C. ROTH.

COMBINATION TOOL.

APPLICATION FILED APR. 20, 1916.

1,208,662.

Patented Dec. 12, 1916.

2 SHEETS—SHEET 1.

FIG. 1

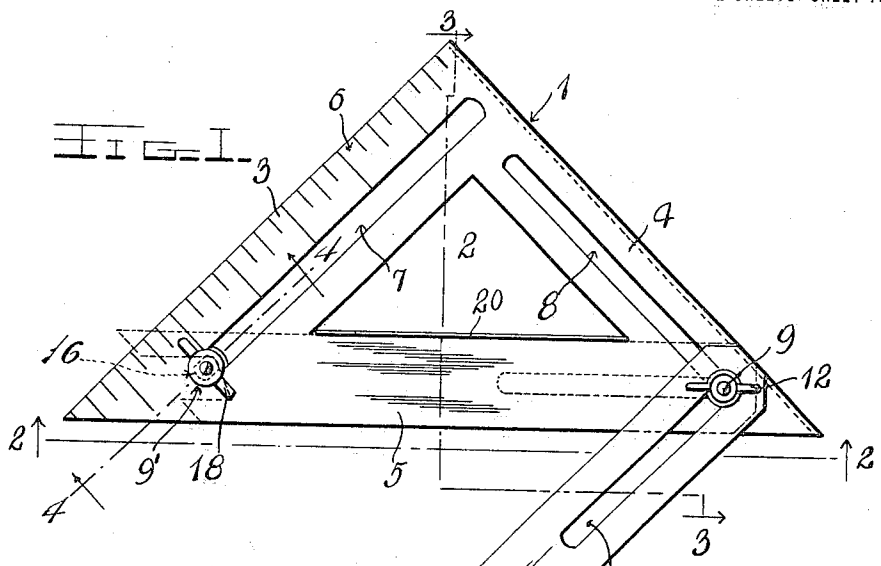


FIG. 2

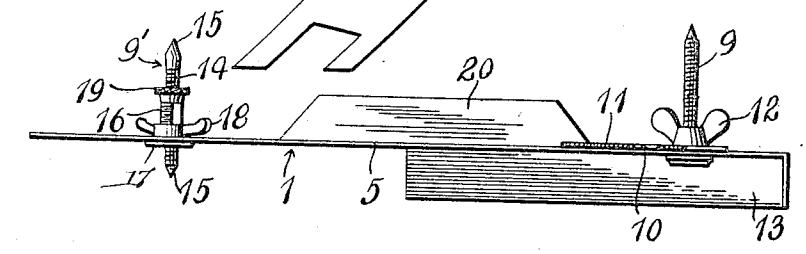


FIG. 3

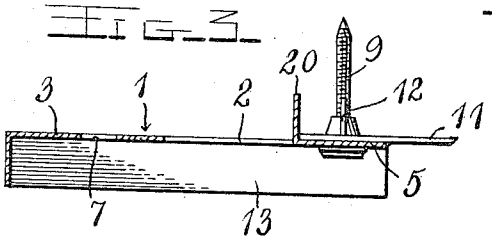
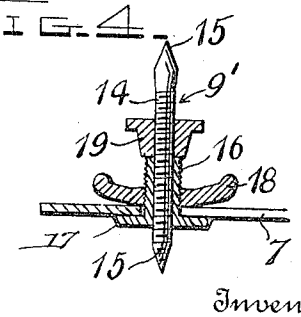


FIG. 4



Witness

J. Ralph Hoge

Inventor

Charles Roth

By H. B. Williamson & Co.

Attorneys

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

C. ROTH.

COMBINATION TOOL.

APPLICATION FILED APR. 20, 1916.

1,208,662.

Patented Dec. 12, 1916.

2 SHEETS—SHEET 2.

FIG. 5.

