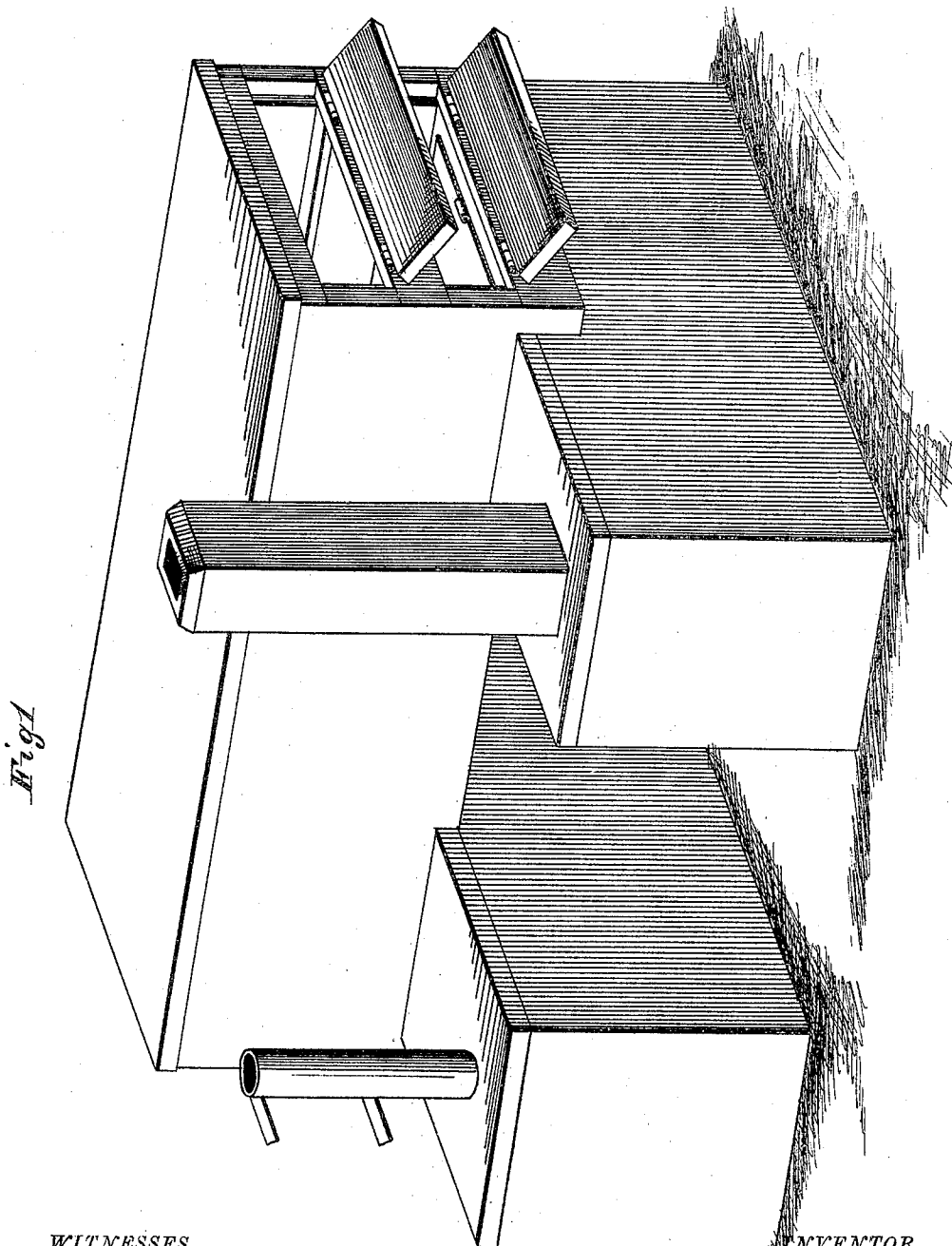


2 Sheets—Sheet 1.

E. W. BAKEWELL.
DRIER.

No. 172,688.

Patented Jan. 25, 1876.



