UNITED STATES PATENT OFFICE.

FRIEDERICH WILLIAM ROHRS, OF ROSEDALE, MARYLAND.

MOTOR FUEL.

1,425,136. Specification of Letters Patent. Patented Aug. 8, 1922.

No Drawing. Application filed February 23, 1921. Serial No. 447,243.

To all whom it may concern:

Be it known that I, FRIEDERICH WILLIAM ROHRS, a citizen of the United States, residing in the town of Rosedale, in the county of Baltimore and State of Maryland (whose post-office address is Philadelphia Road and Hamilton Ave., Raspeburg R. D.), have invented a new and useful Improvement in a Motor Fuel.

This invention relates to liquid fuel for use in internal combustion engines, and has for its object to provide a fuel, which, due to possessing greater specific gravity than the common, commercial form of gasoline, is heavier and gives a slower combustion, which will permit of a higher spark advance to the engine than heretofore possible with the ordinary type of fuel now on the market.

By reason of the utilizing of a heavy fuel comprising the ingredients in the proportions herein set forth, it is obvious that a considerable saving will be effected in the consumption of the fuel, as the same will not be drawn off and burned as wastefully from the jet of the carburetor as the lighter and more volatile fuels.

The principal power-giving element of the fuel is gasoline, which is admixed with acetone, kerosene, and benzol, in substantially the proportions below set forth.

A motor fuel compounded in accordance with my invention will greatly increase the mileage per gallon of the fuel, and at the same time improve the efficiency and increase the durability of the motor, as it will not corrode or have any other detrimental effect upon the engine parts.

Furthermore, the fuel has the effect of keeping the carbon in the cylinders in suspension, preventing its hardening on to the metal surfaces, and thus permitting the said free carbon to be expelled through the exhaust.

To obtain a liquid fuel that will give the desired results, it has been found, from practical experimentation, that at a temperature of 10 F., the following ingredients compounded in the following proportions are highly satisfactory.

Acetone	3 liq. oz. or approximately	3%
Kerosene	3 liq. oz. or approximately	3%
Benzol	13 liq. oz. or approximately	9%
Gasoline	128 liq. oz. or approximately	85%

While kerosene and gasoline are by-products of petroleum distillate, the total percentage of these two ingredients, called for in the above formula, may be taken together and considered as the amount of petroleum distillate employed.

To compensate for changes in atmospheric temperatures, it has been found advantageous to vary the proportion of benzol, varying from approximately 7% to 27%, without any variation being made in any of the other ingredients.

The varying of the quantity of benzol used has been found desirable, since benzol at a very low temperature has a tendency to change from the fluid to the solid state, and this congealing naturally tends to impair the efficiency of the fuel, if not proportionately lessened as the temperature decreases. Conversely, the benzol must be proportionately increased as the temperature rises. By thus varying the quantity of the benzol as the temperature changes, a heavy and slowly burning fuel is obtained which will permit of a higher spark advance, and a reduction in the consumption of the fuel.

The acetone, due to its mobility, tends to produce better vaporization of the fuel, thus causing the engine to start much easier. It also counteracts the heating effect of the benzol and assists materially in keeping the temperature of the engine at a proper point.

The kerosene tends greatly to facilitate the mixing and blending of the acetone with the gasoline, and also prevents the too rapid vaporization of the acetone. Another important advantage residing in the use of kerosene is, that it acts, in combination with the acetone, as a solvent of the carbon developed in the cylinders, and causes the carbon to remain continuously in suspension so that the free carbon is readily expelled with the exhaust gases, so that carbon deposits in the cylinders are eliminated or minimized.

By my invention, I am able to materially cut down the use of gasoline, and yet secure a fuel which is high in power and in mileage per fuel unit, and which will have a lower vaporization point than commercial gasoline, so that losses from excessive and rapid vaporization are materially reduced.

While I have above set forth the proportions of the ingredients which I at present prefer to employ, I do not wish to be lim-

ited to the exact proportions herein given, as the same may be varied to a considerable extent and still be within the range of my invention.

I claim as my invention:

1. A motor fuel consisting of 3% acetone, 3% kerosene, 9% benzol and 85% gasoline.

2. A motor fuel consisting of substantially 3% acetone, 9% benzol and 88% petroleum distillate.

In testimony of the above I herewith sign my name.

FRIEDERICH WILLIAM ROHRS.