

UNITED STATES PATENT OFFICE.

JOAB H. HUBBARD, OF HARTFORD, CONNECTICUT.

IMPROVED ARTIFICIAL FUEL.

Specification forming part of Letters Patent No. 40,753, dated December 1, 1863.

To all whom it may concern:

Be it known that I, JOAB H. HUBBARD, of the city and county of Hartford, and State of Connecticut, have invented or discovered a new and useful Mode of Combining or Solidifying Anthracite Coal or Coal-Dust, (generally considered useless or of little value,) so as to restore it in a great degree to its original value for fuel; and I do hereby declare that the mode or process of producing said result is described in the following specification and shown by the accompanying samples.

To enable others skilled in the art to compound the same, I will proceed to describe the components, mode of producing the compound, and the advantage to be derived from the same.

Many efforts and experiments have been made to render fine anthracite coal or coal-dust profitable for fuel, and up to the present time such effort has proved nearly or quite unsuccessful. In those experiments already made it seems to be the prevalent idea that some kind of combustible material is essentially necessary to be combined with the coal-dust and congealing material in order to render it free to burn, whereas I have found by successful experiments that the only quality required is a congealing material that will sufficiently hold the particles together for transportation and while it is being consumed by the flame or fire, and a material also that will yield itself as the particles of coal are consumed to allow a free circulation of air between the kernels or lumps of coal, as in the burning of the common lump-coal.

In preparing my composition for fuel I use, say, to fifteen tons of fine anthracite coal or

coal-dust one ton of "plaster-paris," (commonly so called;) or, instead thereof, I sometimes use one ton of clay (such as is used in making brick or pottery;) or, instead of either of those, I sometimes use one ton (half and half of each) of plaster and clay, and when the parts, as described, are mixed together add a sufficient amount of water to properly congeal the particles together in mass and compressed into proper molds or into bulk and dried, when it will be ready for use.

The proportions of clay or plaster may be varied more or less and have the same effect, or nearly so, as that above described. For that reason I do not wish to be confined to the exact proportions described. Also, it may be found to work very advantageously to use about half and half of each of the plaster and clay, and for that reason I do not wish to be confined to either of those ingredients separately.

It will at once be perceived that by this very simple compound I am able to produce a valuable saving in fuel, which otherwise would be thrown to waste.

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

Congealing into a mass for a fuel as follows: to fifteen tons of anthracite coal or coal-dust one ton of plaster-paris or one ton of clay, or half and half of each, to render it (the coal-dust) useful for fuel, substantially in the manner and for the purpose described.

JOAB H. HUBBARD. [L. S.]

Witnesses:

A. B. GILLET, JEREMY W. BLISS.