

## The Use of the Slide Rule, F. A. Halsey, D. Van Nostrand, 1903

In its Preface, the text is described as '...mainly a reprint of a series of articles in the "American Machinist", a trade magazine of the international machinery industries which was initially published in 1877 and transitioned to an online-only version in 2013. This collection of reprints might best be viewed as a self-study aid for individuals who could conceivably use the slide rule in their employment but who would not necessarily have been exposed to the theory or use of logarithms in an academic environment (i.e., machinists?), and for those whose use of the slide rule would likely be at the most elementary levels.

There is little attention given to what logarithms actually are, only to the use that may be made of them, and that principally for multiplication and division. The author's view is that once the student is aware of the principles of operation (e.g., adding logarithms to affect multiplication; subtracting logarithms to affect division) then he may simply use the slide rule without further concerning himself with the underlying processes. Four pages in Chapter II are devoted to the construction of the rule (a simple A [ B, C ] D Mannheim type), but the rather laborious explanation is a little more boring than it is edifying. There are a small number of illustrative examples in the text and those are abstractly mathematical rather than applied in nature.

As mentioned above, only a simple Mannheim design rule is used, with an A [ B, C ] D scale arrangement (remember, his book was originally copy-written in 1899) and no mention is made of trig scales or trig problems. This text was written before the use of the inverted C (CI) scale was widespread and a common practice in handling inverse proportions was to remove the slide, invert it end for end, and reinsert it. This allows the C (now, a CI scale) and D scale to be used together in computations. The author opposes this practice and prefers instead that the appropriate ratios be first inverted, and then calculations made. But he also prefers to use the A and B scales for routine use in multiplying and dividing instead of the C and D combination that provides greater accuracy. No specific manufacturers are mentioned in the tutorial portions of the book. Brief discussions of the Fuller and Thatcher instruments are provided in a chapter on extended scale rules and the Sexton's Omnimetre, and Charpentier and Bouchier calculators are described in the chapter on circular rules.

There are well-done fold-out diagrams of slide rules used to illustrate the solution of various problems as well as an example of a duplex rule and a Cox's Strength of Gears Computer. There is no index. Overall, this is a painfully basic introduction to the most elementary capabilities of the slide rule, unnecessarily verbose in places, and containing some recommendations for use that would have been questionable even in 1900.