

The Automobile Simplified

By FREDERICK C. GUERRLICH, M. E.

Make This Your Automobile Correspondence School

A N intimate talk on the working units of the automobile discussed to 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. Guerrlich about it. An answer will be published on the completion of the articles on the section of the automobile under discussion.

Copyrighted, 1919, by Frederick C. Guerrlich.

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

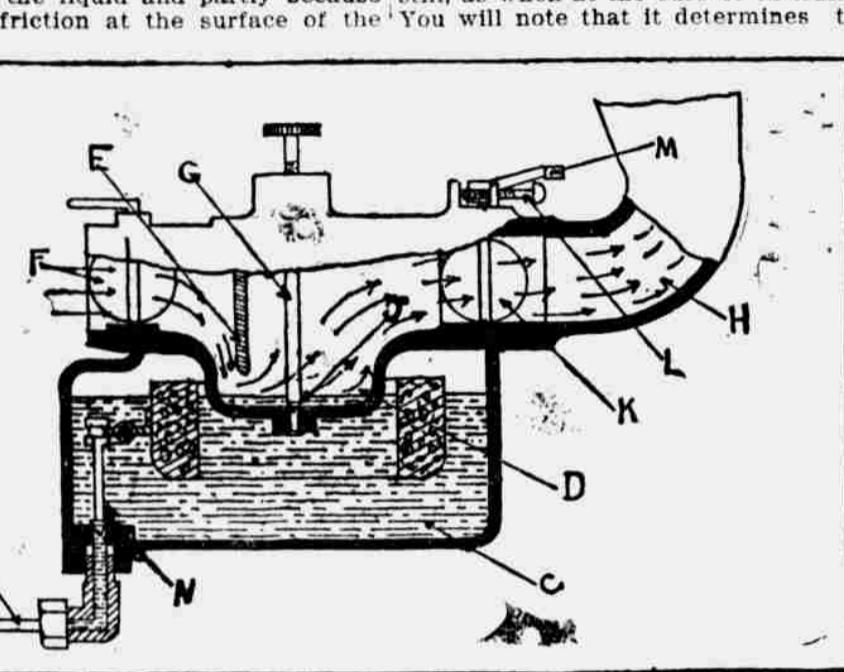
leaner or weaker, and when screwed up, richer.

As a matter of fact, the amount of gasoline which will vaporize, will be exactly the amount which will enter through the hole "I," 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 lower speeds, but at the higher speeds all of the puddle will be swept away, so that the needle valve, "I," 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



amount the throttle valve can be closed. As it is screwed back, it allows the throttle to close more, and so the engine will go slower, while, if turned forward the throttle can not close so much and the engine will run faster.

When the engine is warm this screw should be regulated so that the engine will run as slowly as possible, without having a tendency to stall or stop. Practically every make of carburetor has such a screw, and if your engine runs too fast, or tends to stall when idling, you can correct the fault.

Carburetor Adjustment

Because of the great variations in the method used to adjust the mixture in the various carburetors, most adjusting on the gas, while some, as the Stromberg, adjust on the air, it is difficult to give a method of adjustment without taking up each carburetor separately. The following, however, will be a help. The operator will first have to determine what the various adjusting screws, on his particular carburetor, are for. The steps to take when adjusting are as follows:

1. Be sure that the ignition is O. K.

2. Be sure that no "false air" is entering either where the carburetor is joined to the manifold, or where the manifold is joined to the cylinders.

3. Be sure the gasoline is feeding properly to the carburetor.

4. Warm up the engine by running at least fifteen minutes.

5. Make the low speed adjustment thus: Retard the spark; slowly turn the low speed adjustment screw so as to make the mixture leaner. In doing this, Turn the Screw One Notch at a Time, and then Wait to See What the Result Is. Keep making the mixture leaner until there is a popping in the

NOTE: The proportion of gasoline to air in the mixture controlled or regulated? As the gasoline vaporizes, the puddle will disappear or become thinner, and fresh gasoline must enter to take the place of that used. Now, if we were to control the entrance of this fresh gasoline, so as to keep the puddle at a certain thickness, we would also keep the area of the top of the puddle, or the surface from which the gas can vaporize, to a certain amount and we would thus control the percent of gas in the mixture.

