July 24, 1962 R. I. MITCHELL 3,045,724

CIRCULAR SAW GUIDE AND SQUARE ATTACHMENT

Filed Oct. 7, 1960 2 Sheets-Sheet 1

Fig. 1

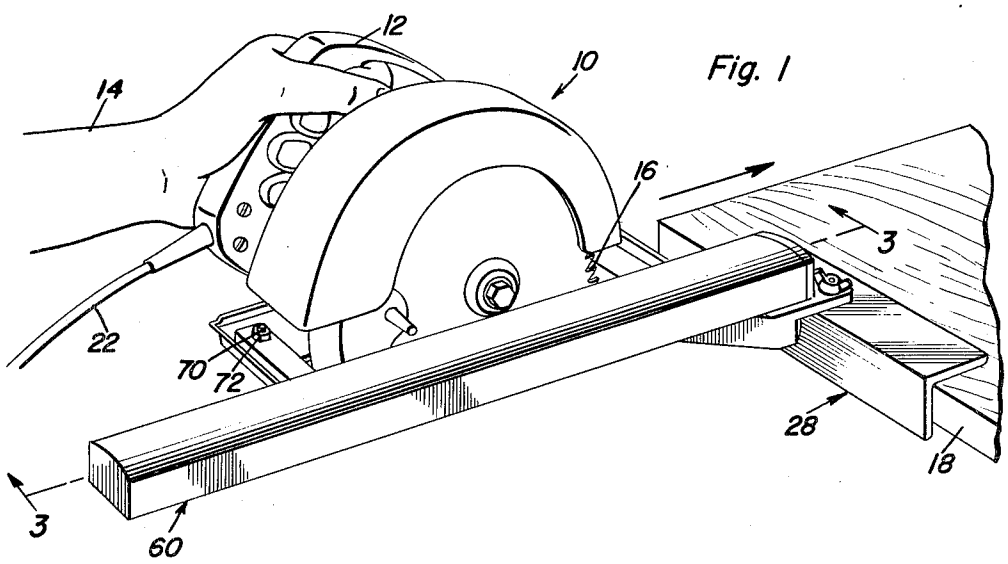


Fig. 2

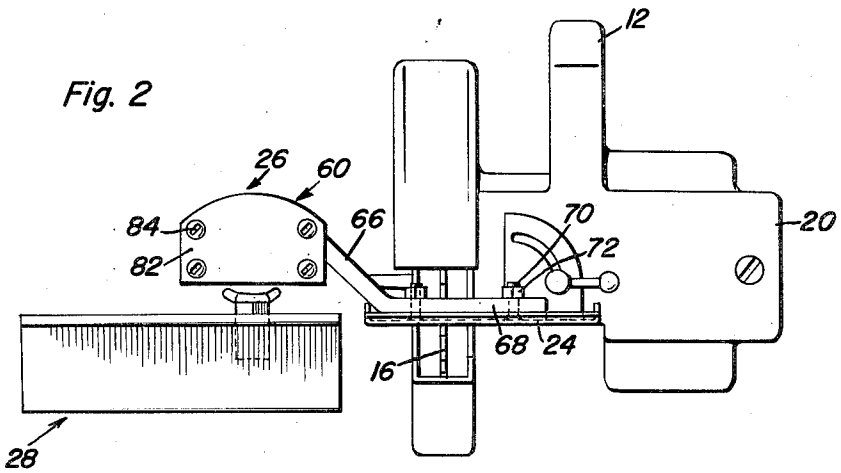
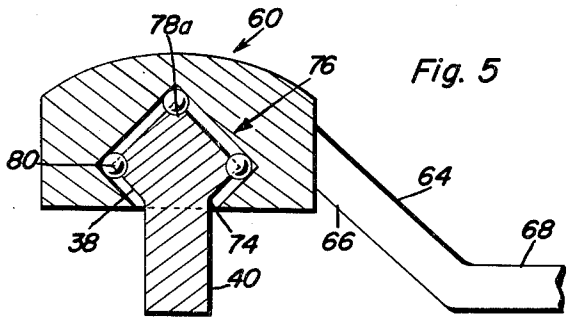


