

(No Model.)

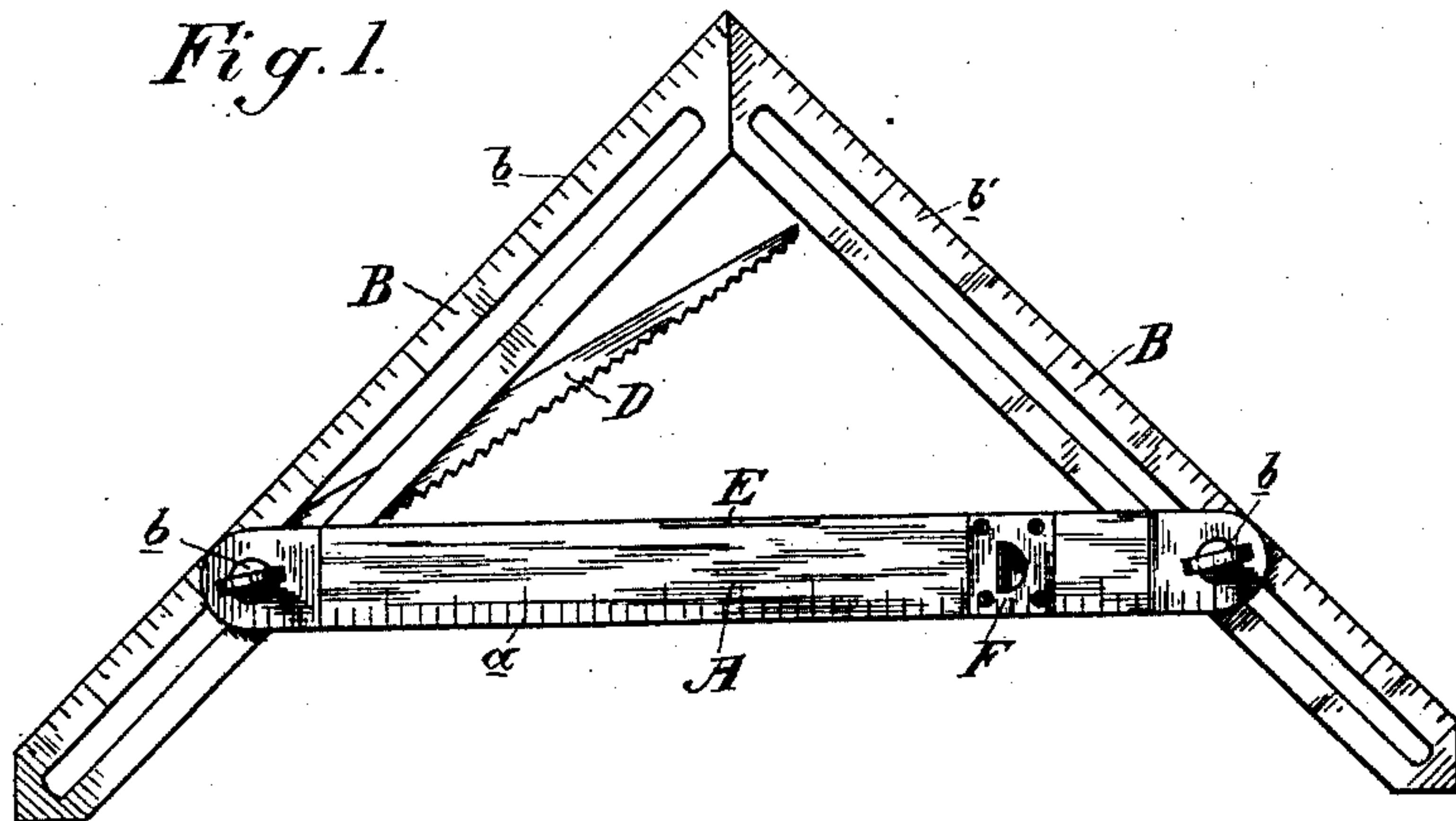
B. F. VAN AMRINGE.

COMBINED BEVEL SQUARE, BEAM COMPASS, LEVEL, AND GAGE.

No. 363,491.

Patented May 24, 1887.

