(No Model.) 4 Sheets—Sheet 1.

L. GIRTON.

FRAMING TOOL.

No. 597,464. Patented Jan. 18, 1898.

Fig. 1.

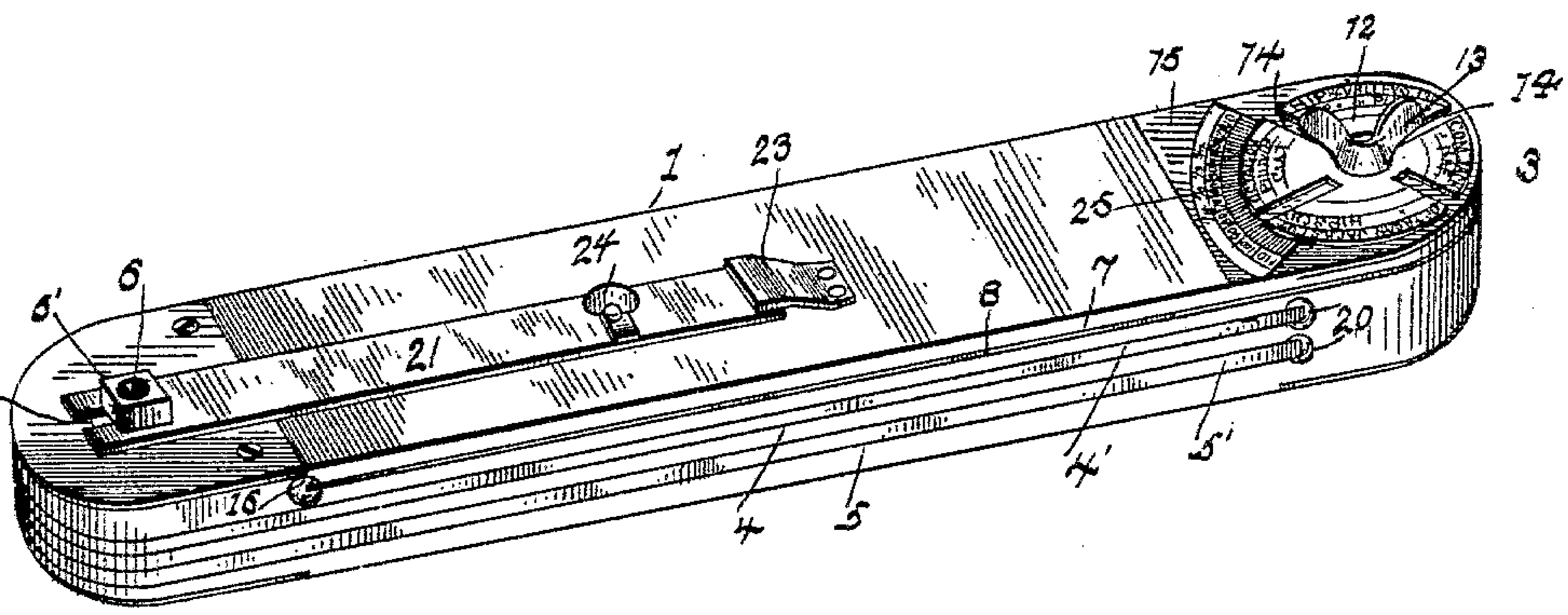
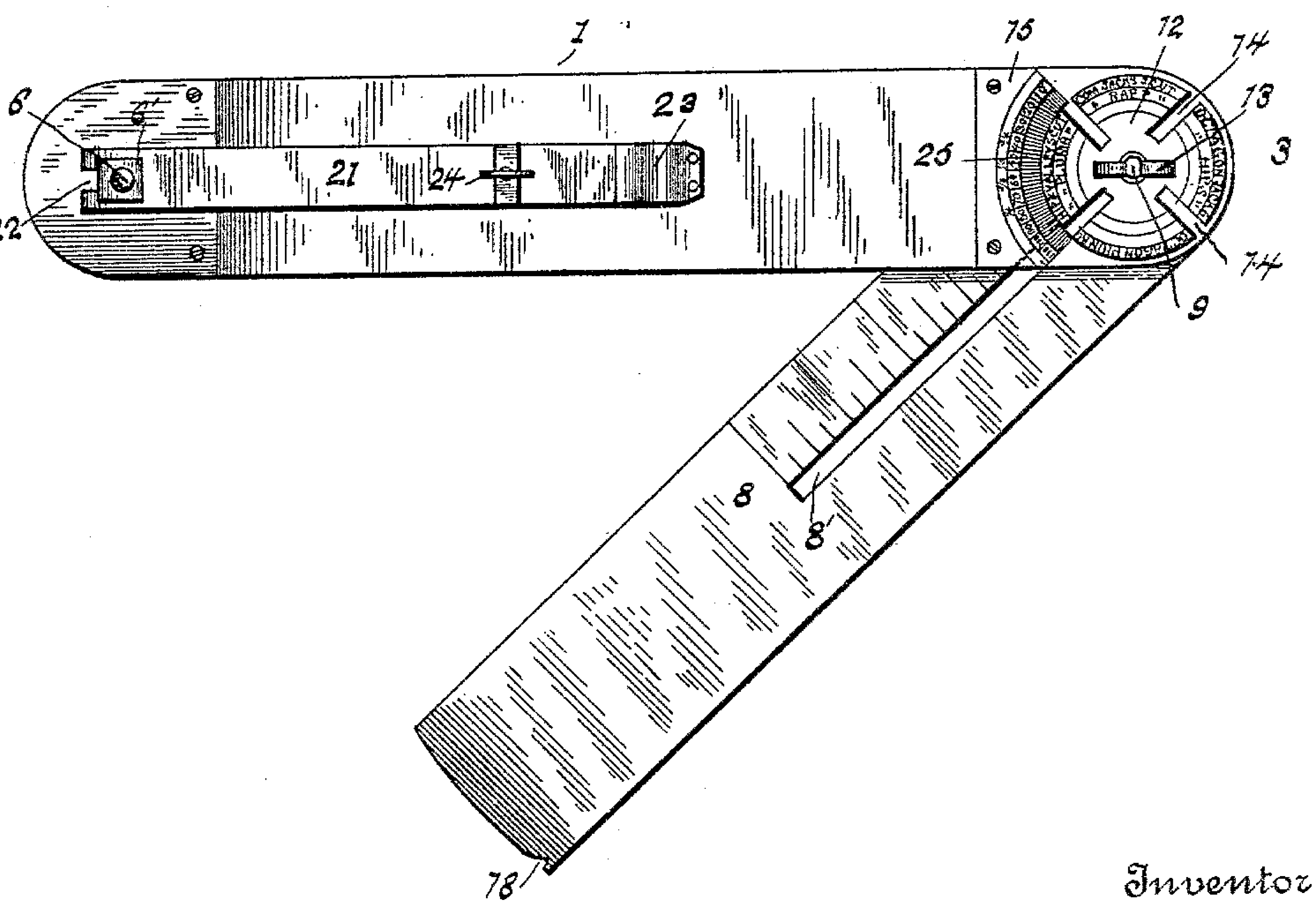


