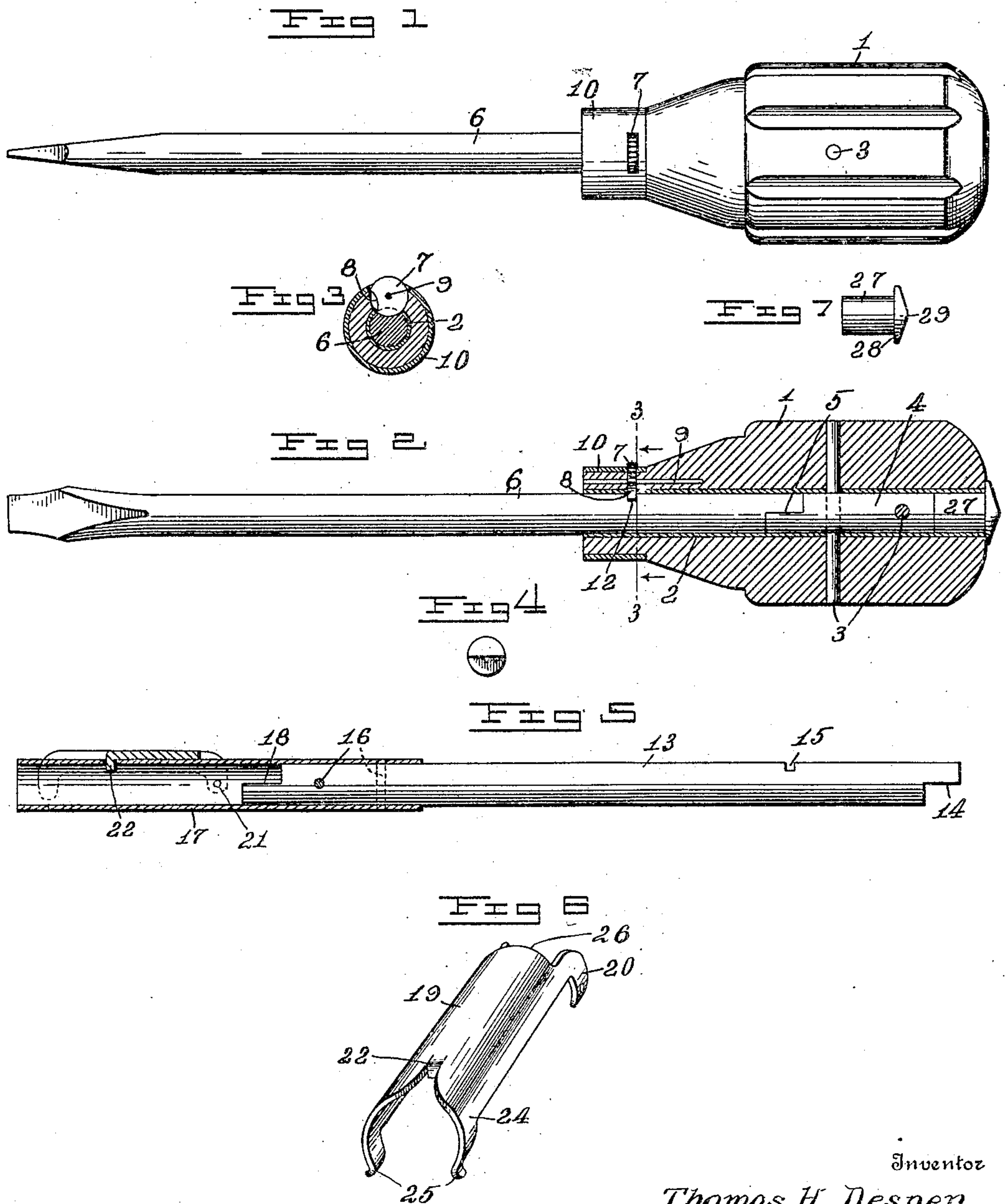


T. H. DESPER.
 TOOL HANDLE AND TOOL HANDLE FASTENING.
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TOOL-HANDLE AND TOOL-HANDLE FASTENING.

