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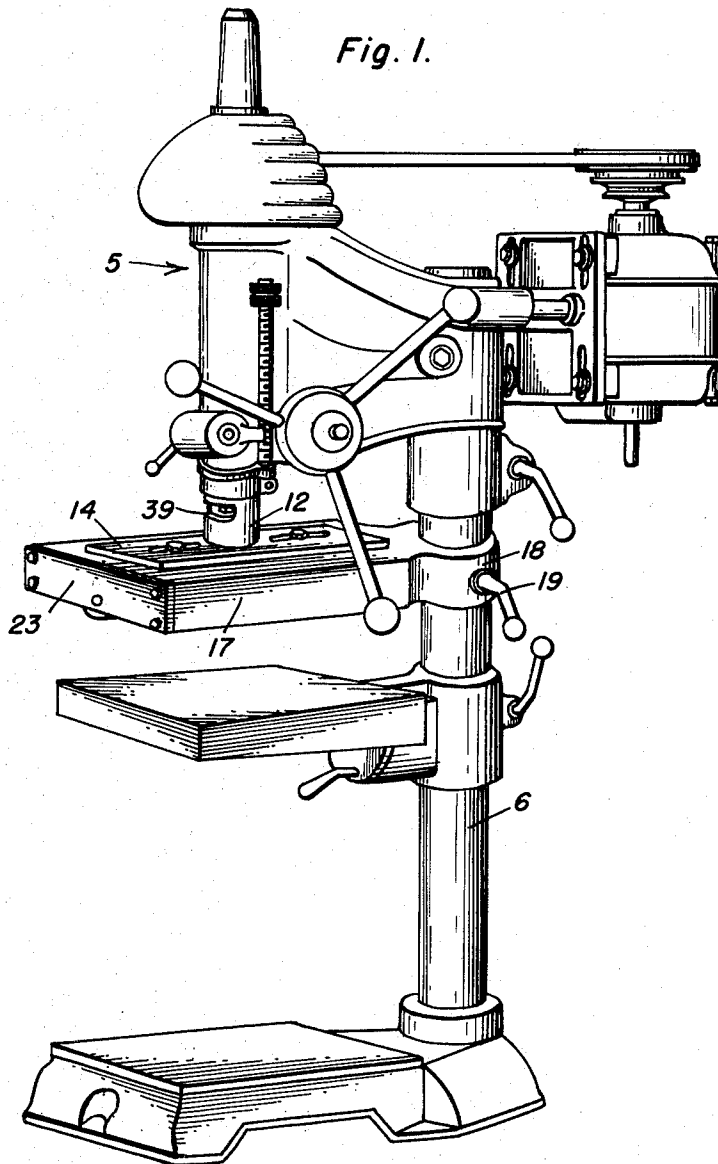
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TOOL ATTACHMENT FOR DRILL PRESSES

Filed Aug. 15, 1947

2 Sheets-Sheet 1



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Fig. 2.

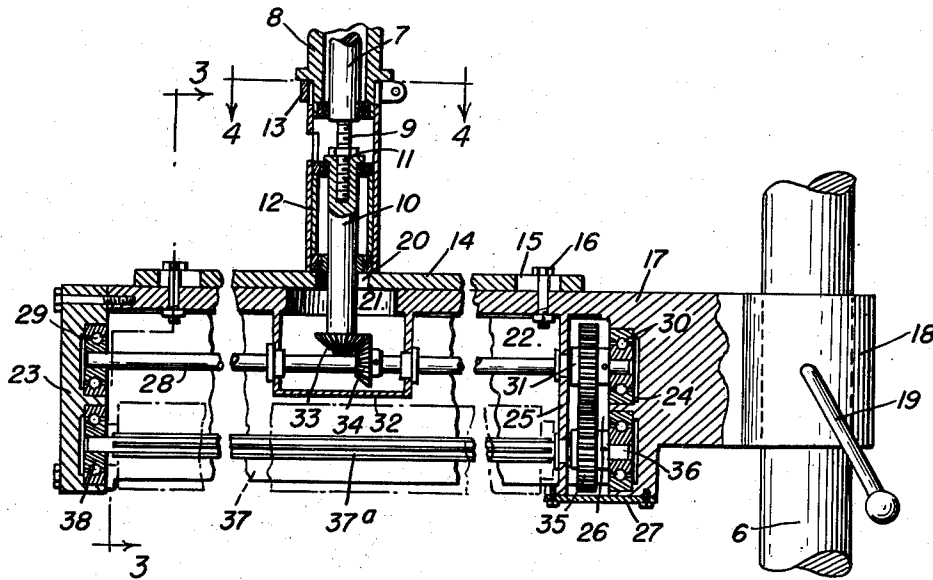


Fig. 3.

