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RADIAL ARM METER SAW

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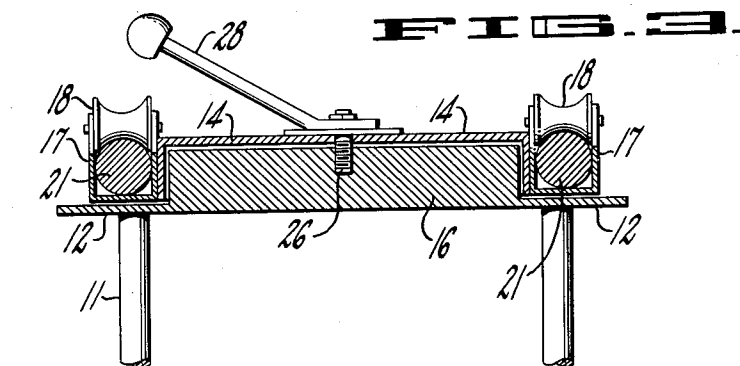
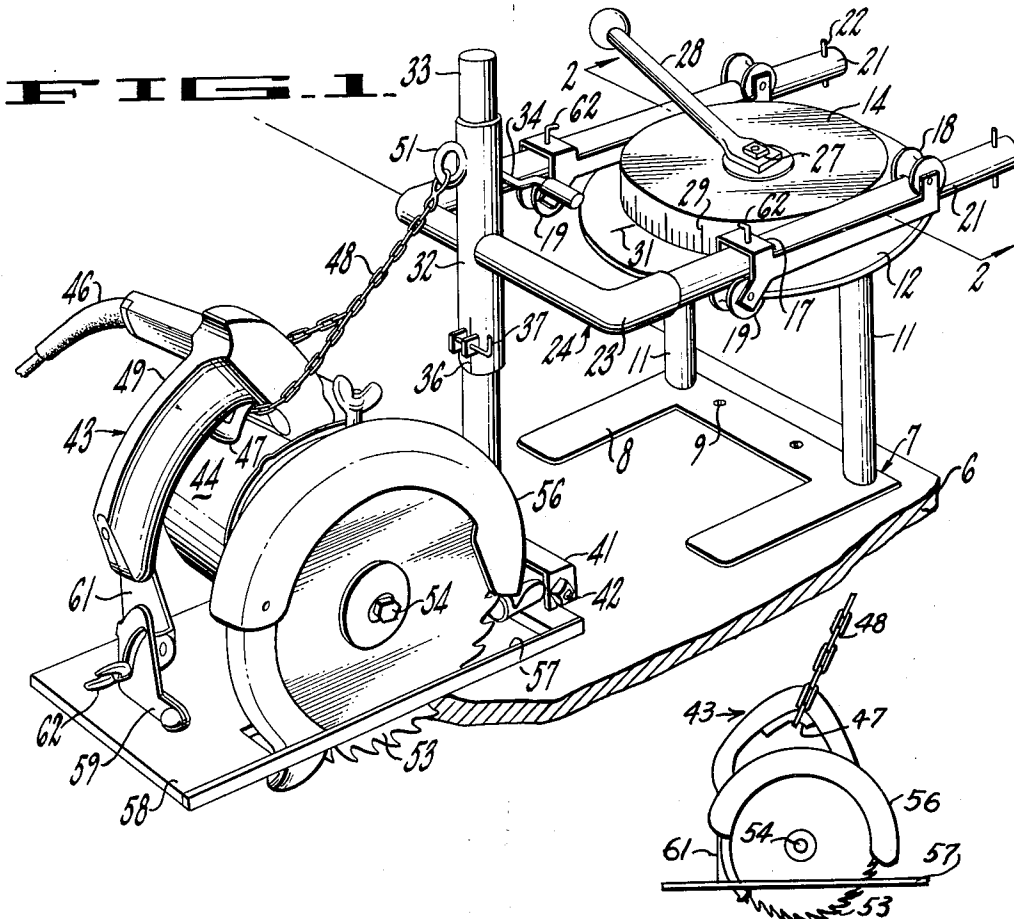


FIG. 3.

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RADIAL ARM MITER SAW

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3 Claims. (Cl. 143—6)

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This invention relates to a construction to be employed for a saw.

For many uses, it is desirable to provide a relatively rugged, simple and inexpensive saw construction which can be utilized for cutting wood and the like. The construction of the present invention enables such a saw to be provided by a structure which is rugged and capable of continued use over a long period of time.

There are available upon the market today various portable hand cutting saws having an electric motor driving a circular saw blade. In accordance with the present invention, a support frame is provided enabling such a portable electric saw to be utilized as a stationary structure whereby the accuracy of the saw cut is improved.

Another object of the present invention is to provide a construction utilizing a portable electric saw to provide a structure which can be utilized in place of the more expensive saws presently available.

The invention includes other objects and features of advantage, some of which, together with the foregoing, will appear hereinafter wherein the present preferred form of the construction embodying this invention is disclosed.

In the drawing accompanying and forming a part hereof, Figure 1 is a perspective view illustrating a form of the construction embodying the present invention.

Figure 2 is a section taken along the line 2—2 in Figure 1.

Figure 3 is a detail view showing the flexible connection 48 about the switch 47.

