

# Useful Ideas for Motorists

## How to Measure Brake Band Linings, and Other Helps

**W**HEN an automobile stops on the road for lack of gas, the motor does not go dead until every last bit of gas has been drawn out of the vacuum tank as well as the carburetor and the main supply tank. After you have walked a mile or two for a fresh supply, you may find that the motor mysteriously refuses to start.

The chances are about ten to one that the trouble is in the lack of gasoline in the vacuum tank. Of course if you keep your foot on the selfstarter button long enough and if you keep the throttle tight shut, the vacuum in the manifold created by the cranking of the motor will eventually refill the vacuum tank. But that procedure is rather hard on the battery.

A much simpler method is shown in Fig. 1. All you need do is loosen the pipe that runs from the vacuum tank to the intake manifold and suck air through it just as you would draw lemonade through a straw, until the vacuum tank fills up. You will not get any gasoline in your mouth.

**I**T IS unfortunately true that there is no standard height for the auto bumper. In fact, the height above the ground varies so widely in different types and makes of cars that it is possible, when two bumper-equipped cars run into each other, for one bumper to be so far above the other one that they slide right by each other and the cushioning spring action is lost. By bolting old spring leaves to your bumper in a vertical position as shown in Fig. 2, you can make sure that your bumper will engage squarely with any other bumper. In case of accident, the combined spring action of the two bumpers may save serious damage.

**I**T MAY be a bit quicker to throw your tools into the compartment under the seat in a haphazard way when you finish a bit of work on the car, but you will find that it saves time in the long run to make compartments as in Fig. 3, for the various spare parts and tools. Then you can find them when you need them the next time, and they will be kept from being damaged in bumping over rough roads. Some of the most



Fig. 1. Good way to prime a vacuum tank that saves excess drain on battery

one of the wires and a battery clip to the other, (Fig. 4.) Then when you need the light at the back of the car, for instance, you can take out the tail-light plug, push it into the socket at the end of the wire, and snap the clip on the framework at any convenient point where it will make contact with the bare metal.

This method works with almost all cars, as most cars today are using the single-wire system. If you happen to have a car with the double-wire system, connect the trouble light wires to the two contacts. No battery clip will be needed in this case.

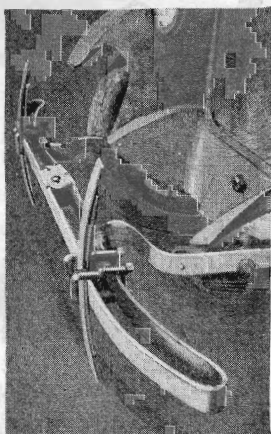


Fig. 2. With the use of a couple of leaves from old springs, single-bar bumpers will not go under or over the bumper of another car in case of an automobile crash

Fig. 3. The old complaint of never being able to find anything in the front seat box is ended by dividing it into handy compartments of various sizes for all necessary tools and equipment



**B**RAKE band lining is expensive material, and the motorist tries to figure his requirements as closely as possible so as to avoid both the cost of buying too much and the loss which follows the cutting of a piece that is too short. It is easy to build yourself a double ended caliper as shown in Fig. 5, that will tell you just the right length of brake lining needed to fit any particular size of brake band. The distance from hinge pin to the short end should be just seven inches if the

long end measures twenty-two inches from the hinge pin. This caliper gives a length between the long ends that will equal the circumference of a circle if the short end is set to the diameter of the circle as shown in Fig. 5.

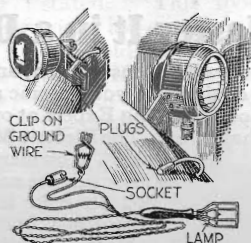


Fig. 4. By a simple arrangement, a trouble light can be attached to front or rear of your car

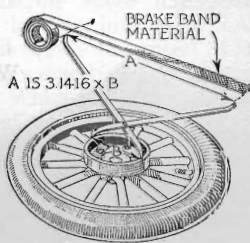


Fig. 5. A handy caliper for measuring a brake band lining saves material, time and patience

**Y**OU can remove auto spindle body bushings in handy fashion by the use of a steel disk sawed off the end of a steel bar of the right diameter and split crosswise. The halves are dropped through the upper bushing and moved into position as shown in Fig. 6, with the end of a piece of wire. They form a cover for the hole, and the bushing can be driven out with any steel rod that will fit through the hole in the upper bushing.

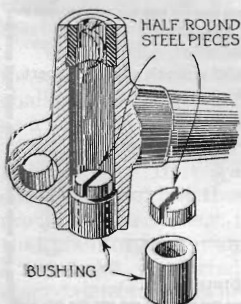


Fig. 6. To take out spindle bushings, a soft steel disk cut in the shape of a half-moon has been devised

used tools can be held by sheet-metal clips to the under cover of the seat compartment.

**I**T IS possible, of course, to fit your trouble light with a cord long enough so that the light can be used at any point around the car, but such a long cord gets tangled up easily. You can have a shorter cord and still use the light wherever you need it if you will fit a connecting plug to

### Ten Dollars for an Idea!

**G**EORGE E. LUERS, of Washington, D.C., wins the \$10 prize this month for his method of measuring brake band lining, shown in Fig. 5. Each month **POPULAR SCIENCE MONTHLY** awards \$10 in addition to regular space rates for the best idea for motorists. Other published contributions will be paid for at usual rates.

**I**T IS certainly worth-while to carry spare bulbs for headlights, sidelights and tail-light on your car. No one can predict just when they will be needed. A simple holder for bulbs, made of wire, is shown in Fig. 7, bent into loops the right size and then screwed into the door frame.

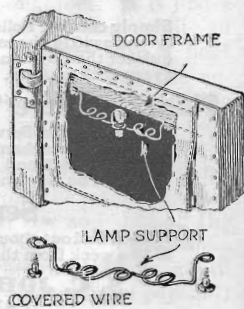


Fig. 7. An easily accessible holder, made of wire, protects bulbs and can be fitted in door pocket