

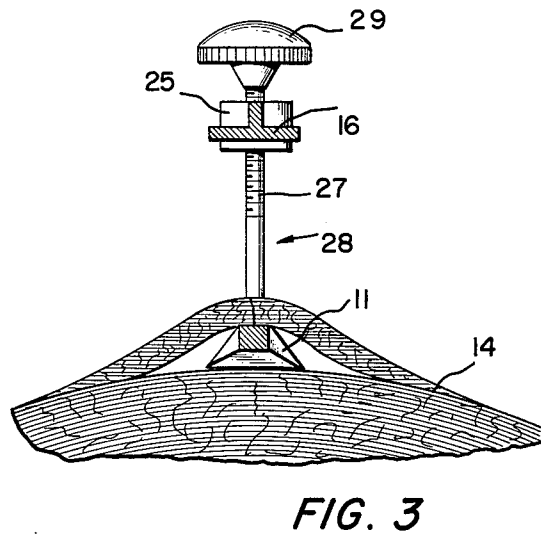
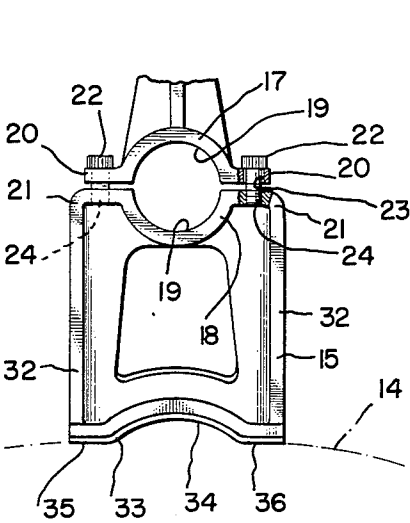
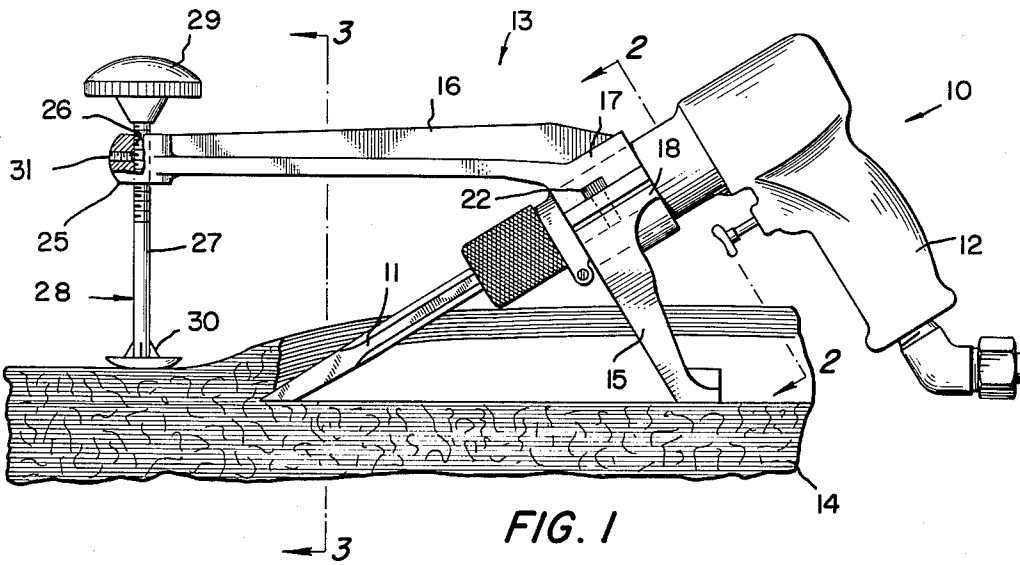
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SUPPORT MEANS FOR VIBRATORY HAND-HELD POWER TOOLS

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**SUPPORT MEANS FOR VIBRATORY HAND-HELD POWER TOOLS**

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This invention relates to a support member and more particularly to a detachable support member for a power-operated, vibratory, hand-held tool.

In the use of power-operated, vibratory, normally hand-held tools, such as scaling hammers, cutting hammers, beading hammers, piercing hammers, impact tools, and the like, a support supplementing the support of the operator is required for the sake of safety and for improved performance of the tools in the many different uses of the tools. For example, in the paper industry a means is required for breaking cull or unacceptable rolls of paper into slabs and sheets preparatory to repulping. Conventional means for splitting or breaking up cull rolls are the "guillotine," circular power saws, and manually employed knives and wedges. All of these methods present problems of safety, speed, and efficiency.

The "guillotine" is a large, bulky, cumbersome machine to which the cull rolls must be transported and the sheets or slabs conveyed therefrom. Even if the "guillotine" machine is mounted for movement, its large size and weight render it difficult to move.

Circular power saws are relatively unsafe and require relatively frequent sharpening of the saw blades because of the abrasive action of most papers.

Knives and wedges present safety problems as well as the problem of maintaining the sharpness of the cutting or wedging edges.