Fig. 2.



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(No Model.) 4 Sheets—Sheet 2.

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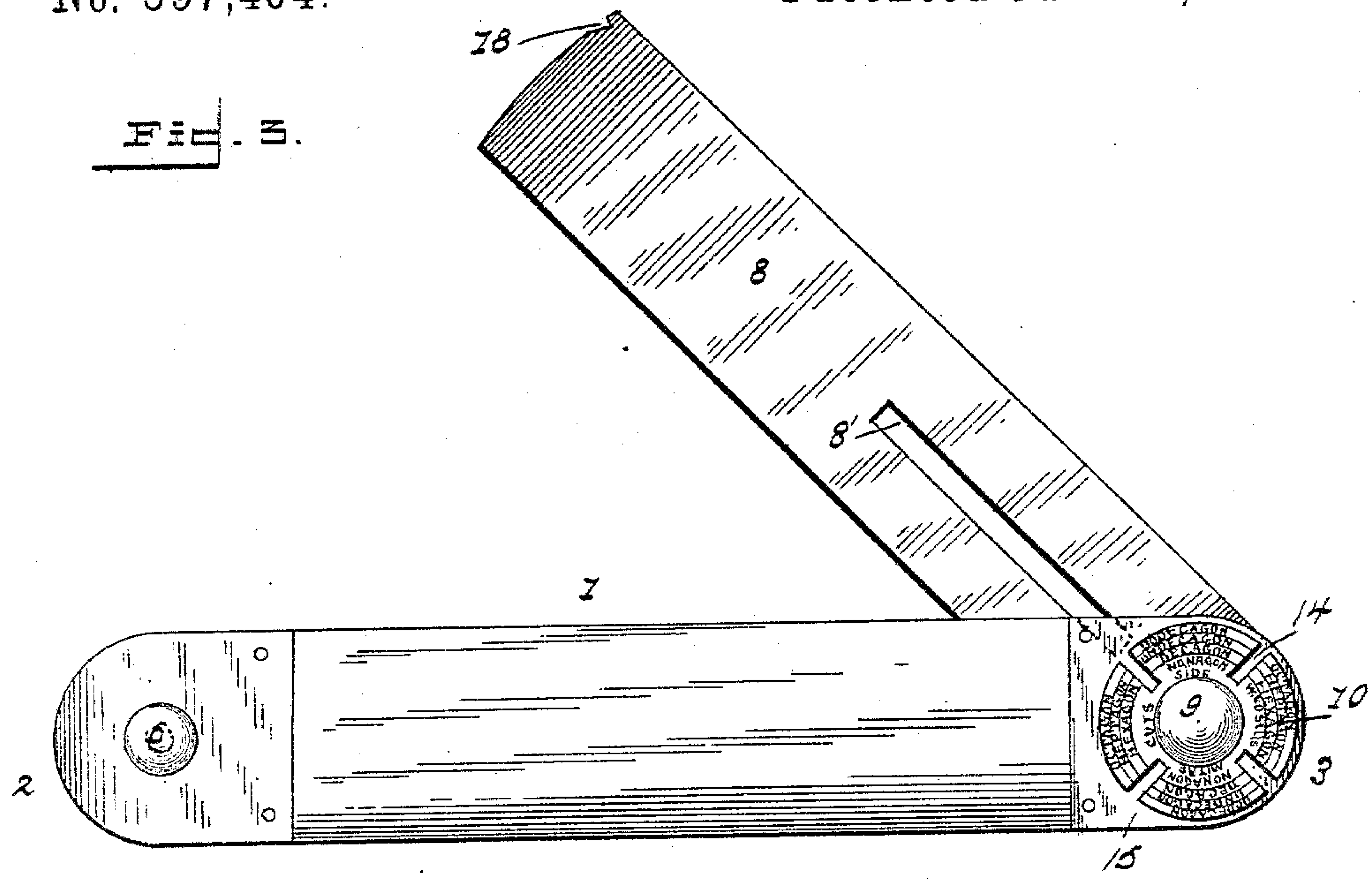
Fig. 3.