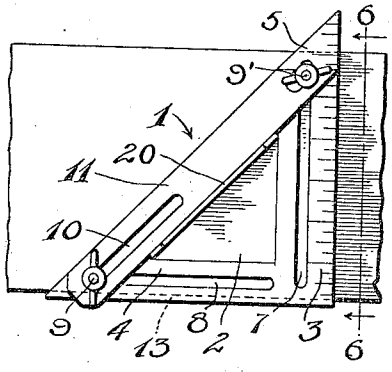


FIG. 6.

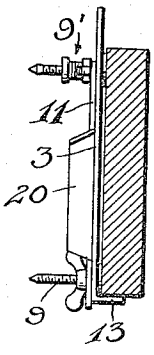


FIG. 7.

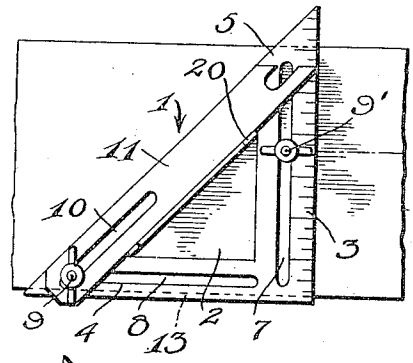


FIG. 8.

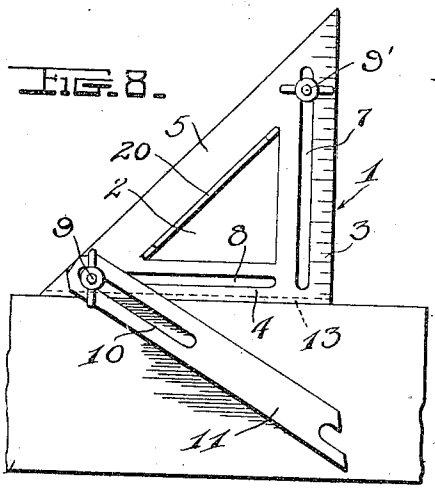


FIG. 9.

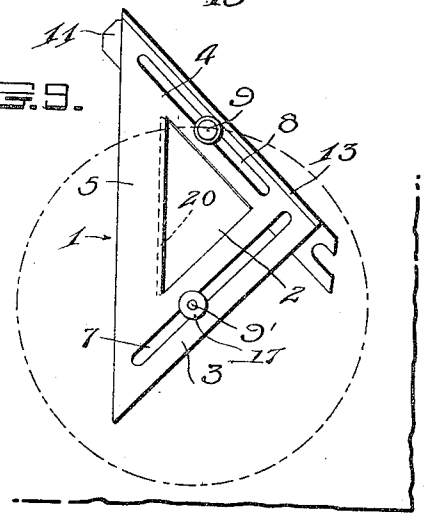


FIG. 10.

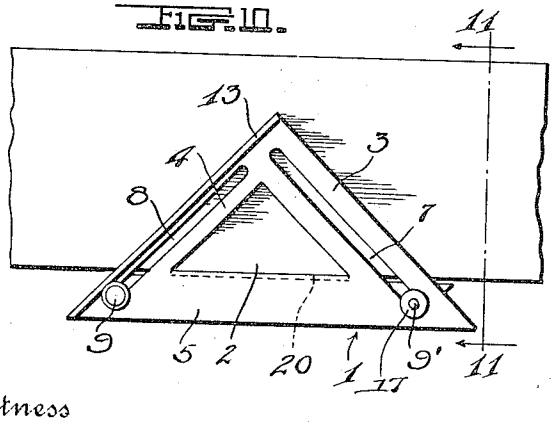
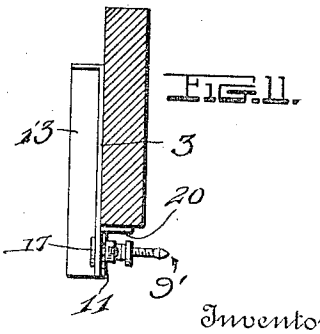


FIG. 11.



Witness

Edwin B. Hunt.

