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L. LE ROY NALLEY

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MAGNETIC TOOL FOR REMOVING RADIATOR CAPS

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Fig. 1.

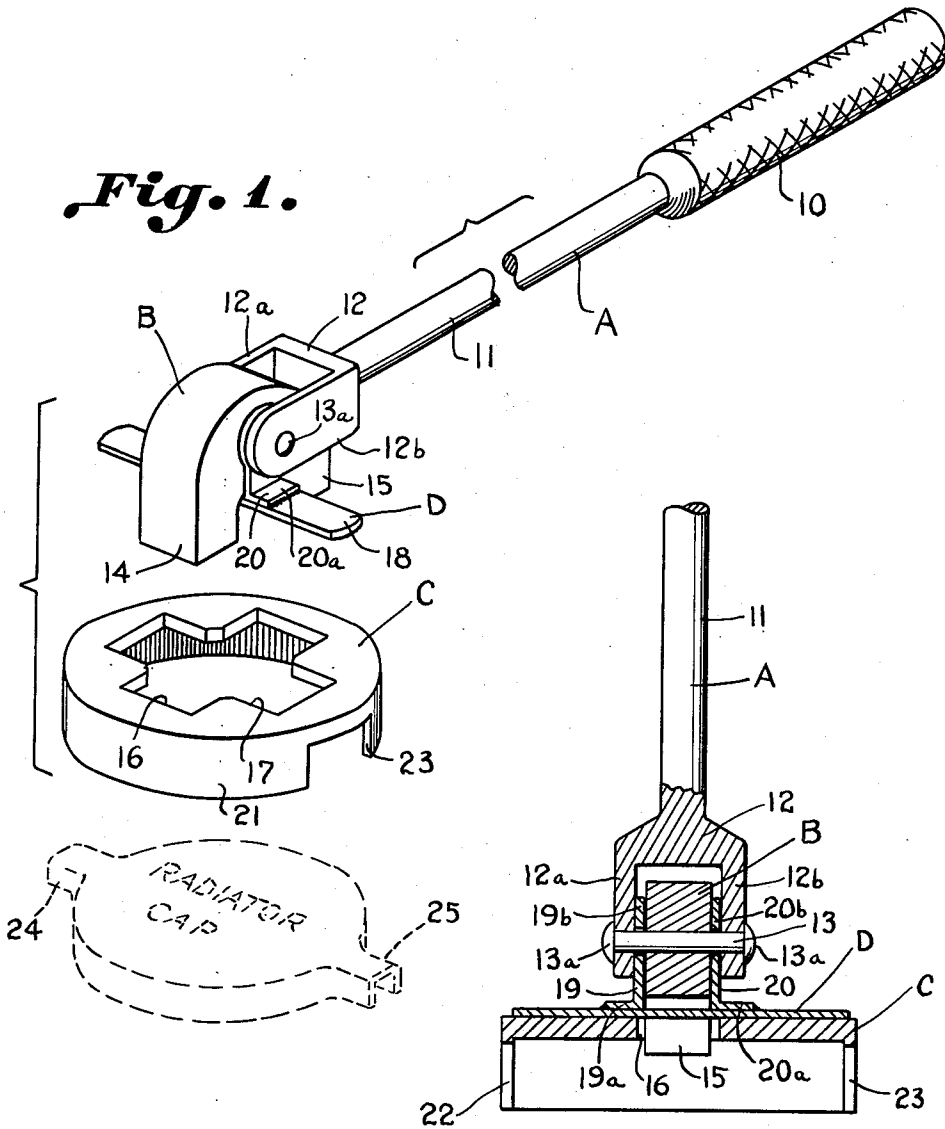
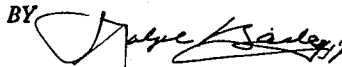


Fig. 2.

INVENTOR.

LEVIS LE ROY NALLEY

BY 

ATTORNEY

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3,007,357

MAGNETIC TOOL FOR REMOVING RADIATOR CAPS

Levis Le Roy Nalley, Mauldin, S.C.
(R.F.D. Box 4990, Upper Marlboro, Md.)
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2 Claims. (Cl. 81-3.1)

This invention relates to a magnetic tool and more especially to a device for removing a radiator cap and the like remote from the radiator cap so as not to be exposed to steam and heated liquid should the contents of the radiator be excessively hot.

Filling station attendants and the like often have occasion to remove radiator caps from steaming radiators which necessitates placing a cloth or other protective cover over the radiator cap and attempting to remove same and at the same time avoid steam and boiling water which often issue therefrom if excessively hot. It has been found desirable therefore to remove the radiator cap and the like from a remote point so that the operator will not be thus endangered. Many times the present manual method of removing radiator caps results in their being thrown or dropped into the engine compartment because of the force of the steam or because the operator simply drops same in an attempt to avoid being burned. Evidently, it was through impractical to provide a device for removing caps at a distance therefrom because of the danger of the cap being dropped into the fan or other moving part of the engine causing damage or loss of the cap.

Accordingly, it is an object of this invention to provide a tool for removing a radiator cap and the like with the operator remote from the radiator cap.

An important object of the invention is to provide a magnetic tool for removing radiator caps at a point remote therefrom.

Another object of the invention is to provide a device for removing radiator caps remotely therefrom and at the same time position same positively so as not to be dropped into the engine compartment of the vehicle.

