Feb. 4, 1958 E. W. BUCK 2,821,875

DRILL MOUNTING MEANS FOR A DRILL SUPPORT

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FIG_1

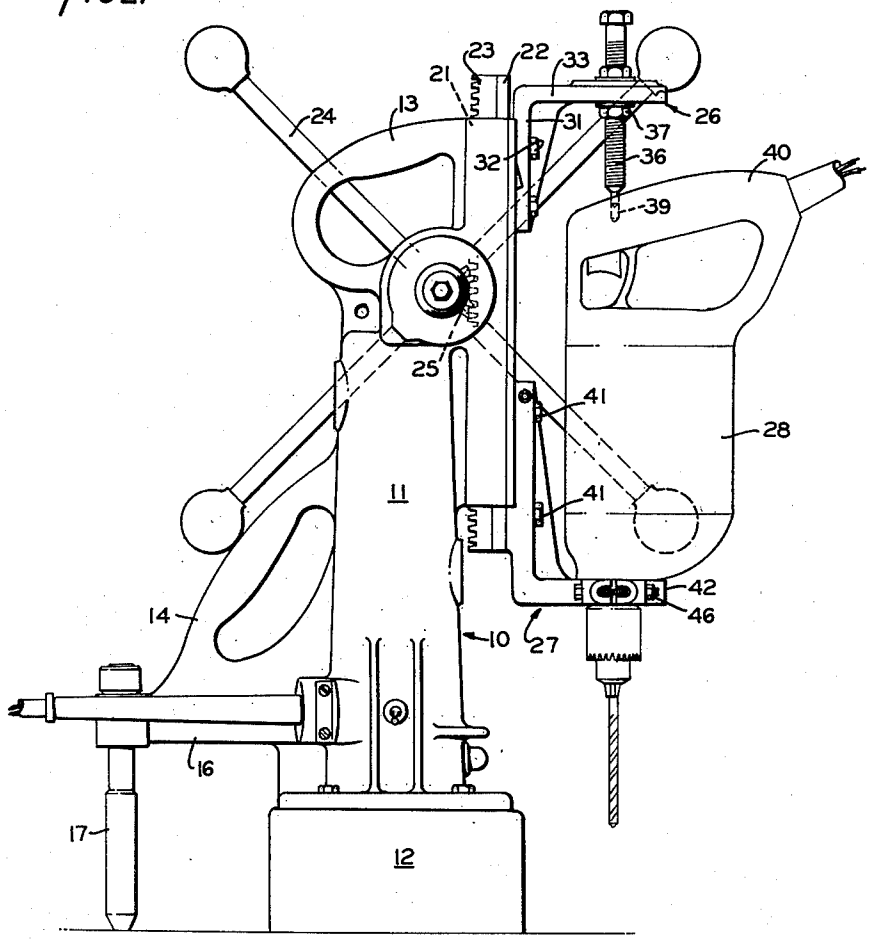
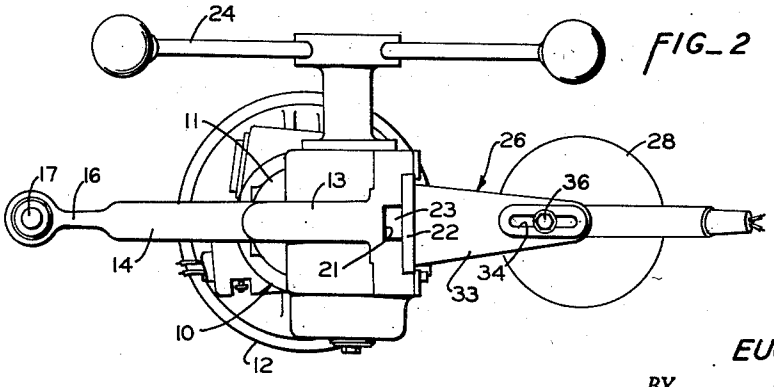


