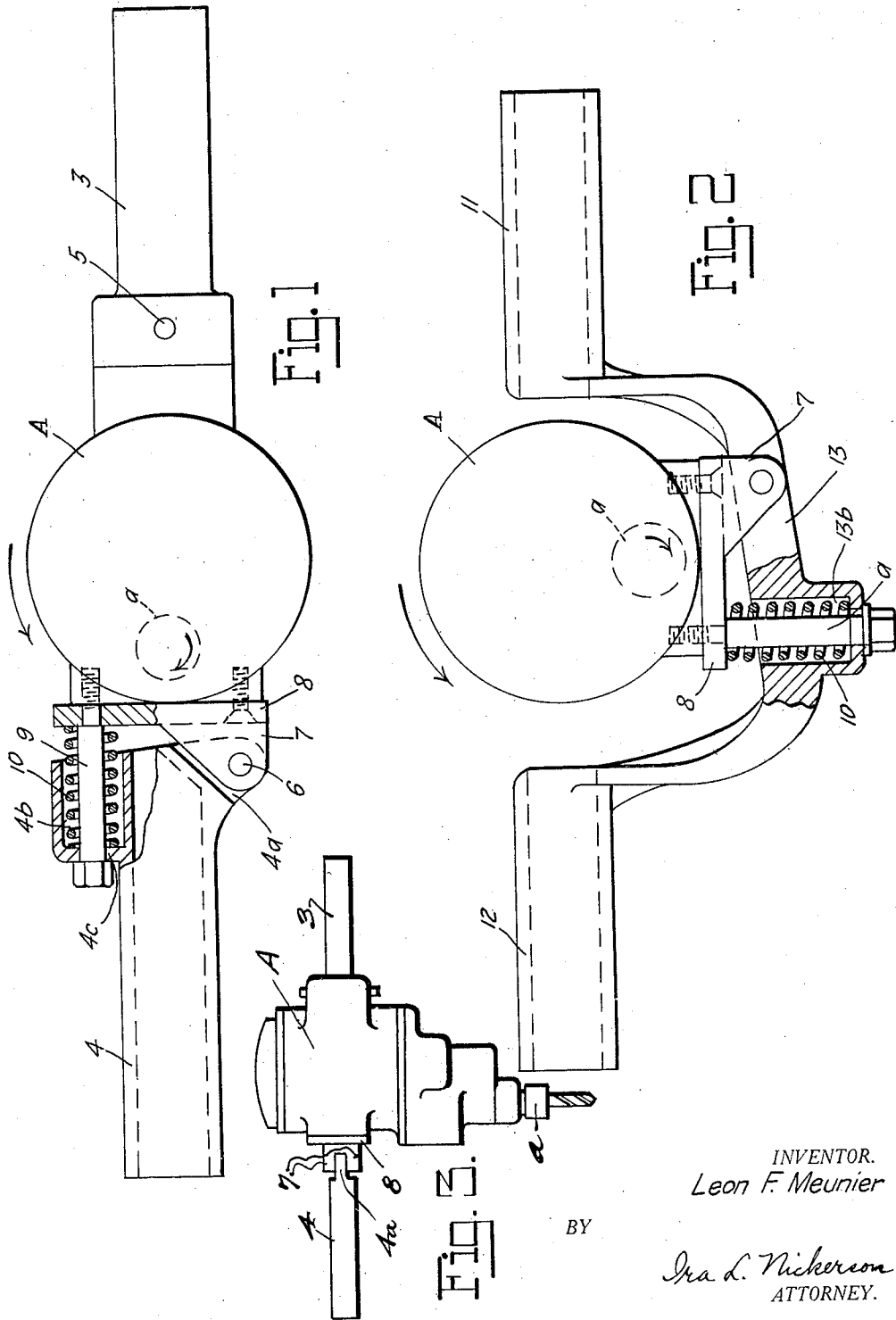


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HANDLE FOR PORTABLE TOOLS
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HANDLE FOR PORTABLE TOOLS

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This invention relates to power tools of the portable or hand-operated type used for stud setting, nut running, screw driving and similar operations, and more particularly to the handles by which such tools are supported.

A principal object of the invention is to relieve the operator of such a tool of at least a part of the severe shock or recoil which he experiences when the securing member is driven home and the torque of the tool is transmitted back to the operator. Other objects will be apparent from the detailed description, which follows:

In order to illustrate the invention, concrete embodiments thereof are shown in the accompanying drawing in which:

Fig. 1 is a top plan view partly cut away of one form of the invention;

Fig. 2 is a similar view showing a modification; and

Fig. 3 is a side elevational view on a reduced scale of the tool shown in Fig. 1.

