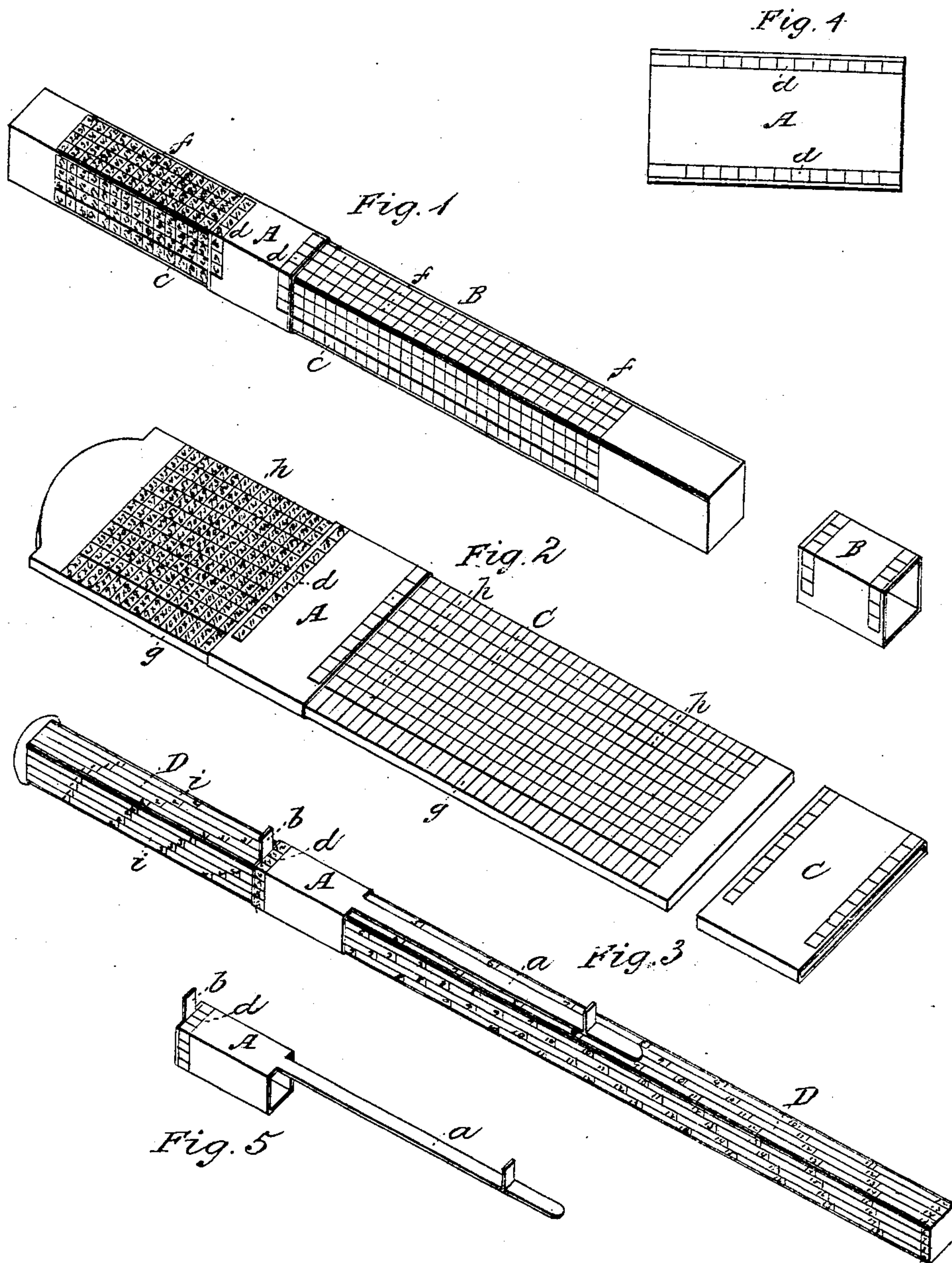


F. J. COFFIN.

Gage Slide.

No. 67,269.

Patented July 30, 1867.



Witnesses:

A. L. Coffin  
J. A. Brown

Inventor

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# United States Patent Office.

