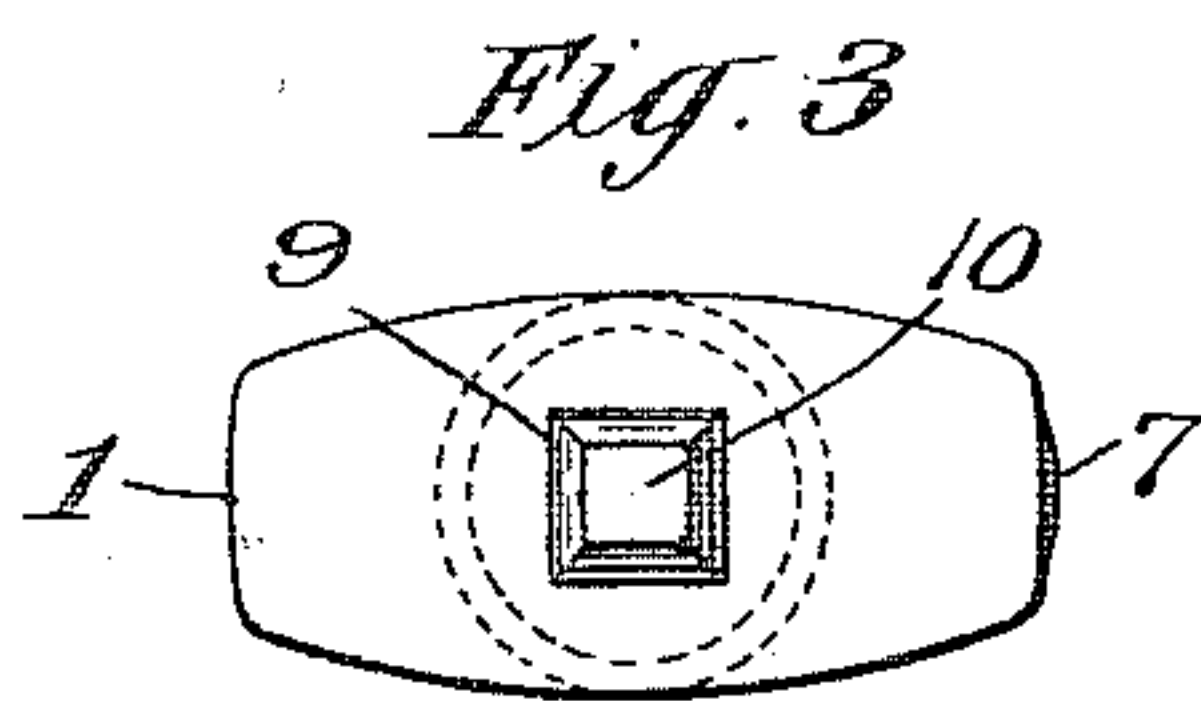
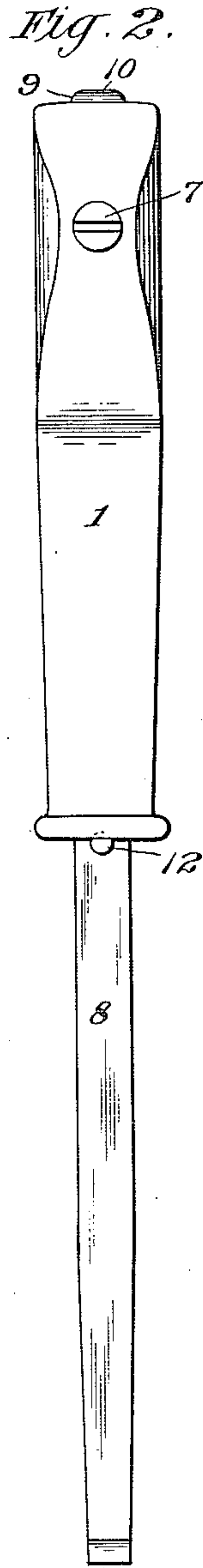
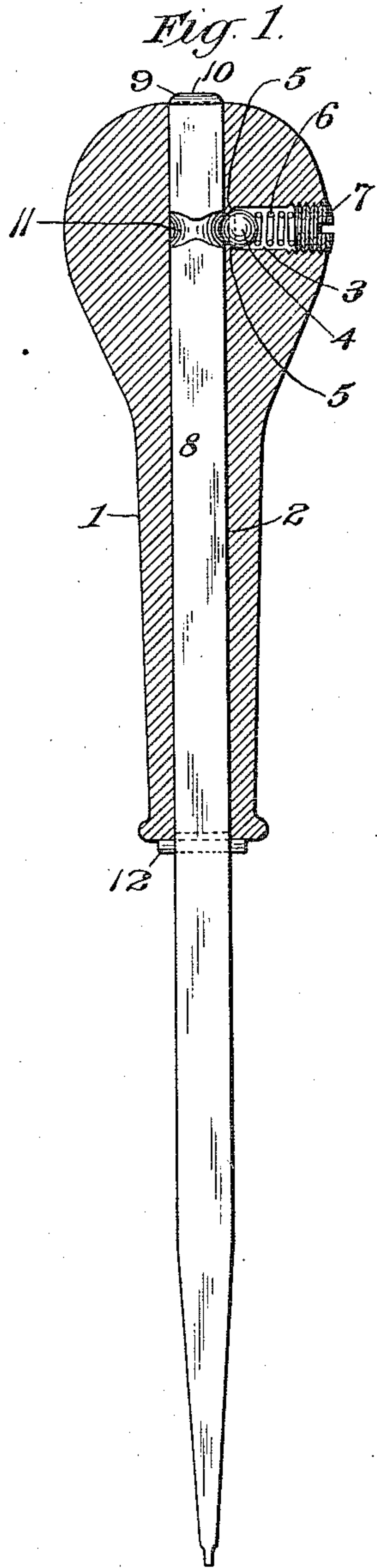


V. J. WAHLSTROM.
HAND TOOL.
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994,804.

Patented June 13, 1911.



