N. BARTLETT & G. T. LEWIS.

MANUFACTURE OF WHITE PAINT FROM ZINC ORES.

No. 67,839. Patented Aug. 26 1867.

Fig. 1.

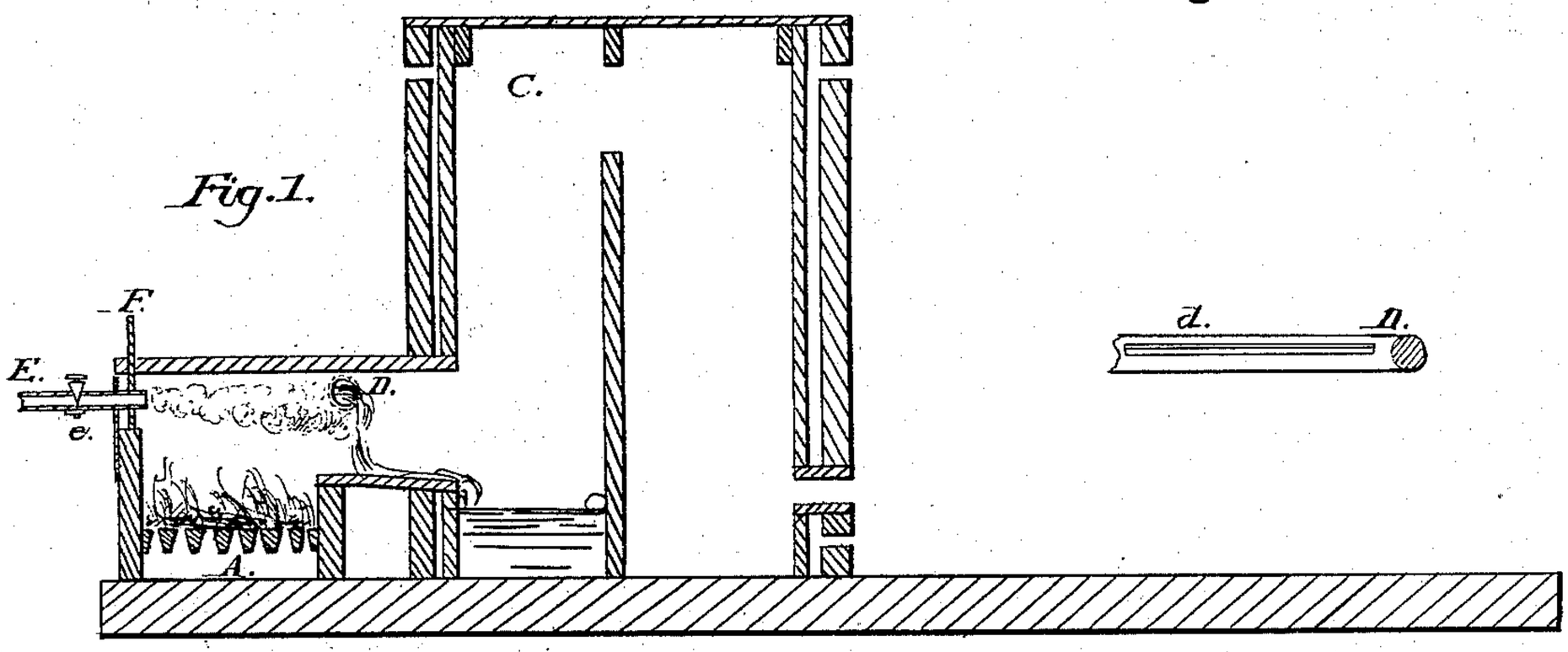
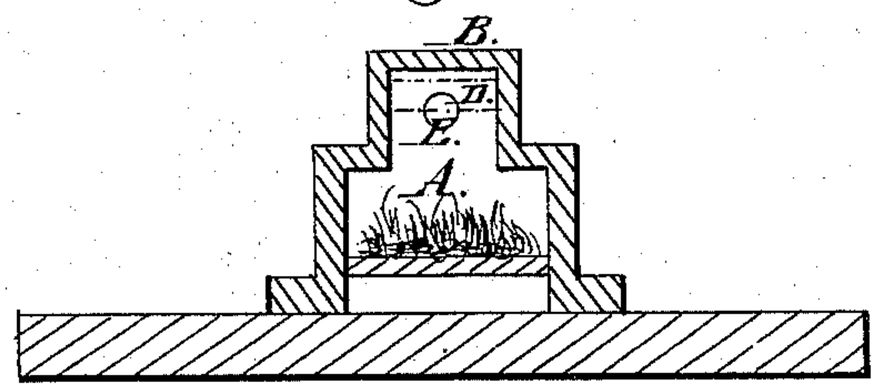


Fig. 2.