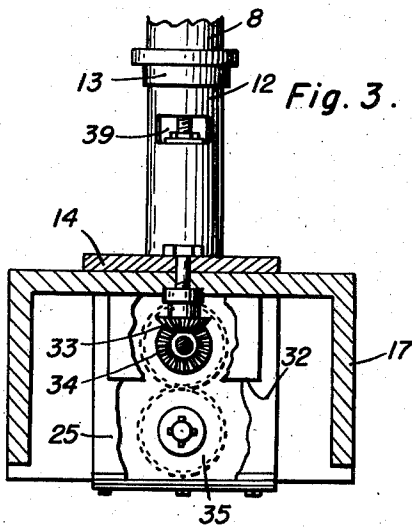
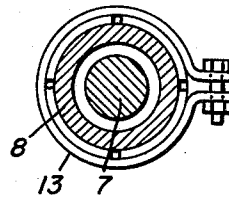


Fig. 4.



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TOOL ATTACHMENT FOR DRILL PRESSES

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6 Claims. (Cl. 90—11)

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The present invention relates to new and useful improvements in attachments for drill presses, and more particularly to means for interchangeably mounting various types of cutting, sanding, planing or other tools for operation by the spindle of the drill press.

An important object of the present invention is to provide a tool attachment of this character and which comprises a horizontally swingable arm carried by the pedestal of the drill press and in which a rotary tool is mounted for rotation on a horizontal axis and operatively connected to the spindle of the drill press, the arm being swingable into an out-of-the-way position when not in use.

A still further object is to provide a device of this character which may be easily and quickly mounted in position on the drill press without necessitating any changes or alterations in the construction thereof.

A further object is to provide a device of this character of simple and practical construction, which is efficient and reliable in operation, relatively inexpensive to manufacture and otherwise well adapted for the purposes for which the same is intended.

Other objects and advantages reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a perspective view of a conventional drill press showing the tool attachment mounted in position thereon;

Figure 2 is a vertical sectional view of the arm in which the tool is carried and showing the train of gearing operatively connecting the tool to the spindle of the drill press;

Figure 3 is a transverse sectional view taken on a line 3—3 of Figure 2; and

Figure 4 is a sectional view taken on a line 4—4 of Figure 2.

Referring now to the drawings in detail wherein, for the purpose of illustration, I have disclosed a preferred embodiment of the invention, the numeral 5 designates a conventional type of drill press which includes a pedestal 6 and spindle 7 journaled in a vertical position in a housing 8.

The spindle 7 is provided with a reduced threaded lower end 9 which is threaded in the upper end of a vertical shaft 10 and secured thereto by a jamb nut 11. The shaft 10 is journaled in a housing 12 which is secured to the lower end of the spindle housing 8 by a conventional split clamp 13.

The lower end of the housing 12 is welded or otherwise suitably secured to a horizontal plate 14 having a pair of slots 15 therein at diametrically opposite sides of the housing 12 and through

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which bolts 16 are received carried by an arm 17 for adjusting the plate on the arm. The inner end of the arm is formed with a sleeve 18 which is swingably mounted on the spindle 6 of the drill press and secured in a vertically slidable and horizontally swingable position by a clamping screw 19.

The plate 14 and arm 17 are formed with aligned openings 20 and 21 for receiving the shaft 10.

The arm 17 is recessed at its lower side to provide a chamber 22 therein which is closed at one end by an end plate 23. The end plate 23 is opposed to a wall 24 at the inner end of the chamber 22, and spaced from the wall 24 is a partition 25 forming a gear housing 26 therein which is closed at its bottom by a plate 27.

An upper shaft 28 is journaled at one end in a ball bearing assembly 29 supported by the end plate 23, the shaft extending through the portion 25 and is journaled at its other end in a ball bearing assembly 30 carried by the end wall 24. A gear 31 is secured to the shaft 28 and is positioned in the gear housing 26.

The shaft 28 also extends through an oil chamber 32 extending downwardly from the top of the arm 17 into the chamber 22, the oil chamber 32 being provided with lubricant for gears 33 and 34 secured, respectively, to the shafts 10 and 28 to operatively connect said shafts.

A lower gear 35 is also rotatably supported in the gear housing 26 by means of a ball bearing assembly 36, the gear 35 being driven by the gear 31.

