

UNITED STATES PATENT OFFICE.

THOMAS M. FELL, OF BROOKLYN, NEW YORK.

IMPROVED ARTIFICIAL FUEL.

Specification forming part of Letters Patent No. **40,920**, dated December 15, 1863; antedated December 4, 1863.

To all whom it may concern:

Be it known that I, THOMAS M. FELL, a subject of the Kingdom of Great Britain, but now residing in the city of Brooklyn, in the county of Kings and State of New York, have invented a certain new and useful improved manufacture of artificial fuel from the dust and breeze or refuse of anthracite coal; and I do hereby declare that the following is a full and correct description thereof and the mode of manufacture.

I take the fine dust and small particles of anthracite coal, the refuse of the coal-yards, and mix with it from five to ten per cent., in weight, of asphaltum, finely powdered and dry. There is generally sufficient moisture in the coal-dust to make the mixture sufficiently plastic to mold; if not, water must be added, but not in sufficient quantity to make a paste. The plastic compound is next pressed in molds or frames of any suitable or convenient shape, and then placed in an oven or muffle heated by a fire underneath the bottom, the products of combustion passing through the oven, over the material, and out at any suitable flue con-

nected with a chimney. The oven-door is closed during the operation, but not necessarily luted. As such ovens are in common use for various purposes, a more particular description is not necessary. The temperature should be from 300° to 600° Fahrenheit, depending upon the proportion of asphaltum. The material should be kept in the oven until it becomes solid and dry, when it is taken out and cooled down in the open air. The fuel is now ready for use, and may be broken up in suitable sizes for grates, furnaces, &c.

I sometimes reduce the anthracite to a uniform condition before mixing by grinding or pounding. When this is done the fuel is more dense and makes a hotter fire.

I claim—

The within-described artificial fuel, manufactured from anthracite and asphaltum in the manner described.

THOS. K. FELL.

Witnesses:

F. C. TREADWELL, Jr.,
M. B. ANUS.