June 9, 1953 R. C. WEBB 2,641,290

MAGNETIC SCREW HOLDING ATTACHMENT FOR SCREW DRIVERS

Filed June 11, 1951

Fig. 1

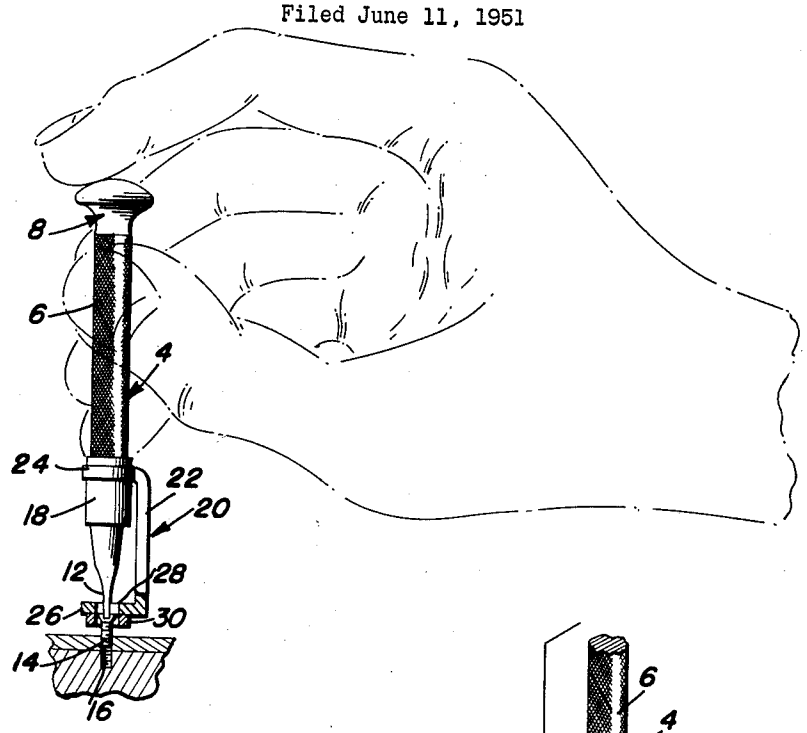


Fig. 2

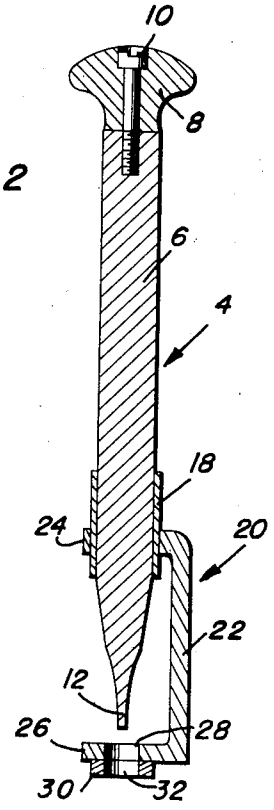
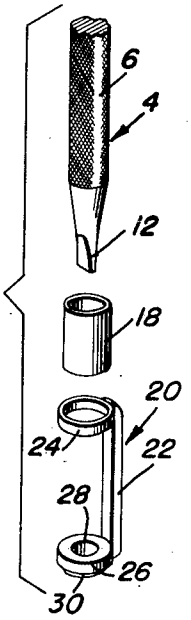


Fig. 3



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Patented June 9, 1953

2,641,290

UNITED STATES PATENT OFFICE

2,641,290

MAGNETIC SCREW HOLDING ATTACHMENT FOR SCREW DRIVERS

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Application June 11, 1951, Serial No. 230,857

1 Claim. (Cl. 145—50)

1

The present invention relates to certain new and useful improvements in screw drivers and has more particular reference to small sized screw drivers which are used by optometrists for inserting and removing small elusive screws, for instance, those used on and in connection with eye glasses.

The screw driver customarily employed for the work is quite small and embodies a milled or knurled shank having a swivelly mounted knob on the upper end and a fine tapering bit on the lower end. As above stated screws used by optometrists and others in this line of endeavor are indeed difficult to handle, are sometimes quite elusive and are displaced and sometimes lost and difficult to find. In these circumstances there has long existed a need for extra facilities on the bit-end of the screw driver to assist the user in inserting and removing screws with a minimum of time and exasperating effort. It follows, therefore, that the present invention has to do with an easily manipulatable screw driver attachment which constitutes a holder for a simple annular permanent magnet, whose purpose it is to hold and line up the bit of the screw driver with the kerf in the head of the screw, thereby curtailing the time involved in expeditiously handling a screw.

