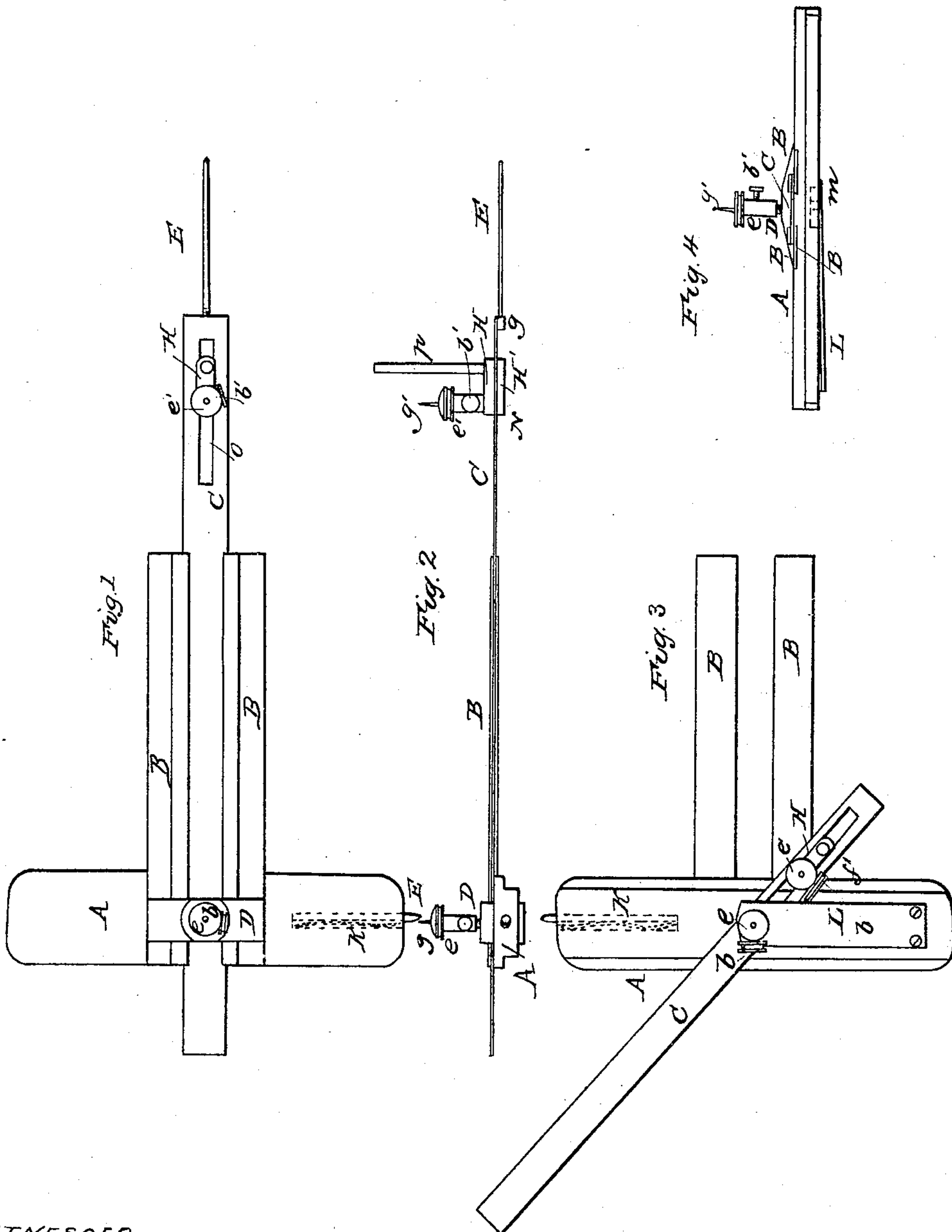


G. MILLER.
Carpenter's Gage.

No. 50,484.

Patented Oct. 17, 1865.



WITNESSES
Hiram Smith
C. M. Swaney

INVENTOR.
George Miller

UNITED STATES PATENT OFFICE.

GEORGE MILLER, OF WASHINGTON, DISTRICT OF COLUMBIA.

IMPROVEMENT IN CARPENTERS' GAGES.

Specification forming part of Letters Patent No. 50,484, dated October 17, 1865.

To all whom it may concern:

Be it known that I, GEORGE MILLER, of the city and county of Washington, in the District of Columbia, have invented a new and useful Improvement in Combination-Gages; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the annexed drawings, and to the letters of reference marked thereon, in which—

Figure 1 is the face side. Fig. 2 is an edge view. Fig. 3 is the bevel side, and Fig. 4 is an end view.

