

INVENTOR PLANS DRIVE ON GASOLINE

Combination of Electricity and Water Properly Placed is Said to Do the Things That Gasoline Does.

Gasoline forms the nucleus of power in practically all automobile engines of the present day, and many inventors and chemists have expended considerable energy and money in an effort to find a satisfactory substitute for this all-important commodity, which has been rapidly and constantly increasing in cost. One of the latest attempts in this direction is that of Mr. Ernest E. Panches, who hails from Detroit, Mich.

"Give me a suitable tank containing a set of plates submerged in water and a source of electric current, and I will drive your automobile engine without any gasoline whatsoever at reduced cost," says this sanguine inventor.

The secret of this remarkable invention lies in the fact that if an electric current is passed between two plates submerged in water it decomposes the water, evolving two gases, oxygen and hydrogen; the oxygen accruing from this process is liberated, while the hydrogen is collected and when suitably mixed with a proper amount of air it forms a highly explosive mixture when ignited in the automobile engine cylinder.

The proposed water-electric gas-generating plant would be fitted to a motor-car, the special dynamo, together with the decomposing chamber and gas storage tank, being placed with the engine under the same bonnet. The small Unipolar type dynamo is connected by suitable gears or driving chain to the timing gear on the crank shaft of the engine, and supplies a low voltage direct current. This current is passed through the electrolytic cell, alternate plates being charged positively and negatively. The plates are preferably perforated so as to promote circulation in the gas-generating cell, and by the close arrangement of the positively and negatively charged electrodes the gas generation is both rapid and efficient.

How the Combination Works.
As before mentioned, the oxygen is liberated by suitable automatic valves, and the hydrogen is retained and passed through a mixing valve, similar to the usual carburetor used on all gasoline engines, and which can be controlled from the driver's seat, following the standard practice in motor-car equipment. A suitable quantity of air is taken in through the mixing valve, and which, when combined with the proper quantity of hydrogen, forms a highly explosive gaseous compound. When this is fed into the engine cylinders and ignited by an electric spark it produces a force many times more powerful than that obtained when gasoline vapor is used. Some of the hydrogen gas produced by the electrolytic cell (decomposition of water) is stored in a suitable tank under pressure, which makes it available for starting the car and emergency. The entire combination unit fits the carburetor side of the engine and is supported by the former manifold holding means and also by the frame of the auto chassis. It has been found by Mr. Panches from trial, and also by calculation, that the hydrogen gas-generating outfit here described, and which it is proposed to substitute for gasoline, will require up to 5 per cent of the horsepower developed by the engine, this 5 per cent of the total engine horsepower being used to drive the decomposing current dynamo.

Gas in Water.
There are 1,257.52 cubic feet of hydrogen gas in one cubic foot of water, the gas at atmospheric pressure, zero degree Centigrade, and it will require 1,728 watts of electricity to decompose a cubic foot of water in one hour. Compare this with the following data, obtained from a Chalmers Motor Car company:
The maximum revolutions of the Chalmers motor is 3,000 per minute under full load. The motor develops 45-horsepower on an average at this speed, and under full load, with a well worked in motor. The suction displacement per revolution is 244.2 equals 112 cubic inches; equals .0648 cubic feet. Then at 3,000 revolutions per minute and assuming 100 per cent volumetric efficiency, the number of cubic feet drawn into the motor per minute is 3,000 times .0648, or 194.5, and 60 times 194.5, or 11,670, is the number of cubic feet drawn into the motor, of mixture each hour, running at maximum speed and under full load.

The gasoline entering into that mixture is 7 per cent by weight, and the amount by volume will not depart far from the 7 per cent, as there is no great difference between the weight of air and gasoline vapor. So, in face of the fact that an explosion of hydrogen in a pure state, when mixed with air, is a thousand times as powerful, as is the same per cent of gasoline vapor and air, we shall be way above in figuring a 10 per cent mixture of hydrogen gas with air. As 10 per cent of 11,670 is 1,167, the number of cubic feet of hydrogen, we must generate in an hour. Bearing in mind that there are 1,257.52 cubic feet of hydrogen in a cubic foot of water, and that 1,728 watts will decompose the cubic foot of water in an hour, and also that 746 into 1,728 goes about 2 1/4 times, it is apparent that we will generate 90.52 cubic feet of gas per hour more than the Chalmers motor can use at maximum speed, and under full load, taking less than 5 per cent of the 45-horsepower to drive the decomposing current generator. The inventor has demonstrated his invention before the entire engineering staff of the Tecla Electrical Laboratory of Detroit, Mich.—Electrical Experimenters.

