

# UNITED STATES PATENT OFFICE.

LÉON DARDEL AND HENRI BÉCOULET, OF PARIS, FRANCE.

## PROCESS OF SOLIDIFYING PETROLEUM AND OIL OF NAPHTHA

SPECIFICATION forming part of Letters Patent No. 535,532, dated March 12, 1895.

Application filed March 9, 1894. Serial No. 503,046. (No specimens.) Patented in France November 3, 1893, No. 233,816.

*To all whom it may concern:*

Be it known that we, LÉON DARDEL and HENRI BÉCOULET, residing at Paris, in the Department of the Seine, France, have invented certain new and useful Improvements in New Processes for the Solidification of Petroleum and the Oils of Naphtha, of which the following is a specification.

Patent has been granted in France on the 3d of November, 1893, No. 233,816.

Our invention relates to a new process for solidifying petroleum and naphtha oil for use as a solid fuel which shall be lighter and of a much greater heating power than other solid fuel, while the cost of production is considerably less.

Our new process is based upon the combination of naphtha oil or petroleum, (the naphtha oil possessing the advantage of cheapness,) fir cones or exhausted tan waste, soap (preferably resin soap) and lamp black to which can be added in certain cases a small quantity of soda.

The elements of the compound can vary between certain proportions but we will indicate the following proportions as having given the best results: naphtha oil or petroleum, sixty to seventy per cent.; resin or other soap, nineteen to fifteen per cent.; fir cones or exhausted tan waste, nineteen to fifteen per cent.; soda, if there be any, one to one and one-

half per cent.; lamp black, one to one and one half per cent.

The mixture is made in a heated state over a flame that can be regulated as desired. At the moment it commences to solidify it is run off over an even surface or in molds having the shape of briquets. They are then allowed to cool off and taken out of the molds. If run off on plates the mass is then cut in the desired size. To obtain a harder product the compound may be run off in molds surrounded by a continuous circulation of cold water and be dried in the air. We will thus obtain a fuel which being solid can be used in coal bunkers or coal yards just as easily as any fuel. The combustion will take place in the same manner as that of other solid fuel and it has the advantage to leave less ashes.

Having thus described our invention, what we claim is—

A composition of matter consisting of oil, soap, fir cones or tan waste, lamp black and soda in the proportions stated, substantially as described.

In witness whereof we have hereunto set our hands in presence of two witnesses.

LÉON DARDEL.  
HENRI BÉCOULET.

Witnesses:

CLYDE SHROPSHIRE,  
JULES DAYOLLET.