INVENTORS
MERRILL A. YOUNG
FLOYD H. SWEET
By A. M. SOUL
ATTORNEY
This invention relates to a hanger for a tool such as a ratchet or rotary impact wrench having a handle and an enlarged head unit or assembly provided with a rotary output member having oppositely disposed coaxial end portions for operative engagement with the work. An example of such tool is a manually operable rotary impact wrench as fully disclosed by U.S. patent of Oscar J. Sweet, Gates Mills, Ohio, assigned to Curtiss-Wright Corporation, a corporation of Delaware; filed Sept. 15, 1960, Ser. No. 56,216; 3 Claims. (Cl. 249--203)

The present hanger construction is inexpensive and strong and enables the above identified types of tools to be easily mounted thereon and to be adequately protected against tampering, damage and theft. Objects and features of the invention not indicated above will become apparent from the following description. The essential novel characteristics are summarized in the appended claims. In the accompanying drawing:

FIGS. 1 and 2 are mutually similar perspective assembly views showing the hanger hereof and an impact wrench therein, the views showing respectively a locking bar or hasp portion or device of the hanger in open and closed positions.

FIG. 3 is a perspective view of one form of main body portion of the hanger.

The tool SW (impact wrench, also operable as a ratchet) consists essentially of a tubular shank 

The head assembly A is largely completed by a generally cylindrical or wheel-nut-shaped or integral member B which is also guided for angular movement by said bearings. Though not illustrated herewith, power alternately stored in and released by a helical compression spring largely in handle D operates as a function of relative angular movement of the handle and rotor E and reaction of the work to produce successive impacts on shaft B via a pawl, ratchet and cam or escapement mechanism in and part of head assembly A. Threaded fasteners (not shown) are thus loosened by torsional impacts when one output end or square stub portion of shaft B is applied to the work and tightened when the other end or stub portion is applied.

The present hanger unit or assembly H, as designed particularly for tool SW, comprises a base or body 1 which is preferably made in one piece from a suitably contoured metal blank bent or pressed into channel form to provide a web 2 and paired flanges 3 and 4. The web 2 has holes 2a therethrough (e.g. three) for receiving bolt or lag screw type fasteners 5 and 5' by which the body 1 may be mounted as on a vertical or other wall W. The head assembly A of tool SW, when in the illustrated mounted position (FIGS. 2 and 4) on the hanger H overlies and obscures one or more of the heads of the fasteners 5 and 5' and prevents effective operation of any tool of common design to remove the fasteners.

To provide a trunnion type, quickly demountable support on hanger H for the tool SW the flanges 3 and 4 have identical open slots 8 cut therethrough. In other words each flange is identically bifurcated to provide rigid arm portions 9 and 10 and 9' and 10'. The preferably forwardly diverging edges 11 of all the arm portions slope (see FIG. 4) toward throat surface portions 11' against which the projecting shaft B rests by gravity when the tool is in place. In order that the head assembly A of the tool SW may be somewhat snugly embraced between the flanges 3 and 4 while nevertheless easily receiving such head portion without having to use time taking care in mounting the tool on the hanger the end portions (see 3a, 3b and 4a, 4b FIG. 3) of the arms 9, 10 etc. preferably flare outwardly away from the web or base 2 of hanger body 1.

The elongated handle D of tool SW may simply depend by gravity from the hanger H or may be clamped for example by spring arms 14 (one shown in FIG. 4 only). Such arms may be formed on an extension 2' of metal body 1' as in hanger H', FIG. 4 or may be constituted by a conventional spring clip (not shown) attached to wall W below the hanger H. FIG. 4 incidentally shows an end flange portion 2" of the channel web bent outwardly as a further deterrent to theft by as attempting to remove is resisted 5"-assuring inrush or hasp 15, described below, has been locked in place as by a padlock P, FIG. 2 or by other suitable locking means.

In order to retain the head assembly A of tool SW in mounted position by tamper-proof, strong means which will not interfere with easy placement of the tool in the hanger the sheet metal bar or hasp device 15 is preferably of irregular capital H shape, having parallel leg portions 16, 17 and connecting cross or bar portion 18 offset toward the free end of the hasp device 15. The legs 16 and 17 have integral loops 20 extending loosely through openings 21 in bifurcations arms 9' and 10' to form a strong hinge. Opposite the hinge formations one leg portion of bar or hasp device 15 (e.g. portion 16) has a spring arm portion 23 positioned to clasp the free end portion 3a of arm 10, and the other leg portion (i.e. 17) has a flat apertured ear or extension 25 which overlaps and registers with the apertured ear or extension 26 on arm portion 9 when the locking or hasp device 15 is in closed position, FIG. 2. In open positions of device 15 (FIG. 1) (swung considerably more than 90° from closed position or as shown) the outwardly offset "H" bar portion 18 gives plenty of clearance for the faster or socket engaging end 23a of the leg portion 17 and opposite the illustrated shaft end portion as in FIGS. 1 and 2.

We claim:

1. In combination with an impact wrench having a head containing a rotating output member having coaxial work-engaging end portions projecting from respective
opposite sides of the head and a handle extending from the head transversely of the rotational axis of the output member, a hanger comprising a metal channel whose web is apertured to receive headed fasteners such as screws, each of the flanges being bifurcated in a direction away from the web to receive an associated end portion of the output member and retain the head of the wrench in overlying relation to the head of such fastener, and wrench retaining means carried by one of the flanges and movable from a swung position enabling the ends of the output member freely and simultaneously to enter the bifurcations into a position engaging the other flange in a manner to obstruct removal from the bifurcations, and means capable of locking the retaining means in the obstructing position.

2. A hanger for a wrench having a head assembly including a torque transmitting output member having co-axial work-engaging end portions projecting laterally from said assembly and an operating handle extending transversely of the axis of the output member, the hanger comprising a one-piece channel-shaped sheet metal body having a web for attachment to a support and having a pair of generally parallel flanges normal to the web, the flanges having slots therethrough in a common plane intersecting the web and open to free edge portions of the flanges and of depths greater than half the total thickness of the head assembly in the region of the work-engaging end portions measured along an axis normal to the principal plane of said web when the tool is in place in the hanger for enabling simultaneous reception of respective work-engaging end portions of the output member, and a head-assembly-retaining device movably secured to one flange and swingable toward the other flange from an open position enabling said work-engaging end portions freely to enter the slots into a closed position disposed for abutment with the head assembly in event of attempted removal of said end portions from the slots.

3. A hanger for a tool of the type shown and described comprising a channel-shaped metal body having a web for attachment to a support and having a pair of flanges normal to the web, the flanges having slots therethrough in a common plane intersecting the web and open to free edge portions of the flanges, and a tool-retaining device of generally H-shaped form movably secured to one flange and swingable toward the other flange from an open position into a closed position blocking removal of the tool from the hanger, mutually adjacent ends of the legs of the H being individually hinged to one flange at opposite sides of the open end of the slot thereof, and the opposite ends of the legs, in the closed position of the retaining device, overlying the other flange so that one of said opposite ends can be secured to said other flange as by a padlock.

References Cited in the file of this patent

UNITED STATES PATENTS

590,425 Smart Sept. 21, 1897
1,584,301 Joyce May 11, 1926
1,718,316 Swenson June 25, 1929
1,895,455 Ebeling Jan. 31, 1933
2,468,190 Friedheim Apr. 26, 1949
2,541,597 Midling Feb. 13, 1951