

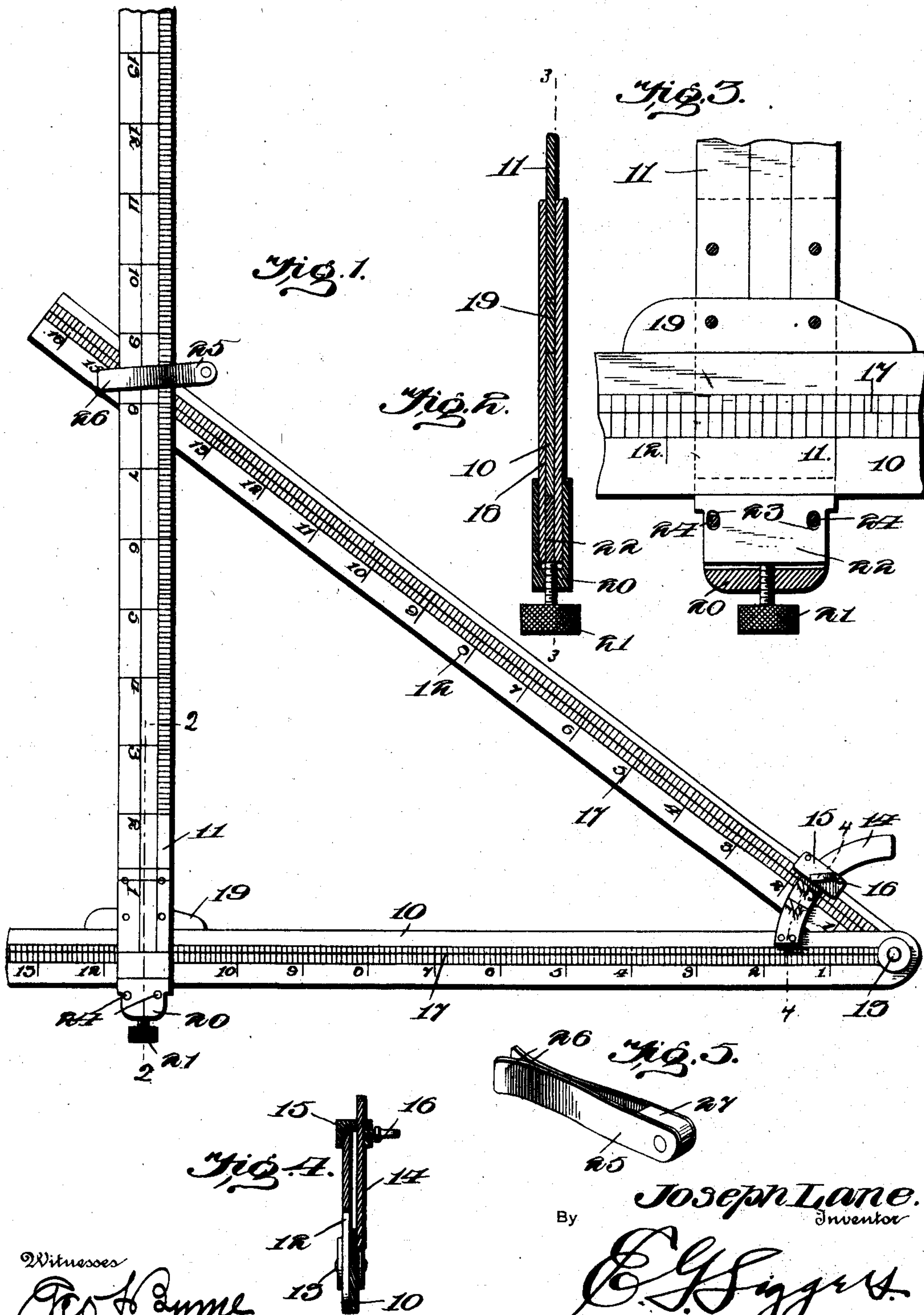
No. 669,395.

Patented Mar. 5, 1901.

J. LANE.
COMPUTING GAGE.

(Application filed June 16, 1900.)

(No Model.)



Witnesses

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JOSEPH LANE, OF LEWISTOWN, ILLINOIS.

COMPUTING-GAGE.

SPECIFICATION forming part of Letters Patent No. 669,395, dated March 5, 1901.

Application filed June 16, 1900. Serial No. 20,573. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH LANE, a citizen of the United States, residing at Lewistown, in the county of Fulton and State of Illinois, have invented a new and useful Computing-Gage, of which the following is a specification.

This invention relates to tools for finding the length of an unknown side of a triangle or the angles of the same, and is particularly adapted for use by carpenters or other mechanics in finding the length of rafters, braces, and the like.

To this end the invention contemplates an improved computing-gage having its members associated in a simple and effective manner, whereby they may be readily adjusted with relation to each other and locked in such adjusted position.

In the drawings which accompany and form a part of this specification the preferred form of the invention is shown.