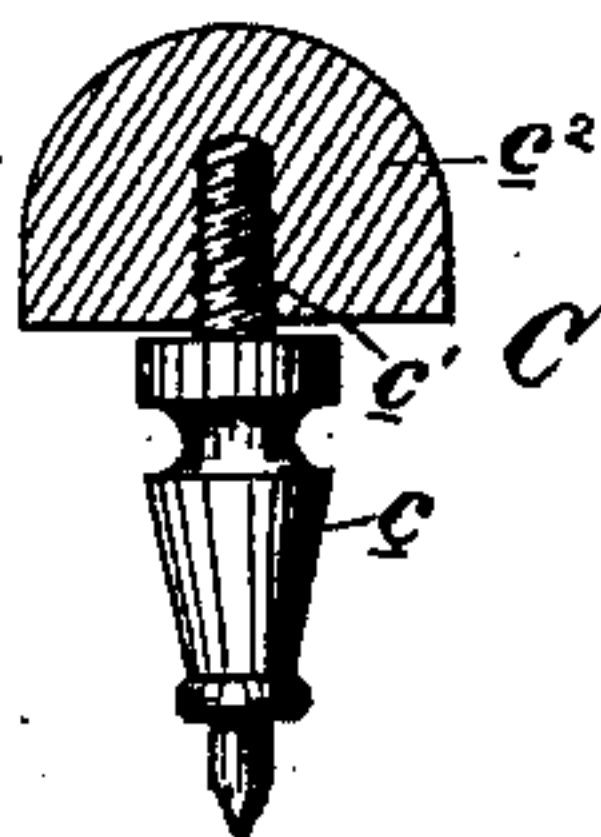
*Fig. 1.*



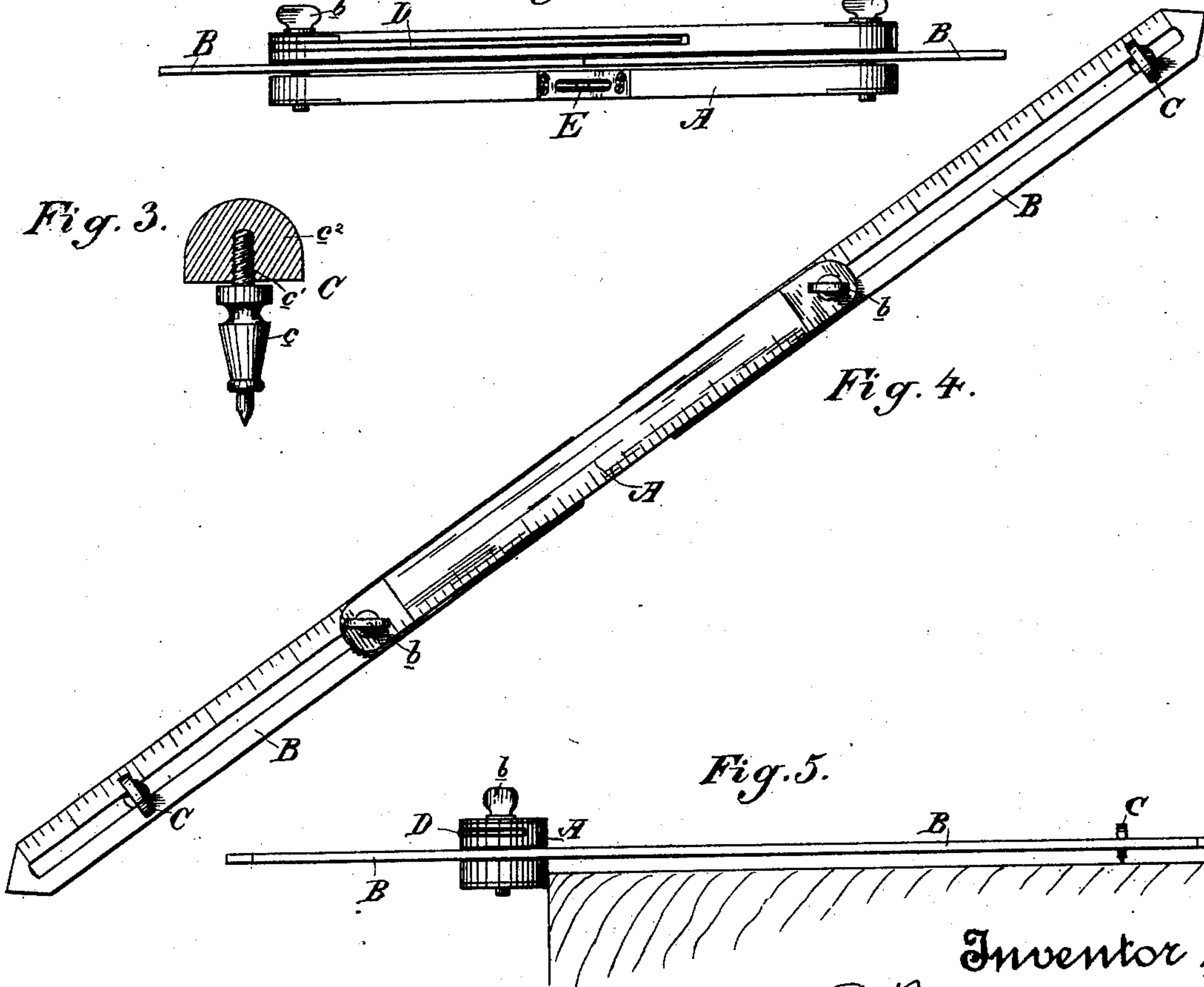
*Fig. 2.*



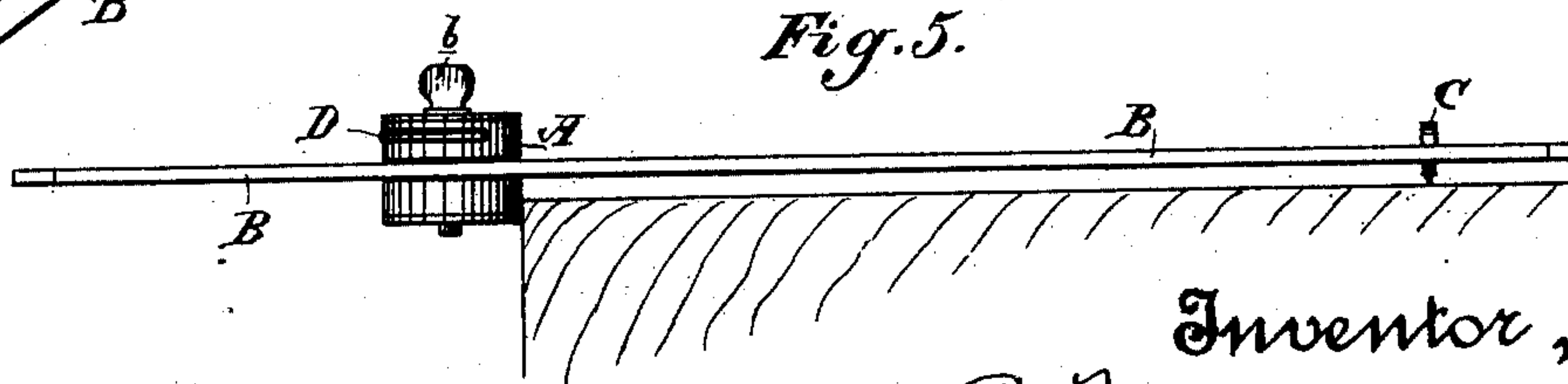
*Fig. 3.*



*Fig. 4.*



*Fig. 5.*



Witnesses,  
Geo. H. Strong.  
J. H. House,

Inventor,  
B. F. Van Amringe  
By Dewey & Co  
attys



# UNITED STATES PATENT OFFICE.

BENJAMIN F. VAN AMRINGE, OF OAKLAND, CALIFORNIA.

## COMBINED BEVEL-SQUARE, BEAM-COMPASS, LEVEL, AND GAGE.

SPECIFICATION forming part of Letters Patent No. 363,491, dated May 24, 1887.

Application filed July 8, 1886. Serial No. 207,510. (No model.)

*To all whom it may concern:*

Be it known that I, BENJAMIN F. VAN AMRINGE, of Oakland, Alameda county, State of California, have invented an Improvement in a  
5 Combined Bevel-Square, Beam-Compass, Saw, Level, Plumb, and Gage; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to the class of carpenters' combined tools, and especially to certain improvements in and additions to that certain carpenter's bevel, which is secured to me  
10 by patent of May 29, 1883, No. 278,405.

My invention consists in the construction  
15 and combination of devices, which I shall hereinafter fully describe and claim.

Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1 is an elevation of my combined tool.  
20 Fig. 2 is a plan. Fig. 3 is an elevation of the point C, the head being in section. Fig. 4 is a view showing the tool as a beam-compass. Fig. 5 shows it as a gage.

The basis of my present tool is the bevel-  
25 tool which has been secured to me by the patent above referred to, and which I shall herein briefly describe.

A is the slotted stock or handle.

B B are blades, which are provided with longitudinal slots extending throughout their entire length. These blades are adjustably fitted in the slot of the stock, and are pivoted at opposite ends by means of the set-screws *b*,  
30 passing through the ends of the stock and adapted to tighten and relieve the blades, so that when in use they may be fixed at the angle required, and when not in use may be turned down from opposite ends to lie wholly within the handle, or may be moved to any  
40 angle desired. These blades are made of such a width that when fitted upon their pivot-screw and turned to any angle their edges will project beyond the rounded ends of the stock sufficiently to make a continuous edge.

