

(No Model.)

J. ZIMMERMAN.
FRUIT AND VEGETABLE DRIER.

No. 257,200.

Patented May 2, 1882.

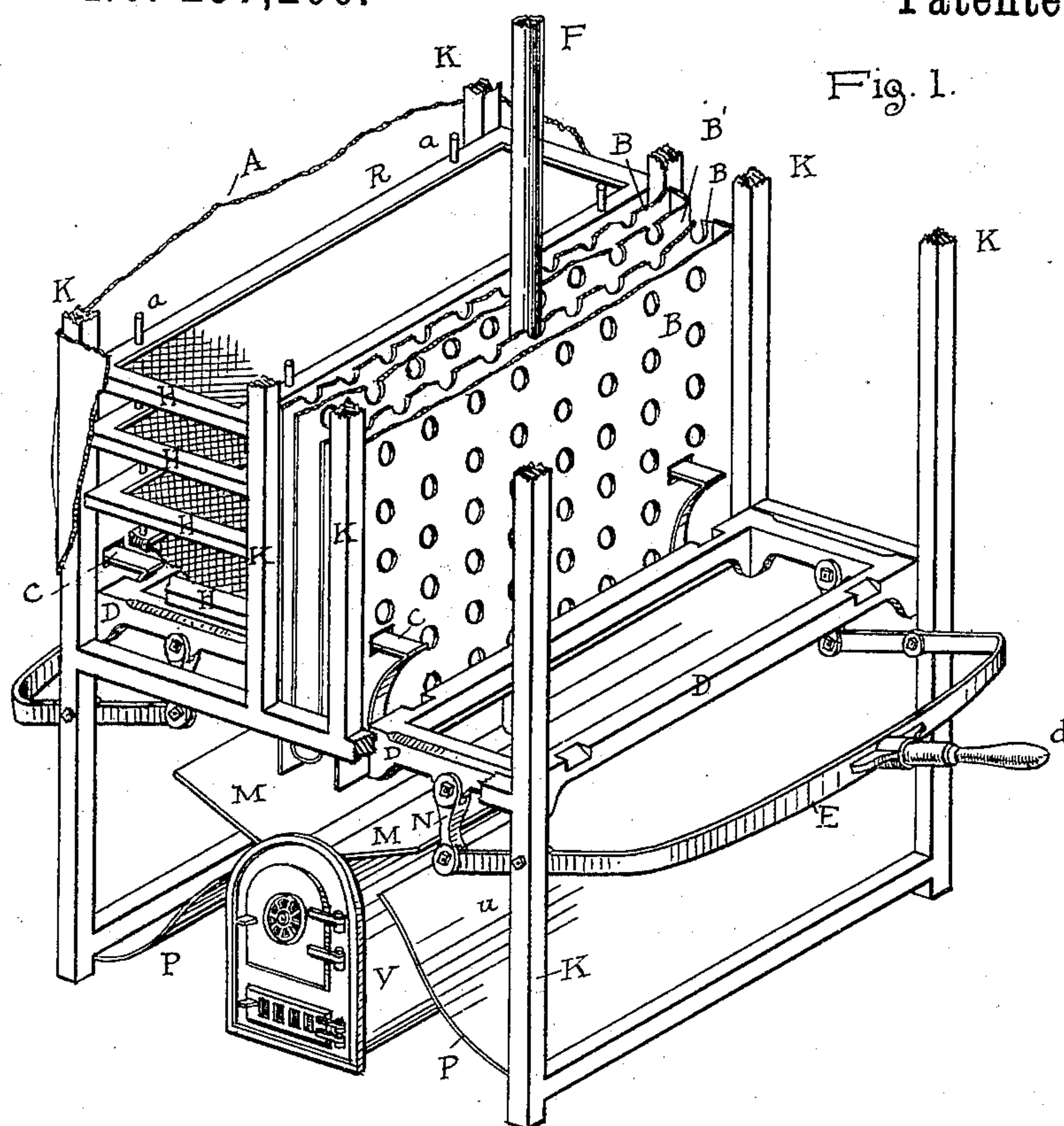


Fig. 1.

