Sept. 26, 1939. B. M. HIATT ET AL 2,173,942

TOOL HANDLE

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Fig. 1

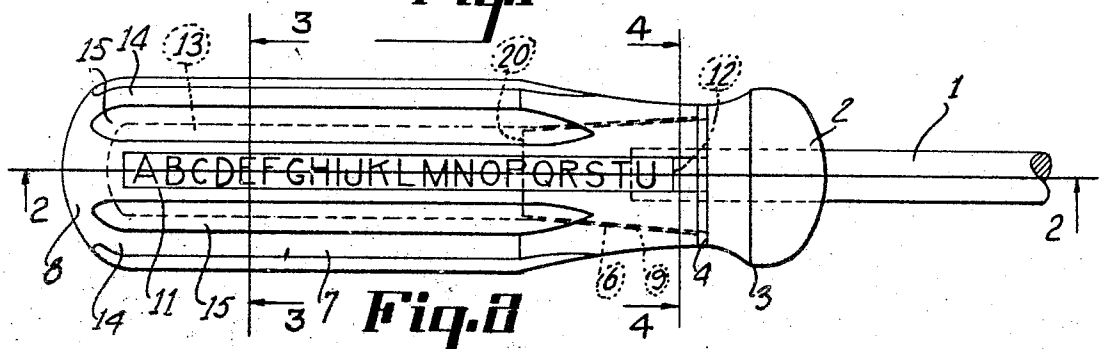


Fig. 8

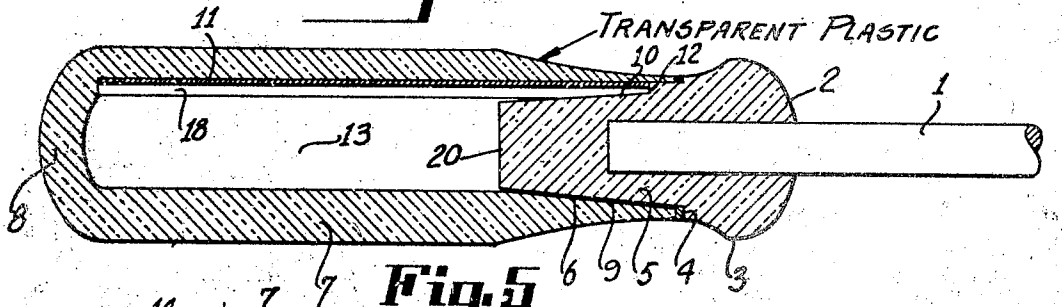


Fig. 5

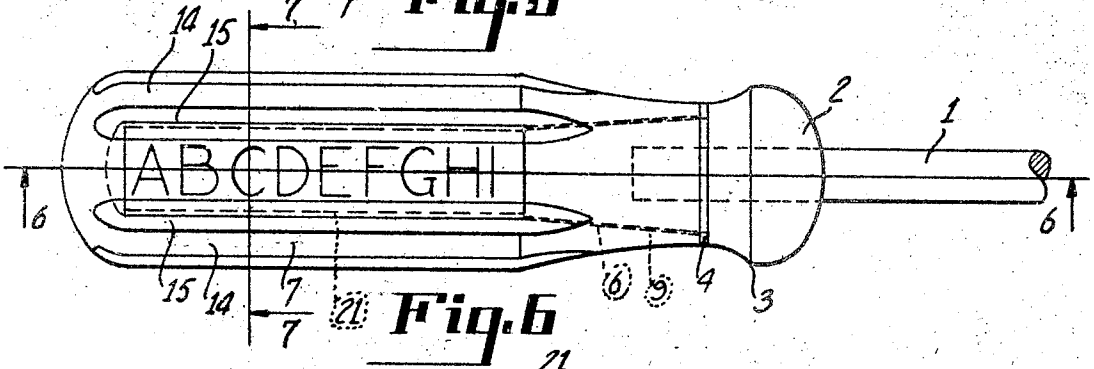


Fig. 6

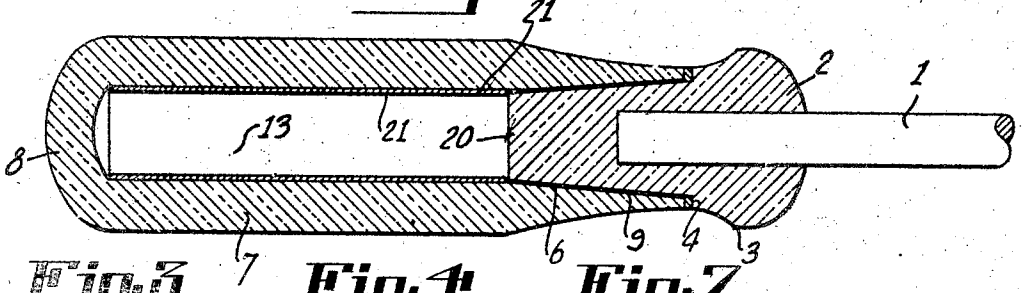


Fig. 3

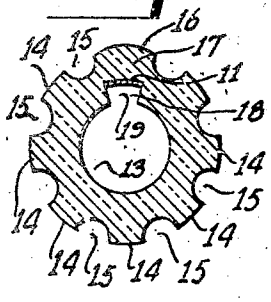


Fig. 4

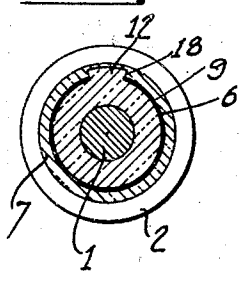
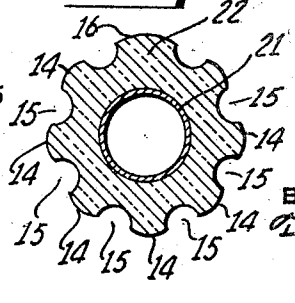


Fig. 7



