

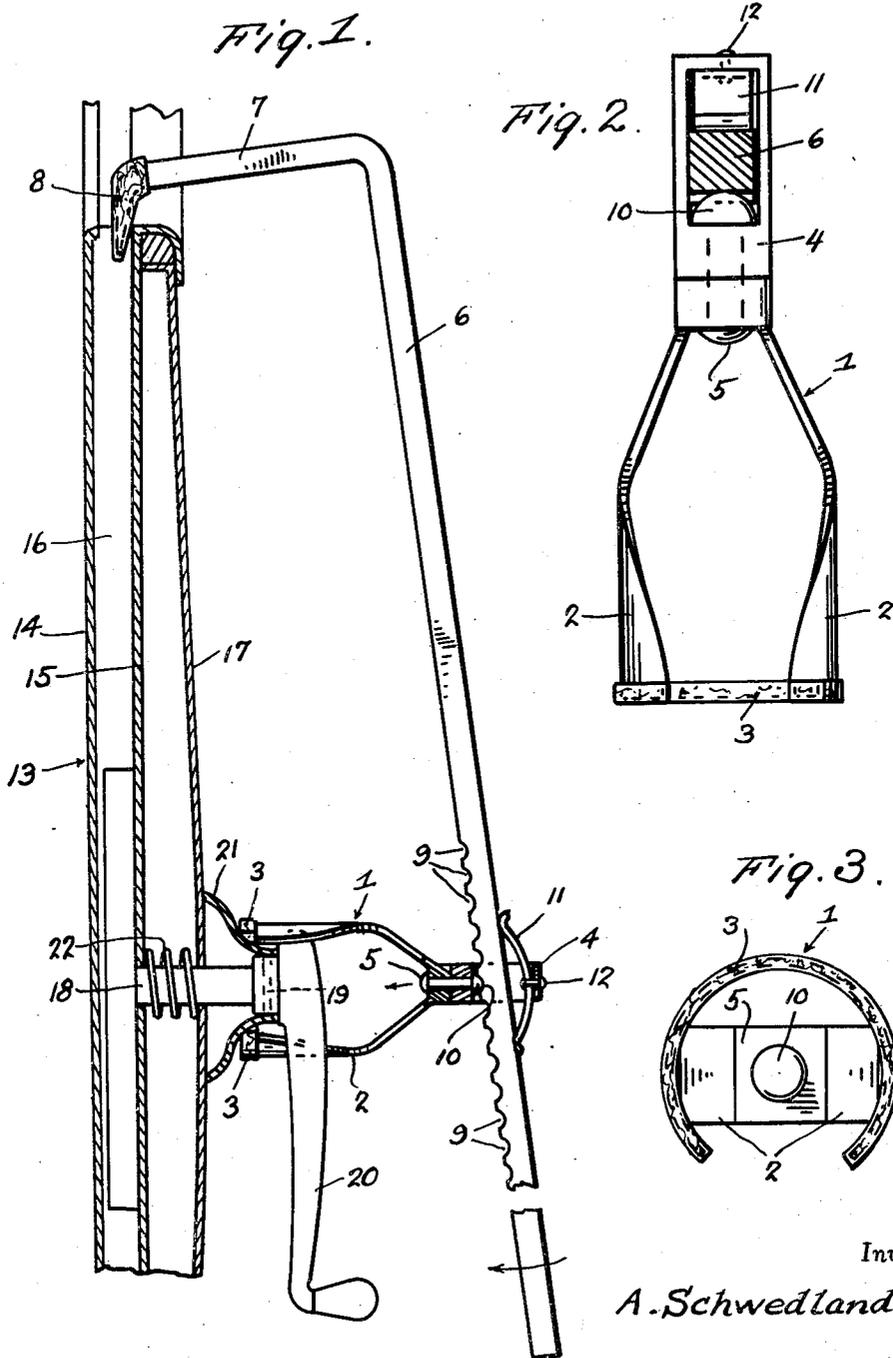
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AUTOMOBILE TOOL

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AUTOMOBILE TOOL

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2 Claims. (Cl. 254—131)

The present invention relates to new and useful improvements in tools for use particularly by automobile mechanics and has for its primary object to provide, in a manner as hereinafter set forth, a device embodying a novel construction, combination and arrangement of parts through the medium of which the usual inner door handles and the window regulating handles of automobiles may be expeditiously removed and replaced by a single operator.