FIG_2



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FIG_3

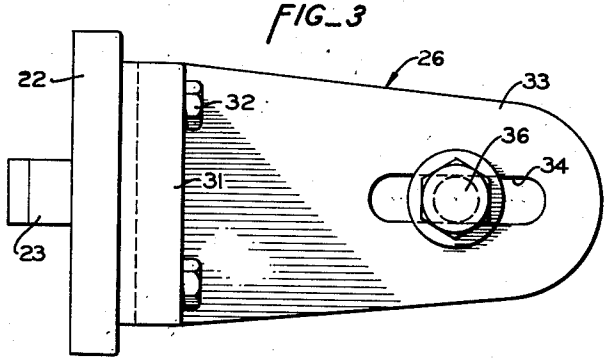


FIG_6

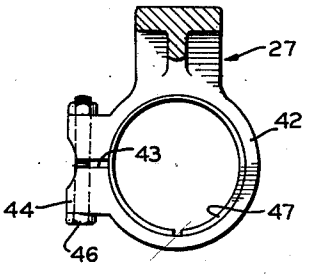


FIG_4

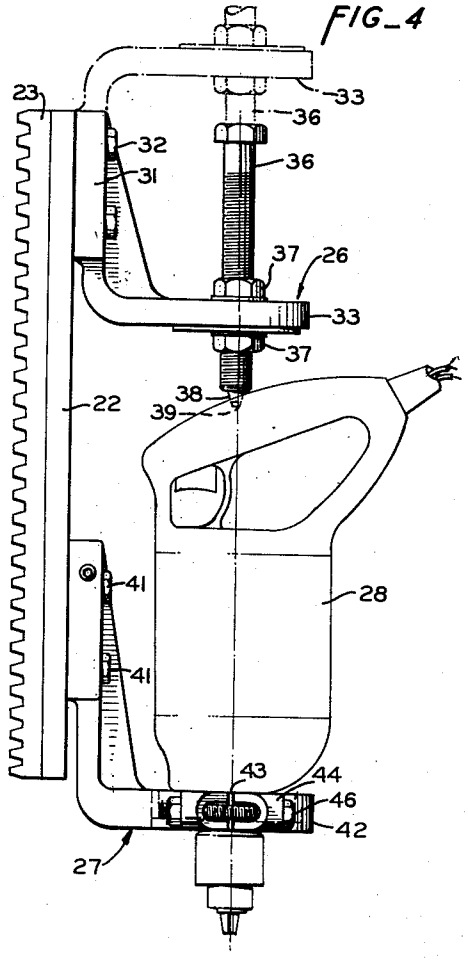
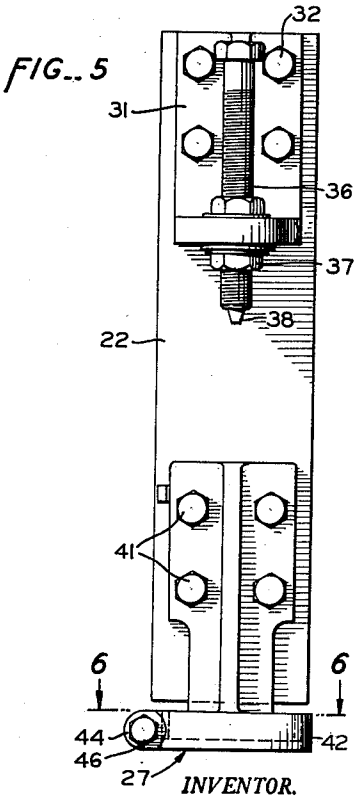


FIG_5



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DRILL MOUNTING MEANS FOR A DRILL SUPPORT

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Application April 2, 1956, Serial No. 575,570

3 Claims. (Cl. 77—59)

The present invention relates to magnetic drill supports for normally separate portable electric drills, and is concerned more particularly with drill mounting means which is readily adaptable to receive a variety of sizes of electric drills of different makes and construction.

In the building of portable magnetic drill supports for normally separate electric drills, one of the principal problems is the adaptability of the drill support to a variety of makes and sizes of electric drills which must be accommodated by the drill support for it to have its greatest utility.

It is the general object of the invention to provide improved mounting means for an electric drill on a drill support.

A further object of the invention is to provide an upper attachment or mounting for extending the range or sizes of the length of electric drills which can be attached to the support or slide.

Another object of the invention is to provide drill mounting means including a separate slotted drill mounting collet which can be selected to fit the particular drill to be mounted and which is received in a standard clamping collar.

Other objects and advantages of the invention will be apparent from the following description of a preferred embodiment thereof, as described in the following specification, taken in conjunction with the attached drawings, in which:

Figure 1 is a side elevational view of a drill support and mounting means constructed in accordance with the instant invention.

Figure 2 is a plan view of the drill support shown in Figure 1.

Figure 3 is an enlarged plan view of the drill mounting slide and the upper drill mounting bracket.

Figure 4 is a fragmentary view in elevation of a drill mounting slide showing the drill mounting means at the upper and lower ends thereof in connection with a drill. The view also shows in phantom lines a second position of the upper drill mounting bracket.

Figure 5 is an elevational view taken from the right of Figure 1 but omitting the electric drill from the mounting means.

Figure 6 is a fragmentary sectional view taken along in a plane indicated by the lines 6—6 in Figure 5.

Referring specifically to Figures 1 and 2, the drill support in the instant invention includes a body 10 composed of an upright tubular casting 11, and a magnetic base 12, the casting 11 having formed integrally therewith with an upper handle portion 13 for carrying of the drill support in upright position; and a lower handle portion 14 for carrying the drill in a horizontal position. The lower handle 14 also forms part of a stabilizing extension 16 having an adjusting foot 17 threaded therein.