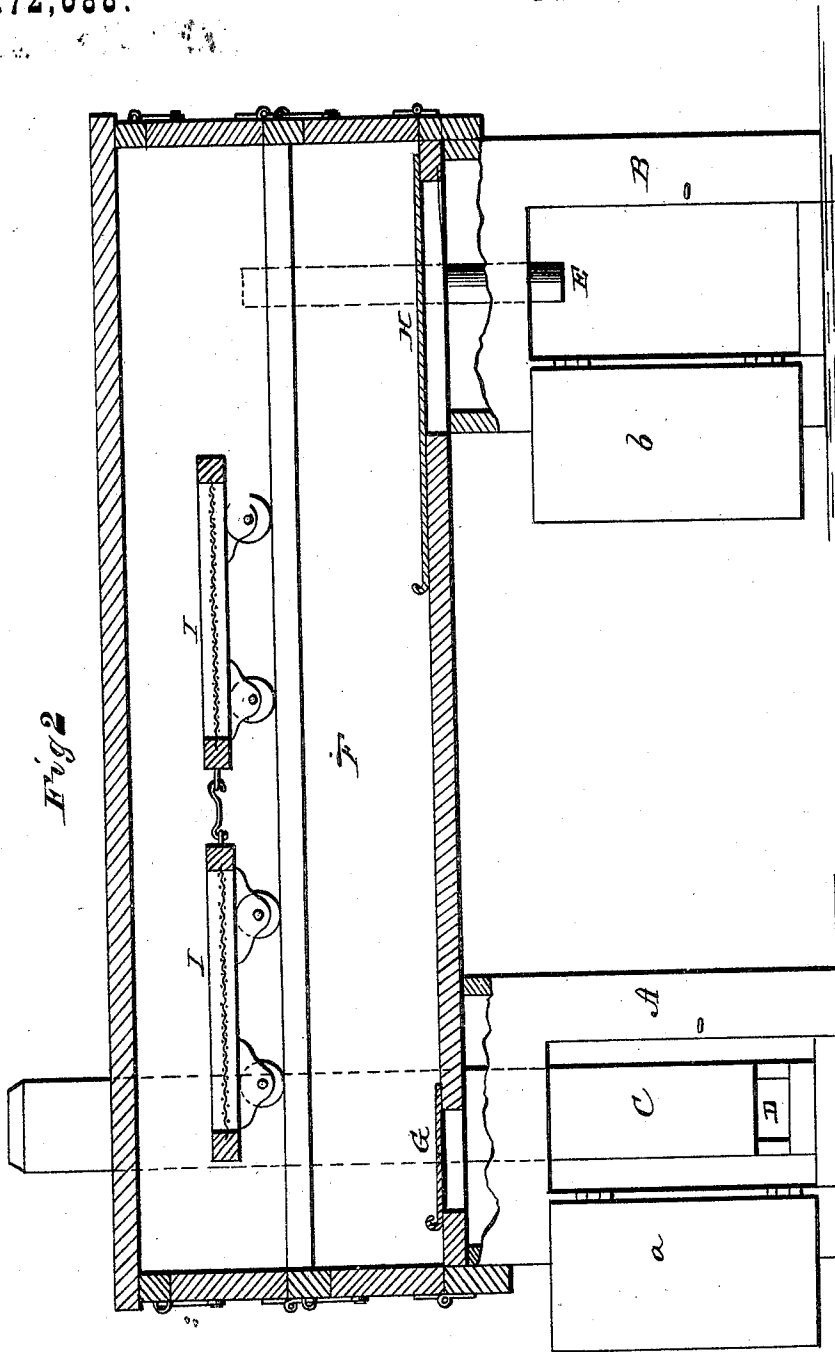
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UNITED STATES PATENT OFFICE.

EDWIN W. BAKEWELL, OF BLOOMINGTON, ILLINOIS.

IMPROVEMENT IN DRIERS.

Specification forming part of Letters Patent No. **172,688**, dated January 25, 1876; application filed July 22, 1875.

To all whom it may concern:

Be it known that I, EDWIN W. BAKEWELL, of Bloomington, in the county of McLean and in the State of Illinois, have invented certain new and useful Improvements in Driers; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon, making a part of this specification.

This invention relates to certain improvements in apparatus for desiccating vegetables, fruit, grain, and other like materials; and it consists in two chambers of equal height and any desired dimensions, one of which is provided with an upright shaft, leading from above and terminating near the bottom for supplying fresh air, and also with a furnace or other suitable apparatus for heating the air, and the other with an exhaust-shaft extending upward from the upper part of the same, the two communicating with a horizontal shaft, or series of the same, above by means of apertures provided with suitable dampers, the first-mentioned chamber being designed for supplying heated air to the horizontal shaft or shafts, through which the fruit, vegetables, or grain is passed on cars or trucks, which are inserted and moved through suitable openings at the ends, provided with doors for the purpose, the other chamber being designed to collect and carry off the air, after it has become humid and foul, from the drying materials, as will be more fully hereinafter set forth and described.

In the drawings, Figure 1 represents a perspective view of my improved apparatus, and Fig. 2 a partial front elevation and sectional view of the same.

The letters A and B represent two chambers, constructed of any suitable material, and of equal height and any convenient dimensions. C represents an upright shaft extending down through the top of the chamber A, and terminating with an opening, D, near the bottom of the same, for the purpose of conducting the pure fresh air from the outside to the lower part of said chamber. Said chamber A is provided with a stove or other

device for heating the air, which it is not deemed necessary to show. In case a stove is employed and located directly within the chamber A, the ash-pit, or portion of the same below the grate-bars, must necessarily be connected with the open air by means of tubes, flues, or air-ducts, to prevent the smoke and products of combustion of the stove from being drawn through the drying-chamber and injuring its contents. The chamber B is provided with an exhaust shaft or flue, E, leading from the upper part of the same into the open air, and both chambers are provided with doors *a b* for access to the same. Above said chambers, and resting on the tops of the same, is a horizontal shaft, F; or a series of such shafts may be employed, arranged side by side. Said shaft or shafts communicate at opposite ends with the chambers A and B through suitable apertures provided with regulating-dampers G H, and are provided with doors at each end, for the purpose of inserting the cars or trucks I I, which contain the fruit, and are adapted to run on rails through said chamber, as clearly indicated in the drawings.

The operation of my invention is as follows: The chambers A and B being properly closed, and also the horizontal shaft above, and the chamber A properly heated, the dampers leading to the horizontal chamber having previously been opened, the air will pass upward into the chamber F by reason of its lighter specific gravity as it becomes heated, fresh air entering at the bottom of the chamber through the supply-shaft to take its place. The air, as it passes over and around the fruit, vegetables, or grain in the cars or trucks, which have previously been run into the shaft F, becomes charged with moisture and impurities from the drying substance, and passes on to the opposite end of said shaft; from thence it is drawn into the chamber B by the draft through the same created by the exhaust-shaft, and is finally carried out into the external air.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

The combination, substantially as hereinbefore described, of the hot-air chamber A, provided with air-inlet shaft C, the foul-air chamber B, provided with exhaust-shaft E, and the horizontal shaft F, communicating with said chambers by means of apertures provided with regulating-damper, the whole arranged to operate as herein set forth and shown.

In testimony that I claim the foregoing I have hereunto set my hand this 3d day of June, 1875.

EDWIN W. BAKEWELL.

Witnesses:

THOS. SLADE,
GEO. P. GILL.