March 31, 1959 M. J. MORRIS 2,879,675

DUAL BORING ATTACHMENT

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Fig. 1.

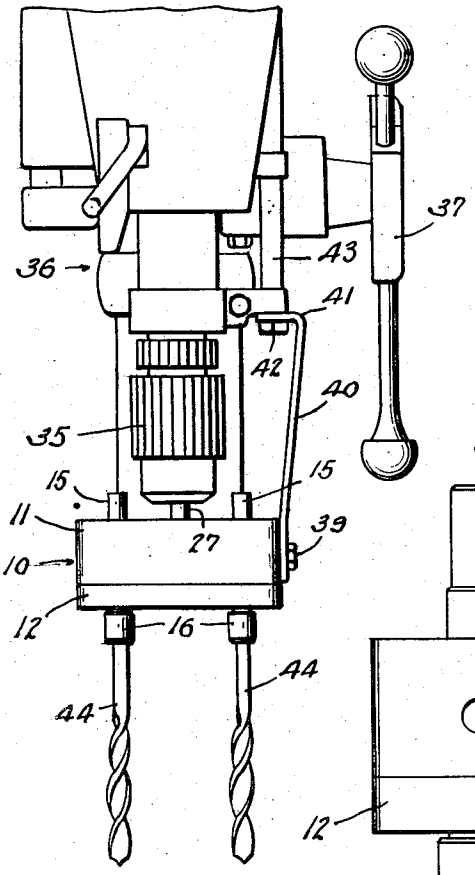


Fig. 4.

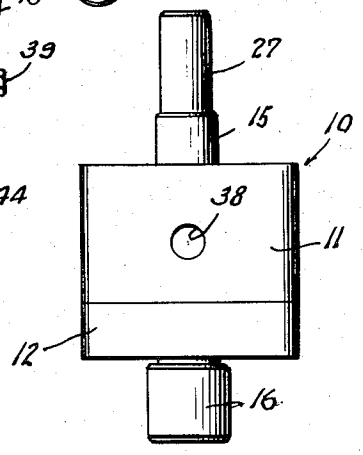
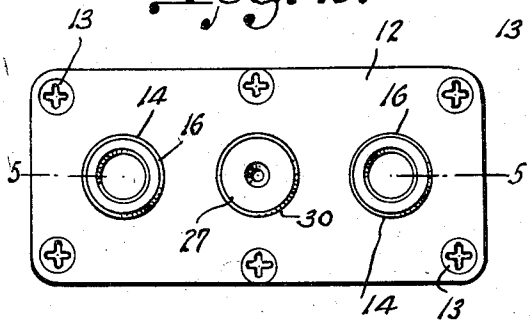


Fig. 2.



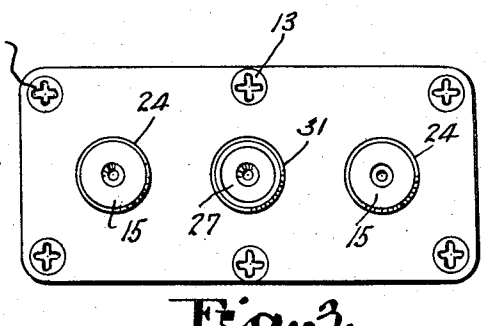


Fig. 3.

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Fig. 5.

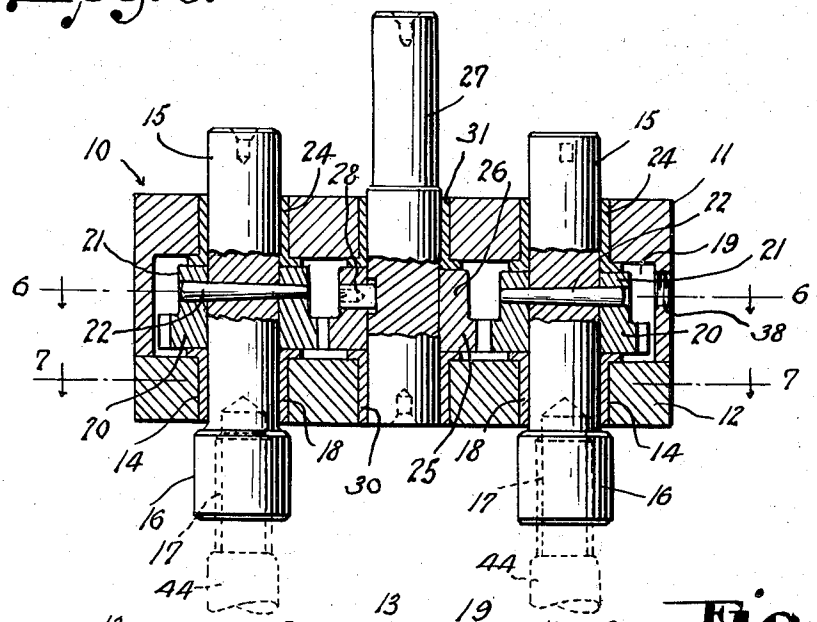


Fig. 6.