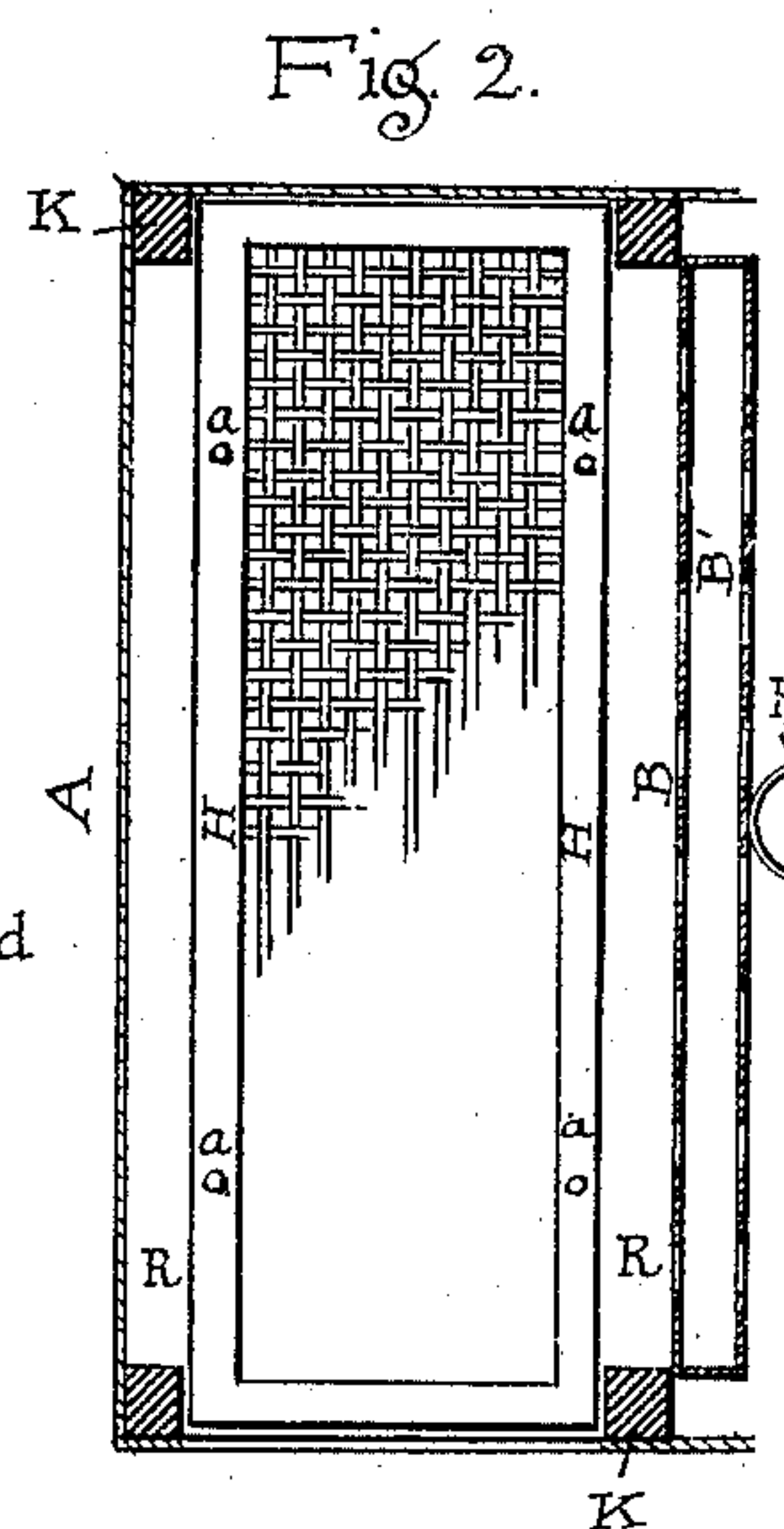


Fig. 2.