The casting 11 has formed integrally therewith, a recessed vertical guide-way 21 for a drill mounting slide 22 which is mounted for vertical sliding movement in the guide-way 21 and carries a rack 23 of usual character

for connection to operating means including the handles 24 which serve to raise and lower the drill mounting slide 22 through a pinion 25.

The drilling mounting slide or plate 22 has drill mounting means detachably secured thereon including an upper bracket 26 of conventional construction is adapted to be secured by the drill mounting means including the bracket 26 and 27. The upper bracket 26 forms part of means to engage the handle end of a drill, and the lower bracket 27 forms part of means to engage the cylindrical boss normally present on all electric drills immediately adjacent the work or drill end of the tool.

The bracket 26 (Figures 1 and 3 through 5) is angle-shaped and includes a vertical portion 31 secured in flush engagement with the mounting slide 22 by means of a plurality of cap screws 32 and also has a horizontal or projecting portion 33 having a transverse slot 34 therein which is adapted to pass a fastening screw 36 secured with respect to the portion by a pair of clamp nuts 37. The screw 36 has a tapered lower end 38 for engagement with a suitable recess 39 which is conventionally found in the handle portion as of all electric drills. By adjusting the fastening screw 36 along its slot laterally with respect to the drill slide, the screw 36 can be located in alignment with the mounting hole in any drill, and by virtue of the length of the threading on the screw 36, a range of adjustments for different drills is provided.

To further increase the adjustability of the mounting means to different lengths and sizes of drills, the vertical portion 31, of the bracket 26 is connected for reversible positioning so that it can be mounted with its horizontal portion 33, as shown in Figure 1 for example, or in a lower position, as shown in Figure 4, for example, where the upper position is indicated in phantom lines. It will be seen therefore that a wide range of adjustment is provided, and the length of the fastening screw 36 is such as to take care of a complete range of drill sizes with the horizontal portion 33 of the bracket 26 in one or the other of its two positions.

The mounting means on the slide for the work end of the drill comprises an L-shaped bracket 27 secured to the slide by suitable cap screws 41. The horizontally extending or projecting portion of the bracket 27 terminates in a circular collar 42 which is split at 43, and has small apertured bosses 44 thereon to receive a clamping bolt 46. The dimension of the inner diameter of the boss 42 is greater than the largest diameter of the mounting bosses of drills to be supported on the drill support, and to enable the adjustment of the drill support to various diameters, within the split collar 42 there is provided a detachable mounted split collet or ring 47 (Figure 6) this split collet having a constant outer diameter, but having an inner diameter selected in accord and with the particular drill to which it is to be attached.

From the above description it will be apparent that a wide range of drill sizes can be handled by the drill support with ease, and with the drill securely clamped in position by the drill mounting means.

While I have shown and described a preferred embodiment of the invention, it will be apparent that the invention is capable of variation and modification from the form shown, so that the scope thereof should be limited only by the proper scope of the claims appended hereto.

I claim:

1. In a magnetic drill support for a normally separate portable electric drill, a body including a work-engaging base, a drill mounting slide mounted for sliding movement on said body, a drill supporting bracket having one portion detachably secured to the one end of said slide and including structure for reversible attachment to said slide, a second drill-supporting bracket secured to the other end of said slide and having a projecting portion including a

slotted collar, a drill supporting collet detachably mounted within said collar to engage the annular mounting boss of the drill adjacent to the chuck of the drill supported thereby, said brackets providing means for attaching drills of various sizes and dimensions to the drill support, said first mentioned drill supporting bracket having means for clamping the body of the electric drill between it and said second drill supporting bracket to hold said drill body firmly therebetween.

2. In a magnetic drill for a normally separate portable electric drill, a body including a work-engaging base, a drill mounting slide mounted for sliding movement on said body, means secured to the one end of said slide for attachment to the handle portion of an electric drill, a drill supporting bracket detachably secured to the other end of said slide and having a projecting apertured boss slotted at one side, a slotted collet positioned within said boss for engagement with an annular portion at the working end of a drill supported thereby, and means for clamping said collar and said collet about a drill therein.

3. In a magnetic drill support for a normally separate portable electric drill, a body including a work-engaging base, a drill mounting slide mounted for sliding movement on said body, means secured to said slide for supporting the work end of a drill, a drill supporting bracket detachably secured to said slide, said means being constructed for reversible attachment to said slide, said means having a projecting portion including a transverse slot, drill engaging means adjustably disposed within said slot, said bracket having adjustable means for engaging the annular mounting boss of the body of the drill for supporting the body of the drill.

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