F. J. COFFIN, OF NEWBURYPORT, MASSACHUSETTS.

*Letters Patent No. 67,269, dated July 30, 1867.*

## IMPROVEMENT IN SLIDE FOR RULES, SCALES, AND TABLES.

The Schedule referred to in these Letters Patent and making part of the same.

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, F. J. COFFIN, of Newburyport, in the county of Essex, and State of Massachusetts, have invented a new and improved Slide to be applied to Rules, Scales, and Tablets for determining superficial and solid contents; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification—

Figure 1 being a view, in perspective, of a log-rule provided with my improved slide.

Figure 2, a view, in perspective, of a tablet provided with the slide for determining the number of feet (board measure) contained in rectangular timber.

Figure 3, a view, in perspective, of a common board-rule with the slide.

Figure 4, a top view of the slide, as applied to the tablet, fig. 2.

Figure 5, a view, in perspective, of the slide as applied to the board-rule, fig. 3.

Like letters designate corresponding parts in all of the figures.

The nature of my invention consists in the employment of a slide, in combination with a rule, scale, or tablet, for measuring surfaces and solids, the said slide embracing or surrounding and sliding longitudinally on the rule, scale, or tablet, so as to bring its numbers indicating the length or other dimension of the articles to be measured close to any series or row of numbers on the rule, scale, or tablet, where the contents are shown, substantially as herein set forth.

The slide A is made of sheet metal, of any desirable kind, or of any other suitable material, and fits accurately on the rule, scale or tablet, but so as to freely slide thereon. It is of sufficient width to slide without binding on the rule, scale, or tablet, and may, if desired, have a handle or thumb-piece, *a*, as shown in figs. 3 and 5, or otherwise, and for some uses a gauge-piece, *b*, is employed, as seen in the same figures. The numbers indicating the lengths of the articles are stamped or engraved near one edge or both edges of the slide in a line transverse to the rule, scale, or tablet at proper distances, or in position to correspond with the columns of numbers thereon, substantially as indicated in the drawings.

To illustrate the application of the slide: First, with the log-rule B, fig. 1, the length of the logs (in feet) is exhibited in the left-hand column *c*, and the diameter of the logs (in inches) is given in the column *d* of the slide. The contents, in board measure, are shown in the columns *f f* of the rule. Second, with the tablet C, fig. 2, for determining the number of feet (board measure) contained in rectangular timber, the left-hand column *g* shows the size of the timber, (width and thickness,) and the column *d* on the slide indicates the length of timber in feet. The contents are given in the columns *h h* of the tablet. Third, with the board-rule D, fig. 3, the lengths are given in the column *d* on the slide, and the contents are given at once in the columns *i i* corresponding in position therewith, the rule itself determining the width of the board.

It will be observed that in all these cases the contents are determined at once, and without mistake, by bringing the slide right to the figures, whereas with the ordinary rule or scale the eye has to follow along two lines from the two figures indicating the dimensions till they intersect, a process slow, and very apt to lead to mistakes. With this the liability to mistakes is almost entirely obviated, and the act of measuring is much more rapid than without the slide it can be. The slide may be used to great advantage, not only in the cases illustrated above, and the measurement of all kinds of timber, but in taking any superficial measurements of any material or article from the two dimensions, as, for instance, in measuring cloth, paper, land, &c. It may be also applied in determining cubical or solid contents, as stone, earth, wood, &c., including dry and liquid measures; and from these applications of mere dimensions its use may be extended even to determining weights of homogeneous structure and nearly uniform in density, such as coal, plaster, hay, &c. Analogous uses of the invention would even apply more abstractly in mathematics, where factors and the products are exhibited and to be determined in given cases, as, for instance, in computing interest and using tables of logarithms.

What I claim as my invention, and desire to secure by Letters Patent, is—

The slide A, or its equivalent, in combination with a rule, scale, or tablet, the said slide containing one set of dimensions or factors to point out the contents or product, in connection with another set of dimensions or factors marked on the rule, scale, or tablet, substantially as shown for the purposes herein specified.

F. J. COFFIN.

Witnesses:

L. A. COFFIN,

J. S. BROWN.