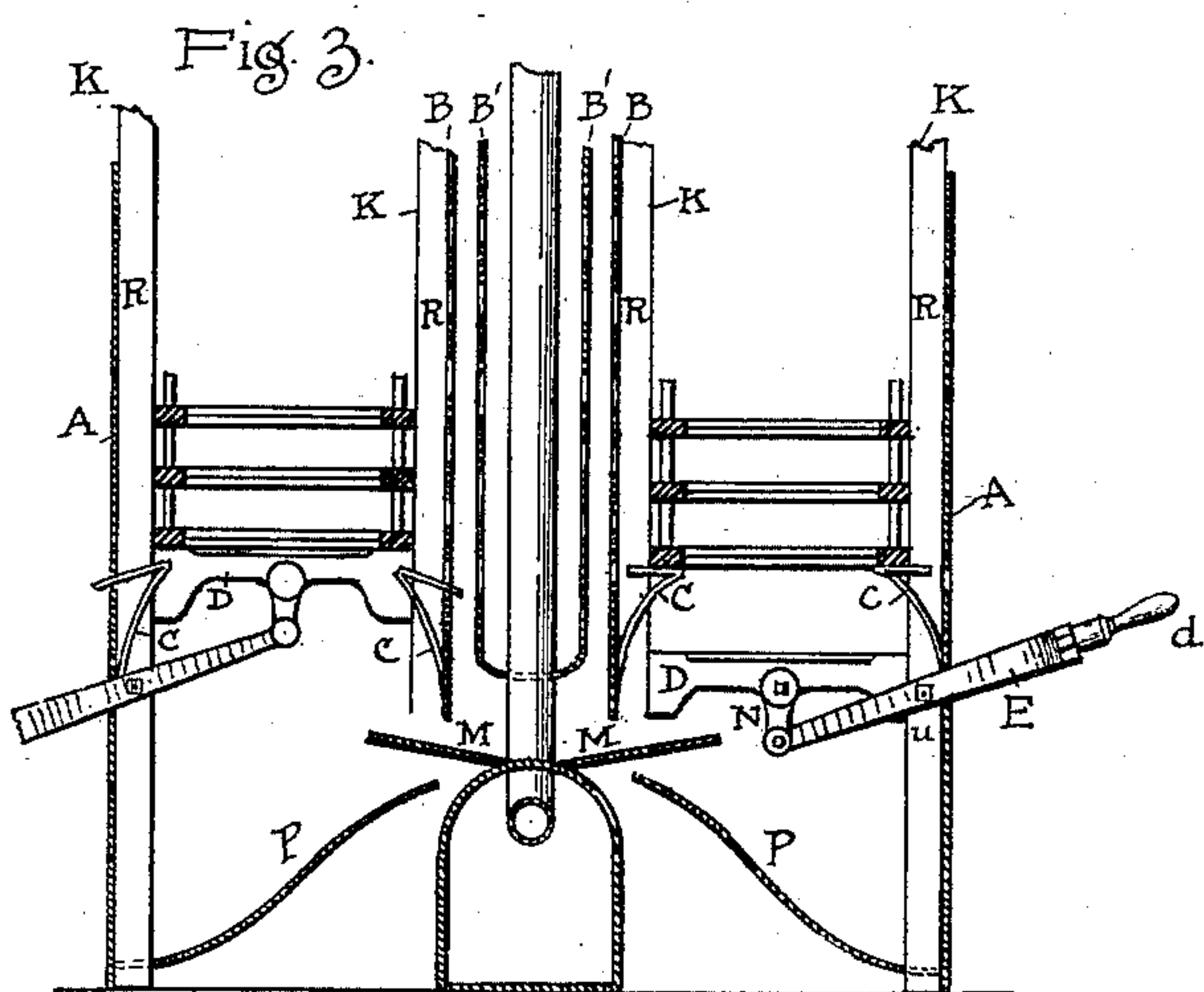


Fig. 3.

