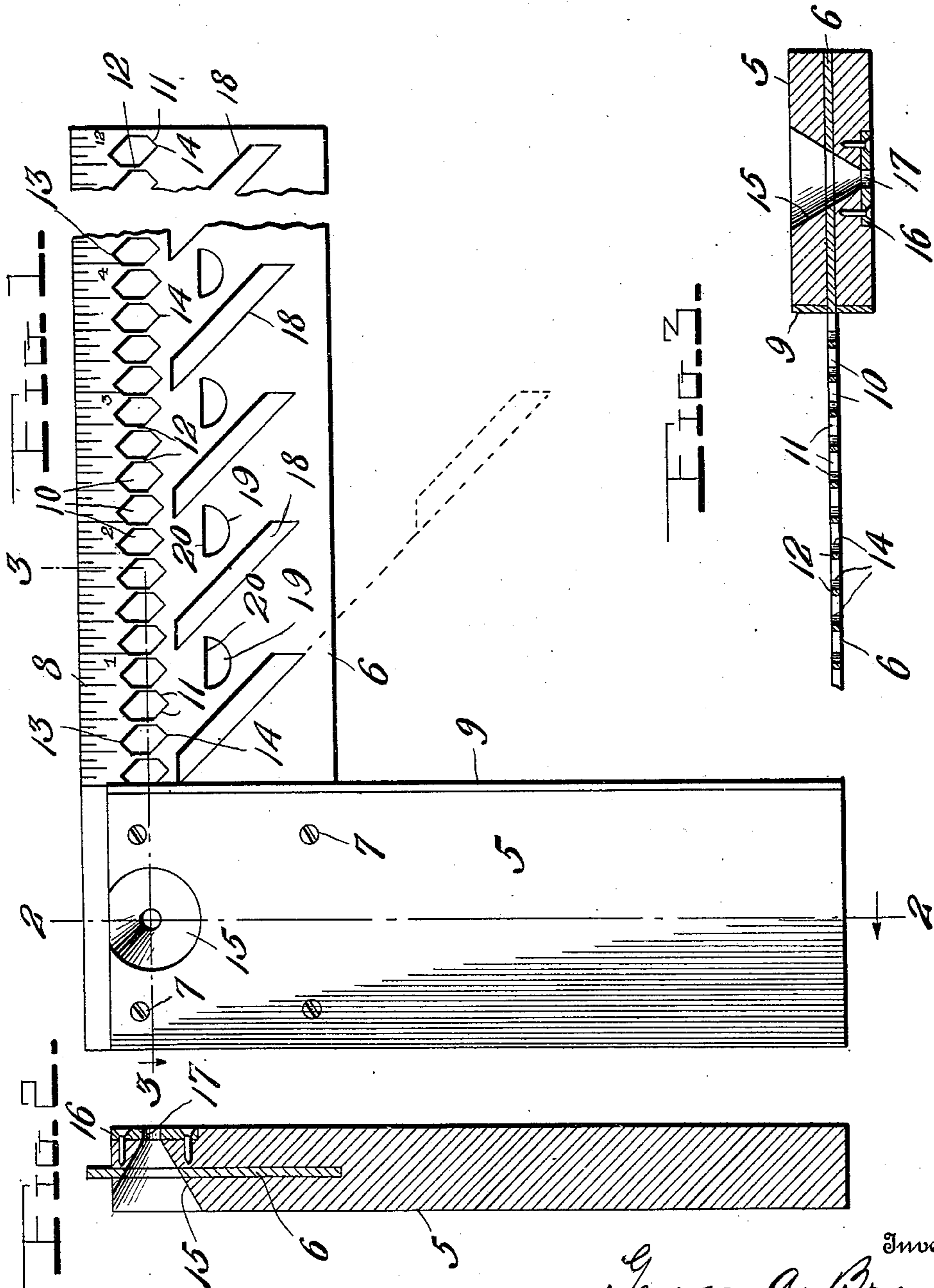


G. A. BROWN.
COMBINATION TRY SQUARE.
APPLICATION FILED DEC. 8, 1909.

991,693.

