March 15, 1949. G. McC. WHITE 2,464,660

DRILL PRESS CONVERTER AND POWER TAKE-OFF FOR ROTARY SAWS

Filed Dec. 5, 1946

Fig. 1.

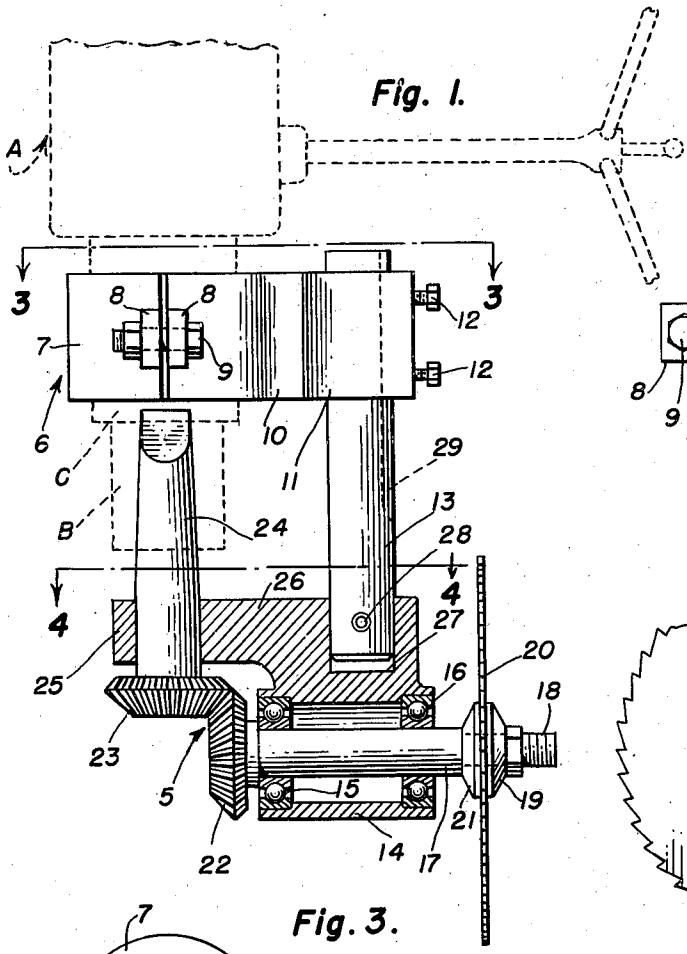



Fig. 2.

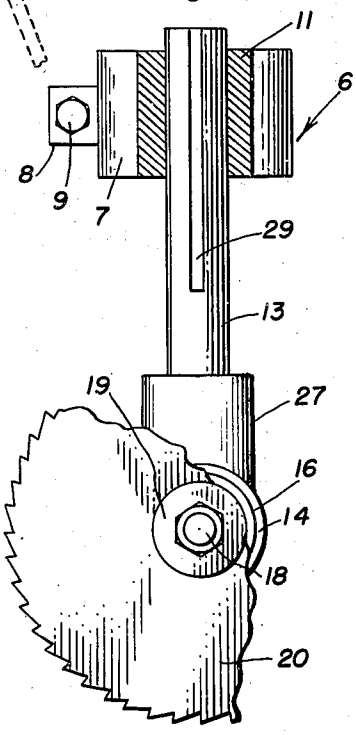



Fig. 3.

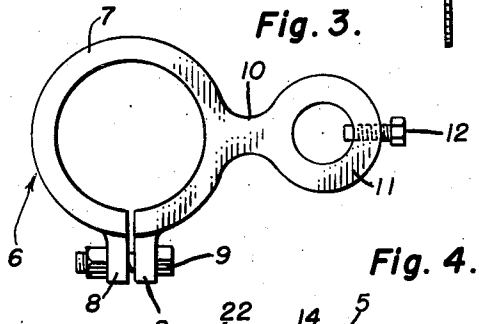
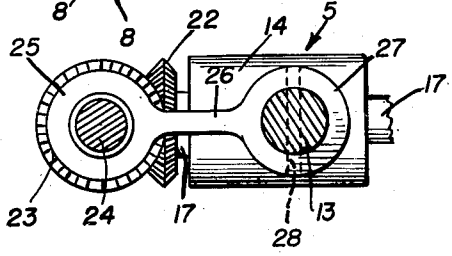



Fig. 4.




