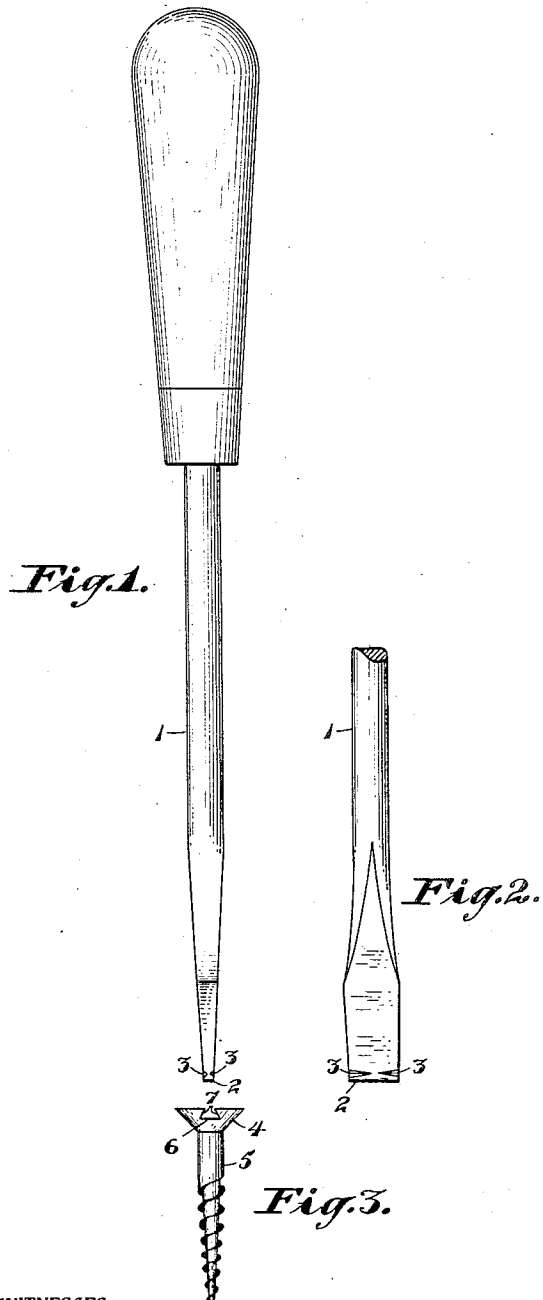


C. GROOS.
SCREW DRIVER.

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1,056,095.

Patented Mar. 18, 1913.



WITNESSES

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UNITED STATES PATENT OFFICE.

CHARLES GROOS, OF SAN FRANCISCO, CALIFORNIA.

SCREW-DRIVER.

1,056,095.

Specification of Letters Patent.

Patented Mar. 18, 1913.

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To all whom it may concern:

Be it known that I, CHARLES GROOS, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented new and useful Improvements in Screw-Drivers, of which the following is a specification.

My invention relates to improvements in screw drivers, and the object of the invention is to provide a screw driver of such construction that a screw, also of special construction, may be screwed in merely by a torsional force applied to the screw driver, thus dispensing with the necessity of applying direct or longitudinal pressure thereto.

It is a matter of common experience that, in the majority of cases, the greater part of the force exerted in screwing in a screw is expended in maintaining the screw driver in engagement with the screw. Unless pressure, and sometimes very great pressure, is applied to the screw driver, its operating end will slip out of the groove in the screw head, involving a loss of time in re-applying the screw driver to the screw. A further objection, and a very serious one, to the present forms of screw and screw driver is that, owing to the difficulty, especially when screwing into hard material, of maintaining the operating end of the screw driver in engagement with the head of the screw, and the frequent violent disengagement of the one from the other, the surface of the material worked upon is scratched and marred by the points or edge of the screw driver when making such slips. By so constructing a screw driver and screw that torsional force applied to the screw driver tends to hold the screw driver to the screw the more securely the greater is the force applied, the necessity of direct pressure on the screw driver is eliminated, and the force necessary to be exerted is only that required to turn the screw in the material.

In the accompanying drawing, Figure 1 is an edge view of one form of my improved screw driver; Fig. 2 is a broken side view thereof; and Fig. 3 is a side view of a screw adapted for use with the screw driver shown in Figs. 1 and 2.

Referring to the drawing, 1 indicates my

improved screw driver. Upon each side of the operating terminal portion of said screw driver, very near the end 2 thereof, there are formed two transverse grooves 3, commencing near the central longitudinal line of said side, and increasing in depth and width to the respective edges of said side. In the head 4 of a screw 5 is formed a groove 6 which has overhanging beveled sides 7. When such a screw driver 1 is fitted to the screw 5, and torsional force is applied thereto, the left-hand grooves in the advancing and following sides of the screw driver respectively engage corresponding portions of the upper edges of the sides 7 of the undercut groove 6 in the screw head, so that torsional force applied to the screw driver serves to cause the screw driver to cling more firmly to the screw head, and therefore no direct or longitudinal pressure need be applied to the screw driver to maintain it in engagement with the screw. In unscrewing the screw, the other grooves 3 come into operation and engage other portions of said edges in like manner.

I claim:—

1. A screw driver formed near its operating end and on each side thereof with a transverse groove commencing near the central longitudinal line of said side, the two grooves extending to opposite edges of the screw driver and increasing in depth to said edges.

2. A screw driver formed near its operating end and on each side thereof with oppositely extending transverse grooves commencing near the central longitudinal line of said side and increasing in depth to the edges of said side.

3. A screw driver formed near its operating end with a transverse groove commencing near the central longitudinal line of one side and increasing in depth to an edge of said side.

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

CHARLES GROOS.

Witnesses:

FRANCIS M. WRIGHT,
D. B. RICHARDS.