Patented May 9, 1911.



Witnesses

Chas. L. Griebauer.
E. M. Ricketts

Inventor
George A. Brown

By Watson E. Coleman
Attorney

UNITED STATES PATENT OFFICE.

GEORGE A. BROWN, OF BOISE, IDAHO.

COMBINATION TRY-SQUARE.

991,693.

Specification of Letters Patent.

Patented May 9, 1911.

Application filed December 6, 1909. Serial No. 531,598.

To all whom it may concern:

Be it known that I, GEORGE A. BROWN, a citizen of the United States, residing at Boise, in the county of Ada and State of Idaho, have invented certain new and useful Improvements in Combination Try-Squares, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to certain new and useful improvements in measuring instruments and more particularly to a combined try-square which is so constructed that the same may be used as a square, a miter, gage, or compass.

The primary object of my invention is to provide a device of the above character which is of simple construction, easily operated and whereby various measurements may be taken with absolute accuracy.

With these and other objects in view, the invention consists of the novel features of construction and the combination and arrangement of parts hereinafter fully described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of a try-square embodying my improvements; Fig. 2 is a section taken on the line 2—2 of Fig. 1; and Fig. 3 is a section taken on the line 3—3 of Fig. 1.

Referring to the drawings 5 indicates the stock preferably formed of hard wood. A steel blade 6 is secured centrally in one end of this stock by means of the screws 7. This blade extends at right angles to the stock and the outer edge thereof is extended beyond the end of the stock and graduated to sixteenths of an inch, as shown at 8. This blade may be of any desired length, but for convenience would preferably be made one foot long from the edge of the stock. The inner edge of the stock has a wear plate 9 secured thereto which is adapted to engage with the side or edge of the piece of work upon which the square is positioned.

The blade 6 is provided adjacent to the graduations 8 with a longitudinal series of

openings 10. These openings are formed with the angular edges 11 and are separated from each other by the remaining portion of the blade formed by the openings which is substantially one-thirty-second of an inch in thickness. It will be noted that there are four of such openings in each inch indicated upon the scale. The width of each of the openings is three-sixteenths and one-thirty-second of an inch. The additional thirty-second of an inch is allowed for the width of the pencil line upon either side of the separating portions 12 between the openings. Thus, if the pencil was placed within one of the openings at the opposite transverse edges thereof and lines drawn, the distance between the lines would be exactly three-sixteenths of an inch. Thus absolute accuracy is attained in the use of the instrument. The outer and inner edges of the openings extend inwardly at an angle from the ends of the transverse edges thereof. The point 13 thus formed in the outer edge is one-sixteenth of an inch from the end of the transverse edge of said opening, reading from left to right, and the lower point 14 formed by the inner angular edges is one-eighth of an inch from the inner end of the transverse edge. In this manner any measurement within the extent of the graduations on the scale may be quickly obtained.

In the outer end of the stock 5 a conical aperture 15 is formed and a plate 16 is secured to the bottom of the stock which is formed with an opening 17 adapted to register with the lower end of the opening 15. A nail is adapted to be inserted through these alined openings and driven into the material upon which the measurements are being taken. If it is desired to describe a circle or an arc of a circle, the pencil is disposed in one of the openings 10 at the corner formed by the meeting edges thereof which is in line with the graduation indicating the predetermined radius of the circle or arc to be described. In positioning the pencil point, the distance from the center of the alined openings 15 and 17 of the stock and

wear plate and the outer edge of the plate 9, or the point at which the graduations upon the scale begins must be taken into consideration. This distance is exactly one inch and, therefore, if it is desired to describe a circle having a radius of three inches, the pencil point will be placed in the corner of that aperture which is in line with the two inch designation upon the scale, the entire square is then rotated upon the nail which acts as a pivot and the circle or arc will be defined.

