

J. BUCKINGHAM.

Grain Drier.

No. 112,118.

Patented Feb. 28, 1871.

Fig:1.

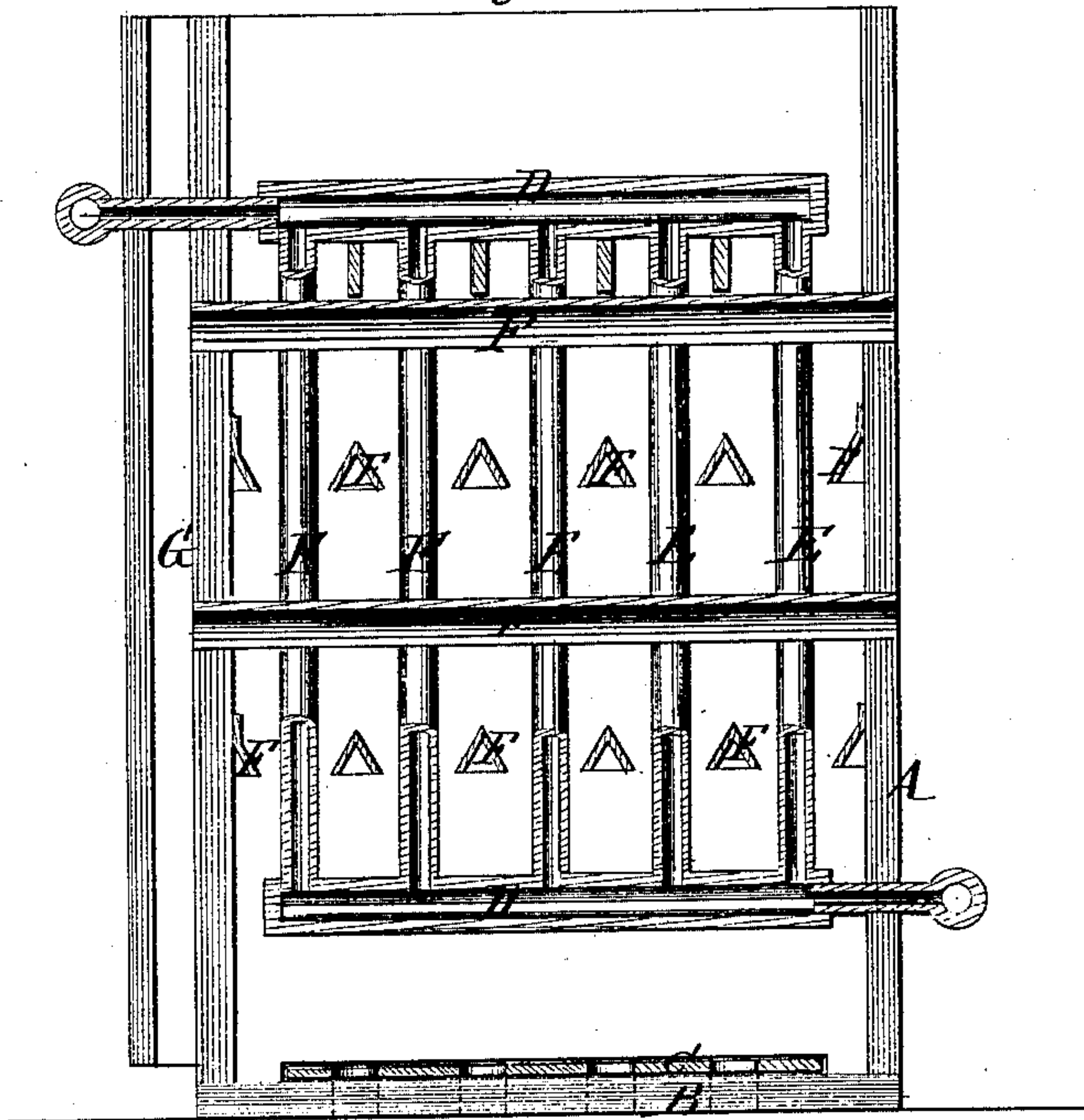
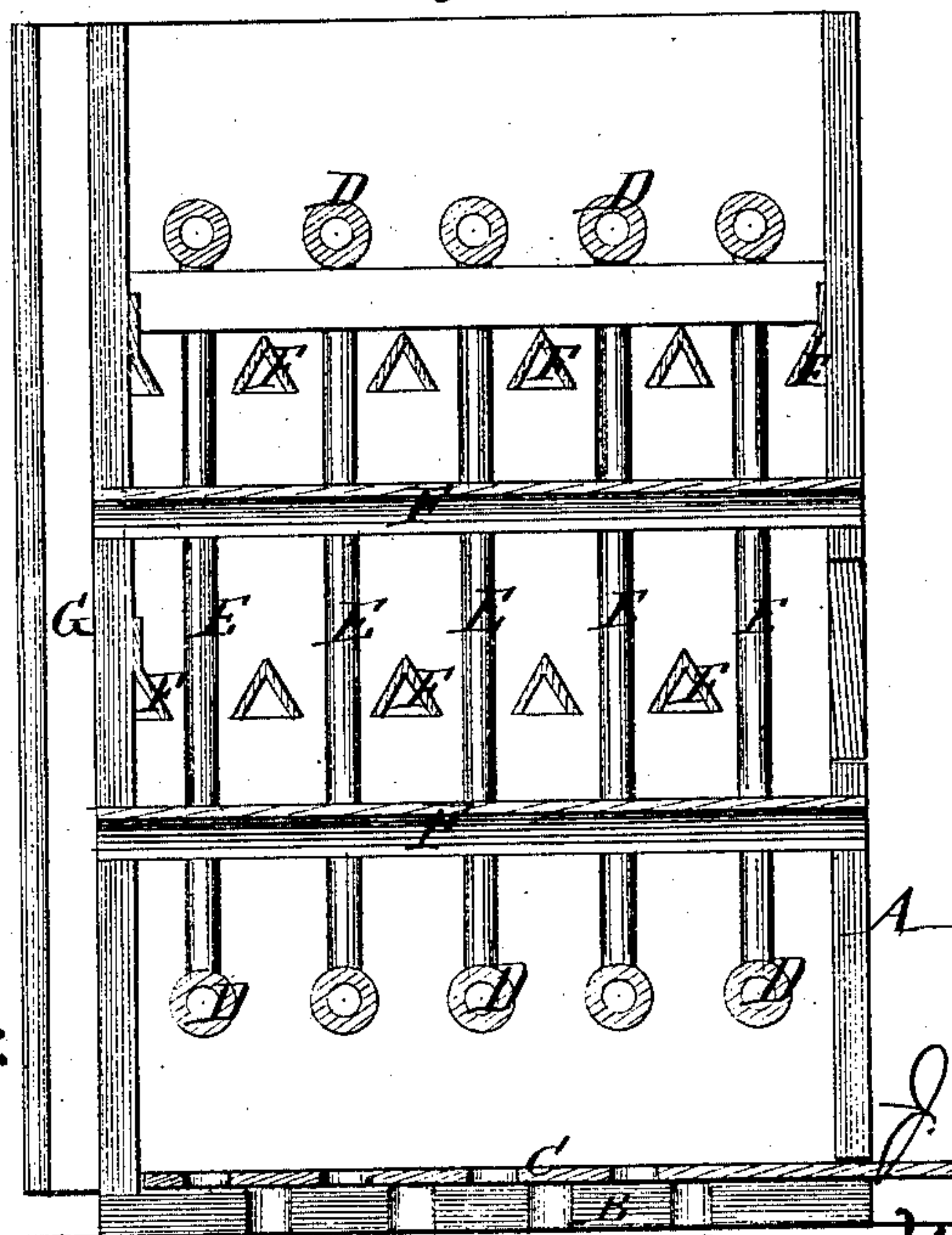


