

PUBLISHED
MAY 11, 1943.
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IMPLEMENTS FOR DRIVING IN SCREWS,
WIRE NAILS ETC
Filed Oct. 9, 1940

Serial No.
360,381

FIG. 1

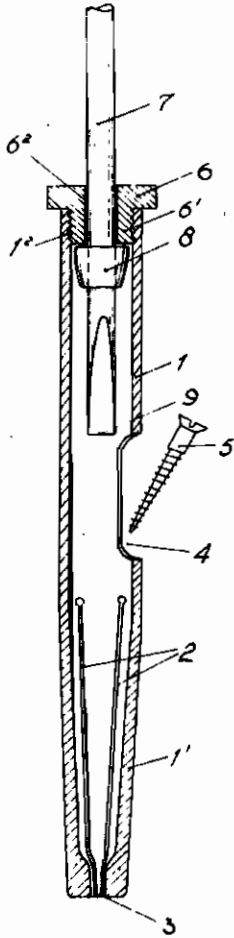


FIG. 2

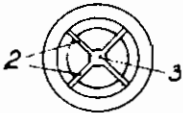


FIG. 3

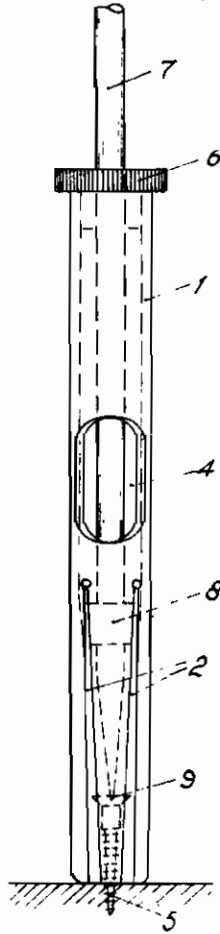
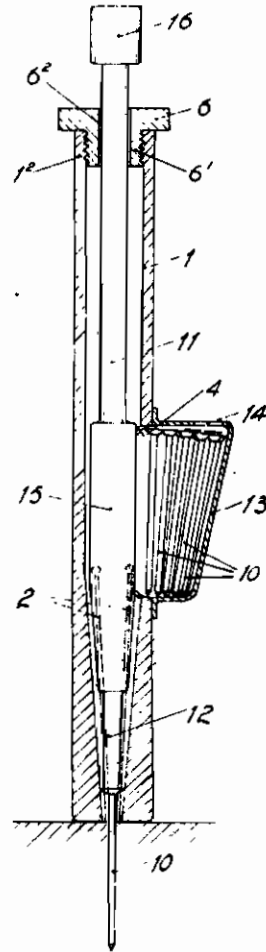


FIG. 4



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ALIEN PROPERTY CUSTODIAN

IMPLEMENTS FOR DRIVING IN SCREWS, WIRE NAILS, ETC.

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Application filed October 9, 1940

The invention relates to implements for use in driving in screws, wire nails and the like fastening elements.

To rapidly and accurately drive in wood screws, wire nails etc. in a given position, is often found very difficult and frequently leads to injuries, caused by the screw-driven or other implement glancing off the head of the screw or nail and hitting the fingers of the operator. In many cases, moreover, where it is not possible to hold the screw in position by hand, as for instance in electrical assembling operations, even skilled artisans find it difficult to turn in the screw correctly and for this reason it has already been proposed to temporarily connect the screw to the screw-driver. It is, however, not easy, especially in the case of screws of larger sizes, to render such connection sufficiently stiff and at the same time sufficiently disengageable whilst moreover devices of this kind are not suitable for screws of widely varying sizes.

The object of my present invention is to provide an improved implement of this kind which meets the above-mentioned objections, is very handy in use, in many cases guarantees better work than hitherto possible, permits of simple and robust construction and is suitable for a great many purposes. This novel implement is characterised by a tubular holder closed at one end, with the exception of an axial opening for letting through a screw, nail or the like and being provided near this end with axially extending slits in such a manner that the screw or the like is yieldably clamped by the tongues formed by said slits and that also the head of the screw or nail, by the resiliently spreading of such tongues, may leave the holder through said axial opening.

The invention will hereinafter more fully be described with reference to the accompanying drawing showing two different embodiments.

Figure 1 shows by way of example a longitudinal sectional view of an implement according to the invention, together with screw-driver to match.

