March 28, 1961 J. H. LANE 2,976,899

POWER TOOL GUIDE WITH CLAMPING AND INDICATOR MEANS

Filed Feb. 16, 1959 2 Sheets-Sheet 1

FIG. 1

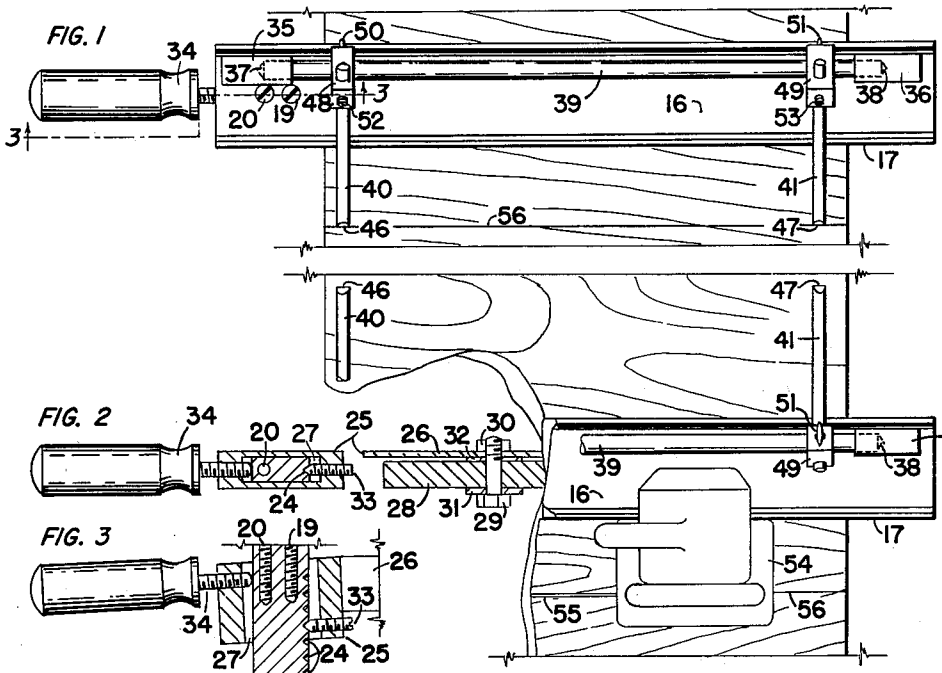


FIG. 2

FIG. 3

FIG. 4

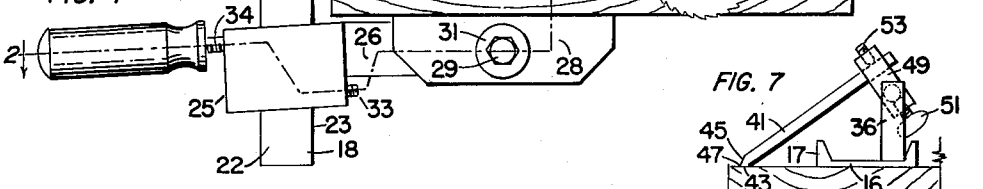


FIG. 5

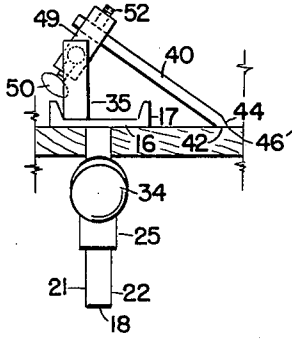


FIG. 6

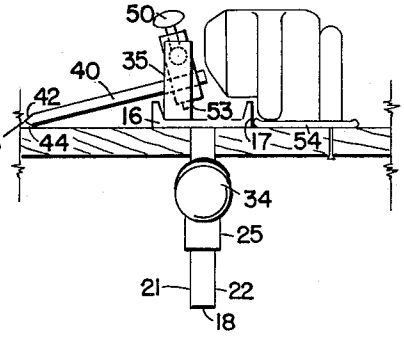
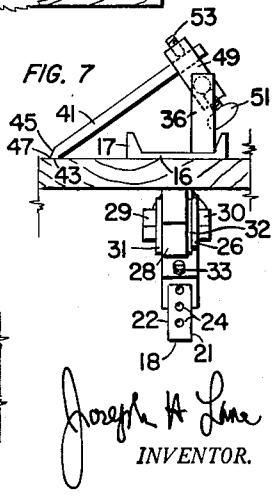