946,896.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, THOMAS H. DESPER, a citizen of the United States, residing at Newport News, in the county of Warwick and State of Virginia, have invented new and useful Improvements in Tool-Handles and Tool-Handle Fastenings, of which the following is a specification.

My present invention relates to certain new and useful improvements in tool handles, and the object is to provide a device of this class adapted for use in connection with various kinds of interchangeable tools, such as a screw-driver, chisel, auger, and the like having a shank designed to be inserted and removably locked against relative longitudinal and rotative movement in a socket formed in the handle.

Briefly and generally stated, the invention comprises a tool handle having a socket to receive the shank of a tool, said handle being provided in the socket with a shouldered locking plug to cooperate with a correspondingly shaped shoulder on the shank of a tool to prevent relative rotation between the tool and handle, and the latter being further provided at another point with means adapted to be brought into and out of engagement with a notch or groove in the shank of the tool to prevent relative longitudinal movement and also permit of such a movement between the parts, said means being within easy reach and adapted to be operated by the thumb or a finger of the operator while the tool handle is in one hand, thus leaving the other hand free to insert or remove a tool.

The invention further comprises a novel and simple construction of extension-shank designed to be removably connected to the tool-handle and provided at one end with a socket to receive the shank of a tool and with novel means for locking the tool therein against relative longitudinal and rotative movements, the said extension-shank being especially adapted for use with tools having a short shank and where it is necessary to work in narrow or contracted spaces.

I have illustrated a preferred embodiment of the invention in the accompanying drawing, wherein,

Figure 1 is a plan view of a tool-handle and tool made according to the present invention. Fig. 2 is a longitudinal sectional view of the handle showing a tool locked therein. Fig. 3 is a sectional view on the

line 3—3 of Fig. 2. Fig. 4 is an end view of the tool shank. Fig. 5 is a view partly in longitudinal section of an improved extension-shank member designed to be attached to the handle. Fig. 6 is a detail, perspective view of the locking means carried by the extension-shank member, and Fig. 7 is a detail view of a detachable pivot plug designed to be used in connection with the tool handle.

Referring to the drawing, the reference numeral 1 designates the handle provided with a longitudinal bore in which is secured a metal sleeve 2, said bore constituting the socket for the tool. Secured within the sleeve 2 by means of pins 3 is a metal plug 4 having an angular cut-out portion to provide a locking shoulder 5 with which a corresponding shoulder formed on the end of the tool 6 may interlock to hold the tool within the socket of the handle against relative rotative movement. In the present instance the tool 6 is shown as consisting of a screw-driver, the shank of which is circular in cross section and designed to be removably inserted in the tool handle socket.

Of course, it will be understood that any form of tool may be used in connection with my improved handle, and that the tool shank may be of circular or other cross section to correspond with the particular cross section of the tool handle socket.

It is desirable in a device of this class to provide means for retaining the tool within its socket against longitudinal movement when the tool is in use, and for permitting a ready removal of the tool when it is desired to change from one tool to another. The means I have provided for this purpose consists, in the instance shown, of a locking disk 7 having a knurled periphery and provided with a cut-out portion 8, said disk being rotatably mounted upon a pin 9 driven into the forward end of the handle 1, the disk 7 being rotatably mounted in a transverse recess formed in the handle and the knurled peripheral portion projecting through a slot formed in the ferrule or thimble 10 that surrounds the forward end of the tool handle. The locking disk 7 is designed to be rotated by the thumb or a finger of the hand of the operator while the tool is in his grasp to bring a portion thereof into interlocking engagement with a transverse notch or groove 12 formed in the shank of the tool near the shouldered end thereof. When it is desired to unlock the tool to permit it to

be removed from the handle, it is simply necessary to rotate the locking disk in order to bring the cut-away portion 8 thereof in alinement with the notch 12 in the tool, whereupon the latter may be readily removed.

The devices described for preventing relative rotation and longitudinal movement between the tool and the handle constitute simple means that may be manufactured at small cost, and that may be readily operated to perform the required functions.