Figure 2 is an end view of the implement shown in Figure 1, seen from below.

Figure 3 is a side elevational view, seen from the right, of the implement shown in Figure 1.

Figure 4 shows a longitudinal section through a modified construction of the implement, along with a suitable striking pin.

In these Figures 1 indicates a tubular holder of which the lower portion 1¹ is slightly tapered in downward direction and provided with axial-

ly extending slits (saw cuts) 2, say four in number, such slits dividing said lower portion of the holder into four elastically yieldable tongues, the lower extremity of said tapered portion 1¹ being contracted to form a comparatively narrow axial screw outlet passage 3, the inner faces of said yieldable tongues tapering towards such outlet passage 3.

The wall of the tubular holder 1 is formed with a slot 4 through which screws, such as 5, may be introduced in the manner shown in Figure 1, i. e. with the point downwards, such screws falling down the tapering bore of the holder and being automatically guided thereby towards the outlet passage 3 into which the point of the screw enters.

At its upper end the holder 1 is closed by a flanged plug 6 comprising a threaded portion 6¹ screwed into the internally threaded upper extremity 1² of the holder 1 and formed with an axial bore 6² through which slidably passes the shaft 7 of a screw-driver, such shaft, below the screw plug 6 being provided with a tapered collar 8 serving to guide the shaft 7 within the tapered portion of the bore of the holder when the screw-driver is advanced towards the screw and also to add in spreading the yieldable tongues upon screwing down the screw into the work.

After the screw 5 has been inserted, point downwards, into the holder, through the slot 4, and has entered the outlet passage 3, the screw-driver is advanced and by carefully turning the shaft 7 of the screw-driver, the working edge 9 of the screw-driver will quickly find and enter the slot in the head of the screw so that by continued rotation and advancing the screw-driver, the screw may be readily screwed into the work upon or against which the lower end of the holder 1 is pressed. During the advance of the screw-driver the collar 8 and also the head of the screw 5 cause the spring tongues at the end of the holder to gradually spread thereby widening the passage 3 to such an extent that also the head of the screw passes through and leaves said passage upon finally screwing down the screw 5, whereupon the holder is removed from the work.

Figure 3 clearly shows the screw partly screwed into the work.

It will be understood that the screw-driver, as such, may be of different shape and construction. It may for instance be a screw-driver of the well known ratchet type or of the type comprising a brace.

It may also take the form of the known type of screwdriver operating in the manner of an

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Archimedian or spiral drill. In that case it is not always necessary that the shaft proper of the screw-driver is guided within the holder. This shaft may sometimes be surrounded by a casing or shell containing the mechanism of the screw-driver in which case this shell may be guided within the holder.

By substituting a striker pin for the screw-driver, the implement according to the invention may be used for driving in wire nails and the like. This is shown in Figure 4, in which such nail is indicated at 10. The striker pin 11 is provided with a working portion 12, having a flat end face engaging the head of the nail, and with an enlarged portion 15, the lower end of which is tapered to match the taper of the lower portion of the bore of the holder. At the upper end the striker pin 11 carries a striker head 16.

Figure 4 also shows how the implement according to the invention may be combined with a magazine for screws, nails etc. This magazine is formed by a flat housing 13 open at one side and attached to the holder 1 in such a manner that this open side coincides with the opening 4 which as in the embodiment shown in Figures 1 and 3 is provided in the wall of the tubular holder 1. The back of the housing 13 is downwardly inclined towards the wall of the holder.

At the top, the housing is provided with an opening 14 for inserting the fastening elements, in this case, the nails 10 in upright position, point downwards, into the magazine, the shape of the magazine being such, that the nails are held in this position as long as the opening of the magazine is operated by the enlarged portion 15 of the striker pin 11, or of the shaft of the screw-driver as the case may be. Upon the striker-pin or screw-driver being withdrawn, so that the enlarged portion 15 clears the slot 4, a nail or screw as the case may be, slips through the slot and falls down into the lower end of the bore of the holder, so that it may be driven in, in the manner described, either by advancing the striker pin until it rests upon the head of the nail and striking the head 16 of such pin with a hammer, or by finding the slot of the screw-head with the edge of the screw-driver and turning the screw in the ordinary manner. During this operation the magazine is again closed by the enlarged portion 15.

If desired the implement may be provided with a hand-protector, for instance to be attached to, or associated with the screw plug 6, a wooden grip etc.

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