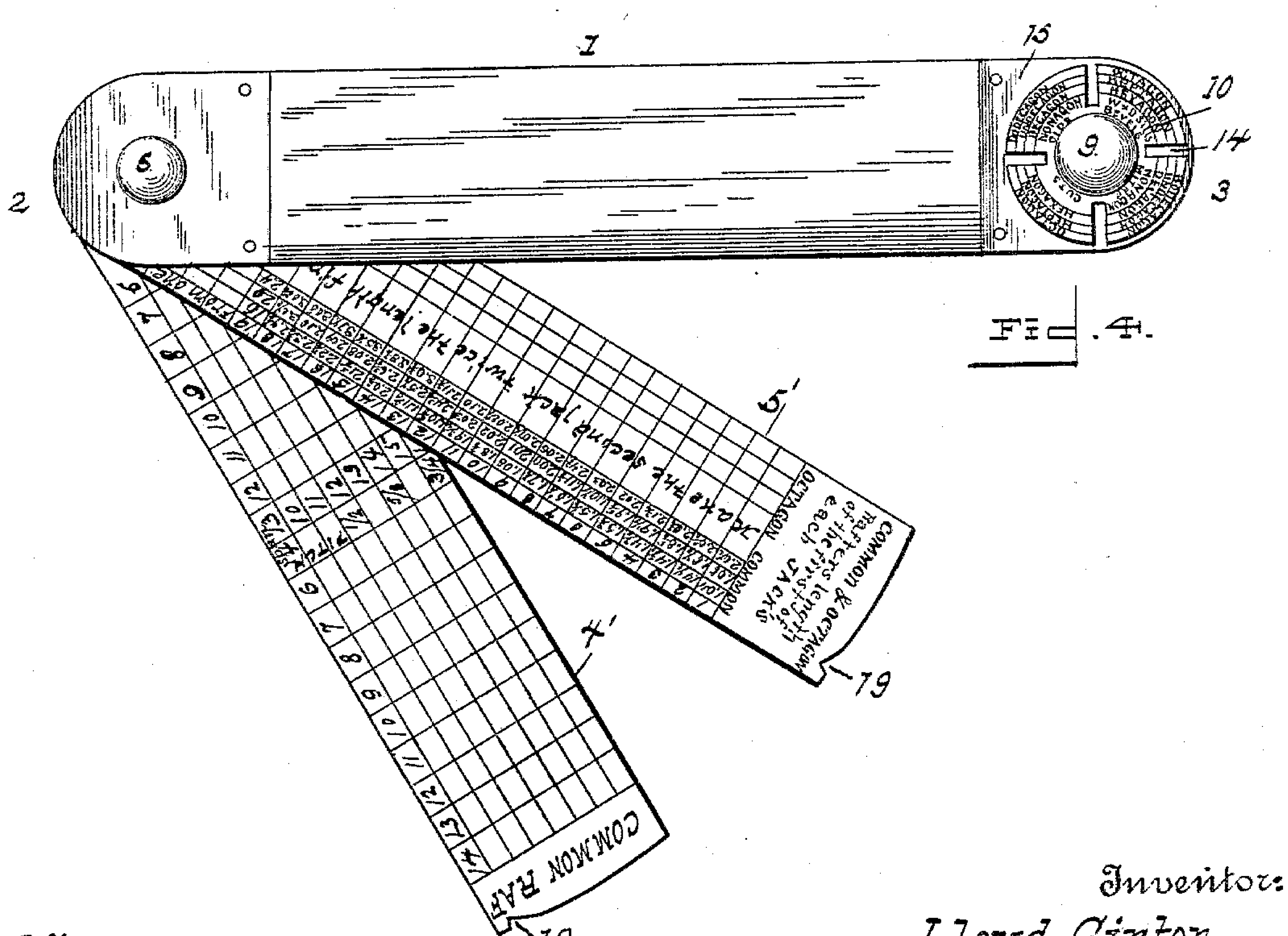


Fig. 4.