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TOOL HANDLE

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Fig. 8

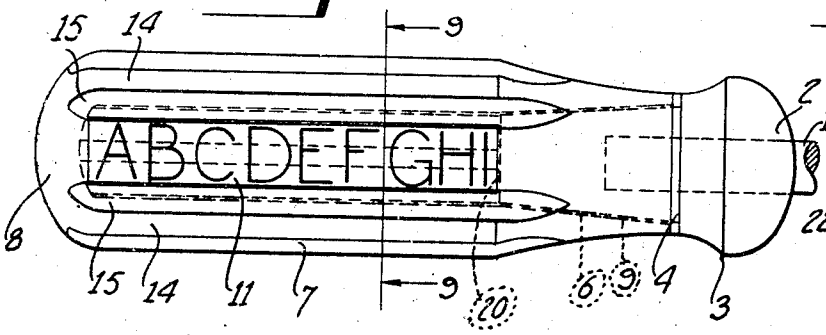


Fig. 9

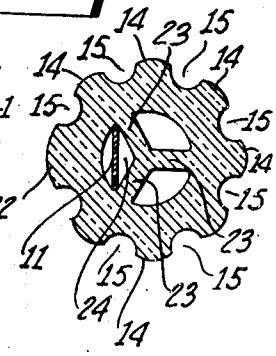


Fig. 10

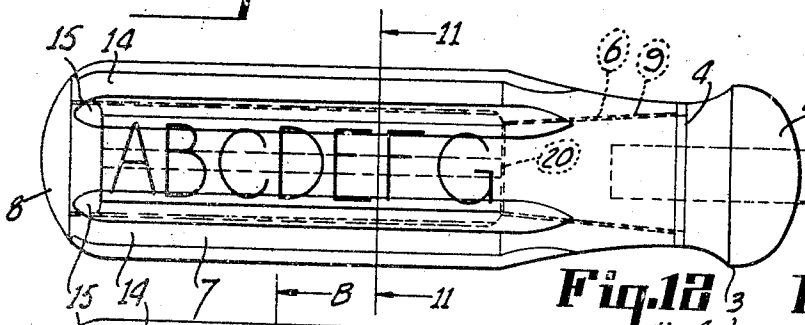


Fig. 11

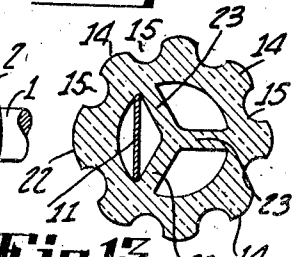


Fig. 12

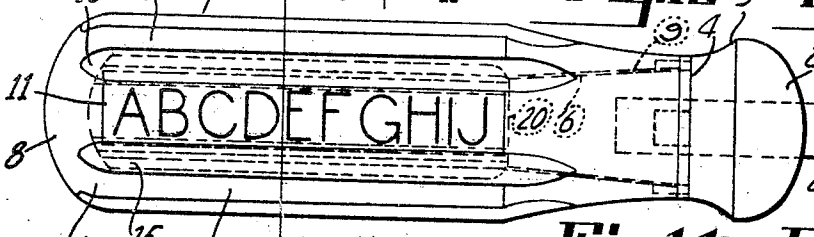


Fig. 13



Fig. 14

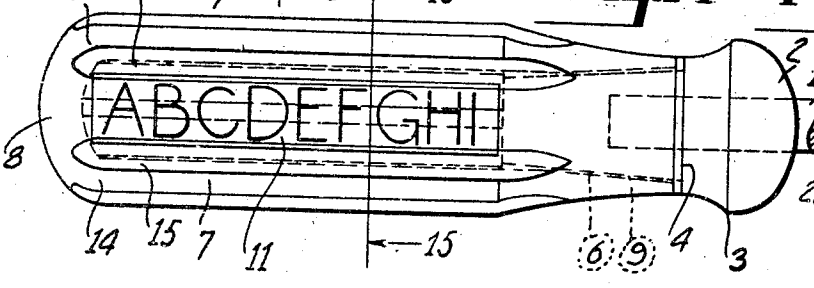
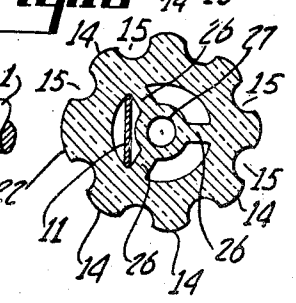