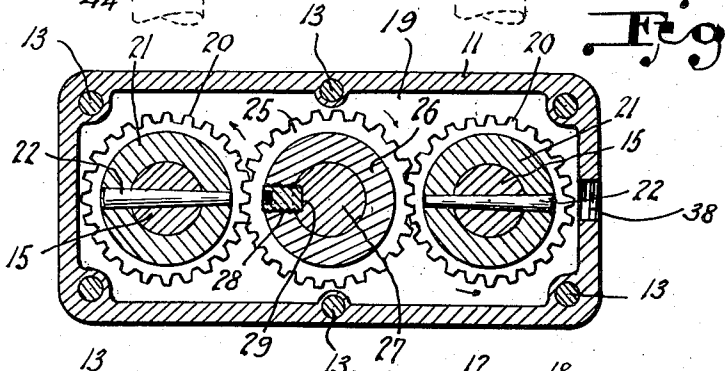
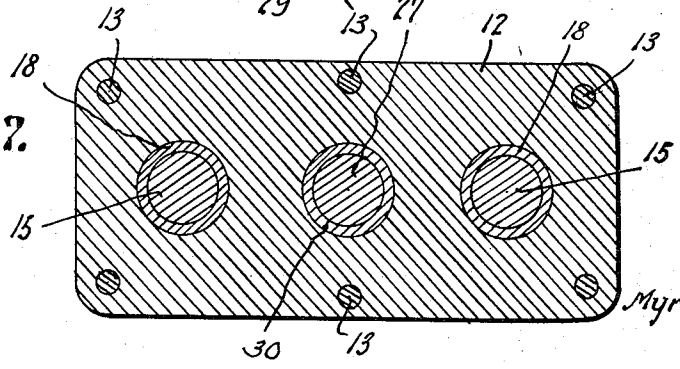


Fig. 7.



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2,879,675

DUAL BORING ATTACHMENT

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Application May 28, 1957, Serial No. 662,035

1 Claim. (Cl. 74—665)

This invention relates to a dual boring attachment, and more particularly to a device for boring two holes or bores simultaneously.

A primary object of this invention is the provision of a device of this character which may be readily and easily applied to a conventional drill press chuck to be operated thereby.

An additional object of the invention is the provision of a device of this character which may be readily adapted to the accommodation of a plurality of sizes of bits for boring two holes simultaneously, as for example in locations where such simultaneous drilling is possible by the nature of the work, and when wood dowels are employed to join pieces or parts of wood together.

An additional object of the invention is the provision of a device of this character which may be readily attached to any conventional drill press or other similar power source which is comparatively simple and inexpensive in operation and obviates the cost of relatively expensive special machines for such purpose, thus effecting a material saving of time and labor with a minimum of expense.

A further object of the invention is the provision of such an attachment which is sturdy and durable in construction, reliable and efficient in operation, and relatively simple to manufacture, assemble and utilize.

Other objects will in part be obvious and in part be pointed out as the description of the invention proceeds, and shown in the accompanying drawings where in there is disclosed a preferred embodiment of this inventive concept.

In the drawings:

Figure 1 is a side elevational view of the dual boring attachment of the instant invention, shown as applied to a chuck of a conventional drill press.

Figure 2 is a bottom plan view of the device with the bits removed, and disassembled from the drill press chuck.

Figure 3 is a top plan view of the device as shown in Figure 2.

Figure 4 is an enlarged end elevational view of the attachment.

Figure 5 is an enlarged sectional view taken substantially along the line 5—5 of Figure 2.

Figure 6 is a sectional view taken substantially along the line 6—6 of Figure 5 as viewed in the direction indicated by the arrows, and

Figure 7 is a sectional view taken substantially along the line 7—7 of Figure 5 as viewed in the direction indicated by the arrows.

Similar reference characters refer to similar parts throughout the several views of the drawings.

Referring now to the drawings in detail, the device of the instant invention comprises a housing generally indicated at 10, comprised of an upper section 11, and a lower section 12, both of rectangular configuration generally, as shown in Figures 2 and 3, the parts 11 and 12 being adapted to be secured together as by means of

screws or bolts of any desired type, such as Allen head screws 13. As best shown in Figure 2, the under side of the bottom portion 12 is provided adjacent its ends with a pair of openings 14, through which extend rotatable shafts 15, the shafts having enlarged knurled ends 16, and being interiorly threaded, and having internally threaded bores 17, as best shown in Figure 5. As best seen in Figures 5 and 7 the lower portion 12 of the housing is comprised of a substantially solid plate, and the openings 14 contain suitable bronze bushings 18 within which the shafts 15 are adapted to rotate.