Figure 1 is a view thereof in elevation. Fig. 2 is a vertical section on the line 2 2 of Fig. 1. Fig. 3 is a vertical section on the line 3 3 of Fig. 2. Fig. 4 is a vertical section on the line 4 4 of Fig. 1. Fig. 5 is a detail perspective of the spring-clip.

Similar numerals of reference designate like and corresponding parts in each of the figures of the drawings.

The invention as shown comprises three blades 10, 11, and 12. For convenience in identification the blade 10 is termed the "base-blade," the blade 11 the "perpendicular blade," and the blade 12 the "hypotenuse-blade."

The base-blade 10 and the hypotenuse-blade 12 are pivoted at their ends, preferably by means of a pivot-pin 13. Secured to the base-blade near its pivoted end is a quadrant-arm 14, which passes through an opening in a keeper 15, secured to the hypotenuse-blade 12, preferably contiguous to its pivoted end. A set-screw 16 is arranged to clamp the quadrant in the keeper, and thereby secure the two blades against independent movement. The quadrant is provided with suitable graduations to indicate the angle at which the blades are placed. These two blades 10 and 12 are each provided with a central longitudinal line 17, that intersects the center of the pivot-point, and a graduated scale is ar-

ranged along each center-line, beginning at the pivot-point, said scales being preferably graduated into inches and subdivided into twelfths.

The perpendicular blade 11 is slidably mounted at one end upon the base-blade 10 and at right angles thereto. The preferable manner of mounting this blade is by bifurcating the lower end to form an opening 18, through which the base-blade passes. Secured within this opening 18, at right angles to the perpendicular blade and projecting beyond both sides thereof, is the bearing-block 19, which forms a broad bearing-surface upon the inner edge of the base-blade, and thus maintains the perpendicular blade at right angles to the same. The outer end of the bifurcated portion of the blade 11 is closed by means of the angular clip 20, which surrounds the ends and is riveted thereto. Passing through the end of this clip is the set-screw 21, that is arranged to bear against the clamp-block 22 and force the same against the outer edge of the base-blade. The clamp-block 22 is provided with slots 23, through which the clip-rivets 24 pass, thereby holding said block in place. The inner edge of the perpendicular blade is provided with a graduated scale similar to those on the other blades, said scale beginning at the point of intersection of the center line of the base-blade.

In order to secure the perpendicular blade 11 and the hypotenuse-blade 12 together at their points of intersection, the spring-clip 25 is provided, consisting of two spring-arms 26, normally sprung toward each other, each being fastened at one end to opposite sides of a spacing-block 27.

In using the device—for example, in determining the length of rafters—the perpendicular blade is adjusted upon the base-blade a certain number of inches, this number representing half the width of the building. The hypotenuse-blade is then raised, so that the figure on the perpendicular bar representing the roof elevation intersects the central line of the hypotenuse-bars. This point of intersection upon the hypotenuse-bar will indicate the length into which the rafter is to be cut. For instance, as shown in Fig. 1, if the blade 11 is set at eleven inches and the blade 12 intersects it at eight the length of the beam

will be fourteen feet. To obtain the angle at which the ends of the rafters are to be cut, it is only necessary in finding the angle of the upper end to place the blade 12 parallel to the timber and the blade 11 across the same, which will indicate the proper angle. For the lower end the blade 12 is placed parallel, as before, and the blade 10 is placed across the timber to indicate the proper angle.

10 It will thus be seen that a simple device is provided by means of which the length of rafters or the like and the angles at which they are to be cut may be accurately determined.

From the foregoing it is thought that the construction, operation, and many advantages of the herein-described invention will be apparent to those skilled in the art without further description, and it will be understood that various changes in the size, shape, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

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

1. A device of the class described, comprising two blades pivotally connected, each of said blades being provided with a graduated scale, means for clamping said blades against independent movement, a third blade slidably mounted upon one of the pivoted blades and arranged to intersect the other, said third blade being also provided with a graduated

scale, means for clamping said third blade to one of the pivoted blades, and a separate spring-clamp having a frictional slip connection with the intersecting blades at their points of intersection to frictionally clamp them together at any point but permit of a sliding movement for the purpose of adjustment.

2. A device of the class described, comprising two blades pivotally connected, each of said blades being provided with a graduated scale, a locking device to hold said blades against independent movement and arranged contiguous to their pivots, a third blade also provided with a graduated scale and having a bifurcated end adapted to embrace one of the pivoted blades, a bearing-block rigidly secured in the bifurcation at right angles to the blade, a clip arranged upon and closing the end of said bifurcated third blade, a clamp-block slidably mounted in the bifurcation, means for fastening said clip to the blade, said means also serving to hold the clamp-block in place, and a set-screw carried by the clip to adjust said clamp-block, said pivot-blade passing through the bifurcation between the bearing and clamp blocks.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOSEPH LANE.

Witnesses:

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