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2,610,658

UNDER DOOR FRAME SAW

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Fig. 1.

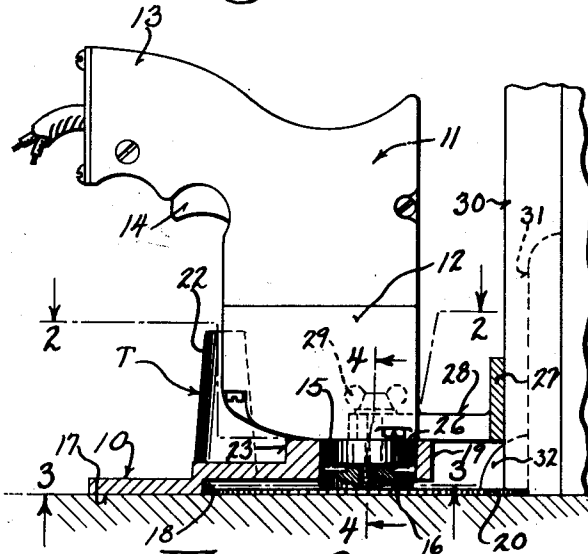


Fig. 5.

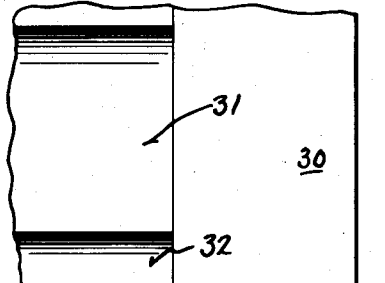


Fig. 6.



Fig. 2.

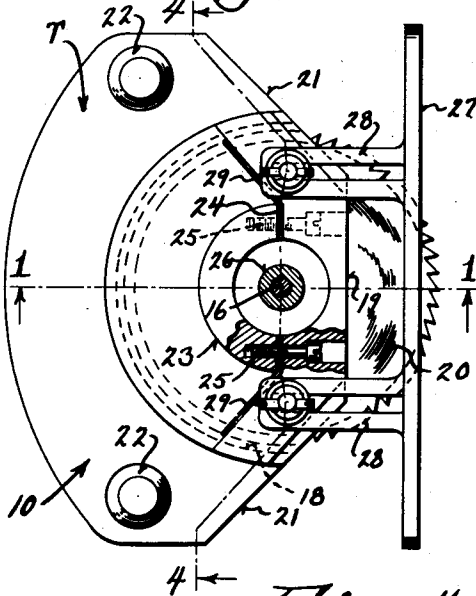


Fig. 3.

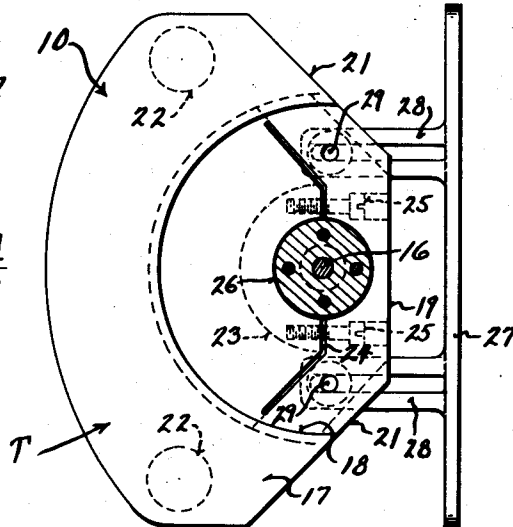
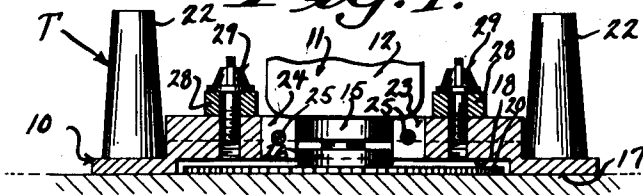


Fig. 4.



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UNDER DOOR FRAME SAW

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2 Claims. (Cl. 143—43)

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This invention appertains to portable tools and more particularly to a rotary saw operable in a horizontal plane.

One of the primary objects of my invention is to provide a novel tool, particularly designed for making cuts and trimming off the lower edges of door frames and the like, whereby to facilitate the insertion of linoleum, carpets and other floor coverings during the laying thereof under such frames.

Another salient object of my invention is the provision of a guide plate or base for sliding movement over a floor, toward or away from a door frame, with means for detachably supporting an electric motor thereon for driving a rotary saw housed, or partially housed, within the plate or base.

A further object of my invention is the provision of a sliding guide plate or base having a substantially semi-circular recess in its lower face for receiving a circular saw with a split boss on said base or plate concentric with the axis of the saw for detachably clamping an electric motor whereby the saw can be secured to the mandrel or armature shaft of the motor.

A further important object of my invention is the provision of means whereby the motor will have limited adjustment movement in the boss, whereby the saw can be adjusted relative to the floor for making different cuts in the door frame.

A still further object of the invention is the provision of an adjustable gage carried by the plate or base for limiting the cutting movement of the saw in the woodwork.

A still further important object of my invention is to provide a portable saw of the above character, which will be durable and efficient in use, one that will be simple and easy to manufacture and one which can be placed upon the market at a reasonable cost.

