

No. 725,614.

PATENTED APR. 14, 1903.

W. G. CLEMENTS.
TRY-SQUARE.

APPLICATION FILED OCT. 20, 1902.

NO MODEL.

Fig. 1.

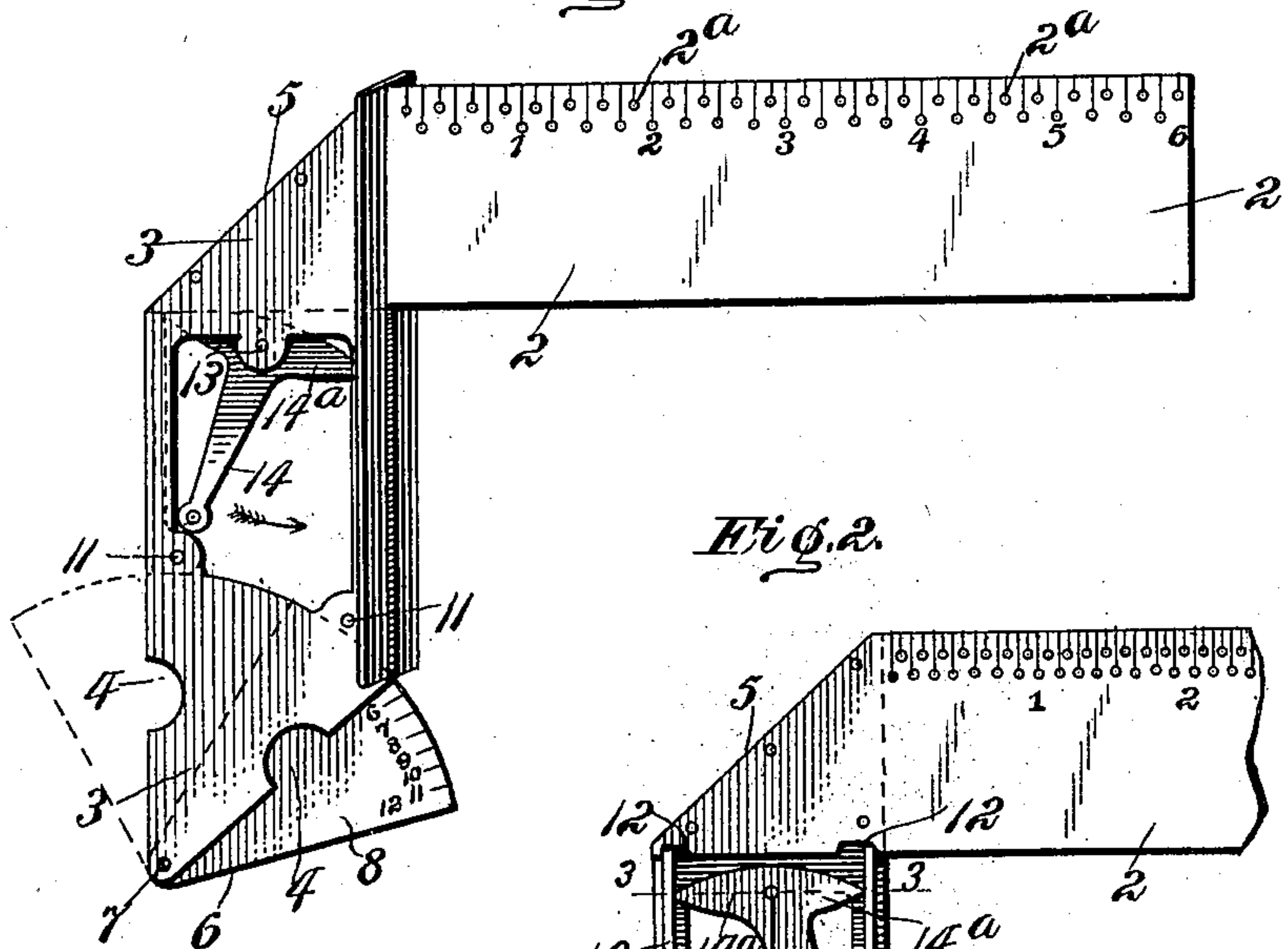


Fig. 2.