The square is adapted also for use in indicating miter lines upon the work, and to this end I provide a series of slots 18 which are disposed at an angle of 45° to the longitudinal edges of the blade and are spaced from each other at distances of one inch. Between each of these slots semi-circular openings 19 are provided in the scale and the outer edge 20 of these openings is at the exact center between the longitudinal edges of the blade 6. Assuming that it is desired to indicate a miter line one inch in from the edge of the piece of work being operated upon, the pencil is placed within the second of the angular slots 18 in the upper corner directly under the one inch designation on the scale. The pencil is moved along the edge of this slot to its lower end, and before removing the square blade, a guide line is drawn by placing the pencil within the aperture 19 against the outer edge 20 thereof. The blade is then moved downwardly upon the work or toward the operator, and the outer edge thereof positioned on this guide line. The pencil will then be placed in the next adjacent slot 18 on the right, and another line drawn by moving the pencil point along the edge thereof. This line, it will be found, will form a continuation of the previously drawn line. The above operation is repeated until the line is extended to the point desired.

From the foregoing it is believed that the operation and many advantages of my invention will be readily understood without requiring a more extended description. While the instrument is described as a try-square, it will be obvious that it may also be produced in the form of a T-square, without departing from the principle of operation. The device is of great utility to carpenters and mechanics and provides a convenient instrument whereby much time and labor may be saved. Moreover, it is very simple of construction, is strong and durable and may be manufactured at a minimum cost.

While I have shown and described what I believe to be the preferred embodiment of the invention, it will be understood that minor alterations may be made in the form, proportion and details of construction with-

out materially departing from the essential features or sacrificing any of the advantages thereof.

Having thus described the invention what is claimed is:

1. A combination square comprising a stock having a right angularly extending blade secured in one end thereof, said blade being provided upon its outer edge with graduations indicating the fractional parts of an inch and a longitudinal series of polygonal-shaped openings adjacent to said graduations, the meeting edges of said openings providing angles the apexes whereof are in the same straight line with the graduations respectively, the space between graduations registering with respective apexes at the extreme opposite ends of the openings being substantially one-sixteenth of an inch, substantially as and for the purpose set forth.

2. A combination square comprising a stock having a right angularly extending blade secured to one end thereof, said blade being provided upon its outer edge with graduations indicating the fractional parts of an inch and a longitudinal series of irregular-shaped openings adjacent to said graduations, the meeting edges of the openings providing angles the apexes whereof are in the same straight line with the graduations respectively, the apexes at opposite ends of the openings intermediate of their side edges coinciding with adjacent graduation marks upon the blade, substantially as and for the purpose set forth.

3. A combination try-square comprising a stock, a blade secured in the outer end of said stock having graduations on its outer edge indicating fractional parts of an inch, said blade having a plurality of spaced slots formed therein and extending at an angle of substantially 45° to the edge of the blade, said slots being adapted to receive a pencil point to be moved along one edge thereof to describe a line, the lower end of the pencil-engaging edge of one slot and the upper end of the corresponding edge of the next adjacent slot farther from the stock being in a line parallel to the edge of the stock, said blade having openings formed therein with one of their edges parallel to the edges of the blade, substantially as and for the purpose set forth.

4. A combination try-square comprising a stock, a right angularly extending blade centrally secured in the end of said stock, said blade being provided with graduations on its outer edge indicating fractional parts of an inch and having a plurality of slots therein extending in parallel relation and at an angle to the edges of the blade, said blade being also provided with an opening be-

tween the adjacent slots one edge of which is centrally disposed between the edges of the blade and in parallel relation thereto, said slots being adapted to receive a pencil point
5 to be moved along one edge thereof to describe a line, the lower end of the pencil engaging edge of one slot and the upper end of the corresponding edge of the next adjacent slot farther from the stock being

in a line parallel to the edge of the stock, 10 substantially as and for the purpose set forth.

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

GEORGE A. BROWN.

Witnesses:

JAMES H. WICKERSHAM,
W. LAURENCE VERNON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
