

## **Newnes' Slide Rule Manual, F. J. Camm, 1966**

This book was originally published in 1944. By 1966 (the date of my copy) the book had gone through seven editions and its second printing of that last edition. Despite the opportunities these revisions should have afforded, the text was not brought up to date (1966). The writing style, illustrations, teaching approach, and many of the exercises appear to be products of the two or more decades prior to its original date of publication. Those issues, plus the relatively odd organization of the text distract from the ultimate goals of the book. The text was probably intended for individual use by those in commerce or the trades, or by students in basic scientific and engineering curricula. It provides an introduction to logarithms and adequate instructions on using the most basic set of slide rule scales.

In the Preface, the slide rule is described as a "... simple instrument which can be mastered in a few evenings of study". The approach taken in the text lends itself to this thought, as it contains a minimal and/or segregated amount of theory and focuses principally on practical or applied examples. The scale set used is the standard Mannheim-type, C, D, A, B, L, S, and T. Examples and illustrations of W. F. Stanley & Co., Ltd. rules are used in the first part of the book; in Chapter V, instructions for use and illustrations of the Fowler and the Halden Calculex are provided.

Some comments regarding the book's organization follow. Chapter I (12 pp.) is entitled, "Principles of the Slide Rule" and discusses the logarithmic principles behind the rule, its construction and basic scale layout, and how to manipulate the rule to perform multiplication & division, and to obtain powers and roots, logarithms, and trig functions. Eight of the 12 pages of this chapter constitute a section entitled, 'Examples in the Use of the Slide Rule', with illustrations. Having now shown the reader how to use the slide rule, the book proceeds to Chapter II (11 pp.) entitled, "Principles of Logarithms", which provides a more detailed discussion of logarithms and how to use log tables. The third chapter (7 pp.) entitled, "Using the Slide Rule" discusses accuracy and the modification of arithmetic formulae to maximize accuracy (he means precision, or the number of significant figures). Next we arrive at Chapter IV (24 pp.) entitled, "Examples in the Use of the Slide Rule" (sounds like the main Section in Chapter I). The first topic discussed is "Basic Principles" in which it is explained that the slide rule actually multiplies by adding but makes no mention of logarithms! The Chapter then addresses the mechanical construction of the slide rule (again), how to fix the decimal point in calculations (a little late), and how to manipulate the rule (again) to perform multiplication & division, and to obtain powers and roots, logarithms, and trig functions. New information is provided on how to evaluate fractional powers. Chapter V (15 1/2 pages) is entitled "Circular Slide Rules" and provides instructions for the use of Fowler and Halden Calculex circular rules. Although the Table of Contents doesn't show it, I think Chapter V should end at page 76 because thereon begins a series of useful examples and tables (32 pages in total) that are generally independent of the type of slide rule used. The two and a half page index is minimally useful for this text.

A little editing could easily have handled the inconsistencies and/or redundancies in this book's content and left it much more readable. Despite this, the book is very useful for providing a historical picture of slide rule applications and practice in the period 1915-1945.