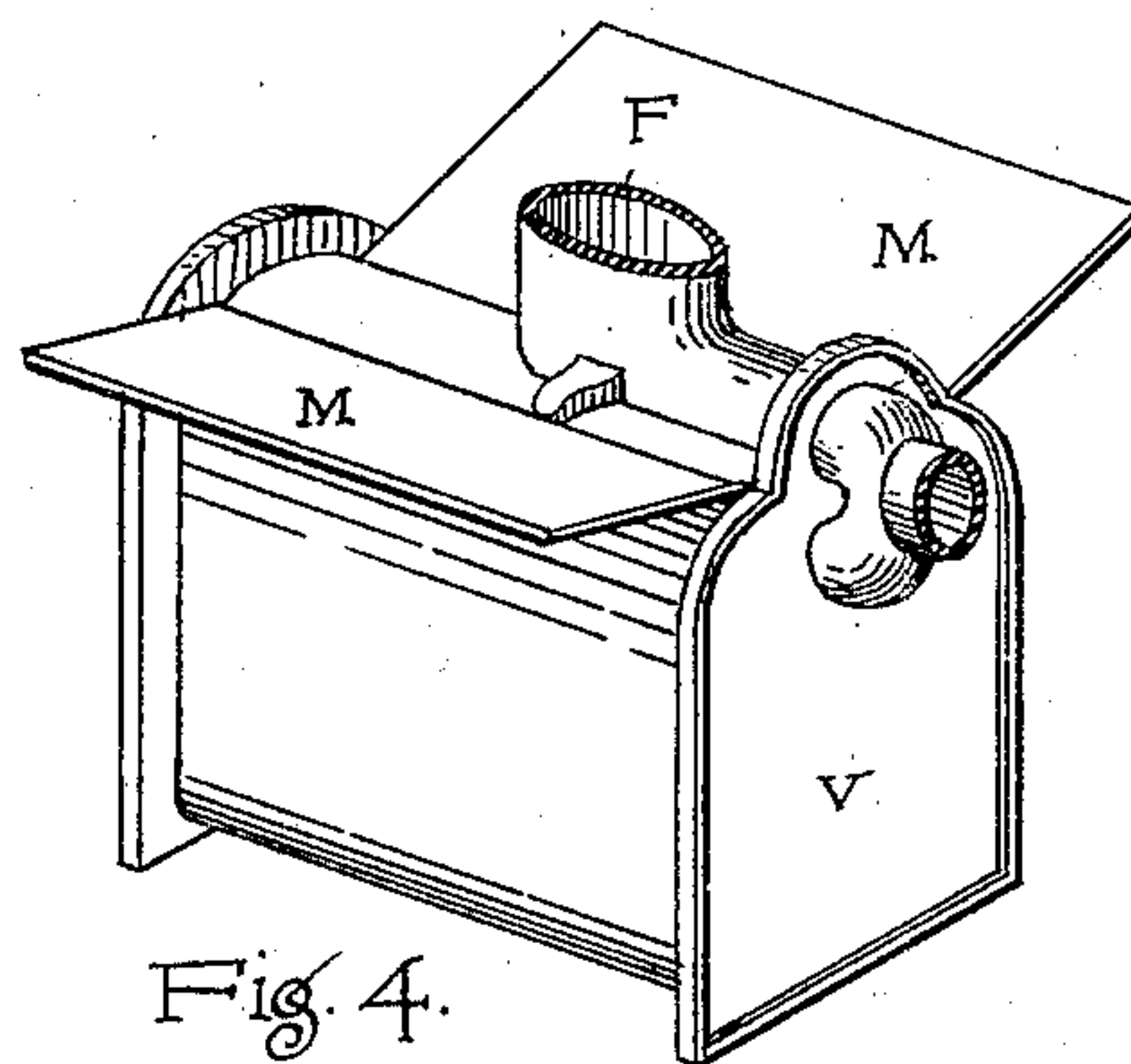


Fig. 4.

Witnesses:

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UNITED STATES PATENT OFFICE.

JOHN ZIMMERMAN, OF CINCINNATI, OHIO.

FRUIT AND VEGETABLE DRIER.

SPECIFICATION forming part of Letters Patent No. 257,200, dated May 2, 1882.

Application filed October 3, 1881. (No model.)