Fig. 5



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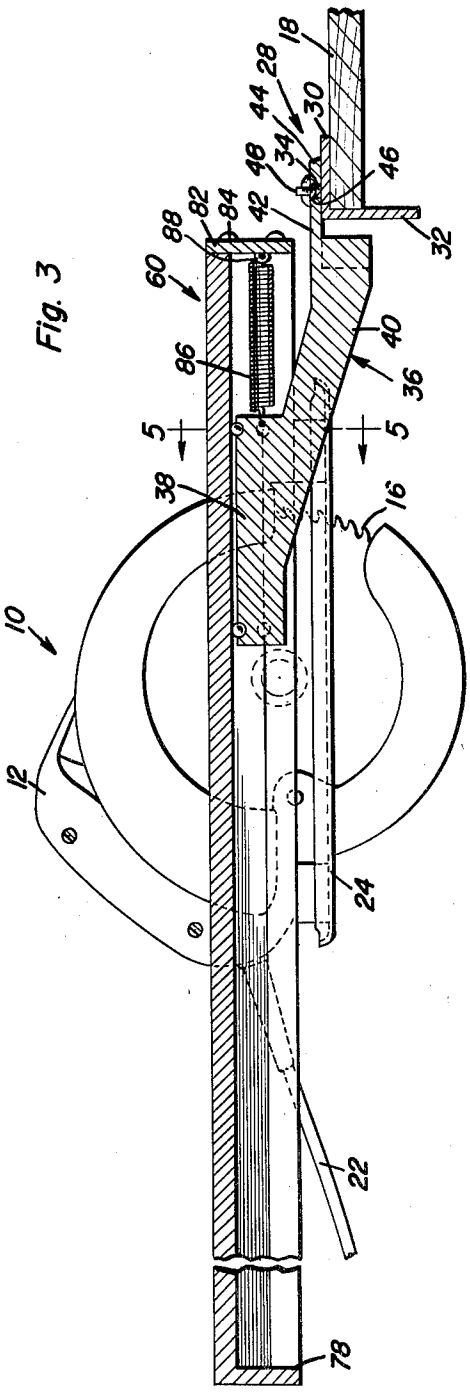


Fig. 3

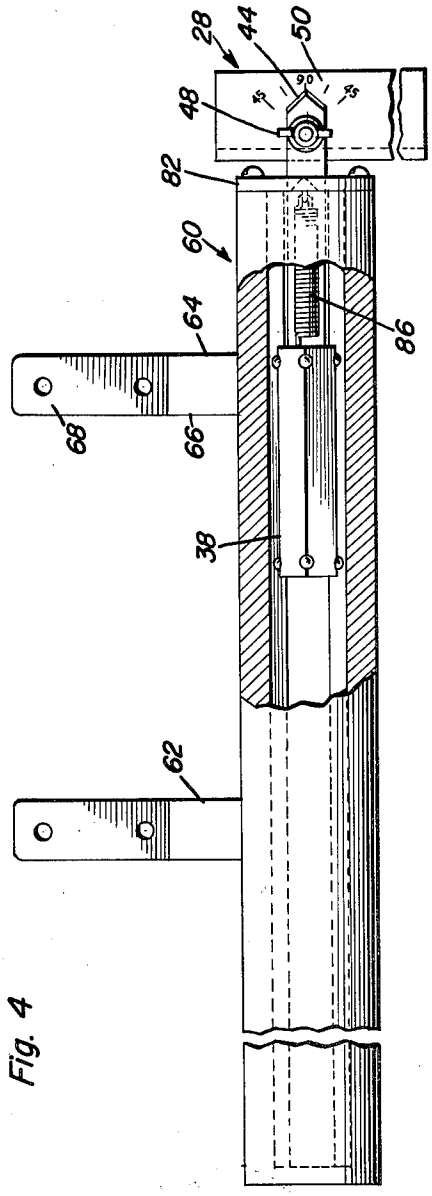


Fig. 4

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CIRCULAR SAW GUIDE AND SQUARE ATTACHMENT

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4 Claims. (Cl. 143—6)

This invention relates generally to hand tool equipment and more particularly to an attachment for electrical hand saws.

