

SLIDE RULE

Instruction

Booklet

LEAS HARDWARE SPECIALTIES MFG. CO.
STRAFFORD, CONNECTICUT

INDUSTRIAL ENGINEERING & MFG. CORP.

BRIDGEPORT, CONNECTICUT

In reading or setting the rule, no regard is paid to the position of the decimal point in a number. Thus, whether we multiply 2.25×1.4 or 225×14 or $.225 \times .14$, the procedure is the same and in each case the result is read as $^3_{15}$ (three, one, five not three hundred fifteen). The position of the decimal point is determined by inspection, as we readily see that in the first case where we multiply 2 and a fraction by 1 and a fraction, the result will be around 2 so the answer is 3.15; in the second case we see that 225×10 would result in four figures so we add a cipher 3150; in the last case $.225 \times .1$ would approximately be .0225, so setting our answer .0315.

On lower scales C and D, begin by regarding the left hand 1 as $^1_{00}$ (read it as one, naught, naught) the next division will be $^1_{02}$ (one, naught, two), the next $^1_{04}$ and so on to $^1_{98}$ (one, nine, eight and $^2_{00}$. Proceeding, from 2 to 5, the subdivisions are twentieths; hence the first division to the right of 2 is $^2_{05}$, the next $^2_{10}$ and so on up to $^5_{00}$. From 5 to the right hand 1, the divisions are tenths as $^5_{10}$, $^5_{20}$, $^5_{30}$, etc.

Now note that in the two upper scales the divisions between 1 and 3 are twentieths, reading $^1_{05}$, $^1_{10}$, $^1_{15}$, and so on; from 3 to 6 divisions are tenths ($^3_{10}$, $^3_{20}$, $^3_{30}$); from 6 to right hand 1 (divisions are fifths as, $^5_{20}$, $^5_{40}$, $^5_{60}$, etc. The right hand scales of A and B are repetitions of the left hand scales and is read in the same manner.

Example: Multiply 16×2 . Set left hand 1 of scale C over $^1_{60}$ on Scale D. Then move hair line of runner to 2 on C, and under line read $^3_{20}$ on D. The position of the decimal point is evident; answer = 32.

Whenever one index falls off the rule in a problem, reset figures using opposite index (first line on either end).

Example: Divide $20 \div 4$. Set runner to $^2_{00}$ on scale D, move 4 on scale C in line with runner and at index read answer = 5.

Squares: Readings on scale A are the squares of exactly opposite readings on D. Thus 9 on A is opposite 3 on D; 16 on A opposite 4 on D; 225 on A opposite 15 on D, etc.

To obtain the square of any number set the runner over the given number

on D and read answer opposite on A, with decimal properly placed. Thus to find the square of 8 set runner over 8 on D and opposite on A we get the reading 64.

Square Root: This method is the reverse of finding the square, except remember for an odd number of digits, as 225, use left hand half of scale A and for an even number of digits, as 64, use right scales. To find the square root of 9 set runner over 9 on left side of scale A and read 3 on D. To find the square root of 90, use the 9 on the right side of A scale, the answer on D scale is about 9.5.

This slide rule will perform problems correct to about 1 part in 500 or one-fifth of one per cent. Constant use will result in greater speed and accuracy and many problems can be performed rapidly without mental strain in a fraction of the time required by usual figuring.
