

# UNITED STATES PATENT OFFICE.

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## PROCESS OF PRODUCING ARTIFICIAL FUEL.

No. 826,723.

Specification of Letters Patent.

Patented July 24, 1906.

Application filed August 9, 1905. Serial No. 273,379.

*To all whom it may concern:*

Be it known that I, GEORGE W. HERBEIN, a citizen of the United States, residing at Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Processes of Producing Artificial Fuel, of which the following is a specification.

This invention relates to a process of producing artificial fuel, and more particularly to certain improvements in the process described in United States Patent No. 778,781, which was issued to me December 22, 1904.

The object of the present invention is to simplify and lessen the cost of production of artificial fuel whereby it can be manufactured in large quantities and at a moderate cost, thus opening up to commercial uses a market which has hitherto been unavailable.

My new process of manufacturing artificial fuel consists in first mixing petroleum, either in its crude or refined state, or the by-products therefrom with resin or resinous gum and subjecting the same to the action of heat in order to dissolve the resin; second, adding to the mixture an alkali, such as soda or potash, and while heated stir them together until the mass is partially saponified; third, mixing in peat, which has preferably been dried or charred; fourth, if the product is not sufficiently dry, adding lime, either oxid or hydrated, and, finally, adding thereto an adhesive or binding substance consisting of a compound of pitch or asphaltum and an alkali.

The admixture of the aforementioned ingredients may be accomplished in any suitable apparatus which can be employed for such purposes.

The best proportions of the several ingredients are not definite and would in each case be determined through experiment to ascertain the quality or calorific values thereof and to adapt the product to the particular purposes for which intended and also as to the manner in which the same is to be used.

While in compounding this fuel I have made the various steps immediately consecutive, it is obvious that it may be accomplished at different times and the first one or two steps performed in one place and the following ones elsewhere, as at the consuming or distributing points, where the heavier substances may be obtained at less cost, and at the same time making a saving in transportation charges.

Having thus described and explained my invention, what I claim as new, and desire to secure by Letters Patent, is—

The herein-described process of producing artificial fuel, which consists in first mixing petroleum with resin, heating such mixture to dissolve the resin, second adding an alkali to such mixture while said heat is being maintained, and partially saponifying the mixture, third mixing in dried or charred peat, fourth adding lime and finally adding a binding substance consisting of a compound of pitch and an alkali.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE W. HERBEIN.

Witnesses:

PIERRE BARNES.

S. R. KELLER.