In the drawing a portable power tool of any suitable type, operated either by fluid pressure or by electricity, preferably the latter, is shown at A having an offset rotatable spindle projecting therefrom and indicated diagrammatically at *a*. Tools of the type shown are usually supported by opposed handles, such as 3 and 4, one of which, such as 3, may have control means for the motor of the power tool, such as switch 5, if the motor is electrically driven.

At least one of the handles, preferably handle 4, is arranged to relieve the operator of at least a portion of the shock resulting from the sudden retarding or stopping of spindle *a* by the work. In the form shown, handle 4 is pivoted at 6 to tool A for limited swinging movement in a plane transverse to the axis of the spindle, the handle having a portion 4*a* extending between spaced ears 7 projecting from a base 8 secured in any suitable manner to the casing of tool A preferably on the side adjacent the offset spindle *a*. The base itself serves as a stop for swinging movement of handle 4 in one direction and one of the securing members for the base, such as elongate bolt 9 serves as a stop in the other direction. Handle 4 provides a

recess 4*b* at right angles to base 8 and remote from pivot 6, the recess being open toward the base and having a reduced bore 4*c* at its outer end. Bolt 9 extends through bore 4*c* and axially of recess 5*b*, the head of the bolt forming a stop.

Resilient means are provided within recess 4*b* for yieldingly maintaining handle 4 at the outer limit of its swinging movement and for resisting movement of the handle toward base 8. One arrangement for this purpose provides a coil spring 10 encircling bolt 9 and interposed between base 8 and the end wall of the recess. When the tool is in operation spindle *a* rotates in the direction indicated by the small arrow and when the spindle is stopped by the work the reaction turns the tool A in the direction indicated by the large arrow, this reaction or recoil being absorbed entirely, or to a very large extent, by the disclosed arrangement including the pivotal mounting of handle 4 and the spring 10.

In the embodiment of the invention disclosed in Fig. 2 both of the opposed handles 11 and 12 are arranged for pivotal movement relative to tool A, preferably by being connected together through a substantial U shape frame 13 extending between and pivoted to spaced ears 7 on base 8, which base is identical with the one shown in Fig. 1. In its structural features and manner of operation the modified handle does not differ substantially from that shown in Fig. 1. Accordingly, frame 8 has a recess 13*b* through which extends securing bolt 9 and in which is disposed the coil spring 10. In the operation of the form shown in Fig. 2 both grip handles 11 and 12 move in unison in relation to tool A in absorbing the reaction of the tool when spindle *a* is stopped or retarded.

While preferred forms of the invention are herein shown and described, it is to be understood that the invention is not limited to the specific details thereof, but covers all changes, modifications and adaptations within the scope of the appended claims.

I claim as my invention:

1. The combination with a portable power

tool of a handle attachment therefor having a base fixedly secured to said tool, a handle pivotally mounted on said base for swinging movement, a securing member for said base extending therefrom to provide a fixed stop for said handle, and resilient means yieldingly maintaining said handle in contact with said stop.

2. The combination with a portable power tool of a handle attachment therefor having a base fixedly secured to said tool, a handle pivotally mounted on said base for swinging movement, a securing member for said base providing a fixed stop for said handle, and resilient means encircling said member for yieldingly maintaining said handle in contact with said stop.

3. The combination with a portable power tool having an offset rotatable spindle of a handle attachment therefor having a base, bolts securing said base to said tool adjacent said spindle, a handle pivotally secured to said base for swinging movement, said handle having a recess remote from its pivot, one of said bolts extending through said recess and arranged to limit the swinging movement of said handle away from said base, and a coil spring encircling said last-named bolt and seated in said recess for resisting movement of said handle toward said base.

4. A handle device for attachment to a power tool comprising a base, ears projecting from said base, a handle having a portion received between said ears, a pivot extending through said ears and through said portion, means providing a fixed stop for limiting swinging movement of said handle on said pivot away from said base, and resilient means on said stop means for resisting movement of said handle toward said base.

5. A handle device for attachment to a power tool comprising a base, ears projecting from said base, a handle having a portion extending between said ears and pivoted thereto for swinging movement, said handle having a recess in spaced relation to its pivot and a reduced bore communicating with said recess, a securing bolt for said base extending axially through said bore and said recess, the head of said bolt forming a stop to limit swinging movement of said handle away from said base, and a coil spring encircling said bolt within said recess for yieldingly resisting swinging movement of said handle toward said base.

Signed by me at Cleveland, in the county of Cuyahoga and State of Ohio this 28th day of January, 1928.

LEON F. MEUNIER.