CONTENTS

	Page
Chapter I. INTRODUCTION	
1. Slide Rule Terminology	2
2. Reading Two-Figure Numbers	3
3. Slide Rule Scales as Graphic Logarithm Tables	4
Chapter II. MULTIPLICATION	
4. Solution by Logarithms	7
5. Solution by the Slide Rule	7
6. Multiplication with More Than Two Factors	8
7. Multiplication when a Product is off the *D* Scale	10
8. Locating the Decimal Point	12
Chapter III. SLIDE RULE ACCURACY	
9. Reading Three- and Four-Figure Numbers	15
10. Accuracy in Slide Rule Answers	17
Chapter IV. DIVISION	
11. Solution by Logarithms	19
12. Solution by the Slide Rule	19
13. Combined Operations	23
14. Choosing the Order of Factors	25
15. Reading Zero Figures	28
16. Proportions	28
Chapter V. USE OF THE INVERTED *C* SCALE	
17. Purpose of the Inverted Scales	31
18. The *CI* Scale	31
19. Division with the *CI* Scale	33
20. Multiplication with the *CI* Scale	35
21. Continued Operations with the *CI* Scale	37

Page

Chapter VI. USE OF THE FOLDED SCALES, *CF*, *CIF*, AND *DF*

22. Purpose of the Folded Scales 41
23. The *CF* and *DF* Scales 41
24. The *CF* Scale used with the *C* and *D* Scales for Multiplication and Division 42
25. The *CIF* Scale used with the *D* Scale 45
26. Combined Operations using the *CF*, *CIF*, *CI*, *C*, and *D* Scales 47
27. The Use of the Folded Scales when π is a Factor 48

Chapter VII. SQUARES AND SQUARE ROOTS

28. Squares 53
29. Square Roots 55
30. Accuracy of the *A* and *B* Scales 62

Chapter VIII. CUBES AND CUBE ROOTS

31. Cubes 63
32. Cube Roots 66
33. Accuracy of the *K* Scale 72

Chapter IX. TRIGONOMETRY. THE *S*, *T*, AND *ST* SCALES

34. Sines. The *S* Scale 73
35. Sines of Small Angles. The *ST* Scale 79
36. Other Methods for Finding Sines of Small Angles 82
37. Law of Sines 87
38. Cosines 92
39. Cosines of Large Angles 96
40. Sines of Large Angles and Cosines of Small Angles to Five-Place Accuracy 100
41. Tangents 108
42. Tangents of Angles Greater Than 45° 113

Page

43. Tangents of Small Angles 117
44. Tangents of Large Angles 118
45. Problems Involving Sine, Cosine, and Tangent 119
46. Cotangent, Secant, and Cosecant 122

Chapter X. THE RIGHT TRIANGLE

47. Given: The Hypotenuse and One Angle 132
48. Given: The Hypotenuse and One Angle. Procedure when the Angle is Small or Large 136
49. Given: The Two Sides 142
50. Given: The Two Sides. Procedure when $a < \frac{1}{10}b$ or $a > 10b$ 157
51. Given: The Two Sides. Procedure for Slide Rules Not Having a *DI* Scale 163

Chapter XI. POWERS AND ROOTS. THE LOG LOG SCALES

52. Powers of Numbers Greater Than Unity. The *LL*1, *LL*2, and *LL*3 Scales 172
53. Powers of ϵ 183
54. Roots of Numbers Greater Than Unity 185
55. Powers of Numbers Less Than Unity. The *LL*0 and *LL*00 Scales 188
56. Powers of ϵ^{-1} 199
57. Roots of Numbers Less Than Unity 202
58. Reading beyond the Limits of the Log Log Scales 205
59. Natural Logarithms of Numbers 214
60. Unknown Exponents 219
61. Hyperbolic Functions 222

Chapter XII. SLIDE RULE SOLUTIONS OF QUADRATIC AND CUBIC EQUATIONS

62. Quadratic Equations 225
63. Cubic Equations 227

Page

Chapter XIII. PROBLEMS FROM SCIENCE AND ENGINEERING

64. Multiplication and Division 231
65. Squares and Square Roots, Cubes and Cube Roots 235
66. Trigonometry 238
67. Powers and Roots 240
68. Answers to Problems from Science and Engineering 242

Appendix

I. History of the Slide Rule 247
II. Exponential Relations 250
III. Logarithms 251
IV. Standard Numbers 258
V. Significant Figures and Slide Rule Limitations 259
VI. Trigonometric Relations 264
VII. Characteristic Method for Decimal Point Location 272
VIII. Slide Rule Adjustment and Care 274
IX. Types of Slide Rules 276
X. Bibliography 278
XI. Table of Four-Place Logarithms 279
XII. Table of Natural Trigonometric Functions for Angles in Degrees and Decimals 281

Index 285