereof,
 Fig. 3 a rear elevation of same, and
 Fig. 4 a plan view of the under side of the slide of such rule.

According to my invention the upper edge (as seen in plan in Fig. 1) of the rule is provided with the ordinary centimetre scale A, and the slide B of such rule on its upper side is provided with the ordinary scale of common logarithms of squares C on its upper edge and the ordinary scale of common logarithms D on its lower edge.

The space between the ordinary centimetre scale A on the upper edge of the rule and the upper edge of the slide B thereof is provided with a log log scale E of from nearly 1 to 1,000,000, such scale being drawn in three lines instead of in one or two lines as hitherto.

The lower edge of the scale is provided with a log log scale F of less than 1, and which, like the log log scale of above 1, E, is drawn in three lines instead of in one or two lines as hitherto.

The arrangement of the log log scales in three lines instead of one or two as hitherto, permits of a greater range of calculations, and with a greater degree of accuracy.

The upper side of the centre of slide B, between the scale of common logarithms of squares C on its upper edge and the scale of common logarithms D on its lower edge, is provided with a scale of common logarithms of cubes G.

The under side of slide B as shown in Fig. 4 on its upper edge is as usual provided with a scale of logarithmic sines H and its lower edge with a scale of logarithmic tangents I, but intermediate of such scales a scale of logarithmic secants J is drawn.

The bottom of the rear edge of the rule as shown in Fig. 3 is provided with a scale of ordinary inches K as has hitherto been proposed for the purpose of reading logarithms, such inch scale being divided into decimals, and the centre of the cursor L has a depending index or finger H acting in conjunction therewith.

The whole of the scales are made to the standard of 10 inches instead of the usual standard of 25 centimetres, whereby the ordinary scale of inches K on the rear edge can be used also for the reading of logarithms at the same time, and an additional scale for the reading of logarithms thus be dispensed with.

It will be readily understood that the various improvements above described greatly increase the utility of slide rules to which they are applied.

[Price 8d.]

Yokota's Improved Slide Rule.

Having now particularly described and ascertained the nature of my said invention, and in what manner the same is to be performed, I declare that what I claim is:—

1. A slide rule having the ordinary centimetre scale on the upper edge of the rule and the scale of common logarithmic squares on one edge of the slide and scale of common logarithms on the other edge of such slide, characterized by the employment of a log log scale from nearly 1 to 1,000,000 drawn on the rule in three lines between the centimetre scale and the slide, substantially as specified. 5
2. The combination with the rule set forth in the preceding claim of a log scale of less than 1 drawn in three lines on the opposite edge of the rule to the centimetre scale, substantially as specified. 10
3. The employment in the rule set forth in Claim 1 and having the scale of common logarithmic squares and the scale of common logarithms on the opposite edges of the slide of a logarithmic scale of cubes drawn on such slide intermediate of said ordinary scales, substantially as specified. 15
4. The employment in the rule set forth in Claim 1 having a centimetre scale as described, of a scale of ordinary inches divided into decimals used also for the reading of logarithms on one of the edges of such rule, substantially as specified. 20
5. The employment in the scale set forth in Claim 1 and having the ordinary scale of logarithmic sines on one edge of the back of the slide and the ordinary scale of logarithmic tangents on the other edge of such slide, of a scale of logarithmic secants drawn on said back of the slide intermediate of said ordinary scales, substantially as specified. 25

Dated this 12th. day of August 1907.

ALLISON BROS.,
Agents for the Applicant.

[This Drawing is a reproduction of the Original on a reduced scale.]

Fig. 2.

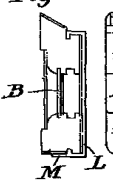


Fig. 1.

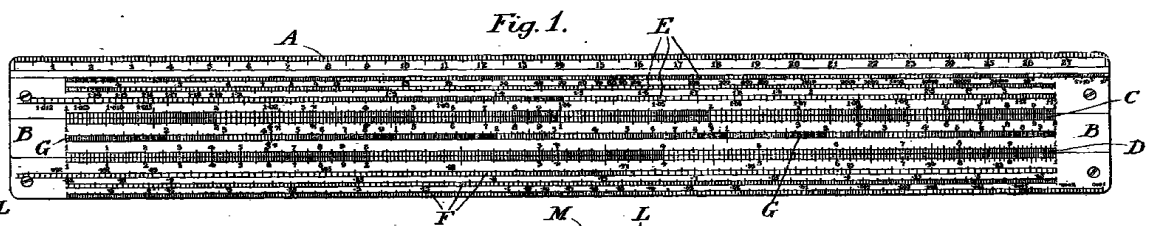


Fig. 3.



