

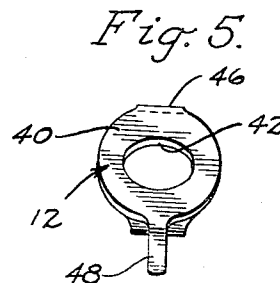
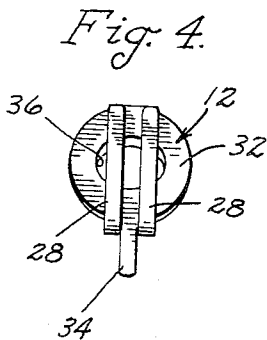
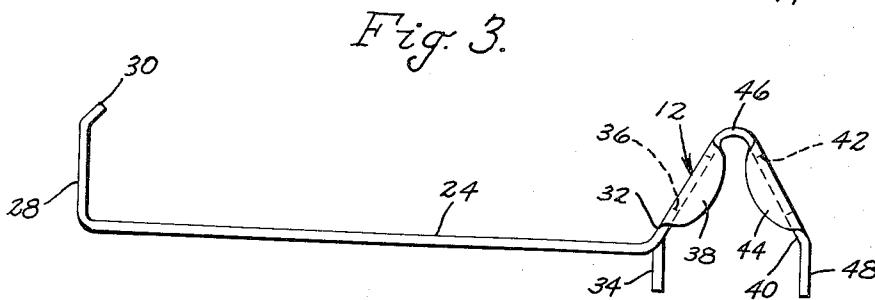
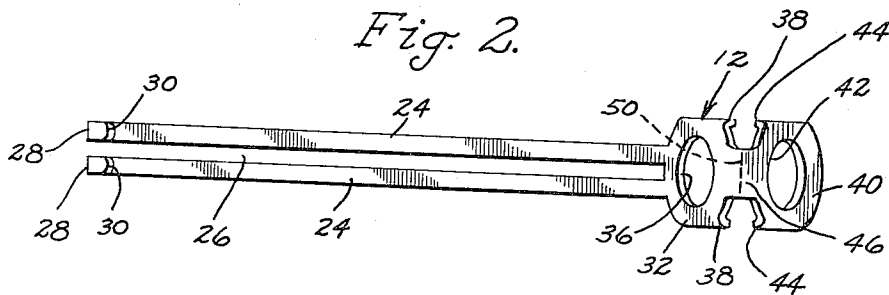
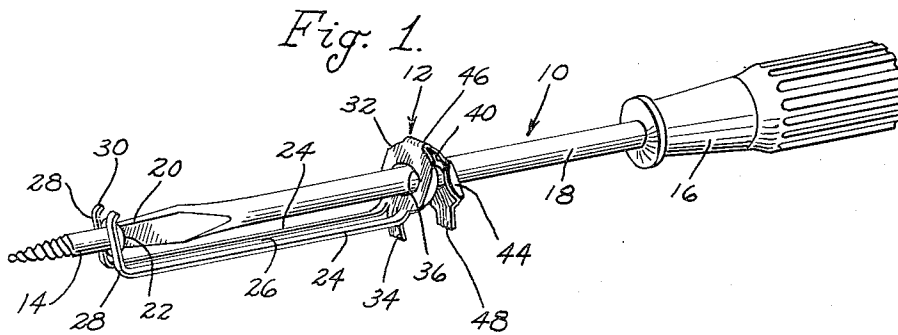
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SCREW HOLDING ATTACHMENT FOR SCREWDRIVERS

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SCREW HOLDING ATTACHMENT FOR SCREWDRIVERS

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1 Claim. (Cl. 145—52)

This invention relates to screw driver attachments generally. More particularly, the present invention comprises a device attachable to a conventional screw driver for the purpose of holding a screw. Difficulty is experienced, as is well known, in maintaining the screw in position to be rotated by the screw driver, particularly when the screw is being turned into a work surface in a relatively restricted area.

One object of the present invention is to provide a device of the character stated that will be of particularly simple construction and operation, and will be adapted for attachment to any type of screw driver.

Another object is to provide a device as stated which when not in use can be removed from the screw driver so as to permit the screw driver to be used either with or without the device, whichever is desired.

Another object is to provide a device which, as distinguished from devices previously conceived for the same general purpose, will be fully removable, and will be adapted for purchase as a separate item, capable of being assembled with any of various screw drivers.

Another object is to provide a device of the character stated which, though being capable of manufacture in a comparatively small number of sizes, will nevertheless be adapted to fit most screw drivers in general use.