Witnesses:
Geo. E. Buckley
Franklin Small

Inventors:
George T. Lewis
Nathan Bartlett
by their attorney
J. Eshaw

United States Patent Office.

NATHAN BARTLETT, OF BIRMINGHAM, AND GEORGE T. LEWIS, OF PHILADELPHIA, PENNSYLVANIA.

Letters Patent No. 67,839, *dated August* 20, 1867.

IMPROVEMENT IN THE MANUFACTURE OF WHITE PAINT FROM ZINC ORES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that we, NATHAN BARTLETT, of Birmingham, in the county of Huntingdon, and State of Pennsylvania, and GEORGE T. LEWIS, of the city of Philadelphia, and State aforesaid, have invented a new and useful Process of Manufacturing White Paint from the Ores of Zinc; and we do hereby declare that the following is a full and exact description of the same, and also of the apparatus by which our said process may be applied, reference being had to the annexed drawings, forming part hereof, in which drawings—

Figure 1 is a longitudinal vertical section of the furnace, flue, steam pipe, water pipe, and tower.

Figure 2, a transverse vertical section of the furnace.

Figure 3, an enlarged perspective view of the water pipe, showing the slot in the same.

The object of our invention is to produce a better article of paint, and, by saving the destruction of machinery and bags, to effect a more economical working of the process hitherto practised in the manufacture of paint from zinc ores.

Our invention consists in the employment of steam in combination with a body of water, the water being so arranged that the products of combustion arising from the furnace or furnaces shall be caused to pass through or come in intimate contact with the water, as such products pass from the furnace to the bags or settling-room, and the steam being caused to mix with said products before they come into such contact with the water.

In the drawings, A represents an ordinary zinc-furnace; B, the ordinary flue for conveying the products of combustion which arise from the furnace into a tower, C, which is constructed in the ordinary manner, and on a portion of the bottom of which there is a stratum of water, as shown in fig. 1. D represents a pipe, which crosses the flue B transversely. This pipe is about two inches in diameter, has a slot, *d*, and is closed at one end, as shown in fig. 3, the other end of said pipe being connected with a supply of water. E is a pipe leading into the end of the flue B. This pipe E is about one inch in diameter, is connected with a steam-boiler, and is provided with a stop-cock, *e*, placed at any point therein between the boiler and the flue B. F is a door, which may be opened when it is found necessary to clean the flue B, the steam pipe E in such case being drawn out of the way. The flue B may be of any desired length, and there may be any desired number of furnaces leading into it. We prefer to admit the steam into flue B at or near the outer end of said flue, to wit, the end most distant from the tower C. The steam may, however, be admitted into said flue at any point between the water pipe D and said outer end of the flue, and instead of a single steam pipe, any desired number of steam pipes may be employed.

The water flowing in through pipe D escapes through the slot *d* in a thin sheet, the waste running down into the tower, and keeping up the supply of water which is there commonly employed. The steam admitted into the flue as described, mingles with the products of combustion, and these, passing on, come in contact with the sheet of water from pipe D, which condenses the steam and strains out impurities, the residue passing on into the tower, and the lighter portions thereof passing thence in the ordinary manner into the bags or settling-rooms.

Having thus described our invention, we do not desire to claim the employment in the flue of a sheet of water alone; neither do we desire to claim the employment of steam alone; but what we do claim, and desire to secure by Letters Patent, is—

The employment of steam in combination with water in the manufacture of white paint from zinc ores, the water being so arranged that the products of combustion arising from the furnace shall be caused to pass through or come in intimate contact with the water on their way from the furnace to the bags or settling-chamber, and the steam being caused to mix with such products before they pass through or come into such contact with the water, substantially as set forth.

NATHAN BARTLETT,
GEORGE T. LEWIS.

Witnesses to the signature of NATHAN BARTLETT:
JOHN OWENS,
JNO. R. THOMPSON.
Witnesses to the signature of GEORGE T. LEWIS:
W. W. DOUGHERTY,
FRANKLIN SMALL.