Fig:2.



Witnesses:

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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN GRAIN-DRIERS.

Specification forming part of Letters Patent No. **112,118**, dated February 28, 1871.

*To all whom it may concern:*

Be it known that I, JOHN BUCKINGHAM, of Wethersfield, in the county of Hartford and State of Connecticut, have invented a new and Improved Grain-Drier; 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.

This invention relates to improvements in grain-drying apparatus; and it consists in a combination of steam-heating coils and ventilators in a bin or other chamber, through which the grain is caused to flow slowly from top to bottom, in a simple and efficient manner, for applying the heat and carrying off the vapor generated thereby.

Figure 1 is a sectional elevation of my improved apparatus; and Fig. 2 is another sectional elevation, taken perpendicular to that of Fig. 1.

Similar letters of reference indicate corresponding parts.

A is a strong bin with a perforated bottom, B, and a broad perforated gate, C, for regulating the flow through it of the grain, which is to be supplied at the top, so that it will be kept free.

D represents a coil of steam-heating pipe, which may be arranged in upper and lower tiers, with vertical connecting-pipes E, or in any other approved way, by which the heat may be distributed throughout the mass of grain.

F represents A-shaped ventilators, traversing the bin from side to side, and extending

through the side walls, preferably into flues G, for facilitating the draft or circulation, said side walls having openings under the bars corresponding to the grooves in their under sides, in which the vapor finds unobstructed escape. These ventilators may traverse the bins, so that each tier makes an angle with the next, and may be arranged as close together as found best. Their form is well calculated to change the grain about in the bin and bring it all in contact with them.

The outside vertical flues may or may not be used in connection with these ventilators, as preferred.

The discharge-holes are distributed over the bottom of the bin, in order that the grain may move down evenly and be alike exposed to the heat.

It will be seen that this arrangement is calculated to apply the heat thoroughly and quickly, and as quickly dispose of the vapor thrown off by the action of the heat on the damp grain.

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

1. The perforated bottom B and perforated gate C, the steam-heated coil D D and connecting-tubes E, and the horizontal ventilators F, all combined, as described, with the bin, for the purpose specified.

2. The horizontal ventilators F and flue G, combined, as described, with the bin A, for the purpose specified.

JOHN BUCKINGHAM.

Witnesses:

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