Mammoth Contract Is Made For Cars for New York

The largest automobile contract ever made was closed recently by the Detroiters Motor company of Detroit, Mich., with the Carl Page company of New York City. The contract amounts to \$7,925,000 and covers a period of five years for the sale in the metropolitan district of the Detroit automobile. Many other large orders have been received by the company from established agencies, including a big order from Buffalo, N. Y., and from Denver, Colo. The company is also shipping a great many cars to foreign countries.

MAXWELL SUBMARINE MANEUVERS—Omaha Maxwell car plowing its way through the streets of Council Bluffs recently flooded.



Harvard Eccentric Piston Ring Now on Local Market

A piston ring that promises to eliminate most of the engine troubles due to leakage has made its appearance on the market, and is being distributed in this state by J. H. Vandiver, 1419 Capitol avenue. Mr. Vandiver says the ring lies in a groove in the piston and is so constructed that it will expand freely against the cylinder wall, thus preventing the escape of gas; the interlocking, overlapping joint is an exclusive feature of the ring, preventing leakage of gas from the compression chamber.

"Another patented feature of the Harward ring is the oil pockets that tend to give flexibility, since they lessen the amount of material in the ring, the bearing surface is also reduced, which makes the ring lighter. These oil pockets gather the oil from the surface where there is too much and distribute it to the dry surface, where it is needed. They overlap so that the cylinder is completely encircled with oil. The eccentric groove inside the ring gives to it the flexibility of the ends attained by the thin ends of plain rings. The uniform thickness of the edge prevents the ring from wearing the groove more at the outer edge than at the inner part."

Careful Advertising Factor In Readjusting Business

"It is the patriotic duty of every business man to readjust his business to meet war conditions, so that the country will be able to give the men at the front every possible support," says Edward S. Babcock, advertising manager of the Firestone Tire & Rubber company. "American industries are mobile and should be able to readjust their methods and forces to meet these new conditions. Advertising campaigns carefully and wisely planned, will be one of the prime factors in this readjustment, becoming more of a force in modern business than ever. They will be of greater assistance to the salesmen and with a well organized sales force, business will go on as usual."

Automobile One of World's Most Important Utilities

"Physicians, real estate dealers, traveling salesmen, municipal departments and public service corporations are a few classes to whom the motor car is indispensable," says Joe Gerspacher of the Toozer-Gerspacher Motor company. "Tens of thousands of automobiles are required each year to satisfy demand from these sources, yet they are but a fraction of the cars bought wholly or principally for business purposes. The automobile is one of the world's most important utilities."

NOW WITH THE WESTERN MOTOR CAR COMPANY.



Harold G. Bell

Harold G. Bell, who has recently joined forces with the Western Motor Car company, is showing sure enough signs of speed as a salesman, asserts E. V. Abbott, secretary of the company. Bell was formerly with Pease Brothers, and although he is new on the auto row, he is delivering the goods.

Auto Row Gossip

R. B. Tracy of Chicago, branch manager of the Michelin Tire company of Milltown, N. J., spent Friday in Omaha.

H. C. Bradford, advertising manager of the King Motor Car company of Detroit, spent several days with the Noyes-Killy Motor company last week arranging the route of the King Eight test car which will be here during the week.

G. F. Bailey, formerly automobile editor of the New York Globe, now western sales manager of the Redden Truck company, spent several days in Omaha last week. Bailey reports a marked awakening in the west to motor truck possibilities.

Advice regarding the first shipment of Harroun cars into this section has been received by the Western Motor Car company and arrival is expected not later than Tuesday of this week.

Clean and Polish Your Car "The Wonder-Mist Way"



Spray On--Wipe Off--That's All

Removes mud, dust, dirt, grease and road oil without the use of water and at less cost. Leaves no wax deposit to collect dust. Apply with a spray which distributes a fine mist evenly over the entire surface. Wipe dry with cheese cloth.