Accordingly, it is an object of the present invention to provide a detachable support for a vibratory, hand-held, power tool which provides a minimum safety hazard in the use of the tool.

Another object of this invention is to provide a detachable support for a vibratory, hand-held, power tool, which support has a hand grip capable of being held by the operator, while holding the grip portion of the tool, to thereby provide for the accurate guidance of the tool.

A further object of the present invention is to provide a detachable support which functions to guard the operator's hands from the material being cut.

A still further object of this invention is to provide a detachable support for a vibratory, hand-held power tool, which support has an adjustable means to control the depth of the cut to be made by the tool.

In view of the foregoing, a novel detachable support for a hand-held, vibratory, or impact type power tool is contemplated, which support comprises a frame capable of attachment and detachment from the power tool. The frame has a first leg portion extending substantially at an obtuse angle from a second leg portion. The first leg portion has a foot part at the distal end thereof for engaging the surface of the material to be worked, while the second leg adjustably supports at its distal end a gauge member which has a foot for contacting the material to be worked, said first and said second leg portions coacting to support the power tool relative to the material to be worked. A grip means is associated with the frame and is adapted to be grasped by the operator to guide the tool relative to the material being worked.

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For purposes of illustration only, the invention will be described and shown in connection with the use of a vibratory or impact power tool for breaking up cull rolls preparatory to passing the latter through a repulping process.

The invention will be more fully understood from the following description when considered in connection with the accompanying drawings in which:

FIG. 1 is a side elevational view of the support member according to this invention as applied to an impact power tool for breaking up cull paper roll;

FIG. 2 is a cross-sectional view taken substantially along line 2—2 of FIG. 1 with the power tool omitted; and

FIG. 3 is a sectional view taken along line 3—3 of FIG. 1.

Now referring to FIG. 1, 10 designates a conventional, pneumatically operated impact tool wherein a hammer or piston (not shown) is caused to intermittently strike an anvil (not shown) to which a cutting implement 11, such as a chisel bit, is connected and thereby caused to vibrate. The impact tool 10 may have, as shown, a grip or handle 12 which an operator can grasp with one hand. The reference numeral 13 generally designates a support member which is connected to impact tool 10 to support the latter.

For purposes of illustration and a better understanding of the invention, support member 13 and impact tool 10 to which it is connected will be shown and described as applied to breaking up a cull paper roll 14. It is to be understood that the invention has application to a variety of uses, such as scaling work, and any other use where there is a surface upon which the impact tool can be supported.

The support member 13 comprises a frame which, for ease of attachment to and detachment from impact tool 10, is made in two parts or is split. One of the parts of the frame comprises a leg 15 while the other part constitutes an arm 16. Arm 16 and leg 15 are each provided with end portions 17 and 18, respectively, each of which has a complementary, semi-circular recess or saddle 19 dimensioned to embrace the housing, body, or casing of impact tool 10. To secure leg 15 and arm 16 to impact tool 10, each of the end portions 17 and 18 is provided with laterally extending flanges 20 and 21, respectively, which flanges have registered holes to receive clamping bolts 22. Holes 23 in flanges 20 are unthreaded and are arranged to register with threaded holes 24 in flanges 21, clamping bolts 22 being turned into threaded holes 24 to draw end portions 17 and 18 together and saddles 19 tightly against the casing of impact tool 10. End portion 17 of arm 16 is formed at an obtuse angle to the other portion of arm 16, while end portion 18 of leg 15 is in alignment with leg 15 so that arm 16 extends substantially parallel to the surface of cull paper roll 14 and leg 15 extends normal to the longitudinal axis of the housing of tool 10 and at an angle to roll 14.

Arm 16 is provided with an enlarged distal end portion 25 in which a hole 26 is formed. Hole 26 is adapted to receive the stem 27 of a combination hand grip and gauge member 28. Connected to the upper end of stem 27 is a hand grip 29 in the form of a knob. The opposite end of stem 27 from hand grip 29 is a foot 30 which is adapted to engage the surface of roll 14. The hand grip and gauge member 28 is adjustably relative to arm 16 and roll 14 by means of a set screw 31 threaded

into distal end portion 25 of arm 16. As will be readily apparent hereinafter, the adjustment of hand grip and gauge member 28 controls the thickness of the material through which the cutting implement or bit 11 is to be forced.

As best shown in FIG. 2, leg 15 has a substantially rectangular configuration, the sides of which comprise saddle 19, flanges 21, opposite side members 32, and a base or foot portion 33. The foot portion 33 of leg 15 is provided with an arcuate depression or recess 34 and a pair of flat foot portions 35 and 36. The spaced foot portions 35 and 36 cooperate with foot 30 of hand grip and gauge member 28 to provide a three-point support for impact tool 10. The relatively widely spaced construction of sides 32 of leg 15 serves to protect the operator's hand which grips handle 12 from the severed ends of roll 14 as the impact tool is moved to effect break up of the roll. The arcuate recess 34 functions as a supporting surface when working on rolls of small diameter.