In carrying out the invention it has been found to be expedient and practicable to utilize a simple easy-to-adjust yoke. This has a collar at one end which is laterally disposed and slidably mounted on the shank of the screw driver and is provided at its opposite end with a corresponding lateral bit accommodating and guide eye, said eye serving as a mount and carrier for the annular or ring-like permanent magnet.

Since the surface of the shank of the screw driver is roughened by knurling it is also an object of the invention to employ an adaptor sleeve, this being fitted on the shank at the proper place and providing a smooth-surface means for satisfactory accommodation of the shiftable or slidable collar on the stated yoke.

Other objects and advantages will become more readily apparent from the following description of the accompanying sheet of illustrative drawings.

In the accompanying sheet of drawings wherein like numerals are employed to designate like parts throughout the views:

Figure 1 is an elevational view of the conventional screw driver having the improved attachment mounted thereon and showing the manner in which the same functions;

2

Figure 2 is an enlarged longitudinal or central sectional view disclosing the construction and association of all of the parts; and

Figure 3 is a fragmentary perspective view showing the complemental part in "exploded" ready-to-assemble relationship.

Referring now to the drawing by reference numerals and accompanying lead lines the conventional screw driver is denoted by the numeral 4 and comprises, as before indicated, a suitably knurled shank 6 having a knob 8 swivelly mounted by way of the headed screw 10 on the upper end of said shank. The opposite end of the shank is tapered and transformed into the required bit 12 which is adapted to engage in the kerf of the head of the screw 14 which screw is adapted to be screwed into the socket 16 provided therefor in the work-piece.

The attachment comprises an adaptor sleeve 18 which is securely fitted on the lower knurled end portion of the shank. This sleeve serves to properly mount the slidable or reciprocable holder unit which here takes the form of a substantially U-shaped slide or yoke 20. The latter comprises a linearly straight bight portion 22 which is parallel to but eccentric of and along side of the shank. At its upper end the lateral limb is formed into a collar 24 which is slidable and rotatable on the adaptor sleeve in the manner illustrated. The lateral lower limb is formed into an eye 26 having a guide hole 28 which is in axial alignment with the bit 12 with the underside of the eye serving as a mount for the attachable and detachable small annular or ring-like permanent magnet 30, the hole 32 in the magnet being in registry with the hole 28 and also with the bit 12.

Assuming that it is desired to remove a screw and to hold it and keep it from getting lost, it is obvious that the magnet equipped end of the yoke is placed so that the magnet is in contact with the work-piece and so that the opening 32 in the eye concentrically surrounds the head of the screw. With the yoke thus poised perpendicularly to the work, the screw driver and sleeve as a unit slip down through the collar 24 to bring the bit 12 into position to engage the same with the kerf in the screw and now the screw is backed out in customary fashion. Only a few turns will be required to accomplish this and as the screw is freed, the magnet will hold it and it can then be detached by the operator.

It is also clear that the user may employ the improved screw driver for easy handling in insertion of the same screw. He may simply

pick up the screw by touching it with the magnet **30** or he can pick up the screw and insert the head of the same by hand in the hole **32** in the magnet. This holds the screw firmly in place. Then, he slides the collar upon the adaptor cylinder or sleeve **18** and this in turn pushes or shoves the screw driver bit into contact with the kerf in the head. The screw and screw driver are now properly lined up and held together and he has only to guide the shank of the screw into the hole in the work-piece and turn it, in an obvious manner. As he turns the stock or shank of the screw driver he continues to slide the collar upward on the sleeve and thereby drives the screw driver point through the aligned holes **28** and **32** and this action frees the screw from the magnet and it is now, of course, "home."

It will be understood that the instrument comprising the screw driver and the magnet holding means thereon is of relatively small construction. In the circumstances the size of the parts are exaggerated in the drawing. Also the movement of the collar **24** on the adaptor sleeve **18** is quite limited.

It is thought that persons skilled in the art to which the invention relates will be able to obtain a clear understanding of the invention after considering the description in connection with the drawings. Therefore, a more lengthy description is regarded as unnecessary.

Minor changes in the shape, size and arrangement of details coming within the field of invention claimed may be resorted to in actual practice, if desired.

Having described the invention what is claimed as new is:

For use in temporary and optional association with a small size screwdriver such as is used by an optometrist for inserting and removing tiny elusive screws on eyeglasses and the like and wherein the screwdriver is provided with a knurled shank and a swivelled head at one end of the shank and a bit at its other end; an adaptor sleeve adapted to be fitted frictionally over a cooperating knurled portion of said shank, said sleeve being exteriorly smooth, and a substantially U-shaped yoke having a laterally disposed collar adapted to encircle and slide on said sleeve and also having a lateral eye at the opposite end of said yoke, the opening in said eye being in axial alignment with said collar, and an annular permanent magnet of a diameter and size adapted to be removably but magnetically attached to a coacting surface of said eye.

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