A cutter 37 or other rotary tool is removably splined on a tool shaft 37a provided with a gear 35 at its inner end engaging gear 31 and journaled in a bearing 36 mounted in the inner wall of chamber 26, the outer end of shaft 37a being journaled in a bearing assembly 38 carried by the end plate 23, the cutter thus being driven by the spindle 7 through the shaft 10, gears 33 and 34, shaft 28, gears 31 and 35, and shaft 37a.

Various types of cutters, planers, sanders, or other tools may be interchangeably mounted on the shaft 37a.

The housing 12 is provided with an opening 39 to afford access to the jamb nut 11 and squared upper end of shaft 10 to adjust the shaft vertically for proper meshing of gears 33 and 34 and the arm 17 may likewise be adjusted horizontally under the plate 14 to properly engage the gears.

When the device is not in use, the clamp 13 is released from spindle housing 8, the shaft 10 removed from the spindle housing 8, the shaft 10 removed from the spindle and the arm 17 swung horizontally on the pedestal 6 into an out-of-the-way position.

In view of the foregoing description taken in conjunction with the accompanying drawings, it

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is believed that a clear understanding of the device will be quite apparent to those skilled in this art. A more detailed description is accordingly deemed unnecessary.

It is to be understood, however, that even though there is herein shown and described a preferred embodiment of the invention, the same is susceptible to certain changes fully comprehended by the spirit of the invention as herein described and within the scope of the appended claims.

Having described the invention, what is claimed as new is:

1. In combination with a drill press having a pedestal, a spindle and a spindle housing, of a rotary driven tool comprising an arm carried by the pedestal and having a chamber therein open at its bottom, a removable end plate for the chamber, a horizontal rotary tool journaled in the chamber with one end supported by said end plate, and means operatively connecting the tool with the spindle.

2. In combination with a drill press having a pedestal, a spindle and a spindle housing of a rotary driven tool comprising an arm carried by the pedestal and having a chamber therein open at its bottom, a removable end plate for the chamber, a horizontal rotary tool journaled in the chamber with one end supported by said end plate, and means operatively connecting the tool with the spindle, said means comprising a shaft journaled in the chamber parallel to the tool and detachably connected to the spindle, and gears connecting the shaft to the tool.

3. In combination with a drill press having a pedestal, a spindle and a spindle housing of a rotary driven tool comprising an arm carried by the pedestal and having a chamber therein open at its bottom, a removable end plate for the chamber, a horizontal rotary tool journaled in the chamber with one end supported by said end plate, and means operatively connecting the tool with the spindle, said means comprising a vertical shaft detachably connected to the spindle, a horizontal shaft journaled in the chamber parallel to the tool, and gears connecting said horizontal shaft respectively to the vertical shaft and to the tool.

4. In combination with a drill press having a pedestal, a spindle and a spindle housing of a rotary driven tool comprising an arm carried by the pedestal and having a chamber therein open at its bottom, a removable end plate for the

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chamber, a horizontal rotary tool journaled in the chamber with one end supported by said end plate, and means operatively connecting the other end of the tool with the spindle, said means comprising a vertical shaft detachably connected to the spindle, a horizontal shaft positioned in the chamber parallel to the tool and also having one end journaled in the end plate, gears connecting said horizontal shaft respectively to the vertical shaft and to the tool, and gear housings in the chamber for each group of gears.

5. In combination with a drill press having a pedestal, a spindle, and a spindle housing, of a tool attachment for the spindle and comprising a hollow arm having an open bottom and pivotally and slidably carried by the pedestal, attaching means carried by the arm for connecting the same in a stationary position to the spindle housing, a vertical shaft connected to the spindle and extending downwardly into the arm, a horizontal shaft journaled at its ends in the arm and connected to said vertical shaft, and a horizontal rotary tool journaled at its ends in the arm below the horizontal shaft and operatively connected to said horizontal shaft.

6. In combination with a drill press having a pedestal, a vertical spindle housing supported by the pedestal, a spindle journaled in the housing, a hollow arm supported by the pedestal under the spindle housing, a main chamber and a gear chamber in the arm, said main chamber being open at its bottom and having a removable end plate at the outer end of the arm, a horizontal shaft in the upper portion of the main chamber with one end journaled in the end plate, a horizontal tool in the lower position of the main chamber and also having one end journaled in the end plate, drive means connecting the shaft to the spindle, and gears in the gear chamber connecting the other ends of the shaft and tool to each other.

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