The same result is of course effected by rounding off the ends of the stock in such a way as to expose the edge of the blade, no matter to what angle it may be turned. This feature  
45 in the mounting of the blades is not found in other bevels, as will be seen by practical tests. In other tools of this character the blade, when turned to a certain angle, in which

it is often required for use, lies a little within the ends of the stock, the projection of which breaks the continuity of the edge of the blade  
55 and prevents a line from being drawn upon said edge; but in mine I have so arranged it that, no matter to what angle the blades may be turned, their edges will project a little beyond the rounded ends of the stock, so that a  
60 continuous edge will be presented. One end of each blade is beveled off at an angle of forty-five degrees, so that when fitted together the blades can make a perfect square. The other end of each blade is beveled off at each side to  
65 a right angle, as shown. The stock is divided by lines and figures into inches and fractions of inches, as shown at *a*, and the blades are likewise divided into inches and fractions of inches, as shown at *b'*. This graduating of the  
70 stock and the blades makes the tool a perfect bevel-square, adapting it for use in all positions where such a tool is required.

C are the points, which provide for the use of the tool as a beam-compass and as a gage.  
75 These points are made up of the lower portion, *c*, the top of which has a screw, *c'*, and the flat head *c''*, which is internally threaded and fits the screw, Fig. 3. These points are fitted to the blades by turning their flat heads in line  
80 with the slots in the blades, passing the heads through the slots, and then turning them down again, whereby the points are tightened in the blades. They are thus readily inserted and as  
85 easily removed. One of the points in using the tool as a beam-compass may, in its lower end, be provided with a pencil for marking.

The use of the tool as a beam-compass is as follows: The blades B B are turned in line with the stock, and are extended or projected to a  
90 distance determined by the radius of the circle to be made, Fig. 4. In this position they are tightened by their screws. One of the points C is placed in one of the blades and tightened, its position being determined by the graduation  
95 upon said blade. The point with the pencil is now fitted in the blade B at the other end of the stock, its position being likewise determined by the graduations on the blade, whereby the exact radius is given, and the tool  
100 is then ready to serve as a beam compass. To serve as a gage, but one of the blades need be extended, either at right angles with the handle or, if desired, in line therewith, and one or



more of the points are fitted in the slot of said blade and tightened up, their position being determined by the graduations of the blade. The stock acts as a straight-edge against the edge of the board to be marked, and the tool may be then run along, its point or points dividing the board into the required widths, Fig. 5.

It will be observed that the points C may be applied to any of the ordinary bevels which use slotted blades, and I do not therefore confine myself to the application of the points to the present bevel-square, as far as its operation as a gage is concerned. In one end of the stock is pivoted a saw-blade, D. This is mounted upon the tightening-screw *b*, which sets the blade at that end, and by operating said screw the saw may be relieved and turned in or out into the required position, and when about to be used it can be tightened. The advantage of the saw-blade in this tool is obvious and needs no extended explanation, as in a great many cases, especially for light work, the lines or angles being laid off, the saw is at hand for its work.

In the upper surface of the stock is let a spirit-tube, E, provided with the usual air-bubble, Figs. 1 and 2. The stock is nicely and accurately made, so that it may serve for a level when provided with a spirit-tube. In the side of the stock is let the spirit-tube F, which adapts the tool for use as a plumb, Fig. 1.

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

1. The combination, with the slotted blades of a carpenter's tool, of the adjustable and removable points C, consisting of the lower portion, *c*, having a threaded portion, *c'*, on its

top, and an internally-threaded flat head, *c''*, adapted to pass through the slots in the blades and to be tightened on its screw, as herein described.

2. In a carpenter's tool, the combination, with a slotted stock and slotted blades adjustably pivoted and adapted to be tightened therein, of the adjustable and removable points C, consisting of the portion *c*, having a threaded upper end, *c'*, and the internally-threaded flat head *c''*, engaging the screw, and adapting the point to be fitted to the slotted blade, whereby it may serve as a gage, as herein described.

3. An improved carpenter's combined tool, comprising a slotted stock, independent longitudinally-slotted bevel-blades adjustably secured and pivoted in said stock, said stock and blades being both graduated in inches and fractions thereof, and the removable and adjustable points for fitting the blades, whereby the tool is adapted to be used as a beam-compass and a gage, substantially as herein described.

4. An improved carpenter's combined tool, comprising a slotted graduated stock, the graduated, independent, and adjustably-secured slotted blades in opposite ends of the stock, the removable points fitted to the blades, a saw-blade pivoted in the slotted stock, and spirit-tubes in the top and side of the stock, respectively, all constructed and arranged to operate as herein described.

In witness whereof I have hereunto set my hand.

BENJAMIN F. VAN AMRINGE.

Witnesses:

C. D. COLE,

J. H. BLOOD.