Nov. 7, 1950 T. V. OGDEN 2,528,775

HOLE LOCATER

Filed March 22, 1947

Fig. 1

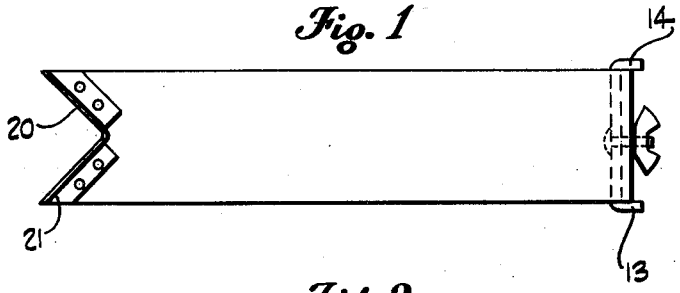


Fig. 2

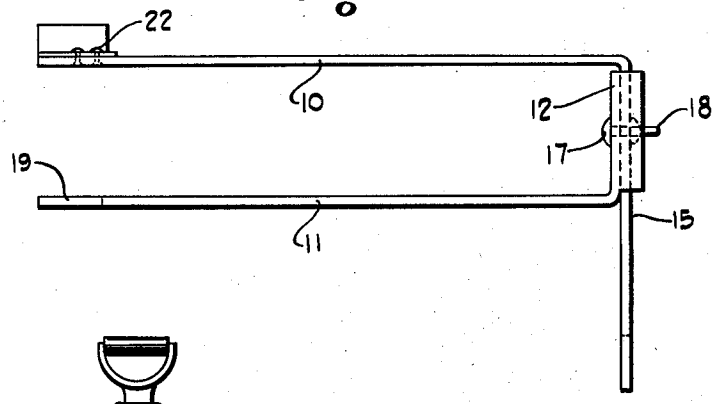


Fig. 4

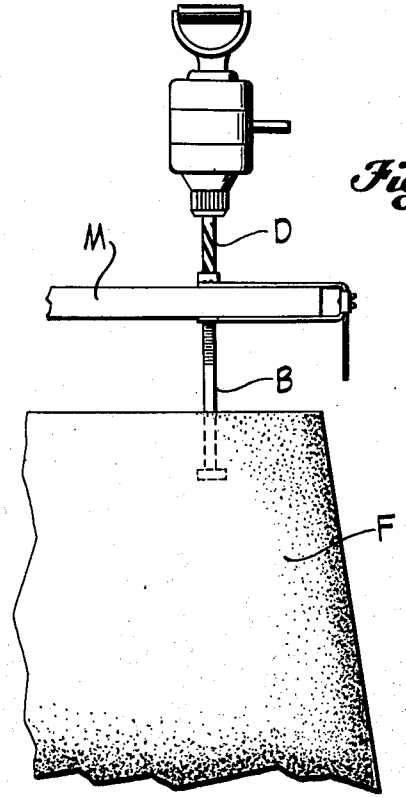
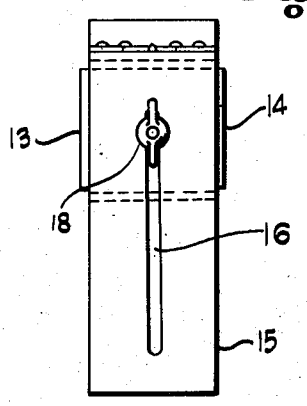


Fig. 3



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HOLE LOCATER

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1 Claim. (Cl. 33—180)

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This invention relates to a device for accurately locating holes to be drilled or otherwise formed in material. It has been primarily designed for locating holes to be drilled in mud sills applied to concrete foundations but it may be used for any other and similar purpose.

In the construction of various buildings the concrete foundations are initially poured and anchor bolts have their heads embedded in the foundations so as to be anchored therein when the concrete sets. These bolts may or may not be initially accurately positioned. Frequently no great attempt is made to accurately locate the positions of the anchor bolts but even if such an attempt is made, the anchor bolts may become displaced from their initial positions. When the concrete footing or foundation has set, the mud sill is positioned thereover and holes must be drilled in the mud sill to accommodate and receive therethrough the upstanding portions of the anchor bolts. These holes must be so located in the mud sill as to receive the anchor bolts regardless of the fact that the anchor bolts may have become displaced or initially were not accurately positioned in the foundation or footing. The present device facilitates the determination of the location of the holes to be drilled in the mud sill with relation to the anchor bolts in the footing.

Another object of the present invention is to provide a hole locater which is of relatively simple and sturdy construction and which may be readily utilized to locate a hole on one side of a piece of material from a cylindrical object or centering device located on the opposite side thereof.

With the foregoing and other objects in view, which will be made manifest in the following detailed description and specifically pointed out in the appended claims, reference is had to the accompanying drawings for an illustrative embodiment of the invention, wherein:

Figure 1 is a top plan view of the improved hole locater;

Fig. 2 is a view in side elevation of the same;

Fig. 3 is an end view in elevation of the locater; and

Fig. 4 is a schematic view illustrating one manner in which the hole locater can be advantageously used.

