P. Farley,

Bone Black Dryer.

NO. 113,754. Patented Apr. 18. 1871.

Fig: 1.

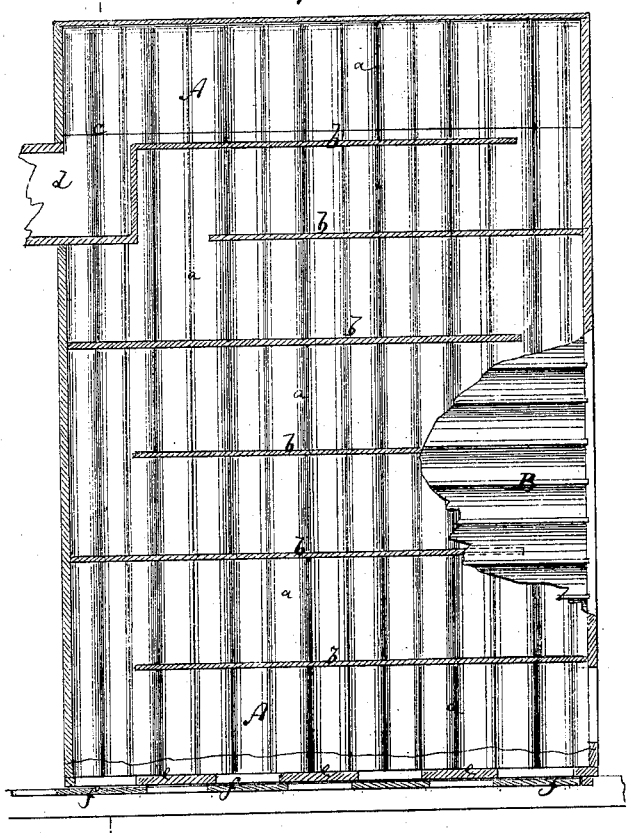


Fig: 2.

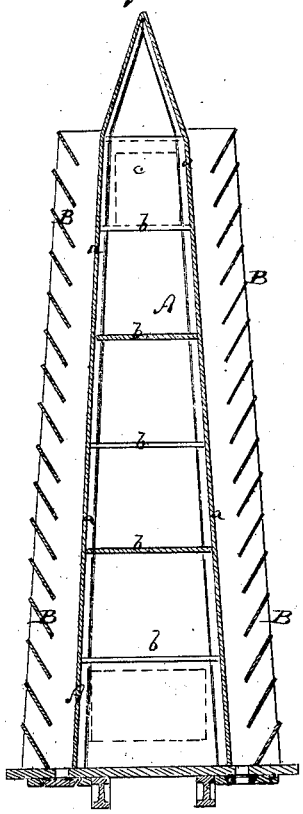
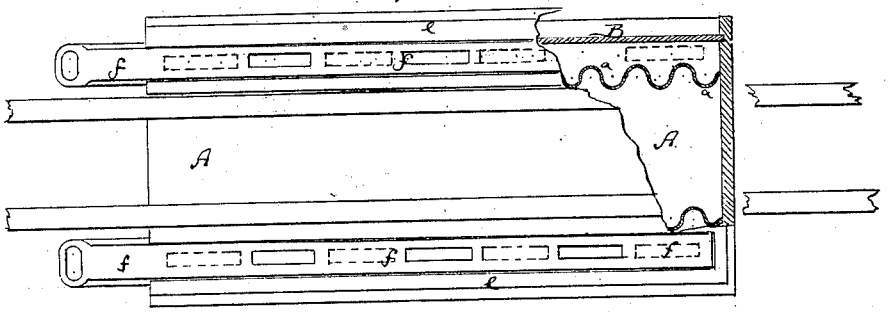


Fig: 3.



Witnesses:

C. Raettig

Wm H. C. Smith.

Inventor:

P. Farley.

PER

Attorneys.

UNITED STATES PATENT OFFICE.

PETER FARLEY, OF NEW YORK, N. Y.

IMPROVEMENT IN DRYING BONE-BLACK.

Specification forming part of Letters Patent No. 113,754, *dated April* 18, 1871.

To all whom it may concern:

Be it known that I, PETER FARLEY, of New York city, in the county and State of New York, have invented a new and Improved Apparatus for Drying Bone-Black; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification.

Figure 1 represents a vertical longitudinal section of my improved apparatus for drying bone-black. Fig. 2 is a vertical transverse section of the same. Fig. 3 is an inverted plan view, partly in section, of the same.

Similar letters of reference indicate corresponding parts.

This invention relates to a new apparatus for drying bone-black used in sugar-refineries and for other purposes, and consists in the arrangement of inclosed shelves to the outer side of a heating structure, so that said shelves may retain the matter to be dried and allow it to feed down slowly; also, in the general construction of apparatus.

A in the drawing represents a structure put above a furnace or suitable heater used in sugar-refineries or other establishments. It is made of metal or other material, preferably with vertically-corrugated sides *a a*, which are slightly inclined, as shown in Fig. 2. Shelves *b b* are arranged within the structure A, perforated or open at alternate ends, as shown in Fig. 1. The heat from the furnace below enters the lower part of the structure A, and is, by the shelves *b b*, detained and caused to move in a zigzag course, until at the upper end of A it is, by a short vertical pipe, *c*, carried down to the chimney *d*. The structure A is thus made a heater by the detention of the hot air or products of combustion passing through it.

B B are a series of inclined slats arranged against the outer side of the heater A, above one another, as is clearly shown in Fig. 2. Their inner edges, which may be straight or scalloped parallel with the corrugations in the sides, are but a short distance from the latter. At the bottom the space between the slats and sides *a* is closed by flanges *e e*, which project from the heater, and are provided with lateral or longitudinal slides *f*, whereby apertures in said flanges are closed or opened to suitable extent.

The bone-black or other matter to be dried is placed upon the upper slat B, in contact with the heater, and is gradually fed down until it arrives thoroughly dried upon the plate *e*, whence it is discharged into the retort or receptacle below by opening the slides *f*.

This apparatus serves to do away with the laborious and expensive flat driers heretofore used, and also with the dangerous process of drying while burning, whereby explosions are frequently occasioned.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The inclined slats B B applied to the heater A, substantially as and for the purpose herein shown and described.

2. The heater A, applied to a furnace, and provided with inclined sides and with shelves, as described, to utilize the waste heat for the drying of bone-black, as specified.

3. The slides *f*, applied to the perforated flanges *e*, and combined with the inclined slats and heater, as described.

The above specification of my invention signed by me this 11th day of March, 1871.

PETER FARLEY.

Witnesses:

GEO. W. MABEE,

T. B. MOSHER.