

The Automobile Simplified

By FREDERICK C. GUERRICH, M. E.
Make This Your Automobile Correspondence School

An intimate talk on the working units of the automobile discussed in such a way that the layman can easily understand them. If in reading these articles, as they appear in the Palladium each Saturday, there is anything not clear to you, ask Mr. Guerrich about it. An answer will be published on the completion of the articles on the section of the automobile under discussion.

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There is one carburetor; namely, the one used on the Ford cars, which, because it operates on a different principle from most other carburetors, and because of the great number of these cars in use, demands a special explanation.

The Ford carburetor is of the type known as the Puddle or surface carburetor. At the higher speeds, however, it is really a spray carburetor. We learned that the gasoline will evaporate; that is, change from a liquid to a gas, at a temperature of about 70 degrees, when under atmospheric pressure, but at a much lower pressure, when the pressure is less than atmospheric, or a vacuum. Thus, if we had a puddle of gasoline in a vessel and were to create a vacuum over the puddle, the gasoline would vaporize.

If a current of air were to pass over this puddle at a fair rate of speed, the tendency to vaporize would be increased, partly because of the agitation of the liquid and partly because of the friction at the surface of the

leaner or weaker, and when screwed up, richer.

As a matter of fact, the amount of gasoline which will vaporize, will be exactly the amount which will enter through the hole "J," or needle valve. Because of the greater vacuum at the higher speeds, more gas will enter through this opening, just as it does through the spray nozzle of the carburetor explained previously.

The above is the action at the power speeds, but at the higher speeds all of the puddle will be swept away, so that the needle valve, "J," action being much the same as that of the nozzle of the spray type of carburetor, "K" in the illustration is the butterfly or throttle valve, operated by the lever "M," which lever is in turn operated by the lever on the steering column. Notice the screw "L," called the stop screw. The purpose of this is to determine the idling speed of the engine; that is, its speed when it is running, but the car is standing still, as when at the curb or in traffic. You will note that it determines the

carburetor, or the engine stops and misfires, then enrich the mixture one or two notches. Start the engine and note how it runs. If it runs smoothly, enrich one notch and see if the engine speeds up. If not, go back to the former setting. If it speeds up, enrich another notch, until the highest speed is obtained. This will very seldom be more than two or three notches richer than the stop-ping, or misfiring point.

5. Make the high speed adjustment, but in doing so, do not touch the low speed screw. Make this adjustment thus: Advance the spark; open the throttle fairly fast and immediately close it again, and note if there is a popping in the carburetor, if not, turn the high speed screw on notch weaker, and try again. Do this until the carburetor pops, and then enrich until the popping just stops. The engine should now speed up almost instantly, or as the saying is, have a good getaway.

The great fault of carburetor adjusters is that they get the mixture too rich.

Too rich a mixture will be indicated by missing; by lack of power; by black smoke or a bad odor at the exhaust; by a red flame when the compression cocks are opened.

Too lean a mixture will be indicated by popping; by missing; by lack of power; and by a yellow flame.

SHIP BRINGS DEAD HEROES

SAN FRANCISCO, Aug. 23.—Bearing 1,000 troops from Vladivostok, most of whom enlisted in Hartford, Conn., and the bodies of 20 of their comrades slain in the defense of the Trans-Siberian Railroad, the transport Sheridan, crippled through the breaking of her tail shaft three days out from Honolulu, arrived here today in tow of the United States supply ship Vestal.

Indiana News Brevities

ANDERSON—A bulldog, belonging to Dr. W. McMullen, D. D. S., of this city, which was suffering from toothache, is now wearing a gold tooth.

ROCHESTER—O. L. Binding, county agent, has asked aid of Purdue University in diagnosing a mysterious disease, which is killing all the trees along the eastern bank of Lake Manitou.

COLUMBIA CITY—Over 7,000 persons attended the annual meeting here Friday of the old settlers of Whitley county.

WABASH—The combined age of 31 of Wabash's old residents, all of whom are over 80, is 2,587 years. "Uncle" Jack Higgins, is the oldest resident, having reached 101 last month.

MARION—Two resolutions, one calling on the government to oust civilian employees from national military homes for disabled soldiers, who are not service men and put soldiers in their place; the other, removal of all employees from the quartermaster department who have not been in service and give former soldiers their places, were adopted at a meeting of Byron Thornburg Post No. 10, American Legion.

ROCHESTER—The annual meeting of old settlers of Fulton county, which is usually held at Chili, will take place at Luken's Lake, August 30.

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GLADWAY CARNIVAL SHOWS—A bewildering array of attractions on the State Fair Midway.

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C. N. LINDLEY, President. C. F. KENNEDY, Secretary. State House, Indianapolis.

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