The entrance of the fresh gasoline is controlled by the needle valve, "G." Obviously, as this needle is screwed down, the mixture will be

INDIANA STATE FAIR
Indianapolis, Sept. 1 to 6

Two Fine New Buildings

Dedication Ceremonies September 1

WOMAN'S BUILDING—An imposing structure of three floors for display of Fine Arts, Culinary Products and Flowers. Home of State Fair's School of Home Economics for Girls. Big Cafeteria in basement. Concerts by Jeanette Adler's Famous Women's Orchestra.

These imposing buildings will at once win the cordial approval of all Hoosiers. They are handsome in design, immense in capacity and mark the opening of a new era for the Indiana Fair.

Special Daily Attractions

PASSENGER AEROPLANING—By Kokomo Aviation Company. State Fair visitors will be carried in Curtiss Limousines in aerial sight-seeing trips over the exposition.

THRILLING AUTO POLO—The most sensational of modern sports, played during afternoon races and in Coliseum at night.

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

Stay for the Night Hippodrome Show

Twenty brilliant and spectacular acts from the New York Hippodrome circuses and vaudeville circuits, in the richest night show ever offered in the Middle West.

STATE FAIR ADMISSIONS—General admission, 75¢; children under 12 years, 50¢; vehicles, 75¢; Grandstand, 50¢; box seat, including admission, \$1.00; including admission, 75¢; Night Hippodrome—Admission, 80¢ with reserved seat; box seat, 75¢. C. N. LINDLEY, President. C. F. KENNEDY, Secretary. State House, Indianapolis.

Indiana News Briefs

ANDERSON—A bulldog, belonging to Dr. W. McMullen, D. D. S., of this city, 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 Manito.

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, 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 Chillicothe, will take place at Lukens Lake, August 30.

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 tall shaft three days out from Honolulu, arrived here today in tow of the United States supply ship Vestal.



Let Cuticura Help You Look Like This

Nothing better to care for your skin, hair and hands. The soap to cleanse and purify, the ointment to soothe and heal, the talcum to perfume. Then why not make these delicate, fragrant emollients your everyday toilet preparations?

Cuticura Talcum Powder

Do not fail to test the fascinating fragrance of Cuticura talcum powder, dusting and skin perfuming powder. Delicate, delightful, distinctive, it imparts to your person a charm incomparable. Cuticura Skin Oil and Cuticura Cream, where at 25¢ each. Sample each free of Cuticura, Dept. 14 T, Boston.

For a Good Cleaner

Call 1493

All orders quickly called for and promptly delivered. Ladies' Suits, cleaned and pressed \$1.25 Men's Suits, cleaned and pressed \$1.25 Skirts, cleaned and pressed for 50¢ Trousers, cleaned and pressed for 50¢

Peerless Dry Cleaning Co.

Opposite Courthouse 318 Main Phone 1493

Please Notice

My Dental Office will be closed from July 26th until September 1st.

DR. E. J. DYKEMAN

Service Men's Meeting

All Soldiers, Sailors Marines

Are requested to meet

at the

COURT HOUSE in the COURT ROOM

Next Monday night

August 25th, at 7:30

Frank T. Strayer, President

Our Best Offering
Sacramento Apartment Building, Inc.
8% Cumulative Preferred Stock

\$25,000

Par Value \$100 Per Share

Depository and HOME BANK AND TRUST CO., Transfer Agent Milwaukee and Ashland Aves., Chicago

Wide Margin—Property valued in excess of \$90,000.00. Three story and basement modern apartment building; 30 apartments; 2 to 5 rooms. Always rented—waiting list of tenants.

Choice Location—Fullerton and Sacramento Avenues, Chicago. Convenient to surface and elevated transportation. Residential district—near the great west park system.

Large Net Income—Far in excess of dividend requirements.