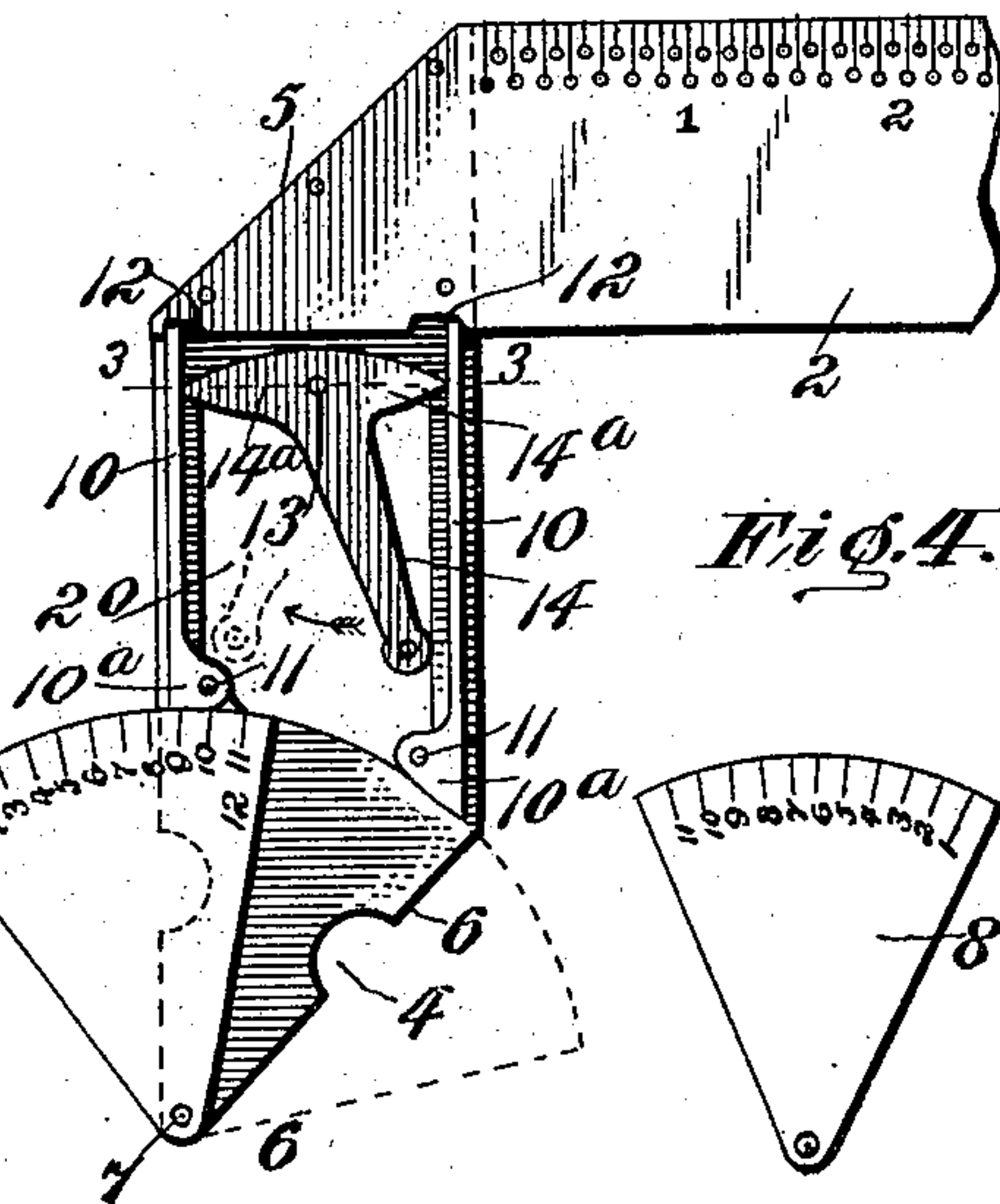


Fig. 4.

