

# United States Patent Office.

CHARLES D. WILLIAMS, OF ST. PAUL, MINNESOTA.

*Letters Patent No. 103,266, dated May 17, 1870.*

## IMPROVEMENT IN ARTIFICIAL FUEL.

The Schedule referred to in these Letters Patent and making part of the same

*To all whom it may concern:*

Be it known that I, CHARLES D. WILLIAMS, of St. Paul, in the county of Ramsey and in the State of Minnesota, have invented certain new and useful Improvements in the Manufacture of Fuel; and do hereby declare that the following is a full, clear, and exact description thereof.

The nature of my invention consists in the combination of certain oils with partially decayed wood, or dry peat, or other porous bodies or substances, to be used as fuel in large or small quantities.

The oil is composed of lard-oil, linseed-oil, and crude or refined petroleum oil, in the following proportions:

- One part lard-oil;
- One part linseed-oil; and
- Eight parts petroleum oil.

The decayed wood, peat, or other porous bodies, are saturated with this combination of oils by merely dipping them into a reservoir containing the combination of oils, and allowing them to remain until saturated, when they are taken out and packed away in a proper and safe manner for use.

The object to be attained by using porous bodies is to have in them a reservoir or medium to contain the oil combination, and from thence delivered to the surface of these bodies, which is done by capillary attraction, and of course burned on the surface, thus keeping up a steady fire until the oils and porous bodies are burned up, without any liability to sudden explosion. This combination, in addition, prolongs the time of burning the oils, the linseed and lard-oil giving body to the petroleum oil.

An oil composed of these three ingredients contains more carbon than petroleum oil, burns longer, and gives a better body to the flame. It avoids to a

great extent the liability to sudden explosions, as may be the case where petroleum alone is used.

There is no danger of explosion during the process of saturating the porous bodies above referred to. It prevents greatly evaporation from saturated porous bodies after they are ready for use, thus avoiding partial spoiling of the fuel, as well as vapor arising from the depository containing the fuel; also avoiding any considerable accumulation of petroleum vapors, as medium to convey flame from a lamp or gas-burner to the place of deposit of the fuel.

Porous bodies saturated with my combination of oils are not so easily ignited by a lighted match or light in the hands of a careless servant, or when exposed to heated bodies, as is petroleum oil alone, or when used alone to saturate these bodies.

I do not wish to be understood as confining myself to the exact proportions of the oils above mentioned, as they may have to be varied somewhat on account of the nature of the porous bodies used, or for other reasons.

Having thus fully described my invention,

What I claim as new and desire to secure by Letters Patent, is—

1. The combination of lard-oil, linseed-oil and petroleum oil, substantially for the purposes herein set forth.

2. Saturating any porous body with the combination of oils herein described, for the purpose of using the same as fuel, substantially as set forth.

In testimony that I claim the foregoing, I have hereunto set my hand this 23d day of December, 1869.

CHARLES D. WILLIAMS.

Witnesses:

O. C. GREENE,  
L. A. MOORE.