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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L. GIRTON.

FRAMING TOOL.

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Fig. 5.

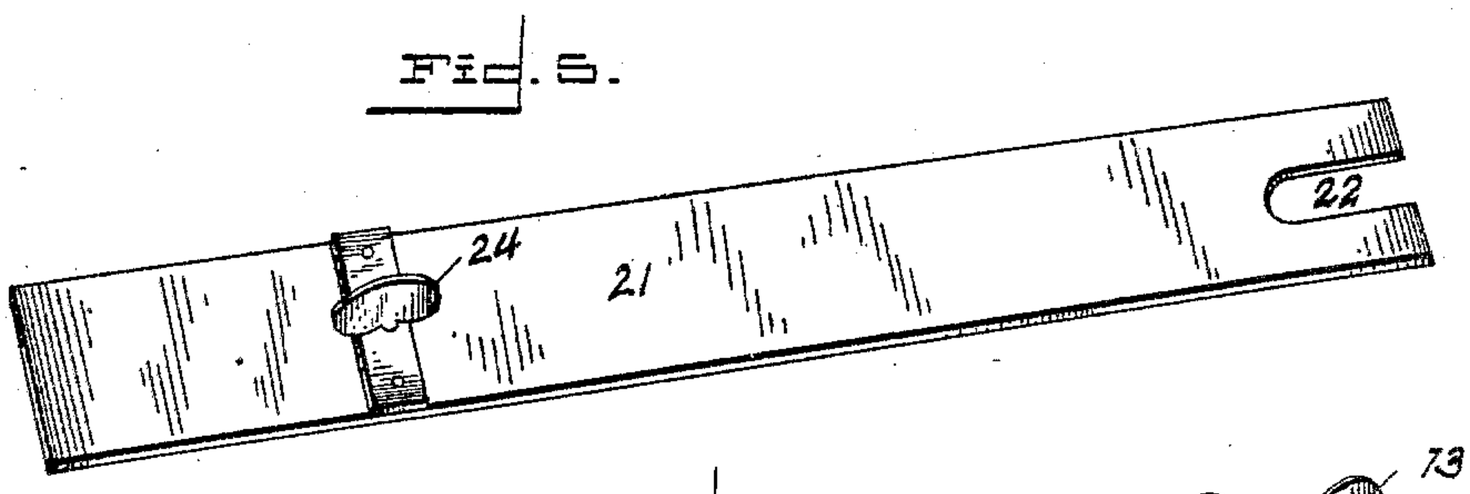


Fig. 6.

