June 11, 1963 E. REED 2ND 3,093,172

ANTI-SLIP HANDLE FOR MANUALLY OPERATED TOOLS

Filed Nov. 29, 1961

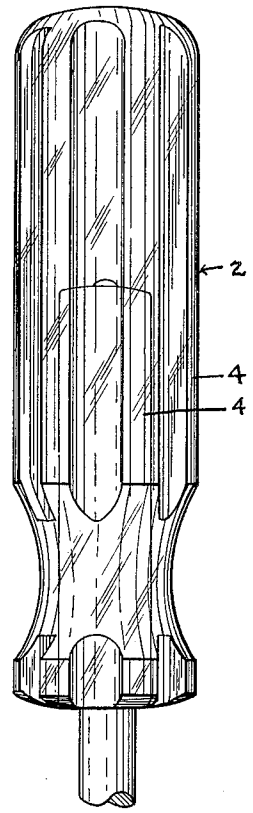


Fig. 1

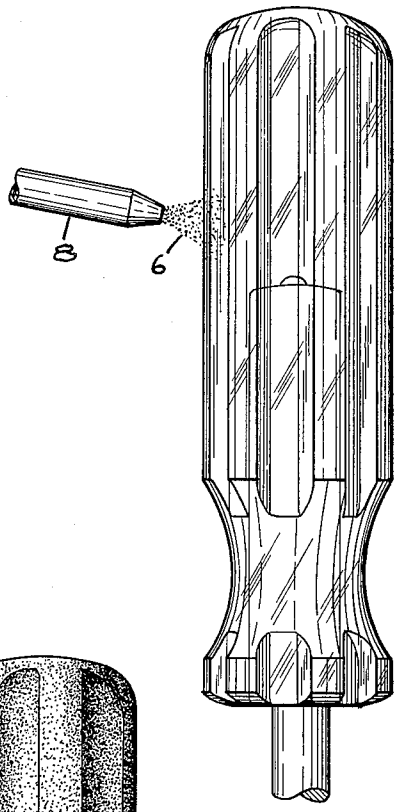


Fig. 2

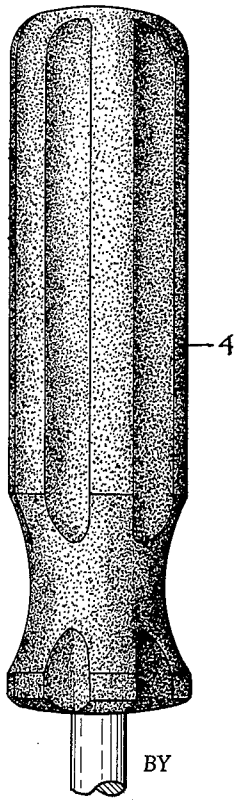


Fig. 3

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United States Patent Office

3,093,172

Patented June 11, 1963



# 3,093,172
# ANTI-SLIP HANDLE FOR MANUALLY OPERATED TOOLS

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Filed Nov. 29, 1961, Ser. No. 155,591
1 Claim. (Cl. 145—61)

*Description of the Drawings*

FIG. 1 of the drawings is a side elevational view of a typical screwdriver handle before treatment to produce structure according to this invention, this figure also showing a part of the screwdriver tool;

FIG. 2 is a view which is similar to FIG. 1 and shows, in addition, the treatment of the handle to produce structure according to this invention, and

FIG. 3 is a view which is similar to FIG. 1 but shows a handle having the structure provided by this invention.

*Specification*

This invention relates to tools and other devices which are provided with a handle or hand grip part which is engaged by the hand of the user for manual operation of the tool, and in the operation of which slipping can occur between the hand and the handle or hand grip part, particularly when the conditions of use require high torque to be transmitted to the tool. In this specification the invention will be described as applied to the handle of a screwdriver, but it will be understood that this description imposes no limitation on the tools or devices within the scope of the invention.

The slipping which takes place between the hand of a user and the handle or hand grip part (hereinafter referred to by the generic term "handle") in imparting turning or other motion to a tool is not only undesirable because of its effect on the hand but also reduces the efficiency of the hand-tool assembly by dissipating the force applied by the arm or other prime mover to the tool, thus reducing the effective torque applied to the work piece.

It has therefore been the principal object of this invention to provide a handle for a manually operated tool which is so treated, and therefore so constructed, that slippage which may be produced between the hand and the handle is reduced to a minimum, and the friction which may be produced between the hand the handle is increased to a maximum, particularly when high torque must be imparted to the tool.

In FIG. 1 of the drawings there is illustrated the handle of a screwdriver and a part of the tool itself. This handle 2 is of conventional construction and material and is of generally cylindrical form having longitudinal external flutes or ridges 4. In modern usage such handles are often formed of a synthetic plastic material but may be formed of metal, hard rubber or other material. It may be said that the invention is useful with respect to handles



having any desired shape and formed of any suitable material with the exception of soft rubber and wood.

In accordance with the invention a handle of the described construction and material is treated by subjecting it to shot peening or, as the process is often known, shot blasting. This process is well known in the cold working of metallic surfaces and need not be further described here. Suffice it to say that the method consists in subjecting the article to be treated to the impingement of a very large number of steel balls or shot traveling at very high velocity. FIG. 2 of the drawing shows this treatment and illustrates the shot 6 being impelled by a machine 8 onto the exterior surface of the handle 2.

A tool handle which has been subjected to shot peening in accordance with this invention has the exterior surface shown in FIG. 3 of the drawings. This exterior surface, after shot peening, is formed by literally thousands of small gripping edges which are the intersections of innumerable indentations or craters formed by the impinging shot. These edges combine to produce a roughened exterior surface and grip the hand and prevent it from slipping on the exterior surface of the handle as the hand imparts torque through the tool to the work piece.

In addition, the indentations formed by the impinging shoe receive sweat from the palm of the hand and remove it from the edges between the indentations which are engaged by the hand. A dry gripping surface is thus produced, reducing slippage between the hand and the handle and preventing or reducing the possibility of the formation of blisters on the hand. It has been found that the use of a handle according to this invention reduces the frequency of accidents and causes an increase in production.

My invention is set forth in the appended claim.

What is claimed is:

A handle for a manually operated turning tool, said handle being shot-blasted to provide an exterior surface substantially covered by spaced outwardly extending curved edges of low height with respect to the diameter of the handle, each of the edges defining the intersection of crater-like indentations, such edges having an irregular patern providing a roughened gripping surface highly resistive to relative movement between the hand and the handle as the tool is turned.

**References Cited** in the file of this patent

UNITED STATES PATENTS

| | | |
|---|---|---|
| 1,470,100 | Porter | Oct. 9, 1923 |
| 1,660,537 | Waskom | Feb. 28, 1928 |
| 1,860,561 | Warner | May 31, 1932 |
| 2,328,869 | Wilkie | Sept. 7, 1943 |
| 2,436,928 | Kempe | Mar. 2, 1948 |
| 2,977,668 | Maness | Apr. 4, 1961 |