With these and other objects in view, the invention consists in the novel construction, arrangement and formation of parts, as will be hereinafter more specifically described and claimed, and illustrated in the accompanying drawing, in which drawing,

Figure 1, is a side elevational view of my improved tool, showing the same in use for making a cut in a door frame, parts of the view being taken on the line 1—1 of Figure 2, looking in the direction of the arrows.

Figure 2, is a horizontal sectional view taken on the line 2—2 of Figure 1, looking in the direction of the arrows.

Figure 3, is a bottom plan view of the improved tool, with parts thereof in section, the parts in

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section being taken on the line 3—3 of Figure 1, looking in the direction of the arrows.

Figure 4, is a detail vertical sectional view taken on the line 4—4 of Figure 1, looking in the direction of the arrows.

Figure 5, is a fragmentary front elevational view illustrating a part of a door frame, splash board and molding, showing the normal position thereof.

Figure 6, is a view similar to Figure 5, but showing the molding raised to permit the insertion of linoleum thereunder and showing in dotted lines the cut to be made in the bottom of the door frame.

Referring to the drawing in detail, wherein similar reference characters designate corresponding parts throughout the several views, the letter T generally indicates my improved portable tool, and the same includes a combined slide or guide plate or base 10, preferably formed from a single casting. This base 10, has detachably associated therewith a portable electric motor 11 of a type commonly employed for driving tools, but it is to be understood that the same can be of any general character. As illustrated, the motor 11 includes a casing 12 having projecting laterally therefrom a pistol hand grip 13. Associated with the hand grip 13 is a trigger switch 14 for the motor. The forward end of the casing 12 is provided with a cylindrical extension 15 and extending axially through the extension is the armature shaft 16. In the present instance, the shaft 16 is externally threaded, for a purpose which will later appear.

The combination guide and slide plate or base 10, as stated, includes a casting having a smooth flat floor engaging surface 17 and extending inwardly from this surface is a substantially semi-circular recess 18. This recess opens out through the front straight edge 19 of the base and forms a pocket for receiving the circular saw 20, which projects beyond the recess and the front straight edge 19. The base on each side of the straight edge 19, is provided with inclined faces 21, which are at exact right angles to one another so as to permit the base where necessary to be slid into a right angle corner. Formed on or secured to the upper face of the base 10, adjacent to the opposite sides thereof are upright handles 22, whereby the base can be slid forward over a flat surface such as a floor, with the saw against the work.

Also formed on the upper surface of the base is a hollow boss 23 and this boss is split diametrically as at 24, and the split extends partially into the base plate.

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In connecting the motor 11, with the base 10, the cylindrical extension 15 of the motor casing is inserted in the hollow boss and the motor can then be clamped to the base by the use of machine screws 25, which extend into the boss on opposite sides thereof and serve to contract the boss around the extension 15 of the motor and into gripping contact therewith.

The saw blade 20, at its axial center is provided with a hub 26 and the hub is in turn formed with an internally threaded socket, so that the saw can be threaded on the armature shaft 16 of the motor. It is to be noted that the recess 18 is of considerably greater depth than the thickness of the saw blade and consequently by raising and lowering the motor in the boss, the saw blade can be raised and lowered to a certain extent. If desired, shims or spacer plates can be employed either between the casing of the motor and the base, or between the hub and the motor.

The gage plate 27 can be provided for limiting the insertion of the depth of penetration of the saw in the work and this gage plate has formed thereon rearwardly extending slotted arms 28 which receive set screws 29. These set screws are threaded directly into the base and effectively hold the gage plate in a set position.

From the description so far, it can be seen that the tool can be laid upon a flat surface with the saw adjacent thereto and then slid forwardly so as to permit the saw to engage the work.

As brought out in the objects of the specification, the tool is particularly useful in a certain type of work, namely, in the laying of floor covers, such as linoleum and in Figures 1, 5 and 6, I have shown an example of this type of work. In Figure 5, the lower portion of the upright piece of a door frame 30 is illustrated, and adjacent to the frame is the splash or mop board 31, having a piece of floor engaging molding therein. It is customary, in laying floor coverings to remove the molding 32 and to replace the same at a certain spaced distance from the floor, as shown in Figure 6, or after the removing of the molding, the floor covering can be placed against the wall and the molding replaced. It is, however, exceedingly difficult to remove the door framing and consequently the floor covering is either cut to fit around the door frame, or the door frame is cut by a sharp implement to provide a slot between the same and the floor. The portion to be removed from

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a door frame is shown in dotted lines in Figure 6. With the use of my tool, the base can be slid over the floor with the saw against the lower edge of the door frame and the saw will effectively and quickly cut off the lower edge of the door frame so that the floor covering can be slipped thereunder. With the use of my tool, a neat cut can be made, so that the appearance of the door frame will not be marred. Likewise the cut can be very quickly made and will save considerable time in the laying of floor covering.

Changes in details may be made, without departing from the spirit or the scope of my invention, but what I claim as new is:

1. A portable power driven circular saw for making cuts in woodwork adjacent to a floor comprising a base having a lower flat smooth floor engaging face and a substantially semi-circular recess opening out through said face, a split hollow boss opening out through the recess, an electric motor having an extension detachably received in the boss, adjustable set screws on opposite sides of the boss extending through the split portion thereof for contracting the boss about the cylindrical motor extension, and a circular saw partially housed in said recess detachably secured to the armature shaft of the motor.

2. The circular saw as defined in claim 1 and a gage plate projecting from the base in the direction of the saw, rearwardly extending slotted arms on said gage plate engaging the base, and set screws extending through the slotted arms and threaded into said base.

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