Another object of the invention is the provision of a device for removing radiator caps having an elongated handle and a portion for gripping the radiator cap for turning and for positively retaining same after removal from the radiator.

Still an other object of the invention is the provision of a device for removing radiator caps and the like having an elongated handle and a grip for turning the radiator cap, the grip being pivoted on the handle so as to make it possible to pivot the handle about 180 degrees so as to make easy access to the handle possible from a position outside the motor compartment.

The construction designed to carry out the invention will be hereinafter described, together with other features thereof.

The invention will be more readily understood from a reading of the following specification and by reference to the accompanying drawing forming a part thereof, wherein an example of the invention is shown and wherein:

FIGURE 1 is a perspective view illustrating a magnetic tool constructed in accordance with the invention, with some of the parts disassembled for clarity of illustration, and

FIGURE 2 is a vertical section looking from the left-hand side of FIGURE 1 showing the parts in assembled relation.

Referring now more particularly to the drawing, the magnetic tool is illustrated as including an elongated handle A which carries a permanent magnet B having a pair of poles. Annular means C is carried by the poles of

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the permanent magnet B so as to engage the handles 25 of a radiator cap 10 shown in broken lines. A bracket D limits the upward movement of the gripping means C upon the magnet B.

The handle A is illustrated as including a knurled gripping portion 10 on one end thereof to accommodate the hand of the user. This gripping portion 10 may be constructed of metal, or any suitable material. A shaft 11 carries the gripping portion 10 on one end and a yoke 12 on its free end. The yoke 12 is illustrated as being integral with the shaft or rod 11 and has a pair of outwardly projecting arms 12a and 12b to thus form a bifurcated portion to accommodate the magnet B therebetween. The magnet B is pivoted on the shaft 13 between the arms 12a and 12b. The shaft 13 is provided with head portions 13a at each end thereof to positively position the shaft 13 between the arms 12a and 12b.

The magnet B has a pair of downwardly projecting pole members 14 and 15 adapted to be received by either of a pair of intersecting slots 16 and 17 carried within the radiator cap gripping member C. The openings or slots 16 and 17 form a relatively large opening, in the general shape of a cross, in the medial portion of the gripping member C.

The amount to which the gripping member C moves upwardly upon the pole members 14 and 15 is limited by the bracket D which includes a horizontally disposed flat member 18 of a length commensurate with the diameter of the gripping member C. The horizontal member 18 is mounted to pivot about the shaft 13 and is supported thereon by a pair of L-shaped members 19 and 20. The L-shaped members have outwardly projecting flanges 19a and 20a which are fixed by any suitable means to the horizontal member 18, as by welding. The L-shaped members also have vertical portions 19b and 20b which are spaced to carry the medial portion of the magnet B therebetween and are mounted to pivot upon the shaft 13.

The gripping member C has a peripheral downwardly projecting flange 21 which is illustrated as having a pair of diametrically opposed apertures 22 and 23 therein for accommodating the handles or ears 24 and 25, respectively, of the radiator cap.

It is thus seen the operator may grasp the gripping portion 10 and place the gripping member C upon the radiator cap and the like so that the apertures 22 and 23 are received upon the ears 24 and 25, respectively, of the radiator cap so that a turning motion may be imparted thereto. When thus operably positioned with the gripping member C firmly positioned over the radiator cap, the pole members 14 and 15 are in position to magnetically engage the radiator cap to support the weight thereof and positively position same within the gripping member when the cap is completely removed. After turning the cap through a desired arc, the handle may be pivoted about 180 degrees about the shaft or pivot 13 so as to be in position to conveniently turn same through another arc removing the radiator cap. Depending upon the position of the handles 24 and 25 either of the openings or slots 16 and 17 may be used for reception of the pole members 14 and 15 so that the gripping member C may be placed in a most convenient position upon the radiator cap.

While a preferred embodiment of the invention has been described using specific terms, such description is for illustrative purposes only, and it is to be understood that changes and variations may be made without departing from the spirit or scope of the following claims.

What is claimed is:

1. A magnetic tool for removing radiator caps and the like having projecting handles including, an elongated handle, a magnet having a pair of poles pivotally carried by the handle adjacent one end thereof, means for en-

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gaging the projecting handles to rotate a cap therewith, said means being pivotally carried adjacent the magnet so that the magnet supports the weight of the cap when the means for engaging the cap are operably positioned thereon, and said means including portions engaged by the magnet poles whereby rotational force applied to the elongated handle will be transmitted to said means to cause the entire tool to rotate as a unit when in operation.

2. A magnetic tool for removing radiator caps and the like having projecting handles including, an elongated handle, a yoke having a pair of spaced outwardly projecting arms carried adjacent the free end of the handle and integrally therewith, a permanent magnet having a pair of spaced downwardly projecting pole members pivotally mounted intermediate said pole members and between said arms, a disc having open portions receiving said pole

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members, a bracket pivoted upon the arms engaging the disc limiting the upward movement of said disc upon said pole members, and a downwardly projecting flange adjacent the periphery of the disc having apertures in said flange for accommodating said handles, whereby the disc may be placed upon the radiator cap with the projecting handles engaged by the flange and the magnet is brought into position to support the radiator cap.

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