Fig. 3.

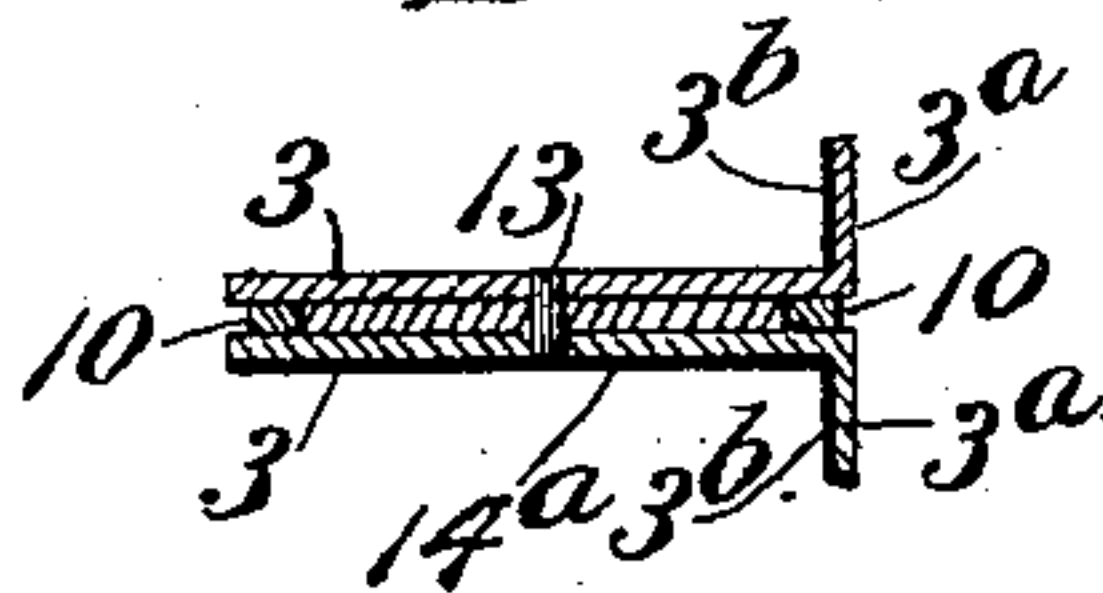


Fig. 5.