FIG. 7



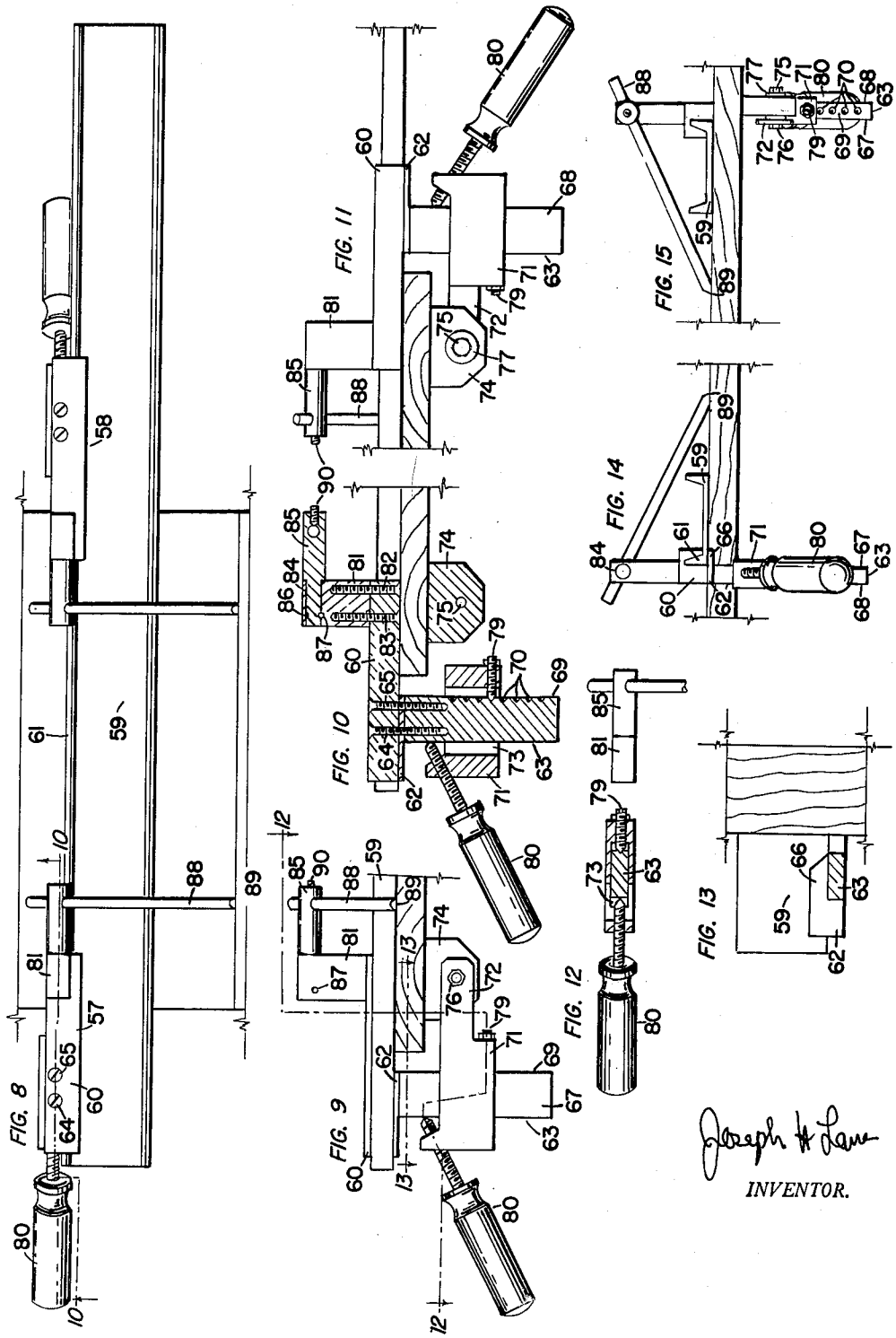
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POWER TOOL GUIDE WITH CLAMPING AND INDICATOR MEANS