Fig. 4.



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[This Drawing is a reproduction of the Original on a reduced scale.]

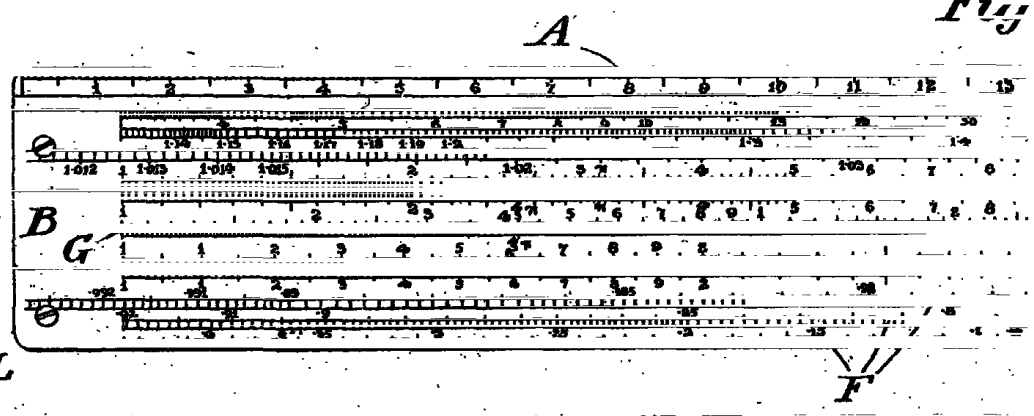
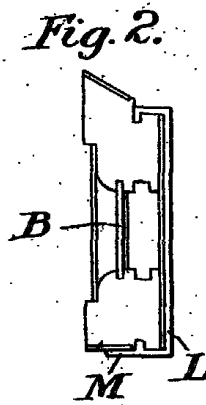


Fig. 3.

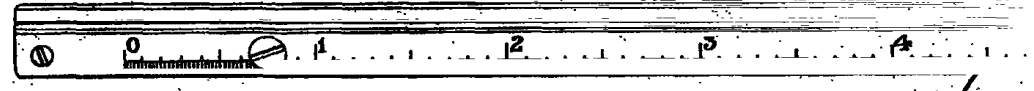
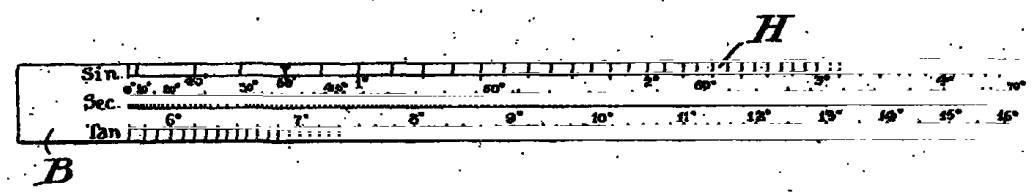
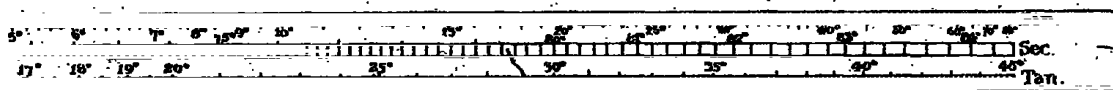
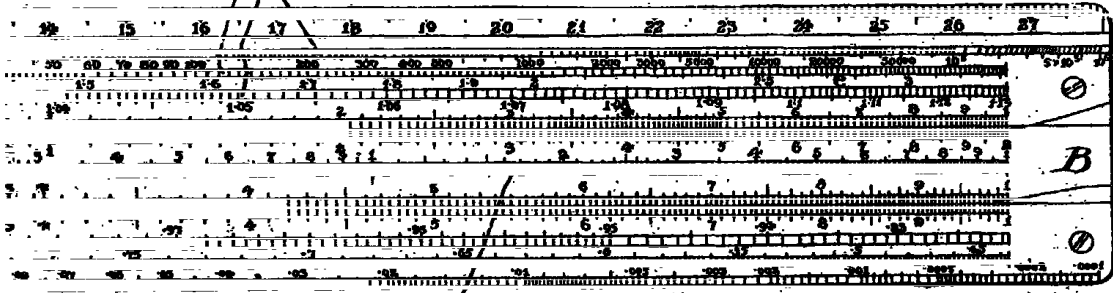


Fig. 4.



1.

E



I

J