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Patented Mar. 15, 1949 2,464,660

# UNITED STATES PATENT OFFICE

2,464,660

## DRILL PRESS CONVERTER AND POWER TAKE-OFF FOR ROTARY SAWS

Guy McCullough White, Macon, Ga.

Application December 5, 1946, Serial No. 714,240

2 Claims. (Cl. 143—33)

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The present invention relates to a converter attachment for a standard or conventional type drill press, said attachment embodying power take-off and transmission shaft and gear means, one of the shafts being to accommodate a tool such as the user desires to utilize.

In carrying out the principles of the invention I have evolved and produced a simple and expedient structure in the form of a drill press attachment which lends itself readily connectible with the drill press and which includes a tool shaft for operating a rip saw, cut out saw, dado, high speed cutoff wheel, belt or disk sanders and milling attachments

Briefly, in carrying out the preferred embodiment of the invention, I have adopted what I believe to be a simple and practical structural adaptation characterized by two main units or devices; one the twin shafts assemblage and the other the clamping and adaptor fixture or bracket which is connectible both with the drill press and a part of said first named twin shafts unit.

One phase of novelty has to do with the attaching bracket or fixture which is characterized by a split clamp to adjustably embrace a stock part of the drill press, this having a sleeve and said sleeve being provided with a set-screw to accomodate a grooved end portion of a stabilizing post or equivalent part carried by the twin shafts unit.

Further novelty is predicated upon the last mentioned twin or double shafts unit having a cylinder with bearings for the tool or saw carrying shaft which is connected by gearing with the remaining or power take-off shaft, the latter being the drive shaft and being connectible with a chuck in the conventional drill press.

Other objects, features and advantages will become more readily apparent from the following description and the accompanying illustrative drawings.

In the drawings, wherein like numerals are employed to designate like parts throughout the views:

Figure 1 is a view in section and elevation showing the entire attachment, this in full lines and the drill press in dotted lines;

Figure 2 is a fragmentary end view observing the attachment of Figure 1 in the direction from right to left with portions broken away to expose other parts;

Figure 3 is a view of the adaptor bracket or fixture detached from the drill press and the power take-off or twin shafts unit, the view being approximately on the line 3—3 of Figure 1, looking in the direction of the arrows; and,

Figure 4 is a sectional view taken on the plane of the line 4—4 of Figure 1, looking in the directions of the arrows.

Referring now to the drawing by distinguishing reference numerals, it will be noted that the drill press, generally speaking, is denoted by the letter A, the same including customary chuck means B and an associated bearing arrangement C. The attachment, as an overall device is characterized by the aforementioned twin shafts assembly or power take-off unit 5 on the one hand and the adaptor bracket or fixture 6 on the other.

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Referring to Figure 3, it will be noted that the fixture 6 comprises a split clamp 7 whose adjustable ends are provided with outstanding lugs 8 secured together by a bolt 9 whereby to provide a clamp to adjustably embrace the part C of the drill press. An outstanding web 10 serves to connect the aforementioned sleeve 11 to the clamp. This sleeve is provided with set screws 12, these to accommodate the attaching and stabilizing post or rod 13 carried by the power take-off unit or means 5.