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POWER TOOL GUIDE WITH CLAMPING AND INDICATOR MEANS

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6 Claims. (Cl. 143—47)

It is the object of this invention to provide a convenient portable device to aid in the positioning of cuts made by a hand held power cutting tool. Many such tools are equipped with a base plate or shoe, and this base plate or shoe usually has a straight edge parallel to the cutting direction of the blade. Some craftsmen frequently make use of this straight edge to guide the tool by sliding it against the edge of a straight board nailed to the work piece. This expedient has the obvious disadvantage of marring the work piece. This, however, is easily circumvented by clamping the board to the work piece by C-clamps, but it is very difficult to place the board so that the cut will be made in the desired position. The present invention provides a guide bar with a convenient means for clamping same to a work piece and means for indicating the line of cut with reference to the guide bar while the guide bar is being clamped in place. Thus the guide bar may be clamped in the precise position for making the desired cut. As for example, it is desired to make a cut along a fine pencil line ruled on a board. The guide is positioned on the board and with the indicator means resting on the pencil line, it may be clamped to the board. The cut may then be made precisely on the ruled line.

A further object of this invention is to provide a guide bar with a precise indicator means, longitudinally adjustable for the length of the cut to be made.

And another object of this invention is to provide a guide bar with a means for positioning said guide bar for cutting along a given line and means for adjusting said positioning means laterally so that the guide bar may be used with different tools.

Still another object of this invention is to provide dual means for clamping a relatively long guide bar to a large work piece, thus attaching the bar more securely than could be done by a single clamping means.

Other objects and advantages of this invention will become apparent from consideration of the accompanying drawings and detailed description.

The invention will appear more clearly from the following detailed description when taken in connection with the accompanying drawings, showing by way of example, preferred embodiments of the inventive idea.

One embodiment of this invention is given in Figures 1 through 7. Figure 1 is a top view showing the device in indicating position. Figure 2 is another top view showing the device in relationship to a power tool in position for making a cut. A portion of this view is cut away as shown by line 2—2 in Figure 4. Figure 3 is a vertical section of a portion of the device along line 3—3 as shown in Figure 1. Figure 4 is a view showing the relationship of the device to the power tool as seen from the right hand side. Figure 5 is an end view as seen from the operator's end showing the device in indicating position. Figure 6 is also an operator's end view with the device in position for making cut. Figure 7 is an end view of the device as seen looking back toward the operator.

Figures 8 through 15 illustrate an alternate embodiment of this invention wherein Figure 8 is a top view of the entire device, showing a guide bar and two sliding elements thereon. Figure 9 is a view of the right hand side of element 57 shown in Figure 8. Figure 10 is a sectional view of the same element along line 10—10 as

shown in Figure 8. Figure 11 is a view from the left side of the same element. Figure 12 is a sectional view along line 12—12 as shown in Figure 9 and Figure 13 is a bottom view along line 13—13 as shown in Figure 9. Figure 14 is the operator's end view of the same element. Figure 15 is a forward end view of the same element. No detailed drawing for the other element is given as one element is the mirror image of the other.

Referring again to Figures 1 through 7, guide bar 16 having a guide edge 17 is attached to the downwardly extending short bar 18, by screws 19 and 20. The short bar 18 has two parallel lateral surfaces 21 and 22 and a forward surface 23 having the spaced hollows 24. The clamp bracket 25 has a forward extending arm 26 and a rearward rectangular enclosure 27. A contact member 28 is attached to said forward arm 26 by a bolt 29, a nut 30 and a washer 31. Washer 32 spaces contact member 28 from arm 26. Enclosure 27 is so shaped as to slide over the short bar 18 so as to fit the lateral surfaces 21 and 22 closely but to leave space at the ends to permit movement. The lower portion of the forward wall of enclosure 27 is pierced by the threaded hole through which threaded pivot pin 33 is screwed. The point of pivot pin 33 may engage one of the spaced hollows 24. The handled pin 34 screws through the upper rear wall of enclosure 27 and presses against the rear surface of the short bar 18.