Safety—Monthly deposits of all rents to insure prompt payment of dividends.

Dividends—8% annually, payable 2% quarterly on the 10th day of January, April, July and October.

We Recommend This Preferred Stock for Investment.

Price \$100 Per Share

Subject to Prior Sale

Callable at \$105 per share and accrued dividend on 30 days' notice after any semi-annual dividend day.

Babcock-Fiddymont Company, Inc., Suite 532, 29 South La Salle Street, Chicago

Standard Make Tires Give Results to Users

BLUFFTON—Mrs. Sarah Sexton, of Street, Ill., arrived Friday to visit her sister, Mrs. Benjamin Plessinger, of this city, who she has not seen for 51 years.

INDIANAPOLIS—Col. Henry J. Reilly, veteran commander of the 149th artillery (Illinois) division, was the guest of Col. Robert H. Trindall, commander of the 15th field artillery, (Rainbow division) here Saturday.

In a car, the superintendent of county works drove over 18,000 miles before a single tire was changed on the set of Fisk tires with which the car was equipped. After that many more miles were checked off on the speedometer on three of the four.

This record was made in the face

of difficult road conditions, and often times with a load of five to ten workmen.

This performance proved so satisfactory to the commissioners that order was given to the commissioners that clerk of board, T. G. Farmer, has since ordered more Fisks for other cars.

Postal Card Given Prompt Attention.

Landscape Designs a Specialty.

Geo. L. VonCarlezon

Landscape Architect Gardner, Park and Boulevard Construction

We do sodding, grading, grass sowing, rolling, spraying and fertilizing. We plant, trim, or remove any size tree, shrubs, roses, grapevines, etc. Orders taken for trees, shrubs, roses and all kinds of plants, flowers, bulbs, etc.

We Make a Special of Taking Care of Private Residences by the Week or Month at Reasonable Prices.

Hedges of all kinds Planted and Trimmed.

121 North 7th St. Richmond, Ind.

CENTERVILLE CHURCH NOTICE

CENTERVILLE, Ind., Aug. 23.—Due to the fact that the pastor the Rev. Mr. McCormick will deliver an address at the Cambridge City chautauqua Sunday morning there will be no Sunday morning services. Sunday school and evening services will be conducted as usual.

Garden crops worth \$73,500 were raised on New York's vacant lot gardens this year.



Motorists Directory

Generator Repairing, General Overhauling, all kinds of Mechanical Work. Overland and Willys-Knight Cars

DAVIS-OVERLAND SALES CO.

1209 Main Street

Phone 2411

The McConaha's Garage

418-420 Main Street

Goodyear Tires—Prest-O-Lite Batteries—Accessories—Mobileoil and Auto Repairing

HUDSON—ESSEX—NASH—STUDEBAKER—FEDERAL and NASH Trucks

If you want an Automobile—See Us

The McConaha Company

413-415 Main St.

Phone 1079

PIEHL AUTO-ELECTRIC CO.

Storage Batteries and Ignition Parts



Storage Batteries Auto Electric Supplies Armatures and Coils Rewound

Phones 1891-1893. W. C. Piehl, Mgr.

1024 Main Street Richmond, Indiana

When You Need Tires you Need 'em (WE SELL 'EM)

NEEDHAM TIRES 5000-MILE GUARANTEE

Beeson Tire and Vulcanizing Co.

13 N. 9th St. Richmond, Ind.

AUTOS WANTED

For their parts. We tear 'em up and sell the parts. We have parts of all kinds such as Gears, Axles, Magnets, Carburetors, Lamps, Windshields, Glass, used Tires and Tubes, Etc.

RICHMOND AUTO WRECKING CO.

Second and Main

Phone 2165

EXPERT MOTOR TRUCK AND TRACTOR REPAIRING

When your truck needs repairing and immediate attention, just call us as we have the facilities and are equipped to give it our immediate attention. We are the local representatives for the Clydesdale, Garford, Commerce and Master Motor Trucks—the four leading motor trucks sold today.

THE WELDEX MFG. CO