

A NEW BRANCH
OF
APPLIED MATHEMATICS

Diagonal Functions and Their Operation. Chas. L.
Clarke, Newton, Massachusetts. 174 pp., 1937,
cloth, $8\frac{1}{2} \times 11$, \$5.00.

Lithographic reproduction of the author's clearly written manuscript (as is also this review) including 23 diagrams and 40 pages of six-decimal-place tables of the functions and their logarithms, describing a new branch of applied mathematics and illustrating its use. The foundation for Diagonal Functions is the half-cycle trigonometrical sine curve, further dealt with in offset and sheared forms, and all referred to rectangular axes with an origin common to them and the base of the sine curve midway between them. The application of Diagonal Functions to finding equations for a smooth curve of single flexure, that for practical purposes may fit a series of points derived from experimental research, is illustrated by examples from data in technical journals and other sources. Application to laying out a diagonal sine railroad curve, which is a new form of curve for this purpose, is also described.