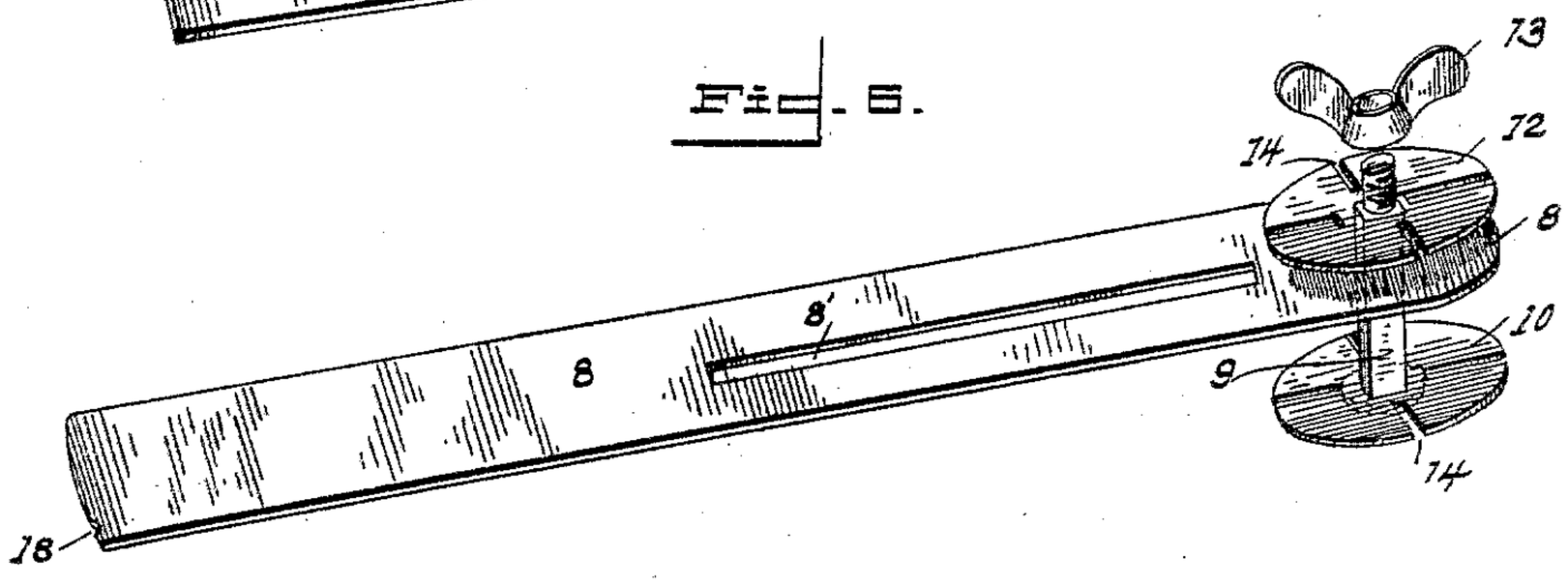
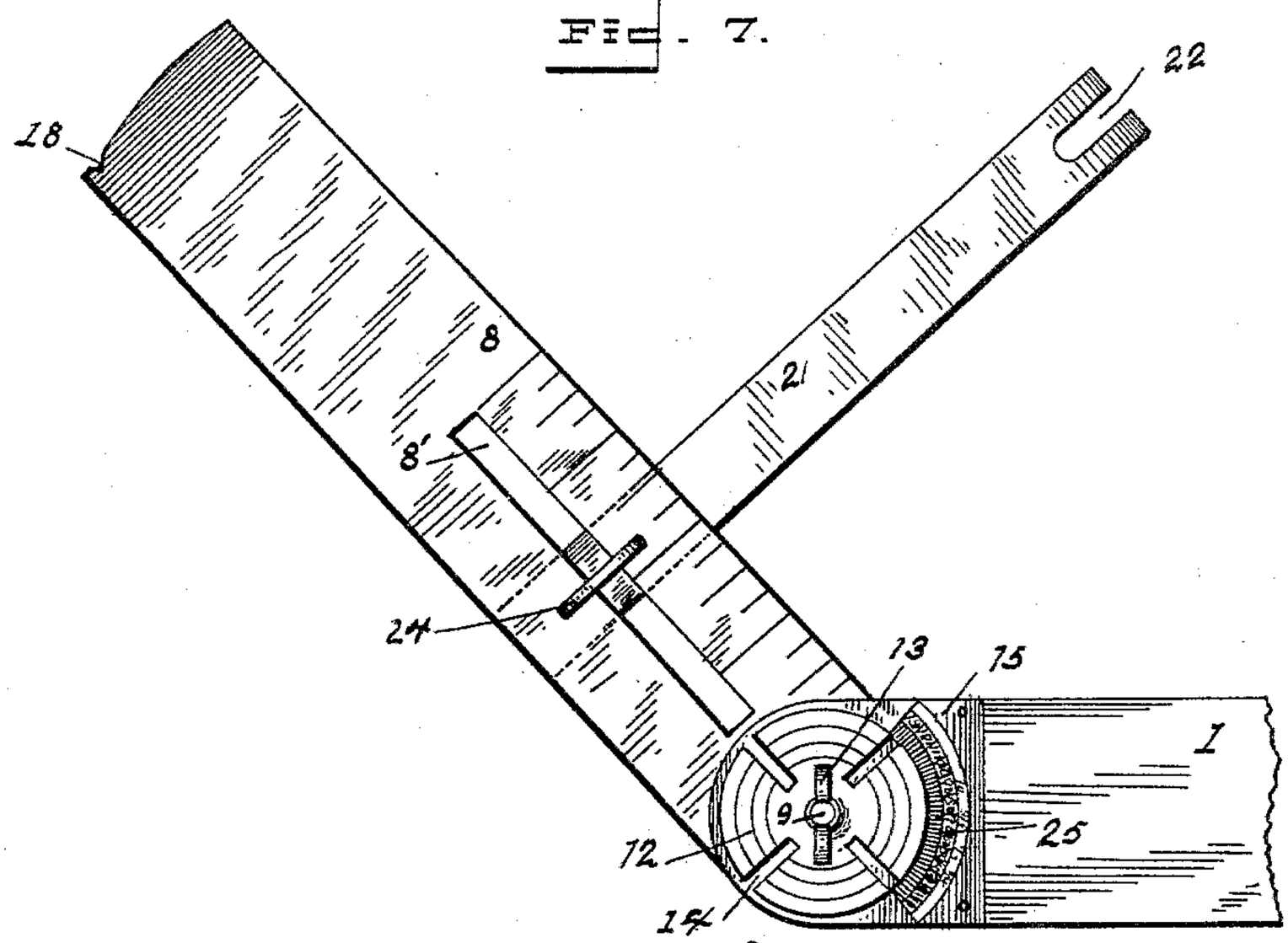


Fig. 7.



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(No Model.)

4 Sheets—Sheet 4.

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FRAMING TOOL.

