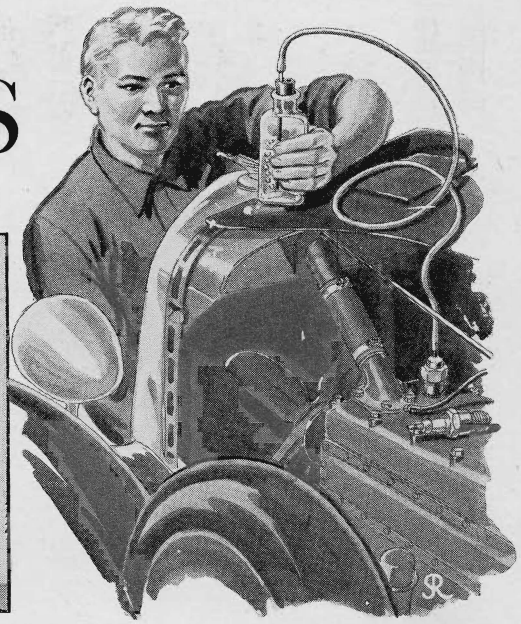
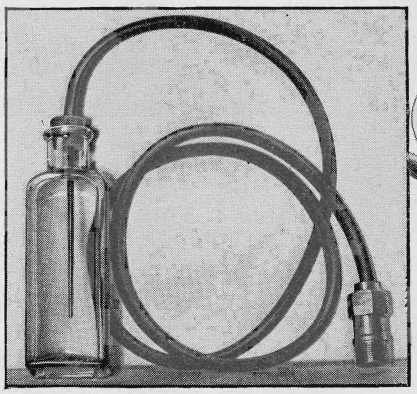
*TIME-SAVING KINKS FOR*

# CAR OWNERS

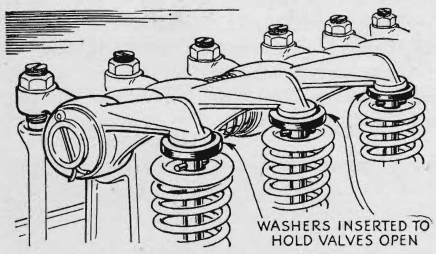


FROM an old spark plug and a few other odds and ends, you can assemble a piston-dead-center indicator that makes timing a car's ignition a one-man job. First remove the porcelain from the spark plug and solder a short length of brass tubing into the opening in the top of the metal shell. The tubing should be a snug fit inside a piece of rubber, windshield-wiper hose. Next, obtain a small bottle, make two holes in its cork—one to take a second piece of brass tubing, the other to serve as an air hole—and fill the bottle three-quarters full with water. In timing a motor, screw the plug into number one cylinder and turn the crank until air hisses from the hose, indicating that the piston is on the up stroke. Then attach the other end of the rubber hose to the bottle, continue to turn the crank slowly, and watch the air bubbles that form in the water. When the last bubble leaves the tube in the bottle, it shows that the piston is at top center and the distributor can be set accordingly with the aid of a synchronizing tool of the type marked in degrees. Simply rotate the distributor either before or after top dead center the number of degrees specified by the manufacturer. The bottle, placed on the top of the radiator shell, can be watched easily as the crank is turned. Care must be taken, however, not to turn the crank more than that required to force the last bubble from the end of the tube into the bottle. If the piston is allowed to start its down stroke, water will be sucked into the cylinder.—E.A.L.



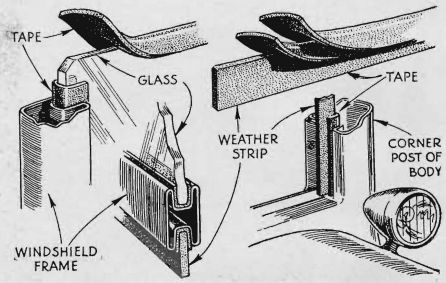
This easy-to-assemble timing device consists of a spark plug, brass tubing, rubber hose, and a bottle

## *Relieving Compression for Bearing Repairs*




Washers between rocker arms and valve stems relieve compression for work on the bearings

WHEN working on the main or connecting-rod bearings of an overhead-valve motor, the usual practice is to relieve the compression by removing the spark plugs. A much easier and quicker way is to insert thick washers temporarily between the rocker arms and the valve stems. This will keep all of the valves partly open and allow the crankshaft to be turned easily. If washers of the right thickness are not available, strips of leather, inner tube, or cardboard can be used with equally good results.—J.N.

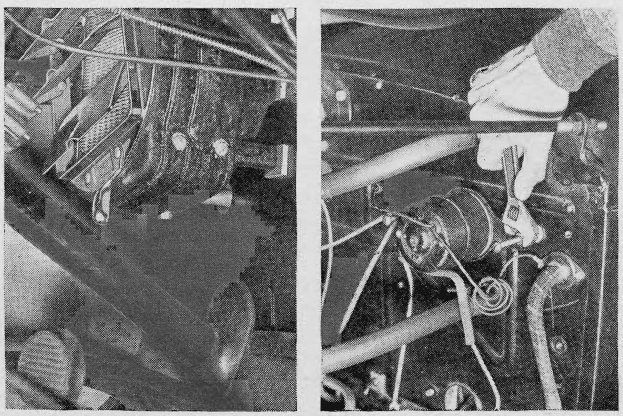



## *Silencing Windshields*

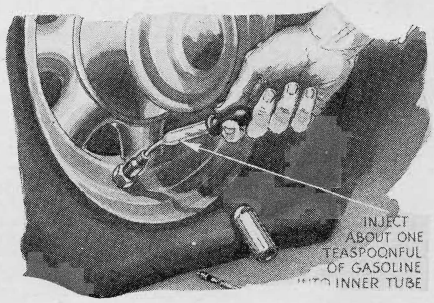
WITH a roll of rubber tape and a tube of tire cement it is easy to make a roadster windshield rattleproof and weather-tight. Placed around the edges of the glass, the tape holds the windshield glass snugly in the frame. New weatherstripping is made by cementing two or more strips of the tape over the edge of a third strip to form a thick backing as shown in the sketches above.—F.A.B.

## *Installing an Auto Heater in Cramped Space*

THE PROBLEM of installing a large car heater in a space much too small for it was solved by one ingenious car owner by cutting the heater in two. As shown in the photographs, the fan and radiator assembly of the hot-water unit was mounted inside the car while the electric, fan motor was fastened to the opposite side of the engine-compartment wall. To do this, it was necessary only to cut several inches from the original mounting brackets and to provide an extension for the motor drive shaft. Five holes were drilled through the motor wall; two large ones for the water-connection pipes, two small ones for the mounting bolts, and a medium one for the fan shaft. This arrangement also makes the motor readily accessible for oiling and repair.—W.E.B.



To save space, a car heater can be installed in two parts: the radiator in the car (left), the motor in the engine compartment




## *Cure for Porous Tubes*

NOTICING how rubber stoppers on bottles containing gasoline swelled up when they were removed from the bottle and exposed to the air, a car owner recently decided to try gasoline as an emergency cure for a porous tire tube. Removing the valve, he injected about a teaspoonful of gasoline into the stem with a medicine dropper, sloshed it around, and finally inflated the tire. Although only an emergency repair, the tube stood up for many months.—E.N.