As can be readily understood from the foregoing description, support member 13 supports impact tool 10 so that the cutting implement 11 extends at an acute angle with respect to the material to be worked, such as cull paper roll 14. It is a support member or frame which provides a hand grip 29 so that the tool may be grasped by both hands of an operator for better and safer guidance of the impact tool. The support member or frame also protects the operator from accidental injury from cutting implement 11 and/or the severed portions of the roll. The support member or frame is also readily detachable from the power tool so that the latter may be quickly adapted for uses where the support member or frame is undesirable or unnecessary.

Although but one embodiment of the invention has been illustrated and described in detail, it is to be expressly understood that the invention is not limited thereto. Various changes can be made in the arrangement of parts without departing from the spirit and scope of the invention as the same will now be understood by those skilled in the art.

I claim:

1. A support member for a hand-held, power-operated tool having a housing and means for effecting the reciprocation of a work-engaging implement, the support member supporting the tool above and on a supporting surface while the implement slits the surface, the support member comprising:

(a) a frame detachably connected to the housing of the power tool,

(b) said frame having at least two spaced feet for engaging the supporting surface at spaced points on said surface with one of said feet being located forward of said work-engaging implement to support the power tool in spaced relation to the supporting surface.

2. A support member for a hand-held, power-operated tool having a body and means therein for effecting the reciprocation of a work-engaging implement, the support member comprising:

(a) a two-piece frame detachably connected to the body of the power tool,

(b) one piece of said frame formed at one end thereof to embrace the body of said power tool,

(c) the other piece of said frame formed at one end thereof to embrace the body of said power tool,

(d) means for securing the ends of the frame pieces together and to the body of the power tool, and

(e) means at the ends of each of the frame pieces opposite from the body-embracing ends of the frame for engaging a supporting surface at spaced points on said surface and thereby maintaining the power tool in spaced relation to the supporting surface.

3. A support member for a hand-held, power-operated tool having a housing and means therein for effecting the

reciprocation of a work-engaging implement, the support member comprising:

(a) a first frame section having at one end a substantially semi-circular recess adapted to engage the housing of said power tool,

(b) a second frame section having at one end a substantially semi-circular recess adapted to engage the housing of said power tool,

(c) means for securing said first and said second frame sections together and their respective semi-circular recesses in tight abutment against the housing of said power tool to thereby secure the frame to said power tool,

(d) the first frame section having a combination hand grip and support foot secured to the distal end of the frame section, and

(e) the second frame section having a pair of foot members for engaging a supporting surface and cooperating with the support foot of the first frame section to support the power tool in spaced relation to said support surface.

4. The apparatus of claim 3 wherein said second frame section is substantially rectangular in configuration and has an arcuate recess extending between said pair of foot members.

5. A support member for a hand-held, power-operated tool having a housing and means therein for effecting the reciprocation of a work-engaging bit, the support member comprising:

(a) a first frame section having at one end a saddle portion for engaging the peripheral surface of the housing of the power tool,

(b) a second frame section of rectangular configuration having a saddle at one end for engaging the peripheral surface of the housing of the power tool and a pair of foot portions at the opposite end for engaging a supporting surface,

(c) detachable means for securing said first and said second frame sections together and their respective saddles in tight abutment against the housing of the power tool,

(d) the saddle end portion of said first frame section being disposed at an angle to the remaining part of the frame section so that the remaining part of the frame section extends substantially parallel to a supporting surface,

(e) a combination hand grip and support foot being attached to the distal end of said first frame section, and

(f) an arcuate-shaped recess formed in said second frame section and extending between said pair of foot portions.

6. The support member of claim 5 wherein said combination hand grip and support foot is adjustable in relation to the support surface.

7. A support member for a hand-held, power-operated tool having a housing and means therein for effecting the reciprocative movement of a work-engaging bit, the support member comprising:

(a) a first frame section having a canted end portion,

(b) an arcuate-shaped saddle in said canted end portion for engaging the peripheral surface of the housing of the power tool,

(c) a second frame section of rectangular configuration having an arcuate-shaped saddle at one end for engaging the peripheral surface of the housing of the power tool and a pair of foot portions at the opposite end for engaging a supporting surface,

(d) detachable means for securing said first and said second frame sections together and their respective saddles in tight abutment against the housing of the power tool so that the first frame section extends substantially parallel to the supporting surface and the second frame section extends at an angle to the

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supporting surface and with the pair of foot portions in engagement with the supporting surface,

(e) a hand grip connected to said first frame section, and

(f) an adjustable foot support connected at one end to said first frame section and extending toward the supporting surface to cooperate with the pair of foot portions and support the power tool in spaced relation to the supporting surface and at an acute angle thereto.

8. The support member of claim 7 wherein said second frame section has an arcuate-shaped recess formed to extend between said pair of foot portions for engagement with a small diameter supporting surface.

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