

UNITED STATES PATENT OFFICE.

ROBERT A. CHESEBROUGH, OF NEW YORK, N. Y.

IMPROVED METHOD OF BURNING OIL FOR FUEL.

Specification forming part of Letters Patent No. 58,379, dated October 2, 1865.

To all whom it may concern:

Be it known that I, ROBERT A. CHESEBROUGH, of the city and State of New York, have invented a new and useful Method of Burning Hydrocarbon or other Oils under steam-boilers in place of wood or coal, by using bone-black or other animal charcoal as an absorbent of the oil, of which the following is a specification.

To enable others to use my invention, I shall proceed to explain the same as follows:

In order to use oil as fuel in place of wood or coal, it is necessary to replace the ordinary grate-bars under a boiler by a grate-pan to contain the oil to be burned as fuel, which may be of various forms or construction; but as there are objections to the use of a grate-pan alone without any absorbent substance to take up the oil, I have discovered that bone-black as an absorbent to be placed in the pan overcomes many objections to the use of oil as fuel.

Any object in motion using steam-power, as a ship at sea or a locomotive on land, would find it difficult and dangerous to use oil as fuel if the same were allowed to run loose in the pan from side to side or be spilled out by any sudden movement. It is therefore essential to employ some substance which will

absorb the oil in the pan as fast as it is fed into it, and at the same time yield up the oil to the fire as fast as needed to support the proper amount of flame which may be required.

Bone-black possesses three properties which qualify it for adaptation to this purpose: first, its porosity, which enables it to take up and hold in its pores a large amount of oil; second, its ability to sustain intense and long-continued heat without destruction; and, thirdly, it is so poor a conductor of heat that it would render the introduction of the oil into the bottom of the grate-pan by pipes underneath perfectly safe from fire or danger of explosion were explosive oils to be used.

The advantage to be gained by steam-vessels using oil as fuel in preference to coal is the great saving in weight and labor.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The use of bone-black as an absorbent bed for oil when the same is used as fuel.
2. The combination of bone-black and hydrocarbon or other oils for use as fuel.

ROBERT A. CHESEBROUGH.

Witnesses:

W. H. CHESEBROUGH,
MAXWELL Z. WOODHULL.