Witnesses
A. White
J. J. Keane

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UNITED STATES PATENT OFFICE.

VERNER J. WAHLSTROM, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO
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HAND-TOOL.

994,804.

Specification of Letters Patent. Patented June 13, 1911.

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To all whom it may concern:

Be it known that I, VERNER J. WAHLSTROM, a citizen of the United States, residing at New York, county of Kings, and State of New York, have invented certain new and useful Improvements in Hand-Tools, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

This invention relates to improvements in hand tools.

The objects of the invention are to produce a cheap, simple and effective construction of hand tool comprising a handle and tool in which the tool may, if desired, be used with a hammer without damaging the tool, and in which the tool may be readily inserted into and removed from the handle and securely held in position when in the handle.

Referring to the accompanying drawings, Figure 1 illustrates, in side elevation, and partly in section, a tool constructed in accordance with the invention. Fig. 2 is a side elevation of the handle of the tool and part of the tool itself, the tool being turned at right angles to the position shown in Fig. 1. Fig. 3 is a top plan view of the tool.

Referring to the drawings, 1 indicates the handle of the tool, a screw driver being shown. This handle may be of any suitable material, such as wood or metal. For many uses, however, the handle of the tool may be advantageously formed of cast aluminum which is light, attractive in appearance, and sufficiently strong for the purposes for which the tool is to be used. The tool handle will be provided with a tool socket 2 extending longitudinally through the handle. The configuration of this socket will be other than round, and in the best constructions embodying the invention this socket will be substantially square and the tool, of course, will conform to the configuration of the socket. In using a screw driver, or similar tool, it is frequently desirable to place a wrench on the shank of the tool while the tool is held in engagement with the object to which the tool is applied for the purpose of turning it. If the tool be made substantially square in cross-section, a wrench may be applied to it and the tool given a quarter or half turn, after which the wrench may be removed and reengaged without readjusting its jaws. This is particularly advantageous

where there is not room to give the wrench more than a half or quarter turn.

When, as in the best constructions, the tool is to be made removable from the handle, the handle will be provided with suitable retaining means for removably securing the tool in position. In the construction illustrated, the handle is provided with a socket 3 which intersects the tool socket 2. The purpose of this intersecting socket is to hold a suitable tool retainer. The construction, as illustrated, comprises a ball 4, the inner end of the socket 3 being provided with shoulders 5 to prevent the ball from passing into the tool socket. The ball is held against the shoulders by a suitable spring, as 6, the socket being closed by a plug 7, which may be conveniently threaded into the socket. The plug is contained entirely within the socket when in operative position, so as to avoid projecting from the surface of the handle and thus hurting the hand of the user.

When, as pointed out, the shank of the tool is made square or substantially square in cross-section, it presents particular advantages in connection with a tool retainer similar to the one above described. It may happen that the tool is to be used in positions where only a quarter turn of it can be obtained due to the fact that the handle is interfered with by parts of the mechanism with which the tool is being used. Where the body of the tool is made substantially square, after a quarter turn the handle can be slipped off and given a quarter turn and reapplied to the tool and the tool then given another quarter turn, and so on, until the purpose for which the tool is being used is accomplished.

The tool shown is a screw-driver, the shank 8 of which is contained in the tool socket and the upper end 9 of this shank projects slightly beyond the top of the handle. This enables the tool to be struck with a hammer without danger of breaking or marring the handle. This projecting end is provided with an impact surface 10 (best shown in Fig. 3) which is less in area than the area of the body of the shank. When constructed in this manner, if the end of the shank is battered by a hammer or other driving tool, the bur thus formed will not prevent the tool from being readily removed from the handle.

When the tool is removable from the handle, the shank will be provided with a suitable depression to be engaged by the retaining device before described. While this depression may be formed in various ways, it may be conveniently formed by cutting a groove around the shank, as indicated at 11.

When a retainer which is spring held is employed with a shank which projects entirely through the handle a stop should be provided for preventing the tool from being slipped through the handle. While this stop may be constructed in various ways, as shown, it consists of a pin, as 12, which is driven through the shank of the tool at the proper point.

Changes and variations may be made in the construction by which the invention is carried into effect. The invention is not, therefore, to be confined to the particular construction hereinbefore shown and described.

What is claimed is:—

1. A hand tool comprising a handle longitudinally bored throughout its length, a tool having a shank extending through the bore, one end of said shank protruding slightly beyond the handle and being beveled off to

form an impact surface which is slightly smaller in area than the body of the shank, the width and thickness of said protruding end of the shank bearing such proportion as to resist lateral deflection by impact and said shank being removable through the lower end of the handle, and means for detachably securing the shank in the handle.

2. A hand tool comprising a handle having a bore square in cross section extending longitudinally throughout its length, a tool having a shank substantially square in cross section extending through the bore and below the handle, one end of said shank protruding slightly beyond the handle and being beveled off to form an impact surface which is slightly smaller in area than the body of the shank, said shank being removable through the lower end of the handle, and means for detachably securing the shank in the handle.

In testimony whereof, I have hereunto set my hand, in the presence of two subscribing witnesses.

VERNER J. WAHLSTROM.

Witnesses:

A. WHITE,

J. J. KEARNS.