The upper portion 11 of the housing contains an internal recess 19, within which are positioned spur gears 20, each having a flange 21 apertured to receive a taper pin 22, which extends through an aligned bore in each of shafts 15 to secure each spur gear to its associated shaft 15. The top of portion 11 is also apertured to receive bronze bushings 24 through which the upper portions of shafts 15 extend, thus affording free aligned rotative movement of each of shafts 15, when driven by their associated spur gears 20, in a manner now to be more fully described.

A center spur gear 25 having a flange 26 which comprises a drive gear is positioned between and in mesh with driven gears 20. The spur gear 25 is secured to a drive shaft 27 as by means of an Allen head set screw 28, extending through a bore in sleeve 26, and engaging in a recess or flat 29 in shaft 27. The lower portion of shaft 27 extends through a suitable bushing 30 which is fitted in an aperture in base member 12, and upwardly through a second bushing 31, which is correspondingly positioned in an aligned aperture in the top plate of upper member 11.

The upper portion of shaft 27 extends a material distance above the upper extremities of shafts 15 and is adapted to be secured in the chuck 35 of a conventional drill press 36 of any desired type, provided with the conventional operating wheel 37.

In order to prevent rotation of the housing 10, a threaded aperture 38 is provided in one end thereof for the accommodation of a bolt 39, which extends through a suitable aperture in a metallic strip 40. The upper end of strip 40 is bent at right angles as shown at 41, and is apertured to receive a bolt 42, which comprises a part of the drill press and engages in a suitable aperture and a depending member 43 adjacent the top of chuck 35. Thus the housing 10 is fixed against rotative movement relative to the drill press, and as the drill chuck 35 rotates, the shaft 27 will be correspondingly rotated.

Rotation of the shaft 27 will through spur gear 25 in turn drive spur gears 20 to rotate shafts 15, and their threaded sockets 17. The sockets 17 are adapted for the reception of conventional horizontal boring machine spur bits 44, which may be of any desired size within the capacity of the machine. Obviously when the spur bits 44 are applied to a piece of work, and the drill press started in the conventional manner, the bits 44 will be rotated through the shaft 27, and two holes of equal or different diameters, in accordance with the bit size will be simultaneously drilled in the work.

From the foregoing it will now be seen that there is herein provided a simple and inexpensive attachment for a conventional drill press, by means of which two holes may be simultaneously bored in a piece of work, which accomplishes all of the objects of this invention, and others, including many advantages of great practical utility and commercial importance.

As many embodiments may be made of this inventive concept, and as many modifications may be made in the embodiment herein before shown and described, it is to

be understood that all matter herein is to be interpreted merely as illustrative and not in a limiting sense.

I claim:

In a dual boring attachment for drill presses or the like, the combination of a housing including a lower apertured plate and an upper portion having a hollow interior recess and screws securing said plate and said upper portion together, said upper portion having apertures therein aligned with the apertures in said lower apertured plate, bushings in said apertures in said upper portion and said lower apertured plate, a drive shaft extending through a pair of aligned apertures in said housing having one end adapted for insertion in the chuck of a drill press, a driving spur gear carried by said shaft interiorly of the hollow interior of said housing, said spur gear having an integral collar thereon, a set screw securing said integral collar to said drive shaft, a pair of driven shafts extending through additional aligned apertures in said housing on either side of said drive shaft, a driven spur gear having an integral collar on each driven shaft in mesh with said first mentioned spur gear, a tapered pin extending through each of said

driven shafts and said last mentioned collars securing each of said driven spur gears to its driven shaft, all of said spur gears being of the same diameter, bit chucks carried by the end of each driven shaft opposite said one end of said drive shaft, and means connecting said housing to the drill press to prevent rotation of said housing by the drill press chuck, said last mentioned means including a metallic strip secured at one end to an end of said housing, and having its other end bent at an angle of ninety degrees, and adapted to be secured to a fixed portion of said drill press.

References Cited in the file of this patent

UNITED STATES PATENTS

865,249	Jaquith	Sept. 3, 1907
1,023,021	Lagarde	Apr. 9, 1912
1,135,595	Livingston	Apr. 13, 1915
1,148,094	Kern	July 27, 1915
1,444,343	Goodwin	Feb. 6, 1923
2,380,314	Kavle	July 10, 1945
2,492,391	Minek	Dec. 27, 1949