Another very important object of the invention is to provide a tool of the aforementioned character which may be conveniently adjusted to accommodate different makes of automobiles.

Other objects of the invention are to provide a tool of the character described which will be simple in construction, strong, durable, highly efficient and reliable in use, compact, light in weight and which may be manufactured at low cost.

All of the foregoing and still further objects and advantages of the invention will become apparent from a study of the following specification taken in connection with the accompanying drawing wherein like characters of reference designate corresponding parts throughout the several views, and wherein:—

Figure 1 is a view principally in side elevation of a tool constructed in accordance with the present invention, showing said tool in position to remove a window regulating handle.

Figure 2 is a cross sectional view through the invention.

Figure 3 is a detail view in end elevation of the presser member.

Referring now to the drawing in detail, it will be seen that the embodiment of the invention which has been illustrated comprises a substantially U-shaped presser member which is designated generally by the reference numeral 1, said member 1 including complementary arms 2 on the free end portions of which a segment 3 is provided. It will thus be seen that the member 1 is entirely open on one side. The segment 3 is covered with felt or other suitable material to prevent damaging the automobile when the tool is in use.

The presser member 1 is swivelly mounted on a substantially rectangular guide 4 through the medium of a rivet 5 which extends through the right portion of said member 1. Mounted for sliding adjustment in the guide 4 is a lever 6 which terminates, at one end, in a hook 7 provided with a suitable protective covering 8. The lever 6 has formed therein a series of notches or recesses 9 for the reception of the adjacent head

10 of the rivet 5. In addition to retaining the lever 6 in adjusted position against slipping, the head 10 of the rivet 5 serves as a fulcrum for said lever. A leaf spring 11 is secured, at an intermediate point in the guide 4, as at 12, and the end portions of said spring are engaged with the lever 6 for yieldingly urging said lever into engagement with the rivet head 10.

In Figure 1 of the drawing, the reference numeral 13 designates generally a portion of an automobile door, said door, as usual, including the outer metallic sheet or plate 14 and an inner plate 15, said plates 14 and 15 providing the usual well 16 for the reception of the glass. The door further includes an inner panel 17. The reference numeral 18 designates the usual shaft through the medium of which the window is raised or lowered, said shaft having fixed thereon, through the medium of a pin 19, a handle 20. A substantially bell-shaped washer or collar 21 conceals the shaft 18 and the pin 19 between the handle 20 and the upholstery panel 17. A coil spring 22 encircles the shaft 18 in the door 13 and yieldingly urges the upholstery panel 17 outwardly for retaining the collar 21 in position over the pin 19. It will thus be seen that in order to remove the handle 20 the collar 21 must be forced inwardly against the tension of the spring 22 to expose and permit access to be had to the pin 19, also, when the handle 20 is being mounted on the shaft 18, the collar 21 must be forced toward the door 13 sufficiently to permit insertion of the securing element 19.

In the use of the present invention, the hook 7 of the lever 6 is engaged in the well 16 of the door 13 and the member 1 is adjusted to the desired position on said lever 6. The ring 3 of the member 1 is then engaged with the collar 21, the arms 2 of said member 1 straddling the handle 20. Then, by simply swinging the lower end portion of the lever 6 toward the door it will be seen that the collar 21 will be shifted in a manner to expose the pin 19. The swivel mounting of the member 1 on the guide 4 facilitates the engagement of said member 1 with the collar 21.

It is believed that the many advantages of a tool constructed in accordance with the present invention will be readily understood, and although a preferred embodiment of the invention is as illustrated and described, it is to be understood that changes in the details of construction and in the combination and arrangement of parts may be resorted to which will fall within the scope of the invention as claimed.

What is claimed is:—

1. A tool of the class described comprising a lever, a hook on one end of said lever engageable with a support, a guide mounted for sliding adjustment on the lever, and a presser member swivelly mounted on the guide, said presser member including a pair of spaced arms and a segment mounted on the free end portions of said arms and engageable with the work.
- 10 2. A tool of the class described comprising a lever, a hook on one end of said lever engageable

with a support, a guide mounted for sliding adjustment on the lever, said lever having a plurality of recesses therein, a presser member operatively engageable with the work, an element swivelly securing the presser member on the guide, said element including a head engageable selectively in the recesses, and resilient means mounted in the guide and engaged with the lever for yieldingly urging said lever into engagement with the head.

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