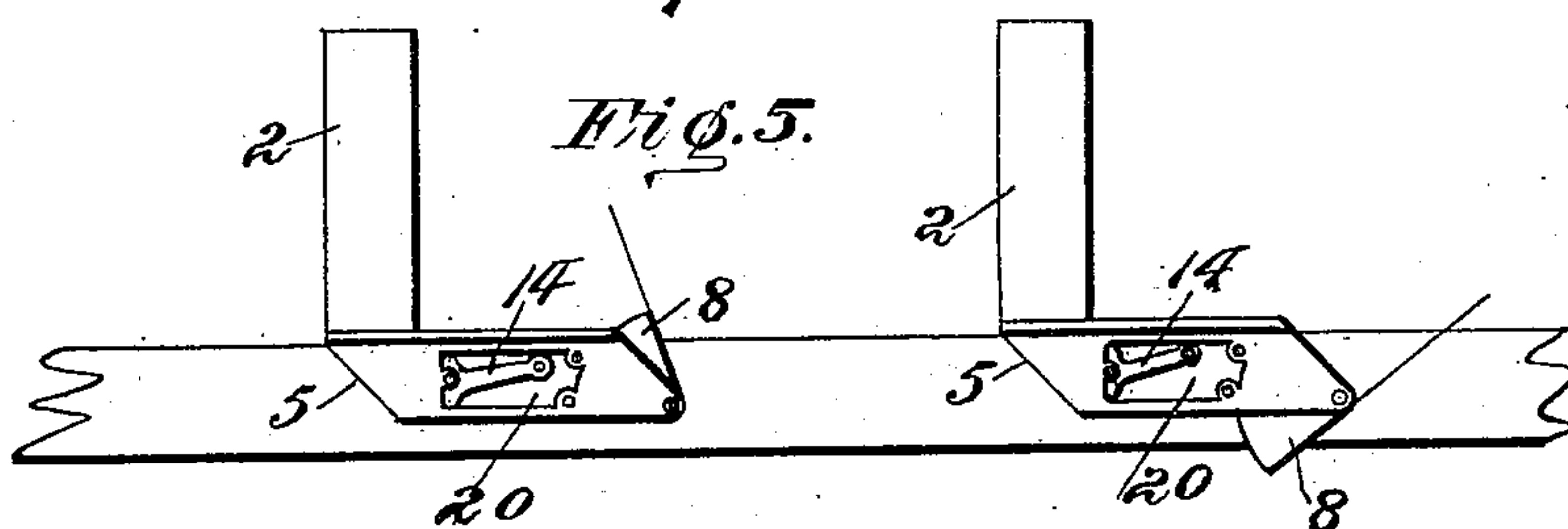
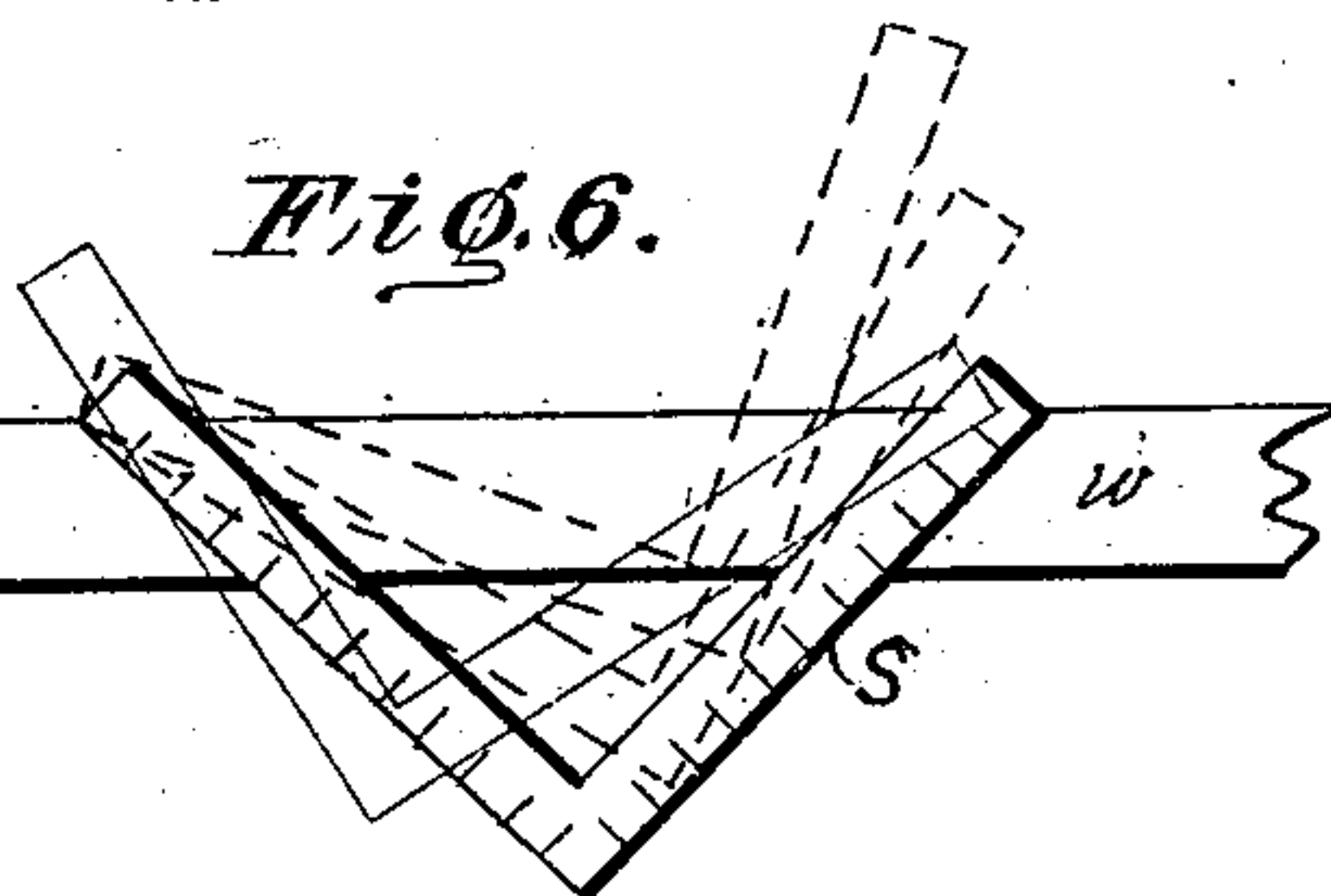