The same letters indicate corresponding parts in the several figures.

The nature of my invention consists in an improvement upon the instrument patented to me on the 17th of January, 1865, whereby, by means of certain additions to and modifications of said instrument, I am not only enabled to gage and scribe irregular surfaces, as with that instrument, but also to apply it in use as a panel-gage, as a square, as a bevel, or as a trammel or dividers.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation, as follows:

I construct my combination-gage of steel, brass, iron, or other material suited to the purpose, except the stock thereof, for which I prefer substantial solid wood, such as ebony, rose-wood, or mahogany.

A in Figs. 1, 2, 3, and 4 is the stock, usually about nine inches long, two and one-fourth inches wide, and five-eighths of an inch thick, its under side having at each edge a square rabbet equal to half the thickness of the stock. On the upper side two channels, about one-sixteenth of an inch deep, are countersunk transversely near the center, leaving about seven-eighths of an inch space between them. Into each of these channels is let an end of one of the two blades B B, which ends are secured by a boss, D, riveted through the blades B B and the stock A. These blades are each about ten inches long and one inch broad, about one-sixteenth of an inch thick for two-thirds their width on the outer side, and on the inner third of their width raised to about three times that thickness. On the thick

or inner edge of each blade a square groove, a little more than one-third of this thickness, runs from end to end. A slide, C, of uniform thickness and width—that is to say, made of No. 16 steel, and one inch wide—fits in this groove, being twenty inches, more or less, in length. Half an inch from the other end of this slide C begins a slot, O, one-fourth of an inch wide and four and one-half inches long. Into this slot enter the rabbeted washers, their shoulders resting on the surface, (as seen in Fig. 2.) The upper washer, H, is about one inch long, three-eighths of an inch wide, and three-sixteenths of an inch thick. The under washer, H', is of like length and width, and three-eighths of an inch thick. The upper washer has two holes of equal size, as the under washer has also; but in one of the latter a screw-thread is formed to receive and retain a hollow burr-headed screw, *e'*, having a shoulder to clamp and hold the two washers firmly to their place. Through this screw passes a small steel rod, *g'*, pointed for a gage-tooth on its under end, and held in position or adjusted by a small set-screw, *f'*. Through the other holes passes a pencil, *p*, for marking uneven surfaces when the gage-tooth is removed. On the under side of this end of the slide C is a small boss riveted thereto to form the nut for the adjustable point E, which point is made of three-sixteenths steel wire, having a thread on one end to correspond with the thread within the boss I. This point is three and one-half inches long. When not used as a scribing-gage it fits into a pocket, *k*, in one end of stock A, within which pocket is a spring to retain it. (This pocket is shown by dotted lines in Figs. 1 and 3.)

Screw *e*, Fig. 1, is hollow and burr-headed, having a set-screw, *f*, in its side, and having at its lower end a thread five-eighths of an inch long, (as seen in Fig. 2,) forming a shoulder on the body of the screw. This screw *e* acts as a set-screw to hold slide C in position when used as a panel-gage, and also to hold said slide C, Fig. 3, when used as a bevel. The nut *m* on the under side of stock A, in the center thereof, Fig. 4, receives screw *e* when the instrument is used as a bevel. *g* and *g'*, as shown in Fig. 2, are steel points, held in the hollow screws *e* and *e'* for striking circles and

segments. L, as seen in Figs. 3 and 4, is a washer fixed at one end to the under or gage side of the stock, and having a hole at the other end coincident with the central hole in the stock, to pass over blade C and receive the pressure of screw *e*, and thus retain blade C in its position at any desired angle.

This instrument may be applied to its various uses as follows:

To use the machine as a gage, the point N is adjusted on the blade C to the required distance from the stock A, or the pencil *p* may be used to make a scribe-mark. When used as a square the stock A and blades B afford the necessary rectangular surfaces, and by shifting the blade C to the other side of the stock and clamping it, as shown in Fig. 3, the tool is adjusted as a bevel; as a trammel or dividers, the points *g g'* are used, the latter

being adjusted on the blade C to the required radius.

The use of the point E in marking irregular surfaces is occasional and not peculiar to this invention.

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

The arrangement of the stock A, plates B, removable slide C, and the central and shifting points *g g'* in the stock and slide respectively, and with or without the point E and pencil *p*, substantially as described and represented.

GEORGE MILLER.

Witnesses:

FRANK SMITH,
C. M. SWANY.