It is often desirable to have means available for the purpose of permitting a cut to be made at a desired angle. Normally, when making a cut with an electrical hand saw, it is initially necessary to scribe the particular cut desired with conventional scribing instruments and then follow the scribed mark with the saw blade. This two step procedure is time consuming and somewhat inaccurate. It, of course, would be more desirable to provide means usable with hand saws of the type contemplated which would permit the cut to be made at the desired angle without initially necessitating scribing the line of cut. It is accordingly the principal object of this invention to provide an attachment for electrical hand saws which will eliminate the use of a square and a scriber or other such scribing equipment. More particularly, the attachment herein may be used on any power saw to enable a straight cut to be made at any desired angle. By providing calibrating indicia, the accuracy of the cut is assured.

It is a still more particular object of this invention to provide a novel attachment for hand saws which is relatively simple in construction and accordingly inexpensive to manufacture. The attachment may be readily fixed to any known power hand saws in a minimum of time.

It is a still more particular object of this invention to provide a novel power saw attachment which enables the user to make desired cuts at a considerably faster rate than is now possible. The attachment, particularly described below, can be made to fit either the left or right side of the base of virtually any saw. While permitting the saw to be used for cutting at any desired angle without the use of scribing tools, the saw is not otherwise limited in its versatility and usefulness.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIGURE 1 is a perspective view illustrating a conventional saw showing the saw attachment fixed thereto bearing against an object to be cut;

FIGURE 2 is a front elevational view of a conventional saw with the attachment fixed thereto;

FIGURE 3 is a vertical sectional view taken substantially along the plane 3—3 of FIGURE 1;

FIGURE 4 is a top plan view of the attachment, partially broken away; and

FIGURE 5, sheet 1, is a vertical sectional view taken substantially along the plane 5—5 of FIGURE 3.

Continuing attention is now drawn to the drawings wherein numeral 10 generally represents a conventional electrical hand power saw including a handle 12 adapted to be gripped by a person 14 for urging a rotating saw blade 16 into a work-piece 18. Motor 20 driving the blade 16 is secured to the handle 12 and is energized from electrical cord 22. Generally, saws are provided with a base 24 which extends perpendicular to the rotating blade 16. The base 24 is employed for the purpose of securing the attachment generally designated by the numeral 26 to the saw. The attachment 26 forming the

subject matter of this invention includes initially a right angle member 28 having a pair of perpendicular legs 30 and 32. Secured to leg 30 is an externally threaded upstanding stud 34.

A guide assembly is generally designated by the numeral 36 and includes a guide portion 38 and an arm 40 projecting therefrom. The guide portion 38 is a solid elongated bar which defines a diamond-shaped cross-section. The arm 40 is formed integral therewith and projects forwardly and downwardly. The forward portion of the arm 40 is considerably reduced at 42 and terminates in a pointer 44. An aperture 46 is defined in the pointer 44 and through the aperture 46 extends the threaded stud 34. A wing nut 48 may be received on the threaded stud 34 so as to fix the pointer 44 at a particular angle with respect to the angle member 28. Graduated indicia 50 are scribed on the leg 30 of the angle member 28. The indicia 50 cooperate with the pointer 44 so as to permit the guide assembly 36 to be secured to the angle member 28 at a particular angle with respect thereto. The angle member 28 is employed in a manner shown in FIGURES 1 and 3 with the angle member bearing against the edge of the piece 18 to be cut. If it is desired to cut the member 18 at an angle with respect to the edge thereof against which the angle member 28 bears, the guide assembly 36 is pivoted on the threaded stud 34 to the angle determined by the reading of the pointer 44 on the indicia 50. The guide assembly 36 may be secured in position by then turning the wing nut 48 tightly down upon the pointer 44.

