

UNITED STATES PATENT OFFICE.

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MOTOR FUEL.

No Drawing. Application filed December 15, 1924. Serial No. 756,154.

To all whom it may concern:

Be it known that I, JEAN F. P. DE LA RIBOISIÈRE, a citizen of France, residing at Washington, District of Columbia, have invented certain new and useful Improvements in Motor Fuels, of which the following is a specification.

My invention relates to fuels for internal combustion engines.

In applications Nos. 664,586, filed Sept. 24, 1923, and Ser. No. 750,657 filed Nov. 18, 1924, of which this application is a continuation in part, I have set forth a motor fuel comprising a considerable proportion of hydrocarbon material boiling above 160° C., a blending agent such as ether and a compound adapted to retain the ether in the mixture, for example, a phenolic body. Both the blending agent and the compound adapted to retain the blending agent in the mixture assist in promoting ignition and giving an improved combustion.

I have now discovered that an economical and efficient mixed fuel may be made by utilizing low boiling point hydrocarbons such as gasoline, benzol, alcohol, hydrogenated hydrocarbons such as the material sold under the registered marks, "Tetraline," "Dekaline," hydrogenated naphthols and similar hydrocarbons, in connection with a blending agent such as ether or acetone and its homologues which are suitable and a phenolic body, both of the latter promoting ignition and assisting in giving an improved combustion.

I may use as the phenolic body either phenol or cresol. I may also use as the phenolic body, phenol, cresol, and their homologues or derivatives, and substitution products which exhibit the characteristics of the phenols. This includes such phenol ethers and esters which are suitable. Among the other compounds that I have found satisfactory are the phenyl compounds of selenium, sulfur, tellurium, thorium, thallium, tungsten, titanium, bismuth, vanadium, aluminum, etc. While I prefer to use phenylic bodies such as the metallic or metalloid phenyl compounds because they are more staple, my invention is not limited thereto. In this connection, I desire to state that the term, "phenylic body containing a metal" is used in the specification and in the claims to include both the phenyl compounds of the metals and metalloids. Other phenyl compounds may be used in connection with

the other ingredients of my fuel composition. For example, dibenzyl salicylate, a phenyl selenium compound, such as dibenzyl diselenide, dibenzyl selenide, the benzyl amines, the benzyl anilines, the benzyl alcohols, the benzyl bromides including the dibenzyl dibromide and other derivatives may be used. The benzyl hydroxy amines may also be used.

The percentage of blending agents may vary according to the type of hydrocarbons used. In general, percentages varying up to 5% may be used. When the percentage of blending agent is between .5 and 3 1/2%, satisfactory results have been obtained. The alkyl ethers and acetone are particularly suitable for use in my compound but of course, other satisfactory blending agents may be used.

I have found from actual practice that a mixture of the character specified will increase the speed of many types of motor vehicles, at least 20% when climbing a steep hill. A demonstration in connection with a number of different types of motor cars shows an increase of speed in climbing a steep hill of 20 to 30%. As a matter of fact, when using fuel of the character specified it has been demonstrated that the power of the motor is increased, at least 25%. My improved mixture will effect an economy in the consumption in fuel ranging from between 20 to 30% as compared with the use of ordinary gasoline.

The following examples are given of specific mixed fuels embodying my invention which have been found to give satisfactory results:

Gasoline.	Ether.	Acetone.	Phenylic body.
1. 99.2	.5%	-----	Dibenzyl diselenide (C ₆ H ₅ CH ₂ Se) ₂ 3%.
2. 98.5	1%	-----	Diphenyl of sulfur (C ₆ H ₅) ₂ S .5%.
3. 97.5	2%	-----	Triphenyl of thallium (C ₆ H ₅) ₃ Tl. .5%.
4. 99	.5%	-----	Dibenzyl diselenide (C ₆ H ₅ CH ₂ Se) ₂ .5%.
5. 96.5	-----	3%	Dibenzyl diselenide (C ₆ H ₅ CH ₂ Se) ₂ .5%.

In the above examples, benzol may be substituted for the gasoline.

I claim:
1. A motor fuel comprising a low boiling point hydrocarbon the major portion of which boil below 160° C., a small proportion of an ether of low boiling point adapted to promote combustion and ignition, and a

phenolic body adapted to retain the ether in the mixture.

2. A motor fuel comprising a low boiling point hydrocarbon the major portion of which boils below 160° C., a small proportion of an alkyl ether of low boiling point adapted to promote combustion and ignition, and a phenolic body adapted to retain the ether in the mixture.

10 3. A motor fuel comprising a low boiling point hydrocarbon, a blending agent to promote combustion and ignition, and a phenylic body containing a metal adapted to retain the blending agent in the mixture.

15 4. A motor fuel comprising a low boiling point hydrocarbon, ether to promote combustion and ignition, and a phenylic body

containing a metal adapted to retain the ether in the mixture.

5. A motor fuel comprising a low boiling point hydrocarbon, an alkyl ether to promote combustion and ignition and a phenylic body containing a metal adapted to retain the ether in the mixture. 20

6. A motor fuel comprising a low boiling point hydrocarbon, a blending agent to promote combustion and ignition and a small proportion of a phenylic body containing a metal adapted to retain the blending agent in the mixture. 25

In testimony whereof I hereunto affix my signature. 30

JEAN F. P. DE LA RIBOISIERE.