Some tools have relatively short shanks, and in some instances it is difficult to use these tools in narrow or confined spaces, and to meet this contingency I have provided a novel form of extension shank member designed to be removably attached to the tool handle, and provided with means for carrying and locking a tool thereto. This extension shank member is illustrated in Fig. 5 of the drawing and consists of a shank 13 having a locking shoulder 14 at one end and a transverse notch 15 similar to the corresponding portion on the shank of the tool 6. The said shank 13 has secured to its forward end by means of pins 16 a sleeve 17 constituting a socket for the tool, the forward end of the shank 13 that is disposed within the socket being provided with a locking shoulder 18 to cooperate with a corresponding shoulder formed on the end of a tool, whereby to prevent relative rotation between the tool and its socket member. The locking means on the extension shank member for preventing relative longitudinal movement between the tool and its socket, and for permitting the tool to be removed, consists of a swinging member 19 having branching arms 20 at one end, which arms are pivoted at 21 to the sleeve, said member 19 being further provided with a depending lug 22 designed, when the member is swung to the position shown in Fig. 5, to pass through an opening in the sleeve 17 and into locking engagement with the transverse notch, as 12, formed in the shank of the tool. The free end of the member 19 is provided with a pair of spring jaws 24, the free ends 25 of which are turned outward slightly, said jaws being designed to embrace the sleeve 17 as shown and hold the swinging member 19 with its lug 22 in locking engagement with the tool.

When it is desired to release the tool, it is simply necessary to swing the member 19 upward in a position to free the lug 22 from the notch in the tool, whereby the latter may be readily removed. The rear end of the swinging member 19 is shaped to provide a shoulder 26 which, when said member is swung upward, will abut the sleeve 17 to limit the rearward swinging movement of the member.

In some instances, it is desirable to use a tool handle of this character in connection

with a lever or some other means provided for forcing forward any tool carried by the handle, such as in drilling, and to provide for a rigid bearing between the end of the tool handle and the lever or other part employed in forcing the same forward, I provide a plug 27, Figs. 2 and 7, having a shoulder 28 and a pointed end 29, the portion 27 of said plug being designed to be inserted in the rear end of the sleeve carried by the handle 1, the shoulder 28 abutting against the end of the sleeve and the pointed end 29 projecting rearwardly from the handle and constituting a bearing or pivot point, whereby the handle and the tool may be readily rotated about the pivot point as an axis.

What I claim is,—

1. A tool handle having a socket piece adapted to receive a tool stock and hold the same against rotation, and a tool locking device pivoted to said socket and provided with a tongue for engaging a notch in said tool stock and with spring fingers adapted to embrace the socket for holding the device in locked position and prevent longitudinal movement of the tool.

2. A tool handle having a socket piece adapted to receive a tool stock and hold the same against rotation, said socket having a slot in one side thereof, and a tool locking plate partly surrounding said socket and pivoted thereto provided with a tongue adapted to enter said slot and engage a notch in said tool stock, and with spring fingers adapted to embrace the socket for holding the plate in locked position and prevent longitudinal movement of the tool.

3. A socket piece adapted to be secured to a handle slotted at one side and having means for receiving a tool and preventing rotation of the same, a curved locking plate partly surrounding said socket and pivoted at one end to the same, a tongue on said plate for engaging a notch in said tool, and curved spring fingers on the opposite end of said plate shaped to embrace said socket and hold said plate in locked position and the tool from longitudinal movement.

4. A tool handle provided with tool locking means for holding a stock against rotation, and manual means for locking the same against longitudinal movement, a tool stock arranged to engage said tool locking means and notched to coact with the manual locking means, combined with an extension stock having one end similar to said tool stock to fit and be locked on said handle, a socket piece secured to the other end of said extension stock adapted to receive a tool stock and prevent rotation of the same, and a locking device pivoted on said socket piece and provided with a tongue for engaging the notch in said tool stock to prevent longitudinal movement of the same, and with spring fingers for holding said locking device in

operative position, the double locking means
of the several parts being so proportioned
that a tool stock may be locked either in the
handle or in the extension stock, and the
5 latter in the handle or in a like extension
stock.

In testimony whereof I have hereunto set

my hand in presence of two subscribing wit-
nesses.

THOMAS H. DESPER.

Witnesses:

A. B. TAYLOR,
RICHARD WALKER.