Fig. 6.



WITNESSES:

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WILLIAM GEORGE CLEMENTS, OF VANCOUVER, CANADA, ASSIGNOR OF
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TRY-SQUARE.

SPECIFICATION forming part of Letters Patent No. 725,614, dated April 14, 1903.

Application filed October 20, 1902. Serial No. 128,059. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM GEORGE CLEMENTS, a citizen of the Dominion of Canada, residing at Vancouver, in the Province of British Columbia, Canada, have invented a new and useful Try-Square, of which the following is a specification.

My invention relates to an improved try-square having a bevel attachment, and it also includes several incidental features adapted to enhance its usefulness and render it applicable for purposes which usually require independent tools.

The device is fully illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of the square complete; Fig. 2, a view of the stock with one-half removed, showing the bevel-sector and its locking means; Fig. 3, a cross-section of the stock on the line 3-3 in Fig. 2. Fig. 4 shows the graduation of the reverse face of the bevel-sector. Fig. 5 shows the application of the square to mark desired bevel cuts, and Fig. 6 shows the method of marking a bevel with an ordinary carpenter's square and is shown to explain my method of graduating the sector.

The square proper consists of a thin blade 2, riveted between two flanged portions 3, which together form the stock, and as the thickness of the outwardly-turned flanges of the stock portions 3 is uniform either face 3^a or 3^b may be used to work from.

I graduate the edge of the blade 2 in any desired unit and fractions thereof, and such graduations are provided with apertures 2^a through the blade, so that by the insertion of a pencil point or scribe in any one of them the square may be used as a marking-gage by sliding the face 3^a along the edge of the work.

The back corner of the stock where the blade is attached is cut away, as at 5, from the flanged faces toward the back to form a forty-five-degree or square-joint angle, and a constant edge is thus provided for this frequent requirement. The opposite end of the stock to where the blade is attached is beveled in a similar manner to a forty-five-degree angle, so that the edge 6 is parallel to 5, and in this angle and between the two halves 3 of the stock is pivotally mounted on the pin 7 the

forty-five-degree sector 8, so as to be susceptible of movement to either side of the stock, as clearly indicated in Figs. 1 and 2 of the drawings. The graduation of this scale is an important feature of my invention, for as the bevel attachment is intended to dispense with the use of the solid twelve-inch graduated carpenter's square from which various bevels are usually obtained I adopt a system of graduation in which the various angles are expressed in the same terms. To make this point clear, I would refer to Fig. 6 of the drawings, which shows the application of an ordinary carpenter's square S, as referred to, to mark the various angles on a piece of work W. The full black lines indicate the square as placed to mark a forty-five-degree bevel, which is known to the trade as "12 12," because each leg of the square is equal to the edge of the work. The fine black lines indicate how the square is moved to obtain angles greater than the forty-five and which are designated "12 11," "12 10," on to "12 0," which is of course the right angle or ninety degrees. The dotted lines show the position of the square for angles less than forty-five degrees and are known as "11 12," "10 12," on to "0 12," which is of necessity the straight line. So in graduating the sector of my square I use these angles and designate them in the same way, one face being graduated for angles when the sector is moved out to the right, as in Fig. 1, and the reverse side for angles for which the sector requires to be moved to the left. This prevents confusion in the numbering.