Still another object of importance is to provide a device which will have all the characteristics described above, while yet being designed for manufacture from a single piece of inexpensive material, readily cut and stamped to shape by mass production methods at a very low cost.

Still another object is to provide a device having a springable characteristic, which at both ends of the device will serve an important function, that is, the springability of the device at one end thereof will cause it to frictionally bind against the shank of the screw driver, while the springability at the other end will cause the same to hold a screw in firm engagement with the end of the screw driver.

Still another object is to so form the screw-engaging portion of the device as to cause the same to guide the screw into bit-engaging positions.

Other objects will appear from the following description, the claims appended thereto, and from the annexed drawing in which like reference characters designate like parts throughout the several views and wherein:

Figure 1 is a perspective view of a screw driver and of a screw driver attachment according to the present invention, as they appear when in use in engagement with a screw;

Figure 2 is an enlarged top plan view of the device per se;

Figure 3 is a side elevational view of the device per se, on the same scale as Figure 2;

Figure 4 is an enlarged end elevational view of the device as seen from the left of Figure 3; and

Figure 5 is an end elevational view of the device on

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the same scale as Figure 3, as seen from the right of Figure 3.

Referring to the drawing in detail, generally designated 10 is a conventional screw driver, while at 12 there has been similarly designated a screw driver attachment according to the present invention. The reference numeral 14 has been applied to a conventional screw that is to be held against the screw driver bit by the attachment 12.

The screw driver, as is usual, includes a handle 16 in which is fixedly engaged one end of an elongated, straight shank 18 the distal end of which is widened to provide a bit 20 the end of which engages in the kerf of the screw. The reference numeral 22 has been applied to the head of the screw, in which the kerf or diametrically extending groove would be formed. Of course, the device is usable not only with screw drivers of the type shown, but also with various other types of screw drivers including Phillips head screw drivers, etc.

Considering the construction of the attachment 12, this is formed from a single length of sheet metal material having a springable characteristic. The device includes a pair of elongated, flat, coplanar, straight connecting arms 24, closely spaced apart in parallel relation to define an elongated, longitudinally and centrally extending slot 26 opening upon the screw-engaging end of the device.

Arms 24, at the ends thereof adjacent the screw, are integrally connected to laterally projecting fingers 28 the distal ends of which have short extensions 30. The fingers, thus, extend at 90° to the length of their associated arms 24, with the extensions 30 being bent rearwardly at an obtuse angle to the length of the finger, to provide guide lips on the free ends of the fingers.

Arms 24, at their other ends, are integrally connected to a shank-engaging means that includes a front plate 32. The material of the length of sheet metal is bent downwardly out of the plane of the arms 24 between the arms, where the arms meet the plate, to provide a tab 34 for a purpose to be described hereafter.

Centrally formed in the plate 32 is a large, elliptically shaped opening 36.

Along its opposite side edges, plate 32 has rearwardly projecting flanges 38, which reinforce the plate to hold the same against undesired deformation. Plate 32 is disposed in a plane at an obtuse angle to the common plane of the arms 24 as clearly seen in Figure 3.

A rear plate 40 is formed similarly to the plate 32, and thus has side flanges 44, a large center opening 42 of oval formation, and a depending tab 48 disposed parallel to the tab 34. A connecting portion 46 joins the upper ends of the plate 32, 40, being integral with said plates.

The plates are disposed in upwardly convergent planes, so that in side elevation the plates define a shank-receiving means of inverted V-shape. Openings 36, 42 are aligned longitudinally of the device, along a line parallel to and above the lengths of the arms 24.

Referring particularly to Figure 3, it will be seen that the fingers 28 having guide lips 30, and the front and rear plates 32, 40 respectively, are disposed wholly at one side of the common plane of the connecting arms 24. Tabs 34, 48, however, extend in an opposite direction from said plane, being disposed at the opposite side of said plane. The result is that with the screwdriver shank extended through the openings 36, 42, and through the slot defined between the fingers 28, the screwdriver shank as well as the screw 14 will lie wholly to one side of the mentioned, common plane of the arms 24, providing full visibility of the same while one is grasping the tabs 34, 48, for the purpose of disengaging the device for the pur-

pose of retracting the same. This is of importance, since in the normal use of the device, the screw would be held in the manner shown in Figure 1 until the screw has been given a good start into the work. Thereafter, one will desire to release the frictional engagement between the device and the shank of the screwdriver, sufficiently to move the fingers 28 away from the under side of the screw head. Then the device is retracted, and the screwdriver bit is returned into engagement with the screw head for the purpose of completing the turning of the screw. The illustrated arrangement, wherein the tabs are conveniently gripped and moved toward each other, wholly at one side of the plane of the arms 24, is especially designed to facilitate the operation and increase the general utility of the device.