Inventor

Charles Roth

by H. B. Williamson & Co

Attorneys

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

UNITED STATES PATENT OFFICE.

CHARLES ROTH, OF NEW PHILADELPHIA, OHIO, ASSIGNOR OF ONE-FOURTH TO JOSEPH YAGGI AND ONE-FOURTH TO JAMES WILBERT RINEHART, BOTH OF NEW PHILADELPHIA, OHIO.

COMBINATION-TOOL.

1,208,662. Specification of Letters Patent. Patented Dec. 12, 1916.

Application filed April 20, 1916. Serial No. 92,451.

To all whom it may concern:

Be it known that I, CHARLES ROTH, a citizen of the United States, residing at New Philadelphia, in the county of Tuscarawas and State of Ohio, have invented certain new and useful Improvements in Combination-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.

This invention relates to improvements in combination tools, and particularly those to be used by carpenters and other mechanics.

The principal object of the invention is to provide a simple device of this character which can be used equally well as a miter square, bevel, try-square, or the like.

An additional object is to produce a device of this character which can be very inexpensively manufactured, yet which will be very efficient in operation.

With the above and many other objects in view, my invention resides in the novel features of construction, combination and arrangement of parts which will be hereinafter more particularly described and claimed.

In the accompanying drawings: Figure 1 is a plan view of my improved combination tool; Fig. 2 is a vertical longitudinal section taken on the line 2—2 of Fig. 1; Fig. 3 is a vertical transverse section taken on the line 3—3 of Fig. 1; Fig. 4 is a detail section taken on the plane of the line 4—4 of Fig. 1; Fig. 5 is a plan view of the tool used as a try-square and in position on a strip of wood; Fig. 6 is a vertical section taken on the line 6—6 of Fig. 5; Fig. 7 is a view similar to Fig. 5 showing the tool used as a scribing or marking instrument; Fig. 8 is a similar view with the tool in use as a T-bevel; Fig. 9 is a plan view of the reverse side of the tool showing the same in use as a compass; Fig. 10 is still another plan view illustrating the tool used as a miter gage; and Fig. 11 is a vertical section taken on the line 11—11 of Fig. 10.

Referring more particularly to the figures of the drawing, the numeral 1 designates the body member of my improved tool which is preferably formed from a single metal plate cut into the shape of a right angular triangle. The central portion of the plate is provided with a triangular opening 2, thereby forming the arms 3, 4, and 5 respectively, the latter of which forms the hypotenuse of the triangle. One of the arms, preferably the arm 3, is provided with a graduated scale 6 by which suitable measurements may be taken as required.

The arms 3 and 4 are each longitudinally slotted as at 7 and 8 respectively, the ends of said slots being extended partially across the arm 5 as shown. These slots each receive a clamping bolt, numbered in the drawing 9 and 9′, the bolt 9 being extended through a slot 10 formed longitudinally of a swinging blade 11, thereby pivoting said blade to the body member. The bolt 9 is preferably provided with a wing nut 12 whereby said blade may be clamped in adjusted positions on the body member 1. This blade 11 is used in connection with a flange 13 which extends at right angles from the outer edge of the arm 4, and is preferably formed integrally therewith by bending a portion of the plate in the proper direction. Thus by disposing the blade on the opposite side of the plate from the flange 13, a very simple tool commonly known as a sliding T-bevel is produced, the flange 13 acting as a straight edge for engagement with the side of the material to be marked, the proper angle to be marked thereon being indicated by the position of the blade 11. The proper angular relation between the blade and the flange may be found by any preferred means, and when the blade has been moved in the proper direction, the clamping nut 12 is tightened.

The body member 1 may be used without the blade 11 when a try-square is needed, the flange 13 contacting with the edge of the material to be marked. It is obvious that the other arm 3 which forms a right angle, coöperates with the flange 13 on the arm 4. Thus a mark made upon the material along the arm 3 will be at right angles to the side with which the flange 13 contacts.