Fig. 15



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UNITED STATES PATENT OFFICE

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TOOL HANDLE

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Application May 24, 1938, Serial No. 209,739

9 Claims. (Cl. 40—19)

This invention relates to handles for tools and particularly for screw drivers.

It is the object of this invention to provide a transparent handle arranged to support internally various types of media on which are printed or otherwise displayed instructions and advertising which can be seen through the transparent handle.

It is a further object to provide such a handle that is so formed as to act as a lens to magnify the printing on the inside of the handle to make it easily legible on the outside.

It is a further object of this invention to have a hollow handle in which the legends can be readily inserted and maintained in an exact position.

It is a further object to provide such a handle which is reinforced internally by ribs, which ribs are also used to position the legends inside the handle.

It is a further object to provide exterior ribs on the handle of transparent material so designed as to perform the triple function of reinforcing the handle, providing a grip for the user's hand on the handle, and providing a lens for enlarging the legends of the printed matter carried within the handle and positioned by the internal ribs.

It is a further object to provide such a transparent handle with either a strip or a sleeve of material carrying legends, which material is held in position by a block that performs the triple function of closing the open end of the handle, supporting the tool, and positioning and anchoring against displacement of the printed legend on the inside of the handle.

It is an additional object of this invention to provide a groove or angularly disposed recess for retaining a legend within a handle with an arcuate body of transparent plastic material having optical properties so that the legend appears to be enlarged when viewed from the exterior of the handle.

In the drawings:

Figure 1 is a side elevation of the handle and one end of the screw driver imbedded in the handle plug;

Figure 2 is a section on the line 2—2 of Figure 1, looking in the direction of the arrows;

Figure 3 is a section on the line 3—3 of Figure 1, looking in the direction of the arrows;

Figure 4 is a section on the line 4—4 of Figure 1, looking in the direction of the arrows;

Figure 5 is a side elevation of a modified form of the handle, showing an enlarged lens section for extra large enlargement of the reading matter. It also shows the use of an internally disposed cylinder of paper or cardboard upon which the printing has been imbedded;

Figure 6 is a section on the line 6—6 of Figure 5;

Figure 7 is a section on the line 7—7 of Figure 5;

Figure 8 is a side elevation of a modified form of reinforced handle, which reinforcing is used to position the reading matter;

Figure 9 is a section on the line 9—9, looking in the direction of the arrows in Figure 8;

Figure 10 is a side elevation of another modification of the handle;

Figure 11 is a section on the line 11—11 of Figure 10, looking in the direction of the arrows;

Figure 12 is a side elevation of a further modification of the handle construction, showing the utilization of reinforcing ribs which also act as positioning ribs for the legend bearing material;

Figure 13 is a section on the line B—B, looking in the direction of the arrows, of Figure 12;

Figure 14 is a side elevation of a modified form of the handle, in which there is a cylindrical reinforcement on the interior of the handle, in association with reinforcing ribs extending to the exterior cylindrical body of the handle; and

Figure 15 is a section on the line 15—15 of Figure 14, looking in the direction of the arrows.

Referring to the drawings in detail, 1 is the shaft of a screw driver or any other tool which is imbedded within the moulded plug 2 that has an enlarged head 3, a shoulder 4 and a tapered plug portion 5. This tapered plug portion fits within a correspondingly tapered opening having a tapered mouth 6 in the handle body 7. This handle body has a closed end 8 at one end and an open end at the other, which is closed by the plug 2. This plug may be sealed in position by an adhesive 9. The plug is also preferably cut away, as at 10, to receive the legend strip 11, against the end of which abuts the shoulder 12 on the plug 2. Thus the plug acts not only as a support for the tool 1, but also as a means of attaching the tool to the handle 7 and for holding in position the legend strip 11 to prevent its outward movement.

This legend strip may be of any desired material, upon which any type of printing is applied, either for the purpose of placing the name of the user inside the handle, the name of the manufacturer or instructions as to the use of the tool. This plug may be permanently anchored by the adhesive 9 or it may be detachably anchored due

to its wedging fit between the tapered engaging surfaces or it may be threaded in position.

