W. BLAKEY.

GRAIN DRIER.

No. 113,840. Patented Apr. 18, 1871.

fig. 1.

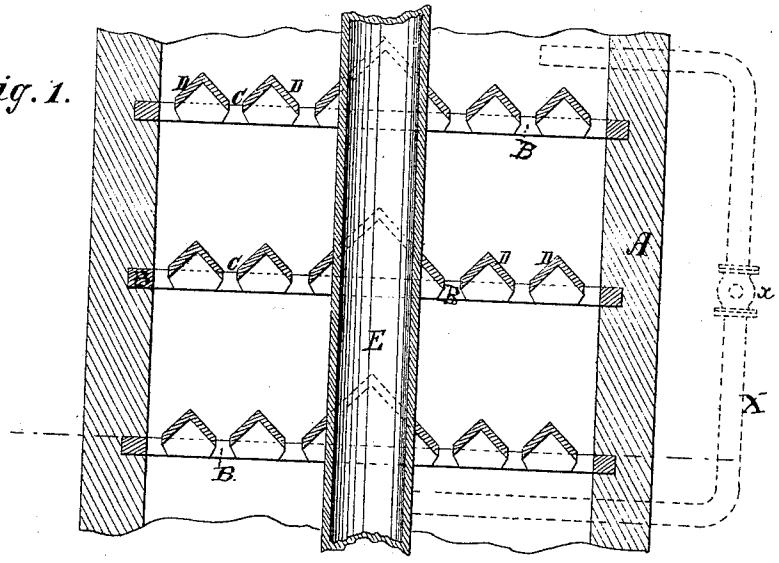
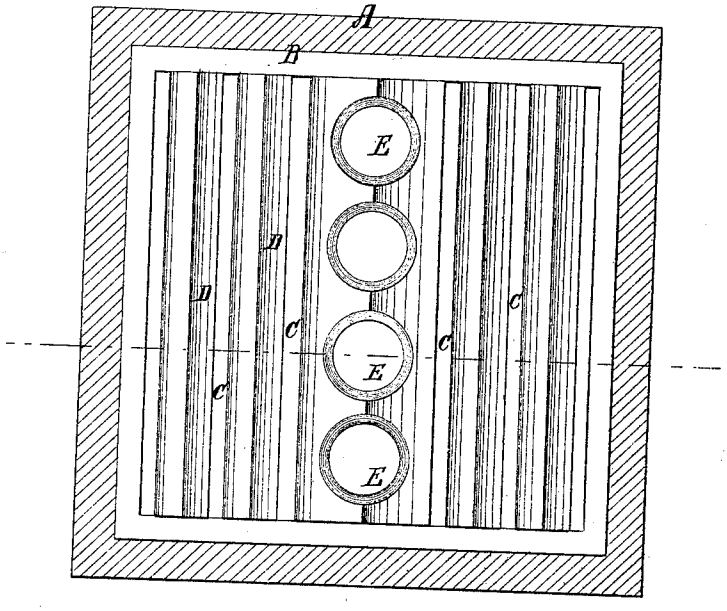


fig. 2.



Witnesses:

A. Bennenendorf.

G. S. Mabee

Inventor:

Wm. Blakey

per Munn & Co

Attorneys.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

United States Patent Office.

WILLIAM BLAKEY, OF BROOKLYN, NEW YORK.

Letters Patent No. 113,840, dated April 18, 1871.

IMPROVEMENT IN GRAIN-DRIERS.

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

To all whom it may concern:

Be it known that I, WILLIAM BLAKEY, of Brooklyn, in the county of Kings and State of New York, have invented a new and improved Grain-Drier and Coffee-Dresser; 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.

My invention consists in constructing a grain-drier or coffee-dressing apparatus with horizontal slotted or perforated plates or diaphragms, having alternate slots, inclined or inverted V-shaped ridges, and arranged one above another within a suitable casing, for the purpose of agitating, disturbing, and scouring the grain as it descends through the casing, a central range of vertical steam or hot-air pipes passing through the chamber, and a supplemental pipe employed to discharge a jet of steam within the chamber, near its upper part, when required.

Figure 1 is a vertical section of my improved drying and dressing apparatus; and

Figure 2 is a horizontal section of the same.

Similar letters of reference indicate corresponding parts.

A represents the vertical case or tube, to be made of wood, iron, or other suitable substance, and of any convenient length and area in cross-section.

B represents the cast-metal plates placed in the case at short distances from each other, and having slots, C, or other openings through them, and preferably having the plates or bars D, between the slots, ridged or otherwise formed to shed the grain properly; and

E represents the vertical tubes for conducting the heat along through the case, which tubes are in this case placed in a row across the plates one way at the center; but they may be arranged in any other approved order. They are to be connected with any source for supplying heat by hot air, steam, or hot water, to be caused to circulate through them for heating the grain.

In this case the plates are supported by the edges projecting into grooves in the walls of the case, but they may be supported in any other approved way.

When dressing coffee, which is found sometimes to be too dry, I propose to discharge a small jet of steam into the mass near the top of the case to moisten it, and for this purpose I propose to employ a small pipe, X, for taking steam outside the case and discharging it back again; the object of conducting it outside is to provide easy access to the cock x for allowing the steam to flow or for shutting it off.

This apparatus is to be placed in a store-house or other building or suitable place, and provided with an elevator or other means of discharging grain into the top, and means for conducting it away at the bottom; it is also to have suitable means at the bottom for regulating the flow of grain through it, it being required not to flow too fast, but to move in a mass, filling the case, and taking time to heat according as it may be required by its condition.

The bars D, or other parts of the plates between the slots, cause a thorough agitation and shifting of the grain to give it an equal application of the heat, and they conduct the heat from the pipes in all directions.

Instead of the long slots in the plates, and ribs between, they may have round or square holes, with conical or other elevations between them.

A drying apparatus of this kind will have very great capacity for the space occupied, and slight variations in size will make great changes in capacity.

It will occupy but very little available space, and its operation will be exceedingly simple and reliable.

Having thus described my invention,

I claim as new and desire to secure by Letters Patent—

The combination of the central range of vertical heating-pipes E, the perforated or slotted diaphragms B with inclined or inverted V-shaped ridges D, and the branch-pipe X, all arranged to operate in connection with a tube or casing, A, in manner substantially as and for the purposes herein specified.

The above specification of my invention signed by me this 28th day of November, 1870.

WILLIAM BLAKEY.

Witnesses:

GEO. W. MABEE,

ALEX. F. ROBERTS.