

UNITED STATES PATENT OFFICE

2,259,038

AUTOMOBILE TOOL

Ennis A. Gulley, Winchester, Ind., assignor of
one-half to E. Reed Abel, Winchester, Ind.

Application October 17, 1940, Serial No. 361,626

8 Claims. (Cl. 254-131)

This invention relates to automobile tools and more particularly to tools used in connection with the removal of the interior hardware of automobile bodies such as the door handles, window actuating handles and windshield operating handles.

The primary object of the invention is to provide a tool of this character which provides for easy and expeditious removal of the handle, and with a minimum of effort on the part of the operator.

Further, the invention aims to provide a tool of this type which is actuated by the knee of the operator thus leaving both hands of the latter free to manipulate the fastening means of the handle in removal thereof.

Further the invention aims to provide a tool of the character described which is of simple and economical structure and which is composed of a minimum of parts.

Still further the invention aims to provide a tool of this character wherein the means for displacing the spring pressed finishing plate of the handle structure may be easily and quickly removed, and plate displacing means of another character or type, according to the particular make of the handle structure, substituted.

Still further the invention aims to provide a handle removing tool wherein the means for displacing the finishing plate of the handle structure may be easily and quickly adjusted in accordance with the location of the handle with respect to the bottom of the window opening of the door or the bottom of the window of the car body.

The invention has still further and other objects which will later be set forth and of themselves manifested in the course of the following description.

In the drawing:

Fig. 1 is a side elevation of the invention, showing same applied as in use to the handle structure of an automobile door, with parts of each of the latter in section;

Fig. 2 is a section on line 2-2 of Fig. 1;

Fig. 3 is a bottom plan view of the presser member;

Fig. 4 is a side elevation of the presser member; and

Fig. 5 is an enlarged section on line 5-5 of Fig. 2.

In proceeding in accordance with the present invention, a tubular member 1 is employed, which constitutes a lever, and which is formed at its lower end with a knee engaging part or element

2, secured thereto by a pin or other fastening means 2'. The opposite end of the member 1, has one end of an arm or finger 3, pivoted therethrough by means of a pin 4, and has its opposite or free end formed with a hook 5.

The tubular member 1, is formed with a longitudinal slot 6, which at predetermined spaced intervals throughout its length is provided with oppositely disposed or registering arcuate cut outs 7, which constitute seats for the displacing means of the finishing plate, as will be now described. One end of the slot 6 is enlarged at 8, to receive therethrough a head 9, formed on one end of the shank 14 of the plate displacing member.

A pair of curved arms 12 are connected to the shank 14 of the plate displacing member and are arranged in spaced relation thereto so that same will straddle the handle proper and its hub. Each of the arms 12 is formed with a substantially semi-circular presser foot 13, the latter connected to the arms 12, at their centers.

It will also be apparent that the presser member is devoid of any moving parts, and may be formed of a single casting. Further, the presser member may be rotated 360° about the axis of its shank when connected to the lever and also may be moved, tilted or rocked relative to the lever thereby to properly position the presser member with respect to the door handle and its finishing plate.

It will be understood that the plate displacing members will vary in conformance with the size and type of the handle structure, and accordingly a variety of such plate displacing members may be provided and used with the tool.

The handle structure here shown is of a known type and embodies a finishing plate P, which engages the upholstery and which is tensioned by a spring S, the handle being secured to the hub by means of a pin F.

In operation the head 9, of a selected displacing member, dependent upon the type or make of the handle structure, is first inserted in an enlarged end 8 of the slot 6, and moved along the latter to prevent separation from the lever, following which the arm 3 is placed over the bottom of the window opening and its hook 3 engaged with the outer wall defining such opening. The plate displacing member is then adjusted or moved longitudinally of the lever 1, to register with a pair of the cut outs or seats 7, that lie opposite to the handle hub and the shank of the member moved into one of the seats,

whereupon the presser feet are engaged with the finishing plate P, as depicted in Fig. 1.

The operator or user then presses his knee as shown in dotted lines in Fig. 1, against the element 2, thereby moving the lever about its pivot 4, and the plate displacing member against the plate P, overcoming the tension of the spring S, which latter acts against the plate P through the upholstery C. Thus, the plate is displaced and the fastening means or pin F, for the hub of the handle rendered accessible for removal.

By virtue of providing a knee engaging member which is located in a position natural to that of the user, it will be seen that not only are both hands of the operator left free for manipulation and removal of the fastening means, but in addition the posture of the operator is normal.

It will further be apparent that due to the enlarged end 8 of the slot 6, the plate displacing member can be easily and quickly removed by mere sliding thereof into the enlarged end, and another type of plate displacing member as easily and quickly applied, in accordance with the particular type or make of the handle structure.

The pivoting of the arm or finger 3 to the lever, causes the arm to remain stationary during the operation of removal of the pin. This eliminates the necessity or the use of a covering for the hook, to protect the finish of the window, were the arm rigid with the lever and the hook thus caused to rock about the window. The U-shaped arms 12 also provides for easy access to, and removal of the pin or other fastening device, which the particular type of handle may employ.

The uses of the invention above recited are merely by way of example and not exhaustive enumerations of all uses to which the invention is susceptible.

It will further be understood that such changes, alterations, or modifications of the device may be resorted to, as may fall within the scope of the appended claims.

What is claimed is:

1. A tool for removing door and window handles and the like, including a hollow lever having a longitudinal slot enlarged at one end thereof, a member pivoted at one end thereof to one end of the lever and having a hook on its opposite end to engage over and rearwardly of the bottom of a window opening or the like, a presser device having a shank provided with a head receivable through the enlarged end of the slot whereby to

prevent disengagement of the head from the lever when the head is moved out of registry with the enlarged end of the slot, a pair of curved spaced arms carried by the shank, and an arcuate presser foot carried by the outer end of each of the arms, the presser feet having their concave sides confronting each other whereby to straddle the hub of a handle.

2. A tool in accordance with claim 1, wherein the opposite end of the lever is provided with a knee engaging element.

3. A tool for removing door and window handles and the like, including a hollow lever having a longitudinal slot enlarged at one end thereof, a member at one end of the lever having means on its opposite end to engage over and rearwardly of the bottom of a window opening or the like, a presser device having a shank provided with a head receivable through the enlarged end of the slot whereby to prevent disengagement of the head from the lever when the head is moved out of registry with the enlarged end of the slot, and means carried by the shank to engage and displace the finishing plate of the handle structure upon movement of the lever toward the part to which the handle structure is connected.

4. A tool in accordance with claim 3, wherein the opposite end of the lever is provided with a knee engaging element.

5. A tool for removing door and window handles and the like including a lever, means to engage over and rearwardly of the bottom of a window opening or the like movably connected to the lever at one end of the latter, a rigidly formed presser device having means thereon to engage the finishing plate of the handle structure, and rigid means integral with the lever to guidingly receive said presser device and to enable same to slide longitudinally of the lever, to also rotate with respect to the lever and to tilt or rock relative to the lever.

6. A tool in accordance with claim 5, wherein the opposite end of the lever is provided with a knee engaging element.

7. A tool in accordance with claim 1, wherein the slot has pairs of spaced seats to receive the shank of the presser device.

8. A tool in accordance with claim 3, wherein the member is pivoted at one end thereof to the said one end of the lever.

ENNIS A. GULLEY.