The unit 5 comprises a cylindrical casing 14 provided with ball bearing fittings 15 and 16 these to accommodate the driven and tool accommodating shaft 17. One end of this shaft is screw threaded as at 18 to accommodate a nut held washer 19 which serves to hold the attachable tool 20 against a shoulder forming flange 21. Incidentally, this tool is here shown as a rotary saw but it is obvious that different types of tools may be applied to the threaded end of said shaft such as for example, a high speed cutoff wheel, a belt or disk sander or various types of milling attachments, rip saws and so on and so forth. The opposite end of the shaft 17 is provided with a beveled gear 22 in mesh with a beveled gear 23 on the remaining or power take-off shaft 24. This shaft 24 is rotatable in a bearing in an extension 25 on the body 26, said body including a socket 27 in which the aforementioned stabilizing and assembling post is pinned or otherwise anchored as at 28. Incidentally, the post 13 is formed with a groove or keyway 29 to accommodate the aforesaid set screws 12. Also, the shank of the driving and power take-off shaft 24 is tapered to lend itself adaptable to different sizes of chucks.

Since drill press stationary shafts (the part B) are of variable sizes the converter structure will be equipped with varying sizes of collars in order to secure the converter to any size drill press.

In operation, it is understood that the fixture or bracket means 6 is applied after which the shank 24 or the power take-off shaft is fitted into the chuck on the drill press. The proper adjustment is made between the sleeve 11, set screws 12 and the grooved post 13 to bring the gears 22 and 23 into proper mesh. Now, the device is ready for operation and a proper tool is mounted on the threaded end of the shaft 17. It follows therefore that motion and energy is taken from

the drill press to the chuck, through the shaft 24, and shaft 17, this by way of the gears 23 and 22 for the purposes of operating whatever type of tool is mounted on the driven end of said shaft 17.

A careful consideration of the foregoing description in conjunction with the invention as illustrated in the drawings will enable the reader to obtain a clear understanding and impression of the alleged features of merit and novelty sufficient to clarify the construction of the invention as hereinafter claimed.

Minor changes in shape, size, materials and rearrangement of parts may be resorted to in actual practice so long as no departure is made from the invention as claimed.

I claim:

1. In a converter attachment for a conventional type drill press comprising a readily applicable and removable power take-off unit comprising a horizontally disposable casing, bearings in the end portions of said casing, a tool shaft mounted for rotation in said bearings and having one end extending beyond the casing and provided with a beveled gear, the opposite end extending beyond the corresponding end of said casing and being adapted to accommodate a readily attachable and detachable tool, a socket united with one side of said casing, said socket having an extension projecting beyond an adjacent end of the casing and terminating in a bearing, a power take-off shaft mounted for rotation in said bearing and at right angles to the tool shaft, said power take-off shaft being provided at one end with a beveled gear in mesh with the first named beveled gear, the opposite end of said power take-off shaft having a tapered shank adapted to be fitted into a drill press chuck, a post removably mounted in said socket and at right angles to the tool shaft and parallel to said power take-off shaft, and an adapter fixture in substantial parallelism with the tool shaft and having a clamp at one end to embrace a part of the drill press and having a sleeve at the opposite end, the adjacent upper end of said post fitting removably into said sleeve.



2. A converter attachment for a conventional type drill press of the class shown and described comprising a power take-off unit and a complemental adapter unit, said power take-off unit comprising a cylindrical open ended casing, bearings fitted removably into the open ends of said casing, a tool shaft mounted for rotation in said bearings and having one end constructed to accommodate a detachable tool, a beveled gear on the other end of said tool shaft, a socket integrated with one side of said cylinder and at right angles to the longitudinal axis of the cylinder, said socket being provided with an extension projecting beyond an adjacent end of the casing and beveled gear and terminating in a ring-like bearing, a power take-off shaft journaled for rotation in the last named bearing and provided at one end with a beveled gear in mesh with the first named beveled gear, the power shaft having a tapered shank portion adapted to be removably fitted into a drill chuck, a post parallel to said power take-off shaft and at right angles to said tool shaft and removably but securely fitted in said socket and rising vertically from the socket, said adapter unit comprising a split clamp adapted to embrace a portion of the drill press, a sleeve removably embracing the upper end of the post and a web connecting the clamp and sleeve together.

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