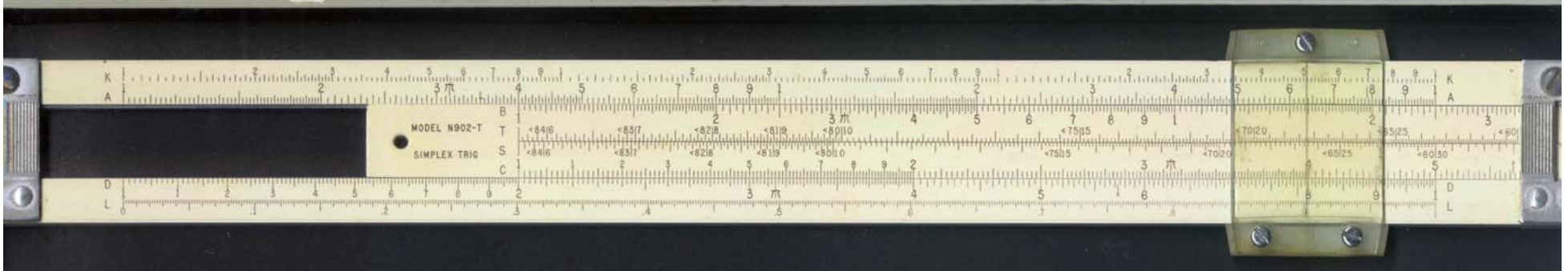


## Multiplying with the slide rule

Suppose you want to multiply  $2 \times 4$ .

1. Line up the 1 on the left hand side of sliding scale C with 2 on frame scale D.
2. Line up the hairline with the 4 on scale C. The hairline should be right on the 8 on scale D.

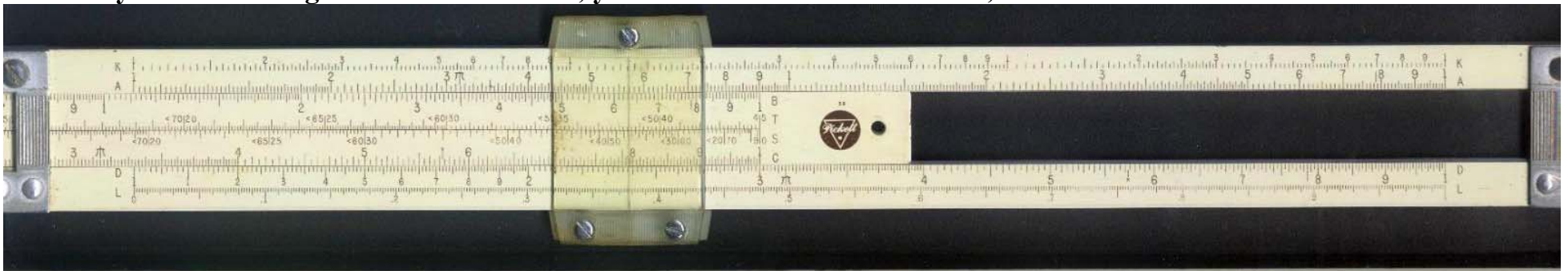


3. Since you used the 1 at the left hand side of the scale, the product is between 1 and 10. The answer is 8.

Why does this work? The distance from 1 to 4 is the same as the distance from 2 to 8. The ratio  $8:2$  is the same as the ratio  $4:1$ .

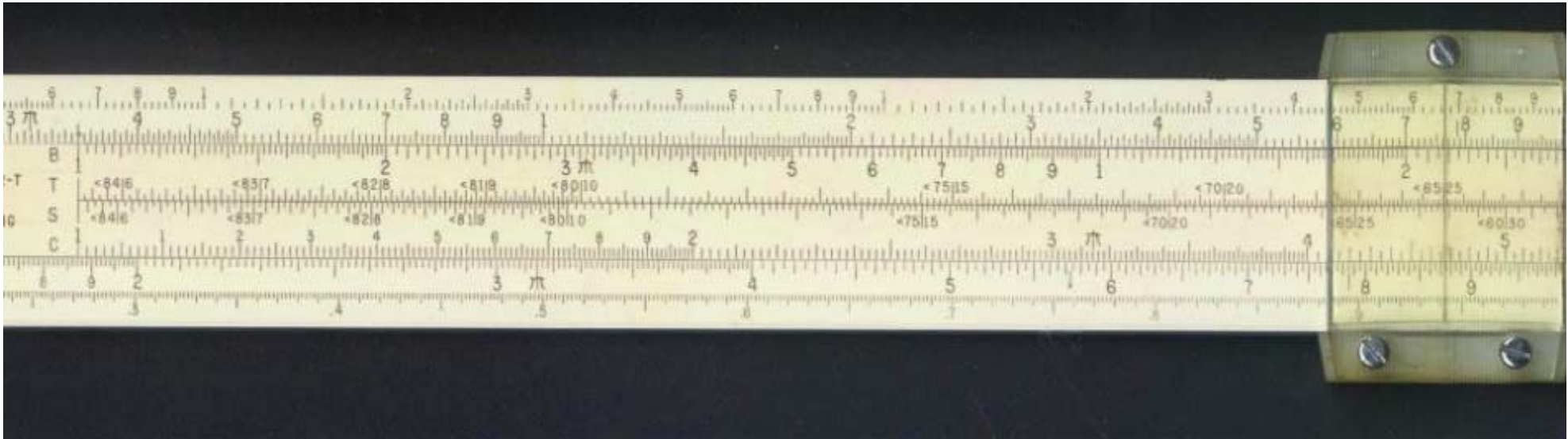
Suppose you want to multiply  $3 \times 8$ .

1. Line up the 1 on the right hand side of sliding scale C with 3 on frame scale D.
2. Line up the hairline with the 8 on scale C. The hairline should be at 2.4 on scale D.
3. Since you used the right hand 1 on scale C, you know that the answer is 24, not 2.4.



Suppose you want to multiply  $1.87 \times 4.65$ . First estimate that your answer is between 1 and 10, since  $2 \times 5$  is 10 and 1.87 is less than 2 and 4.65 is less than 5.

1. Line up the 1 on the right hand side of sliding scale C with 1.87 on frame scale D.
2. Line up the hairline with 4.65 on scale C.
3. Read 8.70 on scale D.



Suppose you want to multiply 1,870 by 46.9.

1. Rewrite the numbers in scientific notation.  $1,870 = 1.87 \times 10^3$  and  $46.9 = 4.69 \times 10$ .
2. Multiply  $10^3 \times 10$  to get  $10^4$ . Multiply  $1.87 \times 4.69$  using the slide rule as above.
3. The answer is  $8.70 \times 10^4$ . You could, if you want to, write it as 87,000.