

UNITED STATES PATENT OFFICE.

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COMPOSITION FUEL.

SPECIFICATION forming part of Letters Patent No. 756,936, dated April 12, 1904.

Application filed July 10, 1903. Serial No. 164,992. (No specimens.)

To all whom it may concern:

Be it known that I, CHARLES H. CARPENTER, a citizen of the United States, residing at Decatur, in the county of Adams, in the State of Indiana, have invented certain new and useful Improvements in Composition Fuels; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in composition fuels specially designed and adapted for domestic heating, though it is also an economical, convenient, and efficient fuel for steam generation.

The object of my invention is to provide a cheap, simple, and convenient composition fuel possessing a very high degree of heating properties, convenient to handle, practically odorless in use, and equally well adapted for either steam-making or for domestic use.

Another object of my present invention is to provide a composition fuel which is formed of ingredients which are practically waste, and which can readily and conveniently be combined without the aid of hydraulic pressure or any machinery whatever and without requiring any special skill, and in which the combustion is so perfect that it gives out no cinders whatever, leaves no clinkers, is cleanly to handle, is sanitary in use, and in every other way is unobjectionable in use. This object I accomplish by my improved fuel, as has been fully demonstrated by numerous practical tests, and which consists of the following ingredients, combined in the following proportions to each ton of the fuel: clay, nine hundred pounds; crushed corncobs, sawdust, or other vegetable refuse, six hundred and fifty pounds; sand, two hundred and twenty-five pounds; powdered rosin, two hundred and twenty-five pounds.

All the above ingredients are thoroughly mixed in a dry state, after which the mass is properly moistened and then pressed into brick form of any convenient size.

Three ounces of coloring-matter are preferably added to each ton of the composition, which gives it a light chocolate color, though this coloring of the composition is not essential to its efficiency as a fuel.

My improved fuel thus described makes neither sparks nor cinders in combustion, is odorless, cleanly, and sanitary in use, makes very much less smoke than coal, leaves no clinkers, makes a very hot fire in a very few moments, and yet lasts longer, as shown by numerous practical tests, than coal.

While my improved fuel is specially designed for domestic heating it is equally valuable for the generation of steam and for any and all other purposes for which fuel is employed.

I find by practical tests that if the proportion of clay in my improved fuel be too great it has a tendency to burn or fuse in a hard mass like a brick or other burned clay products, with but slight tendency to disintegrate, thereby rendering its combustion unsatisfactorily slow, while on the other hand if the proportion of clay is too small its combustion will be too rapid to properly hold fire.

A proper proportion of sand is necessary in my composition fuel to make it sufficiently porous to properly disintegrate under a high degree of continued heat and go to ashes instead of fusing into a hard clinker-like mass.

The vegetable refuse when properly mixed and compressed with the other ingredients into a hard mass of coal-like texture forms the principal aid to combustion.

The rosin ingredient not only forms a firm binder for the other ingredients, but when properly distributed through the composition it materially aids in its thorough combustion.

While the exact proportions of the above ingredients are not absolutely essential to the formation of my improved product, yet it is believed the best results are secured by substantially the proportions above specified, though I do not desire to be understood as limiting myself to the precise proportions described.

My improved fuel is thus made of materials which are everywhere abundant and are either waste or practically without cost, and it is far more cleanly and convenient to handle for domestic use.

Having thus described my invention, what I desire to secure by Letters Patent is--

1. The herein-described composition of matter, consisting of clay, or like earthy matter, sand; vegetable refuse; and powdered rosin substantially in the proportions specified, and for the purpose described.

2. The herein-described composition of

matter for fuel consisting of clay nine hundred pounds, vegetable refuse six hundred and fifty pounds, sand two hundred and twenty-five pounds, and powdered rosin two hundred and twenty-five pounds, substantially as described.

Signed by me at South Bend, county of St. Joseph, State of Indiana, this 8th day of July, A. D. 1903.

CHARLES H. CARPENTER.

Witnesses:

IDEN S. ROMIG,

JOSEPH N. CALVERT.