

Useful Hints for Car Machinists



Fig. 1. Old oil can and rod put together make a home-made engine stethoscope.

POPULAR SCIENCE MONTHLY awards each month a prize of \$10, in addition to regular space rates, for the best idea sent in for motorists. This month's prize goes to L. D. Youmans, Ravena, N. Y. (Figure 1).

UNTIL the solution in the auto storage battery drops considerably below the level of the top of the plates, the battery continues to give perfect service. However, operating the battery with the solution level too low ruins the electrical qualities of the portions of the plates left exposed. Fig. 3, at the bottom of the first column, shows a way to determine the solution level whenever desired merely by pressing a button on the dash.

Locate the filler cap nearest the positive pole of the battery (in batteries having the positive terminal grounded to the frame of the car the filler cap nearest the negative pole should be located). Drill a hole in this cap so as to make a tight fit around a lead rod. Adjust the length of the rod so it clears the tops of the plates when the cap is screwed tight.

Drill an extra venthole beside the lead rod. Connect the end of the lead rod to a switch on the dash and run a wire from the other terminal to a light, grounding the other terminal of the light. When the switch is on the light will burn as long as the solution level is above the tops of the plates.

IT IS extremely difficult to locate the exact source of a noise in the auto motor merely by listening with the hood raised. The device shown above in Fig. 1 applies the principle of the doctor's stethoscope. Take an old oil can and discard the spout. Then solder a long thin metal rod to the bottom as shown. The can concentrates the noises travelling up the rod from the motor.

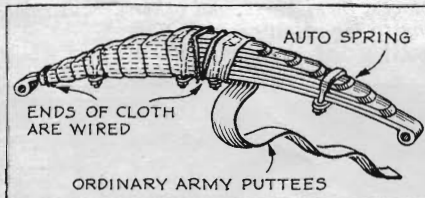


Fig. 2. Springs will grease themselves if they are wrapped in an old puttee soaked in oil.

GOOD riding qualities in the modern motor car depend on adequate lubrication of the springs and adjustment of the shock absorbers. The ordinary method of lubricating the springs is effective but must be repeated at short intervals. Fig. 2 above shows a way to make the springs self oiling and at the same time keep out dirt and grit. Army type puttees made of wool cloth strip can be obtained in many stores at low prices. Wind a pair of these around each spring, wiring the end in place, then soak them with the old oil drained from the car's crank case.

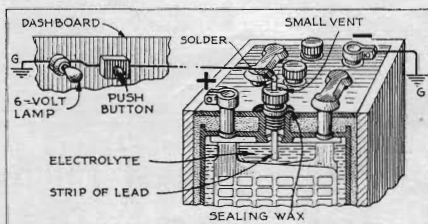


Fig. 3 shows how light on the dash can be hooked up to tell solution level in battery.

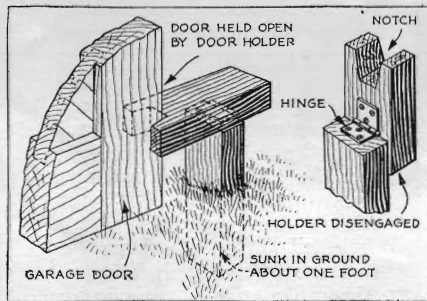


Fig. 4. Here is a new and simple device made of two by four to hold the garage door open.

MANY types of garage door stops have been described on this page. The one shown in Fig. 4 is especially easy to make. The size of lumber needed depends on the thickness and weight of the door. In most cases pieces cut from a length of two by four will do the job. The length of the notched piece, and also of the vertical section, can be varied to meet special requirements.

In any case be sure to have the vertical post set at least a foot in the ground and it is desirable to have the locking piece as close to the ground as possible to reduce the strain on the upright. Be sure that the locking piece is so placed that the hinge is much closer to the back than to the notched end.

IN THE case of an ordinary puncture, the regular five minute self vulcanizing patch or the cemented patch will do a good job. However, when the tire suffers a bad blow-out, the tube usually is ripped, sometimes for several inches, and often a piece actually is blown away. If the tube is old and near the end of its useful life it does not pay to repair such a bad break, but if the tube is relatively new, the method shown in Fig. 5, below, will prove effective.

First sandpaper all around the edges of the hole both inside and outside. Then cut a piece from an old inner tube and after sandpapering it on one side, cement it to the inside of the tube, thus repairing the hole from the inside. Then apply a patch to the outside in the usual way. Thus the hole will be patched and reinforced from both sides.

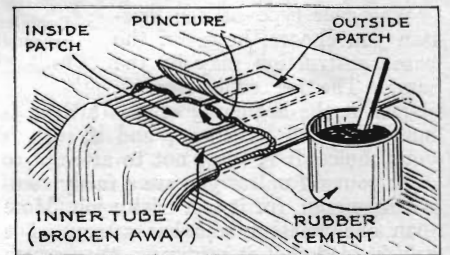


Fig. 5. A badly torn inner tube that is almost new can be saved with patch from old tube.

MANY types of old carburetors obtainable cheaply at the auto wrecking yard are of the type where the float chamber is separate from the mixing chamber. Such a carburetor can be altered as shown in Fig. 6 below to form a gasoline strainer. First saw off the float chamber. Then thread and plug the small hole through which gasoline flowed from the float chamber to the spray jet in the mixing chamber. In some cases a plug will be found on the opposite side to which the supply pipe can be attached. If not, fit to the spray jet supply hole after enlarging it to make a good fit.

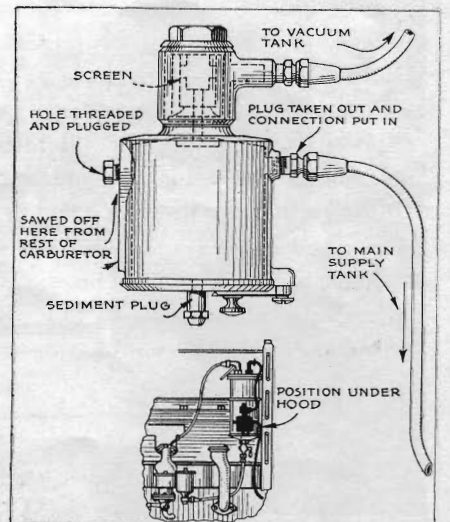


Fig. 6. Old carburetor, with float and mixing chambers separate, makes good gas strainer.