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Fig. 8.

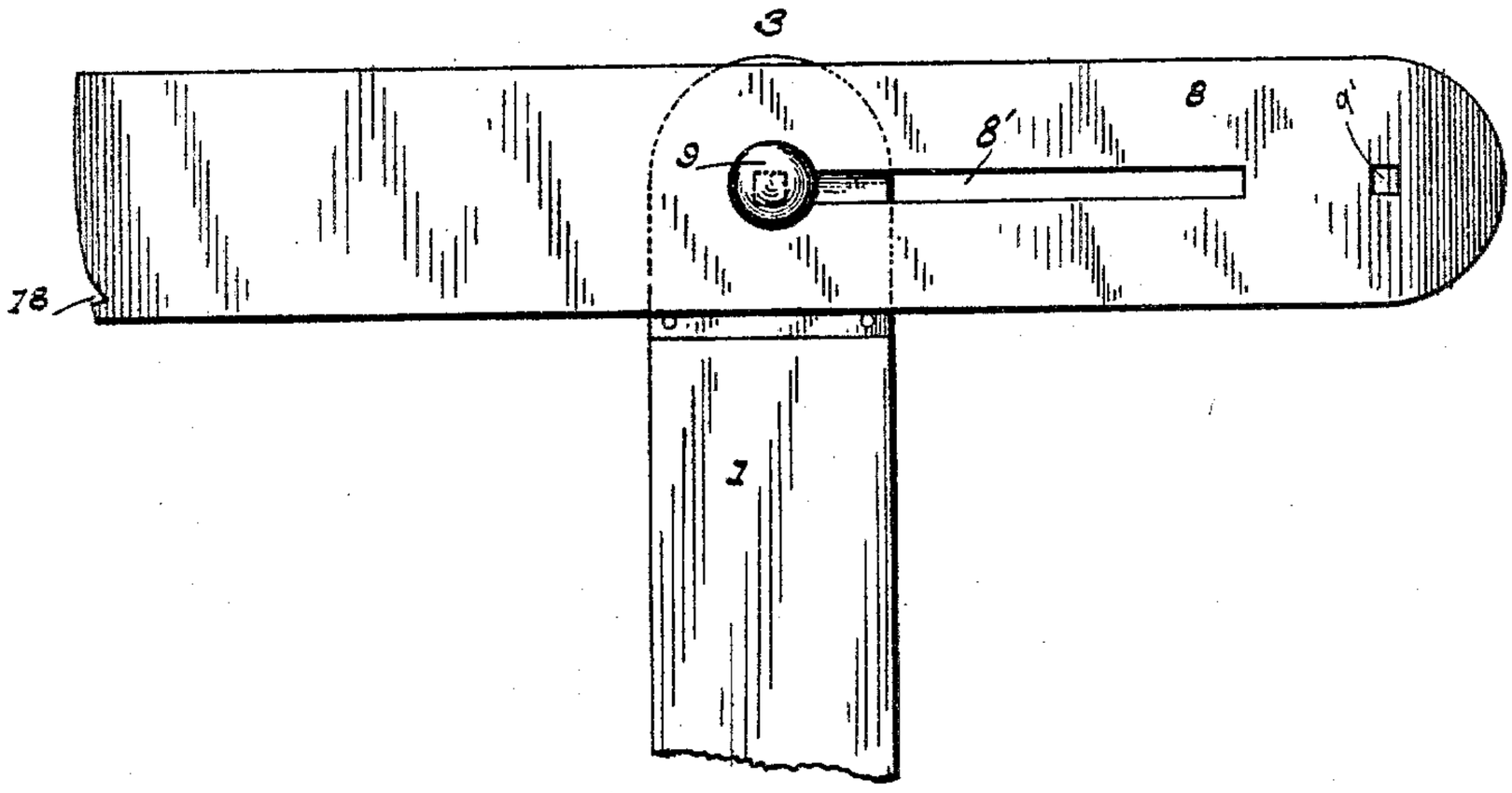
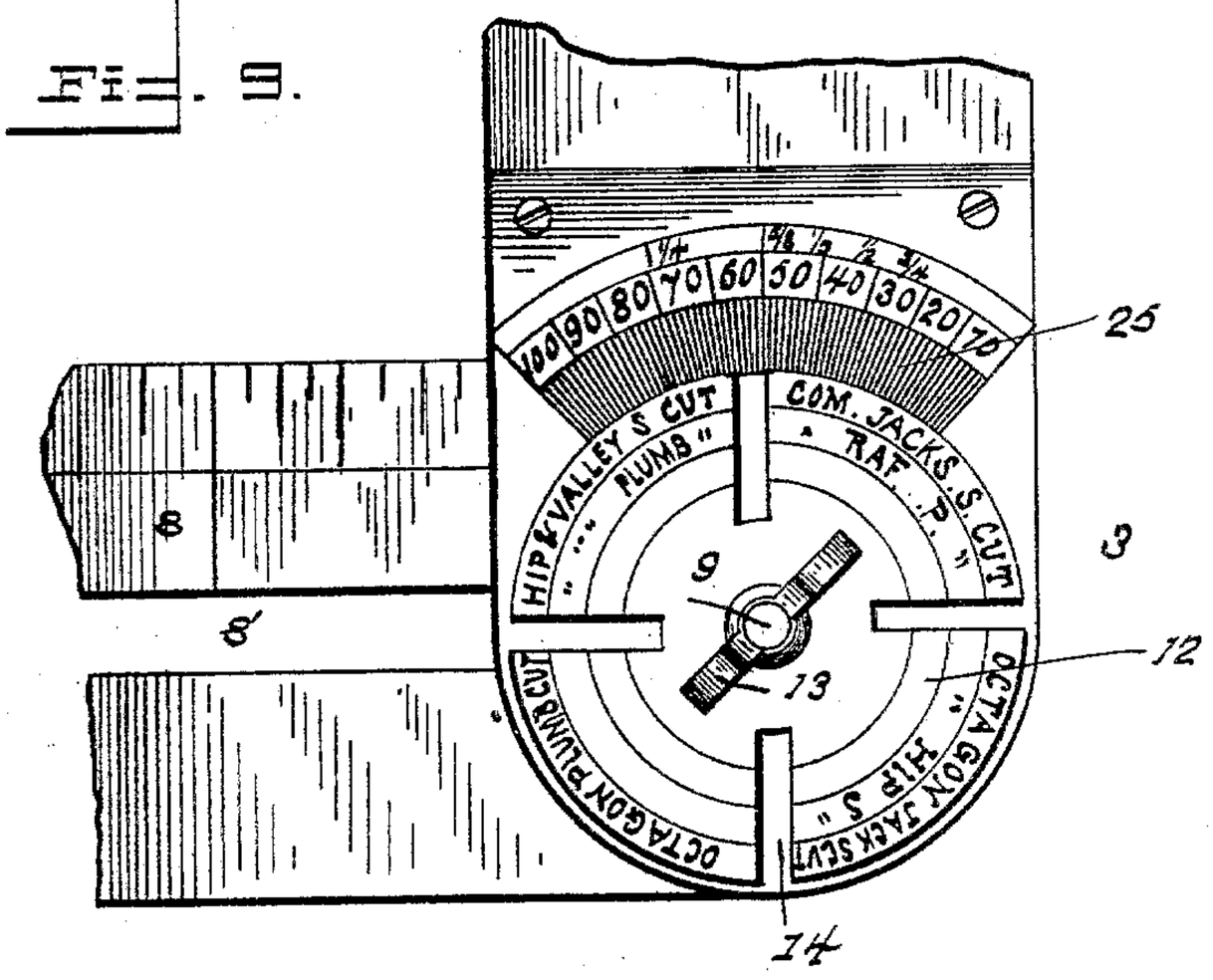


