March 1, 1949. E. M. HOOVER 2,463,387

POWER TOOL

Filed July 19, 1944

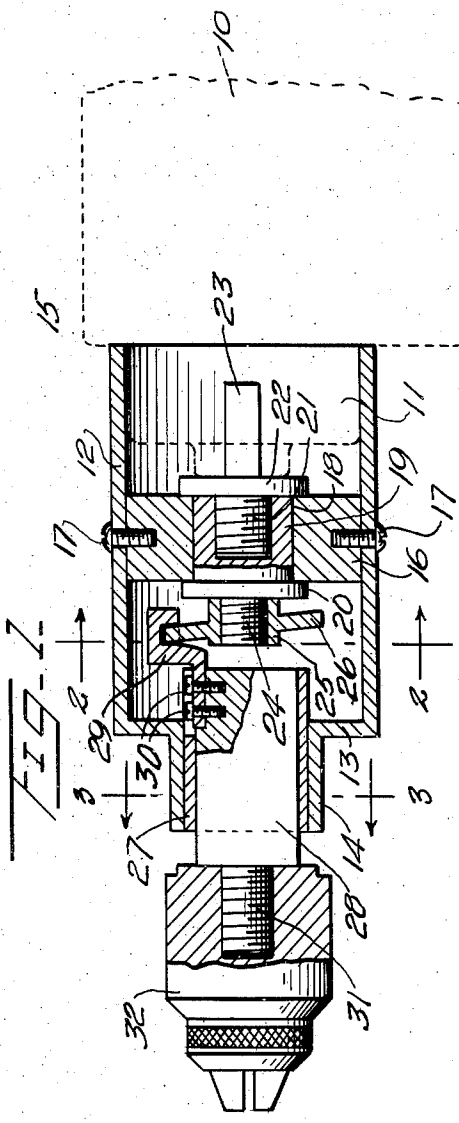


FIG. 1.

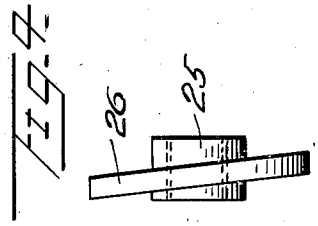


FIG. 4.

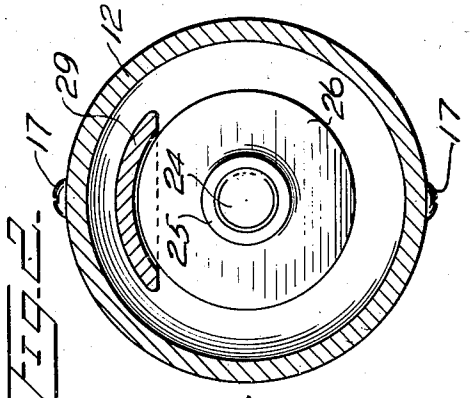


FIG. 2.

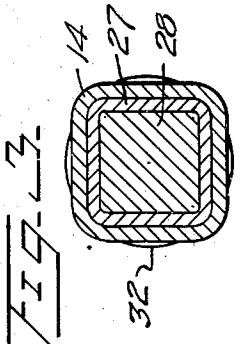


FIG. 3.

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POWER TOOL

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3 Claims. (Cl. 74—60)

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This invention relates to power tools of the revolving type, such tools being driven by an electric or a fluid motor. More particularly the invention relates to an attachment for power driven tools, the attachment being for the purpose of converting the rotary movement of the tool spindle or clutch into reciprocatory movement.

One important object of the present invention is to provide a novel attachment of the kind described which may be fitted removably on the forward or nose end of a power tool having a rotary spindle.

A second important object of the invention is to provide an attachment of this class wherein a reciprocating element may carry a clutch member for gripping such tools as chisels, files and the like.

The third important object of the invention is to provide a device of this character of extreme simplicity in construction.

With the above and other objects in view the invention consists in general of certain novel details of construction and combinations of parts hereinafter more fully described, illustrated in the accompanying drawings and more specifically claimed.

In the accompanying drawings like characters of reference indicate like parts in the several views, and:

Figure 1 is a side view partly in section and partly in elevation, showing the attachment applied to the forward or nose end portion of a power tool having a rotary spindle.

Figure 2 is a section to enlarged scale on line 2—2 of Figure 1.

Figure 3 is a similar section on the line 3—3 of Figure 1.

Figure 4 is a detail showing a certain axial cam used herein.

In the embodiment of the invention as here shown there is disclosed a forward portion 10 of an ordinary type of power driven rotary tool, this portion being provided with a cylindrical nose 11.

The attachment itself comprising a sleeve 12 open at its rear end and having at its forward end an inwardly extending flange 13 from the inner edge of which projects a guide tube 14 preferably square in cross-section with rounded corners as shown in Figure 3. The sleeve 12 is of such dimension as to fit closely on the nose and is detachably held thereon in any convenient manner. Extending transversely of the sleeve is a partition 16 which is secured in position by screws 17. This partition is provided with a circular opening 18 wherein is fitted a spindle 19

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having a collar 20 at its forward end which bears against the forward face of the partition. This spindle is provided with a threaded opening wherein is fitted a threaded plug 21 having a collar 22 which bears against the rear face of the partition. Extending rearwardly from the collar 22 is a tang 23 which is preferably of polygonal cross-section so as to fit in the clutch or tool socket of the tool 10. Extending forwardly from the flange 20 is a threaded boss 24 whereon is screwed the hub 25 of an axial cam 26. Fitted in the tube 14 is a second tube 27 and in the latter is slidably mounted a stem 28. To the rear end of this stem is fitted a yoke member 29 which engages the edge of an axial cam at an arcuate portion thereof as shown in Figure 2. This yoke is held detachably to the stem 28 by screws 30. The forward end of the stem is threaded as at 31 so that a suitable chuck 32 may be screwed thereon for holding any tool desired in its jaws.

In operation the rotation of the power driven tool chuck, which engages the tang 23, causes rotation of the axial cam 26 and this in turn effects reciprocation of the stem 28 and the tool carried by the chuck 32.

While there is herein shown and described the preferred embodiment of the invention, it is nevertheless to be understood that minor changes may be made therein without departing from the spirit and scope of the invention as claimed.

I claim:

1. In combination with a power driven rotary tool having a cylindrical nose portion, an attachment comprising a sleeve opening at its rear end for mounting on said nose, a guide tube centrally projecting from the forward end of said sleeve, a partition in said sleeve intermediate the ends thereof, a rotary member mounted in said partition and having at its rear end a tang for engagement in the chuck of the power tool, an axial cam carried by the forward end of said member and rotating therewith, a reciprocating stem mounted in said guide tube and axially alined with the rotary member and tang and a yoke attached to the outer side of the stem at the inner end thereof and engaged with the peripheral edge of the cam.

2. A device as in claim 1, wherein the rotary member includes a spindle with a collar at one end bearing against the forward side of said partition, the other end of the spindle having a threaded socket therein, a plug threaded in said socket and carrying a collar engaging the rear side of the partition with the tang carried by the last named collar.

3. A device as in claim 2, wherein a threaded boss is carried by the first-named collar and upon which said axial cam is mounted.

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