Referring to the structure particularly shown in Figure 1, a suitable supporting planar base 6 is generally provided and which may be made up of a suitable frame or base structure as desired. Mounted upon this is a pedestal, generally indicated at 7, comprising a footed-base 8 secured to the base 6 by screws 9 and having spaced vertical uprights 11. These carry a horizontal support 12 having a central annular portion 16. A circular cap or cover 14 is mounted rotatably upon the annular portion 16. A stud 26 is secured in the annular portion 16 and extends up through an aperture in the circular cover 14, nut 27 on the stud being secured upon a handle 28. The periphery of the annular cover 14 is marked off in degrees, as is indicated at 29 in Figure 1, so that, by reference to a zero mark 31 provided upon base 12, the position of the frame 24 with respect to the base can be altered and adjusted as desired by loosening the engagement of cover 14 and its support by suit-

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ably moving handle 28, adjusting the cover and then tightening the cover by moving handle 28. Secured on opposite sides of the circular cover 14 in a parallel relation are two U-shaped members generally indicated at 17, each member having a first roller 18 mounted at the rear thereof and a second roller 19 mounted at the forward end thereof. A rail 21 is extended through and is supported by the rollers in each of the U-shaped frame members 17 and includes a stop 22 at the rear end thereof to limit travel of the rail on the rollers. The rails extend forwardly and are engaged by a U-member 23 to provide a horizontal frame generally indicated at 24 and which frame is superimposed over the base 6 in a parallel and spaced relation. It will be obvious that a roller 18 engages the upper side of each rail 21 while roller 19 engages the lower side thereof to support the rail for a sliding movement across base 6.

The frame 24 includes at its forward end a vertical tubular standard 32, a column 33 being slidably mounted therein. The column includes suitable horizontal circular grooves (not shown) providing a rack which is engaged by a gear (not shown), the gear being rotated by crank 34 to raise and lower the column in the standard, as desired. The standard is split as at 36 and its portions can be drawn into frictional engagement with the column 33 by rotation of crank 37 which extends through the ears provided upon opposite sides of the split 36.

At the lower end of column 33 is provided a horizontal frame 41 having a threaded rod 42 providing a hinge support for an electric saw structure generally indicated at 43 and which includes an electric motor, generally indicated at 44, supplied with power through cable 46 under the control of a switch generally indicated at 47. A flexible connection such as chain 48 extends between handle 49 and the saw and an eye 51 on the standard 32. Normally the flexible connection 48 passes about the switch 47, the latter being pressure-operated so that the weight of the saw about its hinge mounting on rod 42 is sufficient to maintain the switch closed and the electric motor energized.

The electric saw includes a circular saw blade 53 mounted upon motor shaft 54 and partially encased by a suitable guard 56. The circular saw 53 projects through a suitable slot 57 provided in a plate 58 hinged on the rod 42 and secured adjustably with respect to the electric saw by a bracket 59 provided at one end thereof and an extension 61 on handle 49, the two being adjust-

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ably secured together by a wing nut and bolt generally indicated at 62. If desired, the footed portion 8 of the frame 7 can be suitably covered by plywood or the like so that a smooth, even and uninterrupted work surface is provided except for the columns 11.

In operation, with the frame 24 in a desired position of adjustment with respect to the base 6 and with a piece of work in position, the saw can be readily moved across the work by movement of the rails 21 in the rollers 18 and 19. If desired, the rails 21 can be locked in position as by lock screws 62 extending from the frame 17 to engage the rails to lock these against sliding movement. In this case, the work must be moved past the saw.

To permit boards of relatively great length to be cut, the saw can be turned at 180° in that position in which it is shown in Figure 1, the teeth of the rack on column 33 being provided completely around the column 33 so that the saw can be swung into any position with respect to the frame 24 by rotating column 33 in standard 32.

From the foregoing, I believe it will be apparent that I have provided a relatively novel, simple, inexpensive and yet rugged and accurate frame construction for providing a simple and inexpensive saw.

I claim:

1. A device of the character described comprising a flat horizontal base, a pedestal secured to said base and extending vertically from said base, a horizontal frame supported at one end on said pedestal in a fixed parallel relation to said base and superimposed thereover, said horizontal frame including two parallel spaced horizontal rails, a carriage mounted slidably on said rails, a vertical tubular standard mounted at one end of said carriage, a column slidably mounted in said tubular standard, an electric motor having a shaft carrying a saw, means hinging the electric motor and saw on said column, said electric motor including a hand grip thereof for moving the motor and saw as desired, said grip including an electric switch having an exposed pressure

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operated control element, and a flexible support extended between said column and about said grip, including said pressure operated element, to support said electric motor for only a limited hinged movement.

2. A device of the character described comprising a flat horizontal base, a pedestal secured to said base and extending vertically from said base, a horizontal frame supported on said pedestal in a fixed parallel relation to said base and superimposed thereover, said horizontal frame including two U-shaped frame members mounted in a parallel and fixed relation on said horizontal frame, a U-shaped carriage including two parallel spaced horizontal rails, a first roller mounted at the rear of each U-shaped frame member and engaged with the upper side of a rail, a second roller mounted in each U-shaped frame member at the other end thereof and engaged with the under side of a rail, a vertical tubular standard mounted on the cross leg of said U-shaped carriage, a column slidably mounted in said tubular standard, an electric motor having a shaft carrying a saw, and means hinging the electric motor and saw on said column.

3. A device as in claim 2 wherein the electric motor has a hand grip mounted thereon for moving the motor and saw as desired, said grip including an electric switch having an exposed pressure operated control element, and a flexible support extended between said column and about said grip, including said pressure operated element, to support said electric motor for only a limited hinged movement.

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