

UNITED STATES PATENT OFFICE.

SAMUEL J. WHITING AND JOSEPH K. BLYLER, OF PHILADELPHIA, PA.

IMPROVEMENT IN FUEL FROM COAL-DUST.

Specification forming part of Letters Patent No. **155,559**, dated September 29, 1874; application filed March 17, 1874.

To all whom it may concern:

Be it known that we, SAMUEL J. WHITING and JOSEPH K. BLYLER, of the city and county of Philadelphia, and State of Pennsylvania, have invented a new and useful Flux for Coal-Dust Fuel; and we do hereby declare the following to be a clear and exact description of the nature thereof, sufficient to enable others skilled in the art to which our invention appertains to fully understand, make, and use the same.

In carrying out our invention, we take, first, benzine, thirty pounds; Trinidad bitumen, one hundred pounds; rosin, two pounds; and, uniting them, form compound No. 1.

If these ingredients are inclosed in an air-tight vessel they will dissolve in twenty-four hours; but the same result will be produced in eight hours by agitation, and in three hours by heat not exceeding 130°.

We now prepare compound No. 2, as follows: Coal-dust, eighty pounds; sawdust, ten pounds; and grind the mass to an impalpable powder.

In a mixer containing a revolving shaft with beaters attached we place about ninety per cent. of compound No. 2, and add about ten

per cent. of the flux or compound No. 1, and when there is a thorough incorporation of the ingredients the resultant mass is in condition for conversion into blocks by molding or to be formed into lumps, as may be desired. The benzine will evaporate in about ten hours, after which the blocks are ready for use as fuel.

The advantages of the above flux and method of combining a compressible material are as follows, viz: The absence of moisture generally used to dissolve ingredients incompatible with fuel; the absence of heat, which destroys the carbonaceous properties of the fuel; and the perfect affinity existing between all of the ingredients, whereby a superior product is the result.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

The herein-described compound, produced in the manner and by the means set forth.

SAML. J. WHITING.

JOS. K. BLYLER.

Witnesses:

JOHN A. WIEDERSHEIM,

JAMES P. SCOTT.