Fig. 9.



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UNITED STATES PATENT OFFICE.

LLOYD GIRTON, OF CAMDEN, NEW JERSEY.

FRAMING-TOOL.

SPECIFICATION forming part of Letters Patent No. 597,464, dated January 18, 1898.

Application filed August 17, 1897. Serial No. 648,554. (No model.)

To all whom it may concern:

Be it known that I, LLOYD GIRTON, a citizen of the United States, residing at Camden, in the county of Camden and State of New Jersey, have invented certain new and useful Improvements in Framing-Tools; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to a novel form of framing-bevel for carpenters' and builders' use; and the object is to provide a simple and convenient tool of this class to facilitate the laying off of rafters and the various polygonal bevels usually required in building.

To this end the invention consists in the construction, combination, and arrangement of the several parts of the device, as will be hereinafter more fully described, and particularly pointed out in the claims.

In the accompanying drawings the same reference-characters indicate the same parts of the invention.

Figure 1 is a perspective view of my improved framing-bevel as it appears when folded. Fig. 2 is a side elevation with the steel bevel-blade open. Fig. 3 is a reverse view. Fig. 4 is a perspective view with the scale-blades open. Fig. 5 is a detail view of the heel-blade. Fig. 6 is a detail of the steel bevel-blade, its bolt and dial-plates being removed from the stock. Fig. 7 shows the heel-blade attached to the bevel-blade. Fig. 8 shows the tool in use as a T-square. Fig. 9 is a detail plan view of the degree-scale.