Referring to the accompanying drawings wherein similar reference characters designate similar parts throughout, F indicates a concrete foundation or footing in the top of which a plurality of anchor bolts B may have their heads embedded so that the threaded shanks thereof project or extend upwardly above the top surface

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of the foundation. M indicates a wooden mud sill which is to be positioned against the top surface of the foundation or footing and which is to have holes drilled therethrough to accommodate the shanks of the bolts B. As above explained, the bolts B may or may not be accurately positioned in the concrete foundation or footing and it consequently becomes necessary to determine the locations of these bolts on the upper side of the mud sill to enable holes to be drilled therethrough so as to receive the shanks of the bolts.

The hole locater embodying the present invention comprises two flat, straight, parallel arms 10 and 11. The lower arm 11 has its end bent upwardly, as indicated at 12, and flanged with vertical side flanges 13 and 14. The upper arm 10 has its end bent downwardly, as indicated at 15, providing a slidable extension that is slidable between the flanges 13 and 14 and which is guided thereby for vertical movement at right angles to the planes of the arms 10 and 11. This extension is slotted, as indicated at 16, and a bolt 17 equipped with a wing nut 18 serves to hold the extension in any adjusted position thus adjustably spacing the distance between the arms 10 and 11 so as to be capable of receiving mud sills M of various thicknesses. The outer end of the lower arm 11 has a V-shaped notch 19 cut therein and in a similar manner the outer end of the upper arm 10 has a V-shaped notch 20 cut therein. These notches are in exact vertical alignment with each other. In the preferred form of construction an upstanding V-shaped flange 21 is secured to the upper surface of the upper arm such as by rivets 22 thus forming a surface of considerable height around the edges of the notch 20 in the upper arm.

When it is desired to drill the holes in the mud sill M to receive the upper ends of the bolts B, the mud sill M is positioned on the tops of the bolts B, as illustrated in Fig. 4. The hole locater then has its arms 10 and 11 slipped over the edge of the mud sill and forced inwardly until the sides of the notch 19 bear against the sides of the shank of the bolt B. In so doing, the notch 20 in the upper arm 10 will of necessity be positioned exactly over the notch 19 which is positioned by the bolt B. Thereafter a bit or drill D may be positioned in the notch 20 with its sides bearing against the walls of the upstanding flange 21 and the hole drilled through the mud sill thereby. The hole when thus drilled will consequently be located through the mud sill in exact alignment with the bolt B and, although there

may be a series of bolts in the footing F which are more or less staggered or disaligned, by successively applying the hole located to each bolt and having the drill or bit D positioned or guided thereby, all of the holes will be so arranged that they will receive their respective bolts.

If the hole that is to be drilled in the mud sill is to have some clearance with relation to the sides of the bolt, the notch **20** may be made somewhat wider or larger than the notch **19** to accommodate an oversize drill or bit D. However, even if the notch **20** is made larger, the center with relation to which its sides are tangent is in exact vertical alignment with the center with relation to which the sides of the notch **19** are tangent so that the center of the hole drilled will be in exact alignment with the center of the shank of the bolt B.

It will be appreciated that regardless of the positions of the bolts B, the hole locater may be easily and quickly applied to the mud sill opposite the bolts and the holes easily located thereby. With mud sills of varying thicknesses the spacing between the arms **10** and **11** can be varied by loosening the wing nut **18** and sliding the extension **15** upwardly to properly space the arms. It is desirable to have the spacing between the arms such that when the arms are slid onto the mud sill they will rest flatly against the top and bottom surfaces thereof so that tilting of the locater with relation to the mud sill is impossible.

While the invention has been primarily designed for locating holes that are to be drilled in mud sills it will be appreciated that it may be advantageously employed under a large variety of analogous conditions such as, for example, the locating of holes to be drilled in doors, in positioning door locks, or if a hole is partially drilled from one side of a piece of material the sides of the notch **19** may be positioned tangent to the partially drilled hole and the sides of the notch

20 will locate the hole to be drilled from the opposite side to properly meet it. The improved hole locater may also be advantageously employed to locate holes that are to be drilled in metal plates to fit stationary or set studs in which case it is used in a manner similar to that previously described and illustrated.

Various changes may be made in the details of construction without departing from the spirit and scope of the invention as defined by the appended claim.

I claim:

A hole locater comprising a pair of parallel flat arms having aligned open-ended notches in the ends thereof which are aligned in a direction at right angles to the planes of the arms, the ends of the arms having extensions extending towards each other at right angles to the planes of the arms, one of the extensions having side flanges which slidably embrace the sides of the other extension whereby when one arm is adjusted relative to the other the notches will be maintained in alignment, one of the extensions being slotted longitudinally, a bolt on the other extension extending through the slot and a nut on the bolt for clamping the extensions together to hold the arms in adjusted position relative to each other.

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