WONDER-MIST keeps your car always looking like new.

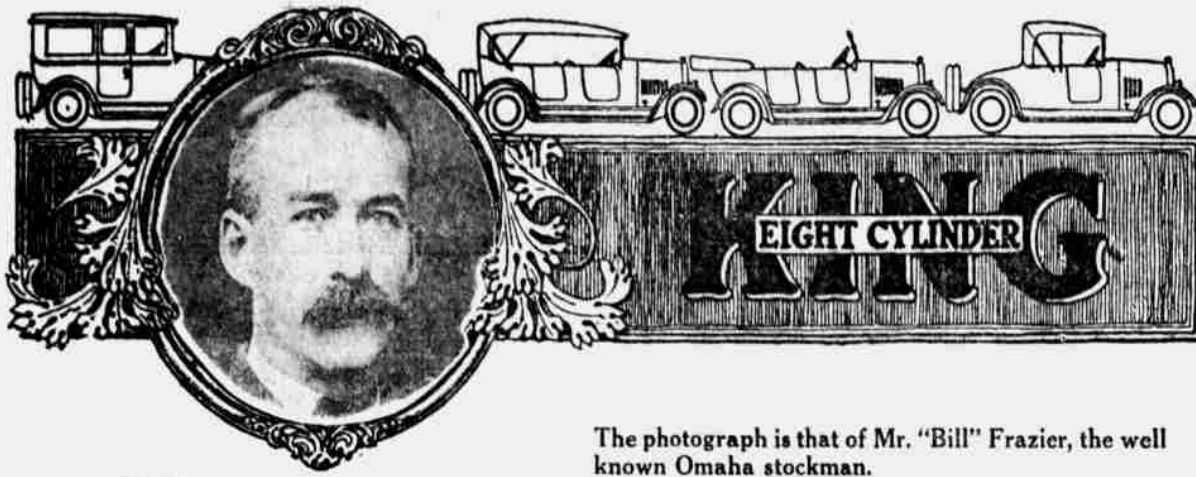
A quart will clean your car about fifteen times.

Quart can, complete with sprayer, \$1.25. On sale at your dealers or call.



POWELL SUPPLY COMPANY OMAHA

Automobile supplies
2051 Farnam St.
Phone Douglas 921



The photograph is that of Mr. "Bill" Frazier, the well known Omaha stockman.

Concerning his new KING 8, Mr. Frazier writes as follows:

"There's a new arrival in the Frazier household. 'All are doing nicely, thank you.

"Say, you never saw anything so active in your life, and naturally we are all proud of it. It has a marvelous appetite, fairly eats up the country roads. And quiet! You wouldn't guess there was one around if you didn't see it. It's easily handled and requires very little care, but if you step on it—wow!

"It's never been peevish, cross, nor had the croup, and never keeps us up nights without our consent.

"What is it?

"A KING 8, of course.