The handle itself is provided with a hollow interior 13 which may or may not be used as a container for small tools, screws and the like.

The plug and the handle are both made of transparent plastics which have optical properties comparable to glass. However, the usual plastic is not as clear as glass and it lacks power of sharp and clear definition. To overcome this problem in connection with plastics, we use ribs 14 separated by grooves 15 on the exterior of the handle. The outer surfaces of these ribs, at 16, are arcuate so that a lens-like structure, as at 17, is provided over the legend strip 11.

The legend strip, in Figures 1, 2 and 3, is anchored between the dovetail walls 18 of the dovetail slot 19 cut on the interior of the handle. The shoulder 12 of the plug 2 prevents the strip 11 from leaving this slot. Longitudinally and inwardly tapered walls 18 prevent the strip 11 from dropping down into the space 13 inside of the handle.

If desired, the end 20 of the plug may be used to engage a cylinder 21 of printable material which carries the legend; in which event (see Figs. 5 to 7), the printed matter is preferably arranged beneath an extra large rib 22 which acts as an enlarging lens for the legend printed on the cylinder 21.

Referring to Figures 8 to 15, these modifications show the legend strip 11 maintained in position with its edges engaging the side walls of the interiorly disposed reinforcing ribs 23. When three ribs are employed, there is formed a triangular space 24 within the handle, and the corners of which space engage the edges of the strip 11. Thus the ribs reinforce the handle and, at the same time, position the strip beneath the lens 22, which also acts as an external reinforcing rib.

In Figures 12 and 13, these ribs 23 do not meet at the center. There is a series of these ribs, as at 25, which act as reinforcing members inside of the handle and also as positioning supports for the legend strip 11. In Figures 14 and 15, the ribs 26 extend partway into the center of the handle and terminate in an annular reinforcement 27.

It will be understood that we desire to comprehend within our invention such modifications as come within the scope of the claims and the invention.

Having thus fully described our invention, what we claim as new and desire to secure by Letters Patent is:

1. In combination, a tool handle of transparent material having a plurality of spaced longitudinal ribs with arcuate external faces, means on the inside of said handle for positioning a legend strip beneath one of said ribs so that the legend is enlarged by the lens effect of the rib.

2. In combination, a tool handle of transparent material having a plurality of spaced longitudinal ribs with arcuate external faces, means on the inside of said handle for positioning a legend strip beneath one of said ribs so that the legend is enlarged by the lens effect of the rib, and means for supporting a tool in one end of said handle.

3. In combination, a tool handle of transparent material having a plurality of spaced longitudinal ribs with arcuate external faces, means on the inside of said handle for positioning a legend strip beneath one of said ribs so that the legend is enlarged by the lens effect of the rib, and means for supporting a tool in one end of said handle, said means being so arranged as to prevent the legend strip from moving longitudinally out of said handle.

4. In combination, a tool handle of transparent material having a plurality of spaced longitudinal ribs with arcuate external faces, means on the inside of said handle for positioning a legend strip beneath one of said ribs so that the legend is enlarged by the lens effect of the rib, means for supporting a tool in one end of said handle, said means being so arranged as to prevent the legend strip from moving longitudinally out of said handle, and means on the interior of said handle for engaging with the edges of said legend strip to position the legend strip against the interior wall of said handle.

5. In combination, a transparent tool handle, means forming a lens on the side wall of said handle, means on the interior of the handle for holding a legend strip against the interior wall of the handle beneath the lens, and a legend strip so held.

6. In combination, a transparent tool handle, a lens rib mounted on the exterior of said handle, means on the interior of the handle for reinforcing the handle and for positioning and supporting a legend strip beneath said lens rib.

7. In combination, a transparent tool handle, ribs mounted on the exterior of said handle at least one of which comprises a lens; means on the interior of the handle for reinforcing the handle and for positioning and supporting a legend strip beneath said lens rib, and means comprising a tapered plug adapted to close one end of said handle, support a tool and position said strip against longitudinal movement.

8. In combination, a transparent tool handle, ribs mounted on the exterior of said handle at least one of which comprises a lens, means on the interior of the handle for reinforcing the handle and for positioning and supporting a legend strip beneath said lens rib, and means comprising a tapered plug adapted to close one end of said handle, support a tool and position said strip against longitudinal movement, said reinforcing means comprising a plurality of radially disposed ribs within said handle.

9. In combination, a transparent tool handle, ribs mounted on the exterior of said handle at least one of which comprises a lens, means on the interior of the handle for reinforcing the handle and for positioning and supporting a legend strip beneath said lens rib, means comprising a tapered plug adapted to close one end of said handle, support a tool and position said strip against longitudinal movement, said reinforcing means comprising a plurality of radially disposed ribs within said handle, and a cylindrical reinforcing member centrally disposed of said ribs within said handle.

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