

UNITED STATES PATENT OFFICE.

BERTRAND M. THOMAS, OF SAN FRANCISCO, CALIFORNIA.

ARTIFICIAL FUEL AND METHOD OF PREPARING SAME.

SPECIFICATION forming part of Letters Patent No. 704,717, dated July 15, 1902.

Application filed November 20, 1901. Serial No. 83,035. (No specimens.)

To all whom it may concern:

Be it known that I, BERTRAND M. THOMAS, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented new and useful Improvements in Artificial Fuel and Methods of Preparing the Same, of which the following is a specification.

My improved fuel is composed of a combination of tule peat, crude petroleum, and alkali earth, the said ingredients being first thoroughly incorporated together and afterward pressed into briquets or other forms, producing a fuel which ignites readily, is consumed gradually, giving out meanwhile a steady and intense heat, and leaving as a residuum but a small quantity of ash in proportion to the bulk of the fuel used.

In the manufacture of my fuel I take a selected, well-developed tule peat, such as occurs in the valleys of the San Joaquin and Sacramento rivers, in the State of California, and subject the same to a drying process, preferably by exposure to the sun, until all traces of moisture are eliminated. I then thoroughly saturate the dried tule peat with crude petroleum of about 14° test. After the crude petroleum has fully permeated every part of the tule peat I mix with the resulting mass alkali earth, such as occurs in a natural state in the deserts of California. I have found it advantageous to have the alkali earth in a dampened state when mixed with the other materials, as its incorporation with the latter and the subsequent operations are thereby facilitated. The prepared mass is then subjected to pressure in a suitable machine or press or in molds and formed into briquets, slabs, or other forms most convenient for shipment and use.

Of the materials employed the petroleum insures ready ignition and active combustion. The dried tule peat, being itself combustible, serves also as a vehicle for the crude petroleum, regulating its combustion, and also to form a coal. The alkali earth gives the proper consistency, strength, and increased body to the mass, insures the retention of the crude

petroleum by the fibrous tule peat when under pressure, and facilitates the formation of the material into briquets, slabs, &c. The presence of the alkali earth also prevents too rapid combustion, at the same time forming, with the peat, a cinder of intense heat.

The respective proportions of the oil-saturated peat and the alkali earth may be varied according to the use for which the product is intended. If for furnaces, a greater proportion of alkali earth should be employed, the object being to have the red-hot cinder with slower combustion. If for stoves, a less proportion of alkali earth as compared with the peat, the object being to have a quicker flame, lasting a shorter time, and producing less ashes. As a general rule, subject to variations, as stated, I would employ about one part of the alkali earth to nine parts of saturated peat, the measurements being by volume.

I have not found it necessary to add to the ingredients mentioned any adhesive or other substance for the special purpose of acting as a binder, the fibrous character of the peat when combined with the other elements serving to retain the finished product in compact form without crumbling or breaking up during the handling incident to shipment and use.

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

1. An artificial fuel composed of tule peat and crude petroleum mixed with an alkali earth, substantially as set forth.

2. The method of preparing artificial fuel from tule peat which consists in first drying the peat, then saturating it with crude petroleum, then mixing it with alkali earth, and afterward pressing it into forms, substantially as set forth.

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

BERTRAND M. THOMAS.

Witnesses:

W. H. DILLMAN,
D. C. DIXSON.