UNFAILING SERVICE ON THE FARM, IN THE CITY OR BATTLEFIELD

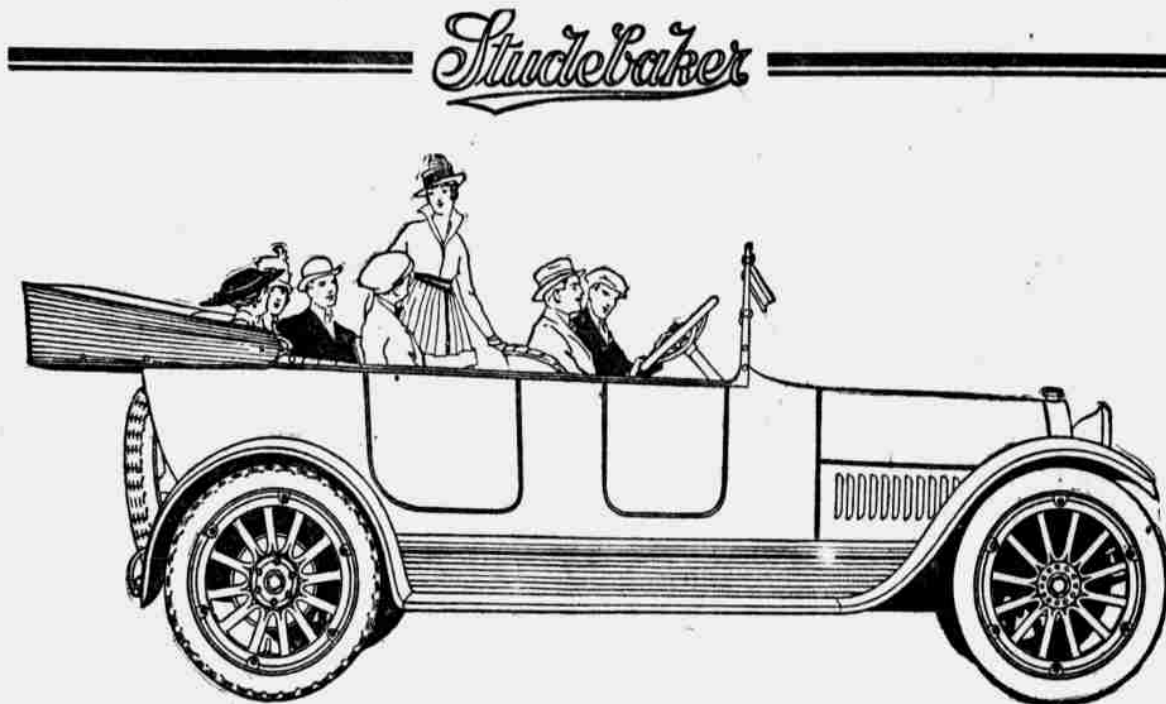
We are making immediate deliveries on all models.

- Series EE, 7 Passenger Touring . . . \$1650
- Series EE, 4 Passenger Foursome . . . \$1700
- Series EE, 3 Passenger Roadster . . . \$1585
- Series EE, 7 Passenger Sedan . . . \$2300

(f. o. b. Detroit)

King Motor Car Company, Detroit.

NOYES KILLY MOTOR COMPANY
2066-68 Farnam Street — Douglas 7461
— FACTORY DISTRIBUTORS —



The Studebaker Car

A Car of Proved Economy

ECONOMY is measured by value received. The man who studies and analyzes and compares usually gets the most for his money. Economy means wise buying.

In Detroit, where thousands of people are directly connected with the production of automobiles, where people know from daily contact the organizations producing 80% of all American cars, there are more Studebaker cars registered than any other car selling at over \$500.

In other words, where automobile materials are studied and automobile workmanship analyzed and compared, where practically everyone is motor-wise, Studebaker cars are bought in greatest numbers because they are known to be the best values on the market dollar for dollar of their prices.

Detroit's judgment of Studebaker Value is vindicated by the performance of Studebaker cars on the roads of America.

In the Far West, on the stage routes of the Rocky Mountains, on the hardest, hillest drives in the United States, Studebaker cars stand up and give the service at a minimum expense for upkeep and repairs.

This is proved by the official registration figures of California, which show that in California there are more Studebaker cars registered than any other car selling at over \$500.

Although Studebaker cars are probably the most powerful cars on the market in ratio to their weight, they are very economical in their consumption of gasoline.

Their weight is so perfectly balanced that Studebaker owners frequently get from 8,000 to 10,000 miles on a single set of tires.

Their remarkable accessibility reduces adjustment and repair expense to a minimum.

For these reasons Studebaker cars are distinctly economical to operate.

Due to their high quality and mechanical perfection Studebaker cars have uniformly high values in case of a re-sale or trade-in.

For this reason a Studebaker car is very economical to own.

Therefore, if you want to get the most for your money—if you want to practice true economy by purchasing wisely, follow the example of those who know by study, and by service rendered—buy a Studebaker.

Four-Cylinder Models

FOUR Roadster	\$985
FOUR Touring Car	985
FOUR Landau Roadster	1150
FOUR Every-Weather Car	1185

All prices f. o. b. Detroit

STUDEBAKER-WILSON, Inc.
Farnam Street and 25th Ave.
OMAHA, NEB.

Six-Cylinder Models

SIX Roadster	\$1250
SIX Touring Car	1250
SIX Landau Roadster	1350
SIX Touring Sedan	1700
SIX Coupe	1750
SIX Limousine	2400

All prices f. o. b. Detroit