Feb. 13, 1951 T. C. KENNEDY 2,541,366

SPIRIT LEVEL ATTACHMENT FOR TOOLS

Filed Nov. 15, 1946

Fig. 1.

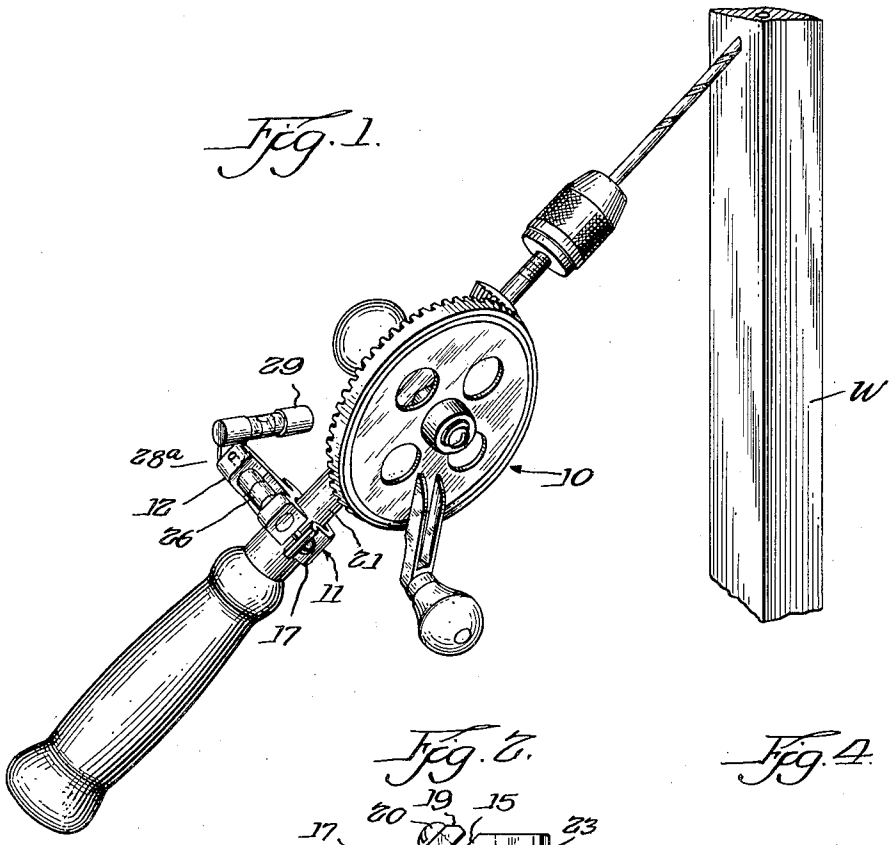



Fig. 2.

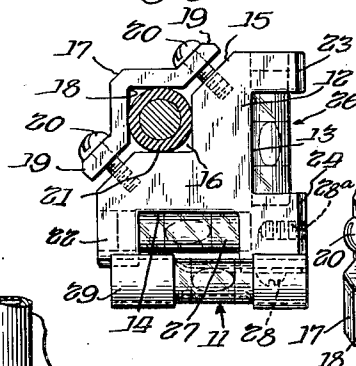



Fig. 4.

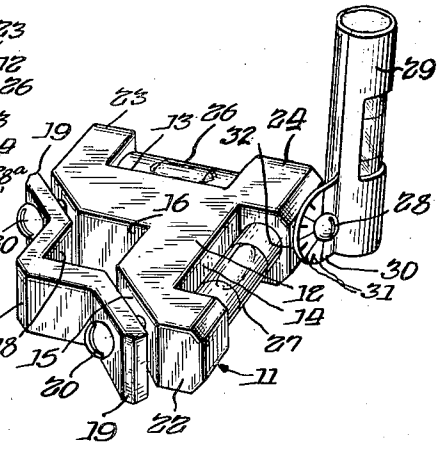
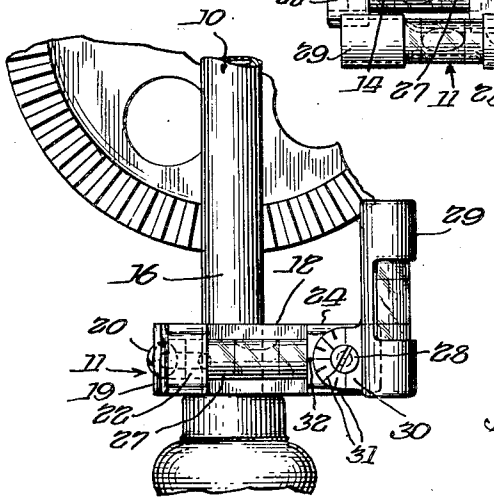



Fig. 3.




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Patented Feb. 13, 1951 2,541,366

# UNITED STATES PATENT OFFICE

2,541,366

## SPIRIT LEVEL ATTACHMENT FOR TOOLS

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Application November 15, 1946, Serial No. 710,120

2 Claims. (Cl. 33—207)

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This invention relates to a spirit level attachment for hand drills, braces and similar tools, and its principal object is to provide leveling means for such tools by means of which the user may determine if he is holding the tool at right angles to the piece of work, or if he is holding the tool at a predetermined angle thereto, so as to drill a hole at said predetermined angle.

It is well known that it requires expertness in holding a hand drill, brace or similar tool at right angles to the work, or at any other predetermined angle thereto. With the present attachment, the user can tell that the drill, brace or similar tool is being held at the predetermined angle to the work by bringing the bubble of the proper spirit level into its level position.

