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UNITED STATES PATENT OFFICE.

WALTER T. SCHREIBER, OF BALTIMORE, MARYLAND, ASSIGNOR TO U. S. INDUSTRIAL ALCOHOL CO., A CORPORATION OF WEST VIRGINIA.

MOTOR FUEL.

No Drawing. Application filed May 8, 1919. Serial No. 295,695.

To all whom it may concern:

Be it known that I, WALTER T. SCHREIBER, a citizen of the United States, residing at Baltimore, and State of Maryland, have invented a certain new and useful Improvement in Motor Fuel, of which the following is a specification.

My invention relates particularly to fuels designed to be used in aeroplane motors, but is applicable for use in internal combustion motors of all kinds used in flying or for other purposes.

The object of my invention is to provide a fuel which is especially adapted for use in aeroplanes, although it is also applicable for use in internal combustion engines in general.

It is necessary that fuels which are to be used in aeroplane motors shall have great dependability, inasmuch as any uncertainty in the operation of the aeroplane, by reason of variability in the character of the fuel or failure of the fuel to perform its intended work, may bring about disastrous consequences.

For this reason, it is desirable to avoid using in such fuel large percentages of petroleum products, inasmuch as commercial petroleum products do not ordinarily have a constant composition, and are usually comprised of varying quantities of a number of different constituents.

It is, therefore, the object of my invention to provide a motor fuel avoiding these disadvantages and taking into account the circumstances above referred to.

Still a further object of my invention is to provide fuels of the above character by the use of ketones but especially higher ketones, that is to say, ketones other than acetone.

Another object of my invention is to provide a composition of such character that benzol, if present, will not be caused to crystallize out at ordinary atmospheric temperatures, as for example, when an aeroplane operated thereby is at a very high altitude. This is accomplished by the use of higher ketones, as without the presence of such higher ketones the compositions would tend to solidify in whole or in part at ordinary atmospheric temperatures.

Further objects of my invention will appear from the detailed description thereof contained hereinafter.

While my invention is capable of being carried out in different ways, for the purpose of illustration I shall describe only certain ways of carrying out the same herein.

For example, a fuel made in accordance with my invention may be comprised of—

35 parts by volume of acetone
25 " " " " alcohol
5 " " " " ether
17½ " " " " kerosene
17½ " " " " gasoline

Another example is

35 parts by volume of methyl-ethyl-ketone
25 " " " " alcohol
5 " " " " ether
17½ " " " " kerosene
17½ " " " " gasoline

Another example is

35 parts by volume of diethyl ketone
25 " " " " alcohol
5 " " " " ether
17½ " " " " kerosene
17½ " " " " gasoline

Another example is

5 parts by volume of diethyl ketone
35 " " " " benzol
25 " " " " alcohol
17½ " " " " kerosene
17½ " " " " gasoline

Another example is

10 parts by volume of methyl-ethyl-ketone
30 " " " " benzol
20 " " " " alcohol
30 " " " " gasoline

The above compositions may be varied to a considerable extent. For example, the kerosene and gasoline may be substituted by the same total quantity of a single petroleum distillate, such for example as gasoline or kerosene. The ether may be omitted. Also, other alcohols may be used instead of ethyl alcohol.

This case contains matter claimed in application Serial No. 295,694, filed May 8, 1919 by the same inventor.

While I have described my invention above in detail, I wish it to be understood that many changes may be made therein without departing from the spirit thereof.

I claim:

1. A fuel comprising a petroleum distillate, an alcohol and diethyl ketone.

2. A fuel comprising a petroleum distillate, an alcohol, diethyl ketone and ether.

3. A fuel comprising the following ingredients in the approximate proportions by volume, diethyl ketone 35 parts, ethyl alcohol 25 parts, ether 5 parts, kerosene 17½ parts, and gasoline 17½ parts.

4. A fuel comprising a petroleum distillate, an alcohol, a higher ketone, and ether, the petroleum distillate being less than 50% by volume, the ketone about ⅓ part by volume, and the ether about 1/20 by volume.

In testimony that I claim the foregoing I have hereunto set my hand this 1st day of May, 1919.

WALTER T. SCHREIBER.