To all whom it may concern:

Be it known that I, JOHN ZIMMERMAN, of Cincinnati, Hamilton county, State of Ohio, have invented a new and useful Improvement in Fruit and Vegetable Driers, of which the following is a full description, reference being had to the accompanying drawings, in which similar letters of reference denote corresponding parts.

Figure 1 is a perspective view of my drier with cover broken away, showing drying-chambers, one with fruit-racks in position and one empty. Fig. 2 is a plan view of a horizontal section of drying-chamber with fruit-rack in position, and showing half of pipe. Fig. 3 is a vertical section of my drier. Fig. 4 is a perspective view of furnace V and deflectors M M.

A is the outside sheeting or cover of drier; *a a a a*, pins on fruit-rack to keep them apart; B and B', perforated double sides of hot-air chamber; C C, spring-catches attached to sides of chamber; D, lifting-frame connected to reciprocating lever; *d*, handle of reciprocating lever; E, reciprocating lever, pivoted at *u* and jointed to lifting-frame by connecting-arm N; F, furnace smoke-pipe; H H, frame sides of fruit-racks; K K, corner standards of frame of drier and drying-chambers; M M, deflectors attached to top of furnace; P, dampers; V, furnace.

My invention relates to that class of fruit and vegetable driers which have a central perforated hot-air chamber inclosing the smoke-pipe, and have an air-space between the sides of the drying-chambers and the fruit-racks, with a reciprocating elevating device, which, in connection with spring-catches attached to the sides of drying-chambers, serve to carry the fruit-rack from the bottom to the top of the drier.

My invention consists—

First. In making the wall of the centrally-located hot-air chamber double and perforated. It is found in practice that where the wall is single the hot air is unevenly distributed along the sides of the drying-chamber, and that the lower portions thereof are at times raised to a burning heat. These objections are obviated by the use of a double wall, as shown at B and B', Figs. 1, 2, and 3.

Second. In attaching deflectors to the upper side of the furnace which extend nearly to the sides of drier, so as to throw the hot air from the furnace to the sides. I do this that the heated air may the more readily and certainly pass up along the recessed sides of the drying-chamber, while the heated air from the perforated hot-air chamber passes up along the central sides. Ordinarily the heated air is applied directly under the fruit-rack, and is checked and charged with the moisture of evaporation by the fruit on the first or lower rack. It is evident that evaporation can be neither so equal nor so rapid in the usual way as when there is a rapid circulation of dry heated air in all parts of the chamber and between the racks. The deflectors are shown in Figs. 1, 3, and 4, and marked M.

Third. In so constructing the drier that there shall be an air-space equal to the depth of the corner standards between the sides of the drying-chamber and the sides of the fruit-racks, as shown in Figs. 1, 2, and 3, where A is the sheathing or cover, K K the corner standards, and R the air-space, depth of K, between A and H, the side of fruit-rack. I thus make it certain that there shall be dry heated air in all parts of the drying-chamber, and that a rapid change of air shall take place.

I do not claim hood P in Figs. 1 and 3, as this hood, in combination with a furnace in a fruit-drier, is covered by Letters Patent granted to me May 18, 1875, and numbered 163,564.

I do not claim broadly the reciprocating lever E, nor the lifting-frame D, nor the spring-catches C in Figs. 1 and 3, nor the deflectors M, Figs. 1, 3, and 4, nor the air-space R, Figs. 1, 2, and 3.

Having thus described my invention, what I desire to secure by Letters Patent is as follows:

1. In a fruit-drier having more than one drying or rack holding chamber, a hot-air chamber having double perforated walls inclosing furnace smoke-pipe located between said chambers, when said double perforated walls of hot-air chamber constitute also the interior walls of such drying-chambers, substantially as described.

2. In a fruit-drier, the combination of a hot-

air chamber having double perforated walls or sides with a drying-chamber, deflectors, and furnace, substantially as described.

3. In a fruit-drier, the hot-air chamber having double perforated sides, in combination with a reciprocating elevating device, a lifting-frame, and spring-catches, substantially as described.

The foregoing specification of my invention signed by me this 29th day of September, A. D. 1881.

JOHN ZIMMERMAN.

Witnesses:

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