Parts of the device as hereinbefore described may be used as a marking gage, the flange 13 being used to guide the body member along the material to be marked, while the clamping bolt 9 acts as a scriber to form a line parallel to the side of the material. The clamping bolt 9′ is considerably different from the bolt 9 which merely consists of a head having a threaded shank extending

therefrom through the slots 8 and 10 upon which the wing nut 12 is disposed, the free end of said shank, however, being preferably sharpened as shown. The bolt 9′, however, comprises a threaded pin 14 pointed at both ends as shown at 15 and screwed in the internally threaded sleeve 16 which has its opposite sides flattened to prevent its turning within the slots formed in the arms 3 and 4, and has a head 17 between which and a wing nut 18, the body member is clamped. By this arrangement, the threaded pin may be disposed on either side of the body member and is held in adjusted position by means of a lock nut 19. The upwardly projecting portion of the pin may be used as a handle when the device is to be used as a marking gage or scriber.

By using both of the bolts 9 and 9′, a very efficient compass or divider is formed. The pin 14, when the instrument is to be used as a compass, forms the turning point, while the sharpened end of the bolt 9 acts as a scribing element. By adjusting the bolts to various positions within the slots 7 and 8, circles of various diameters may be readily made. The same is also true when the device is to be used as a pair of dividers, the points being readily adjusted in the slots 7 and 8.

There is still another very important use to which this improved tool may be put; that is, it may be used as a miter square. In order to permit the tool to be used for this purpose, a miter flange 20 is extended at right angles from the inner edge of the arm 5 of the body member. This flange is preferably formed of the metal struck from the opening 2, thereby producing a very simple and strong device. When the tool is to be used for this purpose, the bolts 9 and 9′ are moved to the bottoms of the slots 7 and 8, thus disposing the same between the flange 20 and the outer edge of the arm 5. Thus the bolts will not interfere with the material which contacts with the inner surface of the flange 20, and by marking along the edges of the arms 4, a forty-five degree angle is obtained.

When the blade 11 is not in use, it is preferably held in locked position by the bolt 9′. This is accomplished by notching the free end of the blade which is adapted to engage the sleeve 16 of the bolt 9′, so that when the wing nut 18 is tightened, said blade will be immovably held to the body member.

From the foregoing description, taken in connection with the accompanying drawing, it will be seen that I have produced an extremely simple tool which can be used for a great variety of purposes, although formed of a very few parts.

I claim:

1. In a device of the class described, a triangular body member having an opening through its central portion to form a number of arms, and a miter flange on the inner edge of one of said arms and formed from the metal struck from said opening.

2. In a device of the class described, a triangular body member having an opening through its central portion to form a number of arms, two of said arms being longitudinally slotted, a scribing pin in each slot, and a miter flange on the inner edge of the other arm and formed integrally therewith, said slots extending on both sides of said flange.

3. In a device of the class described, a body member in the form of a triangular plate, two of the edges thereof forming a right angle, said plate having a triangular opening in its central portion to form a number of arms, a miter flange formed on the inner edge of the arm opposite said right angle, and a flange formed on one of the outer edges of one of the other arms.

4. In a device of the class described, a triangular body member, a lateral flange on one edge of said member, a swinging blade pivoted to said member and movable to a plurality of positions, and means for holding said blade in adjusted positions.

5. In a device of the class described, a triangular body member having an opening in its central portion to form a plurality of arms, said arms having longitudinal slots, a lateral flange formed on one edge of said member, a longitudinally slotted blade, and clamping means slidable in said slots and adapted to hold said blade in adjusted positions.

6. In a device of the class described, a triangular body member having an opening in its central portion to form a plurality of arms, said arms having longitudinal slots therein, a clamping bolt in each of said slots, a lateral flange formed on one edge of said member, a slotted blade pivoted on one of said clamping bolts and held in adjusted positions thereby, said blade having a notch in one end adapted to receive the other clamping bolt to hold said blade in locked position.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

CHARLES ROTH.

Witnesses:
J. F. KUHNS,
A. L. ESPIEH.

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