

UNITED STATES PATENT OFFICE.

GEORGE D. HOOVER, OF DES MOINES, IOWA.

CARBON-REMOVER.

1,386,337.

Specification of Letters Patent.

Patented Aug. 2, 1921.

No Drawing.

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To all whom it may concern:

Be it known that I, GEORGE D. HOOVER, a citizen of the United States, and a resident of Des Moines, in the county of Polk and State of Iowa, have invented a certain new and useful Carbon-Remover, of which the following is a specification.

The object of my invention is to provide a carbon remover comprised of ingredients, which may be readily secured, and which are easily mixed together. The ingredients are ether, denatured alcohol, preferably naphthalene, and ammonia water.

With these and other objects in view, my invention consists in the mixture of the parts in the relative proportions hereinafter mentioned.

It is well known that carbon collects in the cylinders and on the piston of the ordinary internal combustion engine. The removal of such carbon furnishes a problem for the user of the engine. The most common method of removing the carbon consists in taking down the engine and removing the carbon by mechanical means, such for instance, as a scraper.

My improved carbon remover consists of the following ingredients in substantially the proportions mentioned, mixed together mechanically:

Ether----- 2½ ounces.

Denatured alcohol----- 3½ ounces.

Ammonia water----- 10 ounces.

I preferably use with my mixture some suitable coloring matter, which, however, has nothing to do with the efficiency of the car-

bon remover. There may be added to the mixture one ounce of naphthalene.

In the use of my remover, the carbon remover in liquid form is forced against the carbon in a fine stream, while the engine parts are hot. When this is done, the carbon remover will cut into the carbon and pass through it to the metal. The engine should be turned over a few times without ignition to cause the carbon remover to go to all available parts. The fumes under compression, spread and help in the removal process. The saturated carbon is then allowed to dry, and the parts are allowed to cool and thereafter it will be found that the oil in the carbon has been taken out, and the carbon will have been reduced to flakes or fine dust. Thereafter the engine is started, and the carbon dust will be blown out at the exhaust.

Some slight variations in the proportions of the ingredients may be submitted, and there may be some slight differences in the practice of the process, and it is my intention to cover by my claim, any variation in the proportions of the ingredients or in the practice of the process which may reasonably come within the scope of my claim.

I claim as my invention:

A carbon remover, comprising ether, denatured alcohol, naphthalene, and ammonia water in substantially the proportions of two and one-half ounces, three and one-half ounces, one ounce and ten ounces respectively.

Des Moines, Iowa, July 11, 1919.

GEORGE D. HOOVER.