

UNITED STATES PATENT OFFICE.

FREDERICK C. EPTING, OF SCHUYLKILL HAVEN, PENNSYLVANIA, ASSIGNOR
TO HIMSELF AND WILLIAM GEORGE, OF SAME PLACE.

IMPROVEMENT IN ARTIFICIAL FUEL.

Specification forming part of Letters Patent No. 122,447, dated January 2, 1872.

SPECIFICATION.

I, FREDERICK C. EPTING, of Schuylkill Haven, county of Schuylkill, State of Pennsylvania, have invented an Improved Artificial Fuel, of which the following is a specification:

Nature and Object of the Invention.

My invention consists of an artificial fuel, composed of coal-dust or waste, clay, common salt, and benzine, combined in a manner and in the proportions fully described hereafter, the whole forming a hard, compact fuel, free from dust, and which will burn freely and produce intense heat without emitting either smell or smoke.

General Description.

The ingredients required in the manufacture of my improved fuel are coal-dust or waste, such as can be obtained in any required quantities at the mining regions for the cost of removing it or at a mere nominal price, ordinary yellow or other clay, common salt, and benzine, the latter being of as volatile a character as can be obtained. These ingredients I combine in about the following proportions: Coal-dust or waste, one ton; clay, three-eighths of a ton; salt, twenty-five pounds; benzine, two gallons. The whole of these ingredients combined are mixed with sufficient water to reduce the mass to the consistency of mortar, or to such a consistency as will enable the said mass to be pressed into molds by the aid of suitable machinery. In molding the mass into blocks or

bricks of the desired shape and size it should be submitted to sufficient pressure to express a considerable portion of the water, so that when removed from the molds the blocks may be quickly and almost entirely dried by the evaporation of the benzine. To effect the rapid drying of the fuel is, in fact, the only object in using the benzine, as it entirely evaporates, and forms no part of the dry fuel. The clay serves to bind the mass together and to so harden as to prevent crumbling or breaking up during handling or transportation. The fuel ignites as readily as ordinary coal, and burns freely and with great heat, the latter being intensified by the presence of the salt, which is used for this purpose. The burning fuel, moreover, is entirely free from either smell or smoke, this latter being its great advantage over other artificial fuels in which tar, pitch, and analogous substances are used as ingredients.

Claim.

An artificial fuel composed of the within-described ingredients, combined in the manner and in about the proportions specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

F. C. EPTING.

Witnesses:

WM. A. STEEL,
JOHN K. RUPERTUS.

(61)