1 represents the rectangular stock, which is finished off with semicircular ends 2 and 3, and it consists of an integral block of hard wood formed with two parallel slots 4 5, extending inwardly from the end 2 to receive the scale and table blades 4′ and 5′, which are pivoted at one end on the bolt 6, transversely mounted in the end 2. A similar though narrower slot 7 extends in the opposite direction from the end 3 to receive the bevel-blade 8, which is pivoted on the square bolt 9, mounted so as to rotate in the end 3, and 10 represents a scale-dial fixed on the bolt 9, under its head, so as to rotate with it, and 12 represents a similar dial mounted on the square body of the bolt under the thumb-nut 13. These dials 10 12, the bolt 9, and the bevel-blade all move simultaneously, and when the blade is adjusted to a given angle with reference to the stock it may be firmly secured in position by means of the thumb-nut 13, which, in connection with the bolt 9, rigidly clamps said blade in the slot 7. This blade 8 is also provided with a central longitudinal slot 8′, which is independent of the square orifice 9′, which receives the bolt 9, and by removing said bolt from said orifice and adjusting the blade so that the bolt engages the slot 8′ the tool is converted into a T-square, as shown in Fig. 8. It will be noted that the face of one side of the blade 8 contiguous to the slot 8′ is provided with a graduated inch-scale, the object of which is to conveniently adjust said blade, while an additional use for the slot will be found hereinafter in the description of the heel-blade. These dials 10 12 are each provided with a series of radial guide or gage slots 14, which register with the annular scales formed on the plates 15 15, fixed on the opposite parallel sides of the end 3 of the stock, and by this means the bevel-blade 8 may be readily and accurately adjusted to lay off square work, as well as the side miter for the various polygonal figures—such as pentagons, hexagons, octagons, decagons, unadecagons, &c.—and the proper pitch for door and window sills, and likewise be used as a T-square. The inner end of the slot 7 is provided with a countersunk recess 16 and the free end of the blade with a notch 18 for conveniently opening it when closed in the stock. The scale and table blades 4′ 5′ are likewise provided with notches 19 19, so that when folded in the stock the finger may be inserted in the countersunk recess 20 to engage either or both of the notches to adjust the blades to their proper working position, and they are also provided with computed tables giving the length of rafters at any rise or run. The opposite parallel sides of these scale-blades 4′ 5′ on each side are provided with fixed arbitrary tables to accurately determine the pitch, plumb, side, and heel cuts of common hip-roof rafters, valleys, jacks, and cripple-rafters, and, in fact, all the various angles required in architecture, and as there are two of these scale-

blades two angles or different bevels may be obtained at the same time.

21 represents the auxiliary or heel blade, formed at one end with a slot 22, which engages the bolt 6 and is adjustably secured to the stock by the nut 6′, and when not in use its free end is secured in the shoe 23, fixed to the side of the stock. A thumb-screw 24, passing through the blade, impinges on the contiguous side of said stock to hold the blade in place. When in use, this heel-blade is detached from the position just described and its slotted end slipped over the bolt 9 in the slot 7 and in contact with the blade 8, so as to form the angle of a square or the fourth part of a circle, thus enabling the mechanic to obtain the plumb and heel cut at the same operation.

When the heel-blade 21 is adjusted to the bevel-blade 8, as shown in Fig. 7, it may be set to the graduated inch-scale along the edge of the slot 8′, so as to adapt the cuts made by the bevel to any desired height above the plate containing the graduations.

Referring to Fig. 9, the degree-scale 25 on the plate 15 enables the carpenter to instantly set the bevel-blade 8 at any desired angle, and to accomplish this it is only necessary to move the blade 8 until the zero-point on the dial 10 is alined with the desired angle on the scale, so that by this arrangement any angle may be correctly laid off without computation, thus saving time and insuring absolute correctness in the work.

Both of the plane sides of the stock not otherwise occupied may contain printed instructions for the use of the tool.

Although I have specifically described the construction and relative arrangement of the several elements of my invention, I do not desire to be confined to the same, as such changes or modifications may be made as clearly fall within the scope of my invention without departing from the spirit thereof.

Having thus fully described my invention, what I claim as new and useful, and desire to secure by Letters Patent of the United States, is—

1. A framing-tool, comprising the stock 1, provided with the slots 4 5 and 7, in combination with the bolt 6, extending through the stock at the open end of said slots, and the square bolt 9, extending through the opposite end of the stock, and the open end of the slot 7; the dials 10 12, mounted on the opposite ends of said bolt 9, so as to rotate with it, the bevel-blade 8, mounted in said bolt so as to move simultaneously with said dials, and the scale-blades 4′ 5′ independently pivoted on the bolt 6, in the slots 4 and 5, substantially as shown and described.

2. The stock 1, provided with the slots 4 5 and 7, and the fixed scale-plates 15 15, in combination with the scale-blades 4′ 5′, having their opposite parallel sides provided with arbitrarily-arranged scales, and independently pivoted in the open ends of the slots 4 5; the square bolt 9 extending through the opposite end of said stock and through the axis of the fixed scale-plates 15 15; the dials 10 12, provided with the radial guide-slots 14, adapted to register with said scale-plates and mounted on the opposite ends of said bolt 9, so as to rotate with it; the bevel-blade 8, mounted on said bolt so as to travel simultaneously with said dials and the auxiliary heel-blade 21, detachably secured to said stock, substantially as shown and described.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

LLOYD GIRTON.

Witnesses:
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CHAS. H. LAIRD.