As will be apparent, the device can be readily cut and bent to shape from a single piece of sheet metal material having the desired characteristics of springability. When the plates 32, 40 are bent along a transverse fold line 50 extending transversely of the connecting portion 46, they tend to return to their initial positions, that is, the plates tend to spring away from each other to produce a greater angle of divergence between them than is shown in Figures 1 and 3. Against the restraint of the inherent spring tension found in the connecting portion 46, one may press the tabs 34, 48 toward each other to move the plates 32, 40 toward each other.

In use of the device, one moves the tabs 34, 48 toward each other, after which the wide bit 20 is inserted through the openings, the elongation of the openings in one direction permitting them to receive the bit when the width of the bit is arranged longitudinally of the openings. After the bit has been passed through the openings, the device is shifted longitudinally of the shank to locate the fingers 28 substantially abreast of the end of the bit 20. Then, the tabs are released. Plates 32, 40 spring apart and this causes them to frictionally bind against the shank 18, due to the fact that the plates move into planes oblique to the length of the shank, causing diametrically opposite portions of the shank to be frictionally bound by correspondingly diametrically opposite portions of the edges of the openings 36, 42.

Thus, the device is swiftly moved to the desired position along the length of the shank, and on release immediately binds against the shank so as to be held against movement longitudinally of the shank thereafter.

In use, a screw is inserted between the lips 30, and is moved laterally, being guided by the fingers 28 which engage the underside of the screw head at opposite sides of the shank of the screw. The fingers are spring tensioned, and are pulled by the user, through the medium of the screw, away from the inner end of the device, to permit the end of the screw driver bit to enter the groove of the screw. Then, the screw is released, and the fingers 28, tending to return to their normal positions, force the screw firmly against the end of the bit and hold the same in this position while the screw driver is in use.

If it is desired to remove the device, one merely presses tabs 34, 48 toward each other, thus eliminating the gripping engagement of the plates on the shank. The device is then shifted longitudinally of the shank, and the screw

driver shank is turned 90° to permit the wide bit to pass through the openings 36, 42.

The device obviously can be used with any of various screw drivers, and can be made in only a few sizes, so as to be capable of manufacture at low cost. Further, the device permits the screw driver to be used without any attachments whenever desired, and one important feature of the invention resides in the fact that it can be simply attached to or removed from the screw driver, with minimum difficulty and loss of time.

Still further, the device can be made at low cost from a single sheet of slightly springable material, and the particular shape and manner of bending the device imparts the springability to the opposite end portions thereof, which springability at one end causes the device to firmly grip the screw driver shank, while at the other end the device is caused to urge the screw driver head into firm engagement with the end of the screw driver bit.

It is believed apparent that the invention is not necessarily confined to the specific use or uses thereof described above since it may be utilized for any purpose to which it may be suited. Nor is the invention to be necessarily limited to the specific construction illustrated and described, since such construction is only intended to be illustrative of the principles, it being considered that the invention comprehends any minor change in construction that may be permitted within the scope of the appended claim.

What is claimed is:

30 A screw holding attachment for a screw driver having a shank and a bit adapted to engage the head of a screw, said attachment comprising a length of flat resilient material composed of a pair of transversely spaced coplanar and parallel longitudinal arms having forward and rear ends, defining a longitudinal slot, fingers fixed on and extending substantially at right angles from the forward ends of said arms, said fingers being transversely spaced from each other so as to define a screw shank receiving slot in extension of said longitudinal slot, a V-shaped screw driver shank gripping member comprising a flat front plate having one end fixed on and extending between the rear ends of said arms, said front plate being angled out of the plane of the arms, a rear plate connected at one end to the front plate, the plates diverging from their connected ends at an acute angle relative to each other, said front and rear plates having aligned openings to receive a screw driver shank, said front and rear plates being tensioned away from each other whereby edges of said openings can frictionally bind against a screwdriver shank, and tabs 40 fixed to and extending outwardly from the divergent ends of the front and rear plates substantially at right angles to the arms, said gripping member and said fingers being disposed at the same side of said arms, the tab fixed on the front plate being formed out of material from between 55 the arms to extend the slot to the first named end of the front plate.

References Cited in the file of this patent

UNITED STATES PATENTS

60	2,632,488	Becker	Mar. 24, 1953
	2,745,304	Cornelius	May 15, 1956