June 2, 1953 H. C. GROSSMAN 2,640,382

COMBINED WRENCH AND WEDGING TOOL FOR REMOVING SCREW PLUGS

Filed Jan. 15, 1952

Fig.1

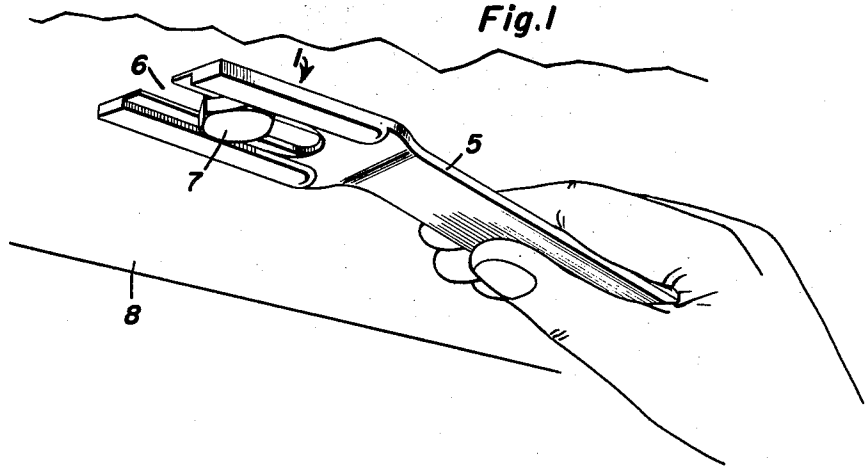



Fig.2

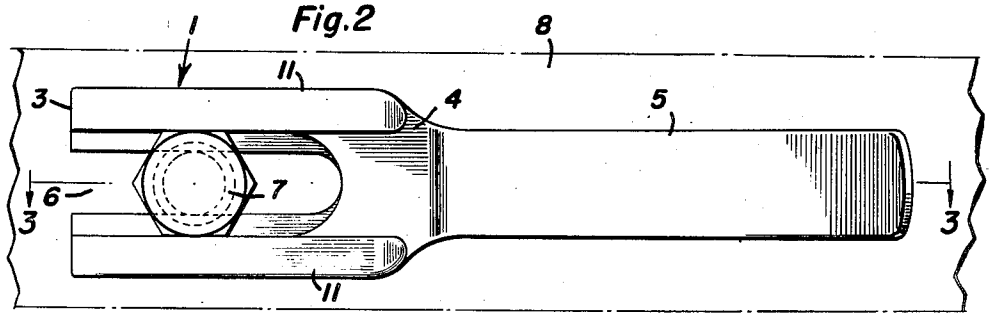



Fig.3

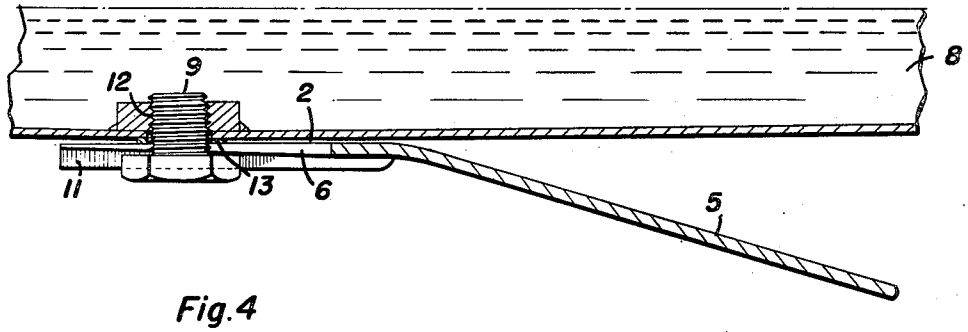
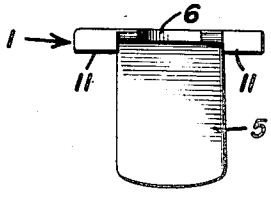



Fig.4

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# UNITED STATES PATENT OFFICE

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## COMBINED WRENCH AND WEDGING TOOL FOR REMOVING SCREW PLUGS

Harry C. Grossman, Baltimore, Md.

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1 Claim. (Cl. 81—119)

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My invention relates to improvements in combined wrenches and wedging tools for removing screw plugs with stripped, or crossed, threads from the bottoms of automobile engine oil pans.