Another object is to provide a spirit level attachment provided with a swingable spirit level and which may be easily and quickly attached to the tool upon which it is used.

Other objects and advantages will appear in the course of this specification, and with said objects and advantages in view, this invention consists in the several novel features hereinafter fully set forth, and more particularly defined in the appended claims.

The invention is clearly illustrated in the drawing accompanying this specification; in which:

Fig. 1 is a perspective view of a hand drill occupying a position to drill an inclined hole in a piece of work, and showing a simple embodiment of the present invention applying to the drill;

Fig. 2 is a plan of the attachment with the shank of the drill shown in cross section;

Fig. 3 is a side elevation of a fragment of the drill with the attachment applied thereto, and showing the drill occupying a vertical position; and

Fig. 4 is a perspective view of the attachment alone.

Referring to said drawing, the reference character 10 designates a tool here shown in the form of a hand drill of conventional form. The spirit level attachment is designated generally by the reference character 11 and comprises among other things a flat base member 12 and a clamp member with means to clamp the attachment to a drill or similar tool. As shown the base member has two side edges 13, 14, that extend at right angles to each other, and a third side edge 15 which extends at an angle of 45 degrees to the side edges 13, 14. As shown, the edge 15 is formed a V notch 16.

Associated with the base member 12 is the

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clamp member 17, which as shown is also formed with a V notch 18, which is complementary to the V notch 16. The clamp member is also formed with two apertured ears 19, through which screws 20 extend, and are threadedly mounted in the base member 12.

The attachment is applied to a drill by placing a base member and clamp member upon the stem 21 of the drill, inserting the screws and tightening them up so as to clamp the attachment to the stem or to the hand holder or housing of the drill.

From the side edges 13, 14 of the base member extend apertured lugs 22, 23, 24 which lie in the same plane as the base member, and in said apertured lugs are secured spirit levels 26, 27, which lie in the spaces between the ears 22, 24 and 23, 24. The spirit levels are of ordinary conventional form, and the glass tubes thereof are provided with guide lines between which the bubble occupies a position when the spirit level is held in a horizontal position.

Pivotally mounted upon the lug 24, as by a screw 28, is a spirit level 29, which is adjustable from a position paralleling the base member, as seen in Fig. 2, to a position 180 degrees removed from said position. The spirit level 29 is formed with an apertured ear 30, through which the screw 28 extends, and said ear is formed with graduation marks 31 which cooperate with a marker or pointer 32 on the lug 24, to indicate the angular relationship between the base member and spirit level 29.

In use, for drilling a hole in an upwardly directed angle in a piece of work W, the spirit level 29 is turned upon its axis to bring the graduation mark indicating said angle into line with the marker. The drill point is then placed against the work and the drill shifted up and down until the bubble of the spirit level 29 occupies the horizontal position between the guide lines (see Fig. 1) thereby indicating that the drill is being held at the predetermined angle with respect to the work.

In drilling a downwardly inclined hole in a piece of work, the spirit level 29 is adjusted to bring the proper graduation mark in register with the marker and the drill point placed against the piece of work, and the drill shifted as before, until the bubble occupies the position between the guide lines.

In drilling a vertical hole upwardly, the drill point is placed upon the point at which the drilling is to be done, and the drill shifted until the

bubble of the spirit level **27** occupies the position between the guide lines.

For drilling a vertical hole in a vertical downward direction, the drill point is placed upon the work and the drill shifted about until the bubbles of the two spirit levels **26, 27** occupy positions between the guide lines. In this position of the bubble, the drill is being held in a vertical position.

When the spirit level **29** is adjusted to an accurate position, parallel with the axis of the stem **16** of the drill, the user can tell, by observing the bubble of the spirit level when he is holding the drill in a horizontal position.

From the above it is apparent that I have provided a spirit level attachment for drills, braces and similar tools by means of which the user can tell with certainty when he is holding the tool in the exact position required to drill the hole in the work or material.

Having thus described my invention, it is obvious that various immaterial modifications may be made in the same without departing from the spirit of my invention; hence, I do not wish to be understood as limiting myself to the exact form, construction, arrangement and combination of parts herein shown and described, or uses mentioned.

What I claim as new and desire to secure by Letters Patent is:

1. A spirit level attachment for drills, and similar tools, comprising a flat, substantially triangular-shaped base member having two side edges extending at right angles to each other, and a third side edge extending at an angle of forty-five degrees to said other edges, a clamp member and screws to connect the clamp member with the third side edge of said base member, the latter edge and the adjacent edge of said clamp member having opposing V notches adapted to receive therein the stem of a tool, a pair of spaced apart apertured lugs projecting from each of said right angle side edges at right angles thereto in the plane of the base member and integrally formed therewith, and two spirit levels each having its ends secured in the apertures of a respective pair of said lugs and extending through the space therebetween with said levels each being inset from the adjacent external faces of its respective pair of supporting lugs.



2. A spirit level attachment for drills, and similar tools, comprising a flat, substantially triangular-shaped base member having two side edges extending at right angles to each other, and a third side edge extending at an angle of forty-five degrees to said other edges, a clamp member and screws to connect the clamp member with the third side edge of said base member, the latter edge and the adjacent edge of said clamp member having opposing V notches adapted to receive therein the stem of a tool, a pair of spaced apart apertured lugs projecting from each of said right angle side edges at right angles thereto in the plane of the base member and integrally formed therewith, two spirit levels each having its ends secured in the apertures of a respective pair of said lugs and extending through the space therebetween with said levels each being inset from the adjacent external faces of its respective pair of supporting lugs, and a third spirit level pivotally mounted on one of said lugs and having an ear provided with graduation marks thereon.

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