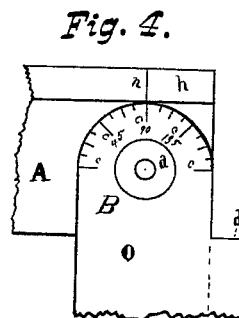
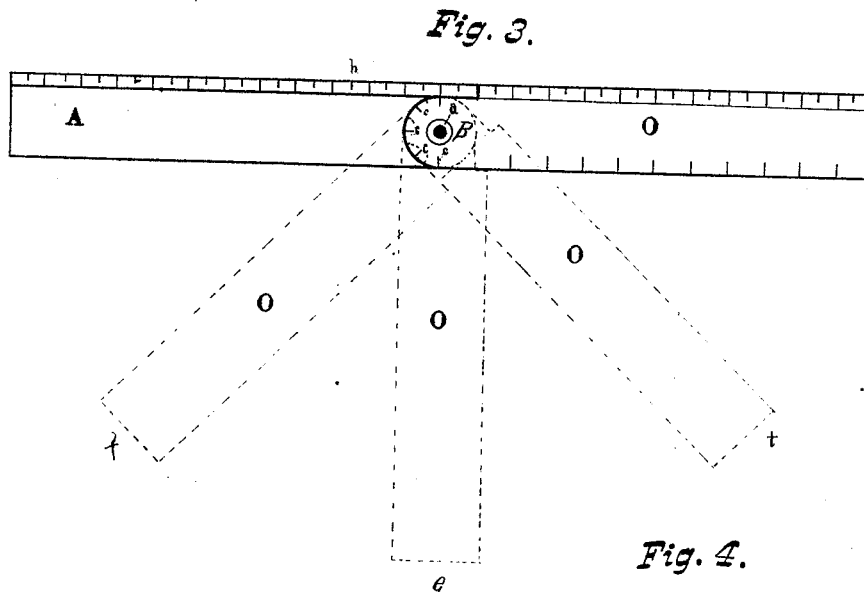
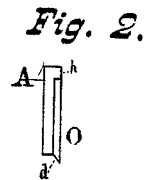
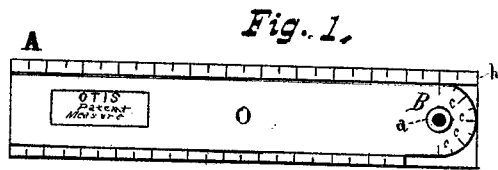


S. G. OTIS.
Combination Measuring Tool.
No. 213,526. Patented Mar. 25, 1879



Witnesses;
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UNITED STATES PATENT OFFICE.

SAMUEL G. OTIS, OF SPRINGFIELD, MASSACHUSETTS.

IMPROVEMENT IN COMBINATION MEASURING-TOOL.

Specification forming part of Letters Patent No. **213,526**, dated March 25, 1879; application filed December 2, 1878.

To all whom it may concern:

Be it known that I, SAMUEL G. OTIS, of Springfield, county of Hampden, and Commonwealth of Massachusetts, have invented new and useful Improvements in a Combination-Tool, of which the following is a specification:

This invention relates to a combined ruler, square, bevel, bias-measure, and yard-stick.

Heretofore tools of various kinds have been made in combination. The objection to these is, that the tools which are ordinarily used together are not combined, and they have been complicated and expensive.

I am aware that tools have been made heretofore in which nearly all the tools in this combination were made; but I am not aware that this particular combination was ever made, and am not aware that this method of construction has ever been used.

The object of my invention is to make a tool which may be used as a measure, ruler, bias-measure, square, or bevel, and the whole so constructed as to have open space, for the purpose of advertising, the idea being to make a tool which may be used as above, and the whole being cheaply gotten up by reason of its peculiar construction, so that it may be given away with advertisements printed or affixed to the blades, thus carrying an advertisement into each household which will be kept and constantly used.

The invention consists in the shape of the parts, in the graduated circular end of one blade bearing against the rail of the other, and in the beveling of one blade to make a lining-rule.

In the accompanying drawings, in which similar letters of reference indicate like parts, Figure 1 is a side view of the tool closed. Fig. 2 is an end view of the same. Fig. 3 is a side view of the tool when opened to its fullest extent, while the dotted lines show the position of the blade when the tool is in use as a bevel, square, or bias-measure. Fig. 4 is a side view of the hinge end of the tool, showing the scale on the blade *o* by which the desired angle is obtained.

It will readily be seen that the construction of this tool is simple in the extreme.

To make the blade *A*, I take a piece of wood of the desired length, breadth, and thickness, and cut the rabbet in one side, as shown in Fig. 2, leaving the raised part or rail *h* about one-fourth of an inch in thickness. I cut out about one-half the thickness of the stock in the blade *A* to make room for the blade *o*. The blade *o* is made just thick enough to fill the rabbet in blade *A*, and is made wide enough to project about one-fourth or three-eighths of an inch beyond the edge of the blade *A*, and the part projecting is beveled upward, as shown in Fig. 2, thus making a perfect lining or counting-house ruler.

The hinged end *B* of blade *o* is cut circular, as shown most plainly in Fig. 4. The hole for the rivet *a* is made exactly in the center of the circle, and the hole in the blade *A* is made so that the blade *o* will bear against the rail *h* at all times. The outer edge of the circular end of blade *o* is marked off with a scale, the lines of which, when brought opposite or in line with the line on rail *h*, will indicate the angle at which the blade *o* stands with the blade *A*. Thus, when a square is wanted the blade *o* is opened until the line marked "90°" is opposite the line *n*, as shown by dotted blade in Fig. 3. The other angles are found in the same way, there being no limit to the divisions which may be made on the circular scale.

The outer edges of the blades are marked off with the ordinary scale, and the space between is left open to allow of an advertisement being printed or affixed. I find the most convenient width to be about one and one-half or two inches.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The blade *A*, having rail *h* and scale, in combination with the blade *o*, having like scale, graduated head *B*, and bevel-edge *d*, as and for the purpose set forth.

Witnesses: SAMUEL G. OTIS.

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ALLEN WEBSTER.