The primary object of my invention is to provide a handy tool adapted for sliding in between the head of such a plug and the bottom of the pan and which is constructed and arranged to expeditiously remove a plug with stripped or crossed threads out of the oil drain opening in the pan and by manipulation of the tool with a turning and wedging action against the plug head so as to both unscrew and pry the plug out of the opening.

Another object is to provide a tool for the above purposes which is easy to apply and use, simple in construction, and inexpensive to manufacture.

Other and subordinate objects, within the purview of my invention, together with the precise nature of my improvements will be readily understood when the succeeding description and claim, are read with reference to the drawing accompanying and forming a part of this specification.

In said drawing:

Figure 1 is a view in perspective illustrating my improved tool applied to the closure plug of an oil pan shown fragmentarily;

Figure 2 is a view in bottom plan of the same;

Figure 3 is a view in longitudinal section taken on the line 3—3 of Figure 2; and

Figure 4 is a view in front end elevation of the tool.

Referring to the drawing by numerals, my improved tool, as shown therein, comprises an oblong, preferably rectangular, wrench head 1 having a flat top 2 and front and rear ends 3, 4, respectively.

A handle 5, preferably of flat form, is provided on the rear end 4 of the head 1 and slants downwardly therefrom for a purpose presently clear.

The wrench head 1 is bifurcated to provide a longitudinal central slot 6 therein open at the front end 3 of said head and narrower than the usual standard type of the plug head 7 between opposite flat sides of said head 7 so that the head 1 may be slid forwardly in between the bottom of the oil pan 8 and said plug head 7 in straddling relation to the stem 9 of the plug head.

A pair of longitudinal, parallel, ribs 11 are provided on the bottom of the head 1 parallel

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with the slot 6 and which are offset outwardly of the sides of the slot 6 and straight sided for fitting of flat sides of the plug head 7 between said ribs. The wrench head 1 tapers forwardly, longitudinally, from end to end thereof so that it forms an elongated flat wedge for wedging action against the plug head 7 to pry the plug outwardly of the oil drain opening 12. The ribs 11 extend along the bottom of the wrench head 1 from end to end of the slot 6 so that the plug head 7 can be entered between said ribs 11 at the front end 3 of said head 1, and for fitting the sides of the plug head 7 in any position of the stem 9 longitudinally of the slot 6.

In using the described tool, the wrench head 1 is slid in between the plug head 7 and a washer 13 on the stem 9, or between said head and the bottom of the pan 8, with said head straddling the stem 9 and the ribs 11 engaged with opposite sides of the plug head 7, the flat side of the head 1 being uppermost. In this position of said head 1, handle 5 inclines downwardly away from the bottom of the pan 8 for convenient manipulation of the handle. The head 1 may be driven into the described position if necessary. Then by turning the tool, in a direction to unscrew the stem 9 and driving the head 1 forwardly, intermittently, the stem 9 having stripped or crossed threads may be backed out of the opening 12. As will be seen a combined wedging and turning operation is effected with my improved tool against the plug head 7 which is more effective in removing such plugs than expedients commonly restorted to.

The foregoing will, it is believed, suffice to impart a clear understanding of my invention without further explanation.

Manifestly, the invention, as described, is susceptible of modification without departing from the inventive concept, and right is herein reserved to such modifications as fall within the scope of the appended claim.

Having described my invention, what is claimed as new is:

A combined wrench and wedging tool for removing the stripped threaded stem of a headed screw plug out of an article comprising an oblong wrench head having front and rear ends, said wrench head having a longitudinal central slot therein open at the front end of the wrench

head and narrower than the plug head whereby said head is adapted to be slid forwardly in between the article and the plug head in straddling relation to said stem, and longitudinal, straight sided, parallel ribs on one side of said wrench head spaced apart and outwardly of said slot for engaging opposite sides of the plug head, and a handle on the rear end of said wrench head for sliding and turning the same edgewise, said wrench head tapering longitudinally in thickness from end to end thereof and providing an elongated flat wedge for wedging action against the plug head by sliding of said wrench head forwardly between the article and the plug head, said ribs extending from end to end of said slot so



that the plug head can be entered between said ribs at the front end of the wrench head and the ribs will fit against the sides of the plug head in any position of the stem longitudinally of the slot.

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