To facilitate the pushing out of the sector from between the two members of the stock, segments 4 are removed, which enable the sector to be pushed far enough out to permit it to be seized with the fingers.

As it is necessary for the sector to be secured at any desired angle, whether greater or less than forty-five degrees, I provide a locking device, which is fully shown in Fig. 2. Between the two members 3 of the stock and toward the outside edges of the same are the locking-levers 10. These are fulcrumed on the pins 11 adjacent to the periphery of the sector and are each provided with a heel 10^a, adapted to bear against the edge of the sector. The free or upper ends of these le-

vers 10 are loosely notched into the blade 2 or otherwise secured, as at 12, to prevent the upper end falling outward when its heel is not in contact with the sector edge, and pivotally mounted between the upper ends of the levers on a pin 13, secured in the stock members 3, is a T-lever 14, the ends 14^a of which engage the inner edges of the levers 10 and force them apart when the lever is to one side, as in Fig. 2, or free them and allow the heels 10^a to release their grip of the sector edge, as in Fig. 1. The heels 10^a do not fall away, but the pressure is merely relieved.

The members 3 of the stock are pierced, as at 20, to afford access to the T-lever for operating it, and the lever is set at an angle with the cross portion 14^a, so that when at one side of the opening 20 the sector is clamped and at the other side it is free, as in Figs. 2 and 1, respectively.

Fig. 6 is self-explanatory as illustrating the application of the bevel-sector to mark an angle on a piece of work.

From the foregoing description it must be evident that my square will be a very useful addition to a carpenter's kit of tools, particularly when he is employed in house-finishing, for in running moldings, &c., the ordinary forty-five-degree bevel is at hand in edges 5 or 6 without any requirement of setting. The perforated blade enables a dimension to be very readily scribed on a piece of work without the necessity of carrying a marking-gage about, and for obtaining any of the angles or bevels such as are commonly required—as, for instance, in finishing around a bay-window, where the large carpenter's square previously referred to would be cumbersome and unhandy and an ordinary bevel-square would require to be set to the angle previously ascertained—my bevel attachment may be at once set as required, as the angles are given as known to all carpenters in the terms of the large square.

Having particularly described my invention and the manner of its application, I declare that what I claim as new, and desire to be protected in by Letters Patent, is—

1. In a try-square, a stock composed of two flanged members, a blade riveted between the two flanged members, the stock where the blade is secured having one corner removed

whereby to leave a forty-five-degree scribing edge, the diagonally opposite corner of the stock being similarly removed, a sector pivotally mounted between the stock members at the end opposite to the blade attachment, and means for locking the sector in any desired position in the stock.

2. In a try-square as described a stock having two outwardly-flanged members, a graduated blade having perforations at each graduation, said blade being secured between the two outwardly-flanged members of the stock of the square, said stock and blade being beveled to form a forty-five-degree bevel from the outer side of the blade at its attachment to the stock, toward the back of the stock, said stock having a parallel bevel at the other end thereof, a sector pivotally mounted between the stock members so that its edges when sheathed are coincident with the last-mentioned beveled end and the back edges of the stock, and means for securing the sector in any desired position of rotation in stock members.

3. In a try-square having a stock composed of two members between which the blade is secured, and a sector pivotally mounted between such members; heel-levers fulcrumed on pins adjacent to the arc of the sector, the heels of which conform to such arc and are in engagement with it; an aperture in the stock between the heel-levers and a T-lever pivotally mounted between the free ends of the heel-levers the cross T of which is in engagement with such free ends in one position of the T-lever and free from them in another position.

4. In a try-square as described; a sector pivotally mounted in the stock and having the faces of such sector graduated to indicate the angles as read from an ordinary solid carpenter's square, such angles being the tangents of unit measurements on the legs of the square.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM GEORGE CLEMENTS.

Witnesses:

ROWLAND BRITAIN,
J. S. WHYTE.