An elongated track 60 is disposed parallel to the blade 16 and, of course, parallel to the path of movement of the blade. Extending perpendicularly to the track 60 are a pair of arms 62 and 64. Each of the arms includes an inclined portion 66 and a flat portion 68. The flat portions 68 of the arms 62 and 64 are superposed on the base 24 of the saw 10. Bolts 70 and nuts 72 are employed to secure the arms 62 and 64 to the base 24.

The track 60 defines an elongated entranceway 74, see FIGURE 5, which opens into a diamond-shaped socket 76. The entranceway 74 and the socket 76 extend all the way forward on the track 60 and open at one end thereof and terminate prior to the end of the track 60 at the rear wall 78, see FIGURE 3.

The guide portion 38 of the guide assembly 36 is received in the socket 76 of the track 60. The guide portion 38 has a plurality of depressions 78*a*, FIGURE 5, into which ball bearings 80 disposed between the guide portion 38 and the track 60 are received. The arm 40 which projects from the guide portion 38 extends through the entranceway 74 in the track 60. An end plate 82 is secured by fasteners 84 to the track 60. A spring 86 is secured between the guide portion 38 and an eye 88 on the inner face of the plate 82.

It is felt that from the foregoing, the use and construction of the invention should be apparent. With the attachment secured to the saw 10 by the arms 62 and 64, the angle member 28 is placed against the piece 18 to be cut. As noted previously, the guide assembly 36 is adjusted to the desired angle of cut by directing the pointer 44 at the appropriate indicia 50. The wing nut 48 tightened on the threaded stud 34 then fixes the guide assembly 36 with respect to the piece 18. The track 60 is, of course, slidable on the guide portion 38 of the assembly 36. The arm 40 projects through the entranceway 74. The ball bearings 80 between the guide portion 38 and the track 60 in the diamond-shaped socket 76 permit easy sliding movement between the track 60 and the guide portion 38. It will be appreciated that the track 60 may be moved forwardly with respect to the guide portion 38 against the spring-urging of spring 86. By so doing, the rotating saw blade 16 may be engaged with the work

piece **18** and of course it will engage the piece **18** at the desired angle.

It is intended that the attachment be constructed nearly entirely of aluminum inasmuch as it is desirable for the attachment to be of light weight. The dimensions of the attachment are not critical and they, of course, would depend upon the type of work which is desired to be done and the saw to which the attachment is to be secured. However, it is desirable that the track **60** be approximately two feet long with the spring **86** being sufficiently deformable to permit the saw **10** and track **16** to be moved forwardly with respect to the angle member **28** until the rear wall **78** of the track **60** engages the guide portion **38** of the guide assembly **36.**

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be restored to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. A circular saw guide and square attachment comprising an elongated angle member adapted to engage and extend along two angularly related adjacent surfaces of a workpiece, an elongated carriage including means adapted to support a circular hand saw at, and fixed to one side of said carriage with the medial plane of its saw blade generally paralleling said carriage, said elongated carriage defining an elongated longitudinally extending lateral entranceway opening into a longitudinally extending enlarged inverted channel, a guide assembly comprising an elongated arm having a guide portion formed on one end snugly and slidably received in said channel, said arm intermediate its opposite ends extending through said entranceway and having on its other end means pivotally securing said arm to said angle member for movement about an axis disposed at right angles to the longitudinal axis of said carriage and said arm.

2. The combination of claim 1 including means operatively connected between said guide assembly and said carriage normally resiliently urging said carriage along said guide in one direction.

3. The combination of claim 1 wherein said support means comprises a pair of laterally outwardly projecting and longitudinally spaced support arms carried by said carriage, means on the outer ends of said support arms adapted for securement to said saw.

4. The combination of claim 1 wherein said channel extends to and opens at one end of said carriage, and a removable plate secured to said carriage closing said one open end.

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