On top of the guide bar 16 and firmly attached thereto are two longitudinally spaced posts 35 and 36 having the blind holes 37 and 38 facing each other and acting as journals for the shaft 39.

The indicator bars 40 and 41 having the work piece conforring surfaces 42 and 43 angled to permit contact between the terminal edges 46 and 47 and top of the work piece, and having the adjacent surfaces 44 and 45 disposed at such an angle with respect to the conforming surfaces 42 and 43 as to make said terminal edges 46 and 47 parallel to the guide edge 17 and inclined so as to make said terminal edges 46 and 47 clearly visible from above. The indicator bars 40 and 41 pass through the holes in brackets 48 and 49 which are slidable on the shaft 39 but may be held in one position by thumbscrews 50 and 51. After lateral adjustment, the indicator bars 40 and 41 are fixed in position by the set screws 52 and 53.

The invention is adjusted for use with a power hand tool, as for example, a particular power hand saw in the following manner: The invention is clamped to a piece of waste material. Clamping is accomplished by unscrewing the handled pin 34 two or three turns, lifting the clamp bracket 25 by the handled pin 34 so that the contact member 28 makes contact with the work piece, and the pivot pin 33 engages the highest possible hollow 24 in the short bar 18. Tightening the handled pin 34, causes the clamp bracket 25 to rotate on a horizontal axis around the pivot point made by the contact between the pivot pin 33 and one of the spaced hollows 24. The indicator bars 40 and 41 are rotated to out of way position, as in Figures 2, 4 and 6 and the saw cut 55 is made holding the saw so that the edge of the saw shoe 54 slides against the edge 17 of the guide bar 16. After the cut is made, but before the clamp is released, the indicator bars 40 and 41 are swung to the side on which the cut was made. The indicator bars 40 and 41 are adjusted laterally so that the terminal edges 46 and 47 are aligned precisely with the edge of the fresh saw cut. Then the set screws 52 and 53 are tightened securely.

To operate, one or both of the brackets 48 and 49 may be adjusted longitudinally to conform somewhat with the length of the cut to be made, in order to insure the greatest accuracy. Then the adjusted saw guide is clamped to the work piece while the indicator bar tips 46 and 47 rest precisely on the line 56 to be cut. The

indicator bars 40 and 41 are then moved to out of way position. The cut is made as above by holding the edge of the saw shoe 54 against the appropriate side of the guide bar and sliding the saw.

Referring again to Figures 8 through 15 where an alternate embodiment of this invention is shown, the elements 57 and 58 are slidably mounted on the channel guide bar 59. Each element 57 or 58 includes a sliding bar 60 grooved to fit over the flange 61 of the guide bar 59. The plate 62 and the short bar 63 are attached in that order below the rearward portion of the sliding bar 60 by screws 64 and 65. The lip 66 of the plate 62 extends under the guide bar 59 containing the flange 61 in groove of the slide bar 60. The short bar 63 has two parallel lateral surfaces 67 and 68 and a forward surface 69 having spaced hollows 70. The clamp bracket 71 has a forward extending arm 72 and a rearward rectangular enclosure 73. The contact member 74 is attached to the forward extending arm 72 by a bolt 75, a nut 76 (Fig. 15) and a washer 77. The enclosure 73 is so shaped as to slide over the short bar 63 so as to closely fit the lateral surfaces 67 and 68 but to leave space at the ends to permit movement. The lower portion of the forward wall of the enclosure 73 is pierced by a threaded hole through which the threaded pivot pin 79 is screwed. The point of pivot pin 79 may make contact with one of the spaced hollows 70. The handled pin 80 screws through the threaded hole in the upper extension of the rear wall of enclosure 73 and presses against the rear surface of the short bar 63. Said threaded hole containing the handled pin 80 is disposed at such an angle with respect to the guide bar 59 as to permit ample room for the hand to operate the handled pin 80 even though the guide bar 59 might otherwise interfere.

The post 81 is attached to the slide bar 60 by screws 82 and 83. The post 81 has a hole 84 which acts as a journal for the shaft 85. The pin 87 is driven into the lateral hole in the post 81 to intersect the hole 84 and to loosely engage the annular groove 86 in shaft 85. The shaft 85 is thus retained in the hole 84 without restricting its rotary movement. The indicator bar 88 having a terminal edge 89 passes through the transverse hole in the shaft 85 and is held in place by the set screw 90.

Operation of this alternate embodiment is similar to the embodiment first described but the alternate may be clamped at both sides of the work piece and the indicator bars must be swung individually. The alternate device is especially intended for use on material of larger size and where a longer cut is required.

Having thus described my invention, what I claim, and desire to secure by Letters Patent is:

1. A hand held power tool guide including an elongated guide bar having a straight guide edge, said guide bar being adapted to be held firmly to a work piece, two longitudinally spaced posts attached to said guide bar, a shaft supported between said posts, a plurality of brackets each having a shaft hole and a separate hole perpendicular to said shaft hole, said brackets being slidably fitted to said shaft by means of said shaft holes, the indicator bars each having a portion positioned and shaped to make contact with the work piece to indicate a line parallel to and at a measured distance from said guide edge, said indicator bars being slidably fitted in said separate holes, a means for securing said indicator bars in said separate holes, whereby said indicator bars may be adjusted laterally to correspond with the cut made by the power tool when a portion of said power tool is slid against said guide edge.

2. A hand held power tool guide including an elongated guide bar having a straight guide edge, said guide bar being adapted to be held firmly to a work piece, two longitudinally spaced posts attached to said guide bar, a shaft supported between said posts, indicator bars each having a portion positioned and shaped to make contact with the work piece to indicate a line parallel to and at a measured distance from said guide edge, a bracket means for attaching said indicator bars to said shaft, a means on said brackets for lateral adjustment of said indicator bars with respect to said guide edge whereby said indicator bars may be adjusted laterally to correspond with a cut made by a power tool when a portion of said power tool is slid against said guide edge.

3. An aid for positioning cuts made by a power hand saw or the like, including an elongated bar having a straight guide edge, said guide bar being adapted to be held firmly to a work piece, two longitudinally spaced bearing posts attached to said guide bar, a shaft rotatably supported between said bearing posts, a plurality of brackets being characterized by a shaft hole and a separate hole perpendicular to said shaft hole and threaded holes entering said shaft hole and said separate hole, said shaft passing through said shaft hole, an indicator bar for each of said brackets having an end portion adapted to make contact with the surface of the work piece and to indicate a straight line thereon, said indicator bar passing through said separate hole, set screws in said threaded holes whereby said indicator bars may be held firmly to said shaft after being adjusted longitudinally for the work piece and laterally for a particular power hand tool.

4. A hand held power tool guide including an elongated guide bar having a straight guide edge, a means for clamping said guide bar to a work piece, two longitudinally spaced bearing posts attached to said guide bar, a shaft supported between said bearing posts, a plurality of brackets each having a shaft hole and a separate hole perpendicular to said shaft hole, said brackets being slidably fitted to said shaft by means of said shaft holes, a plurality of indicator bars each having a portion positioned and shaped to make contact with the work piece to indicate a line parallel to and at a measured distance from said guide edge, said indicator bars being slidably fitted in said separate holes, a means for securing said indicator bars in said separate holes, whereby said indicator bars may be adjusted laterally to correspond with a cut made by a power tool when a portion of said power tool is guided along said guide edge.

5. An aid for positioning cuts made by a power hand saw or the like including, an elongated bar having a straight guide edge, two oppositely disposed independent clamping means attached to said guide bar, at least one said clamping means being slidable on said guide bar, a shaft journally connected to each said clamping means, an indicator having a portion positioned and shaped to make contact with the work piece and to indicate position of a line thereon, and means for adjustable attachment of said indicator to said shaft.

6. An aid for positioning cuts made by a power hand tool comprising, an elongated bar having a straight guide edge, an element slidably attached to said guide bar, a clamping mechanism on said element, an indicator bar having a reference to indicate the position of a line at a measured distance from said guide edge, a shaft journally attached to said element, said indicator bar being slidable through a hole in said shaft, means on said shaft for securing said indicator bar in said hole.

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