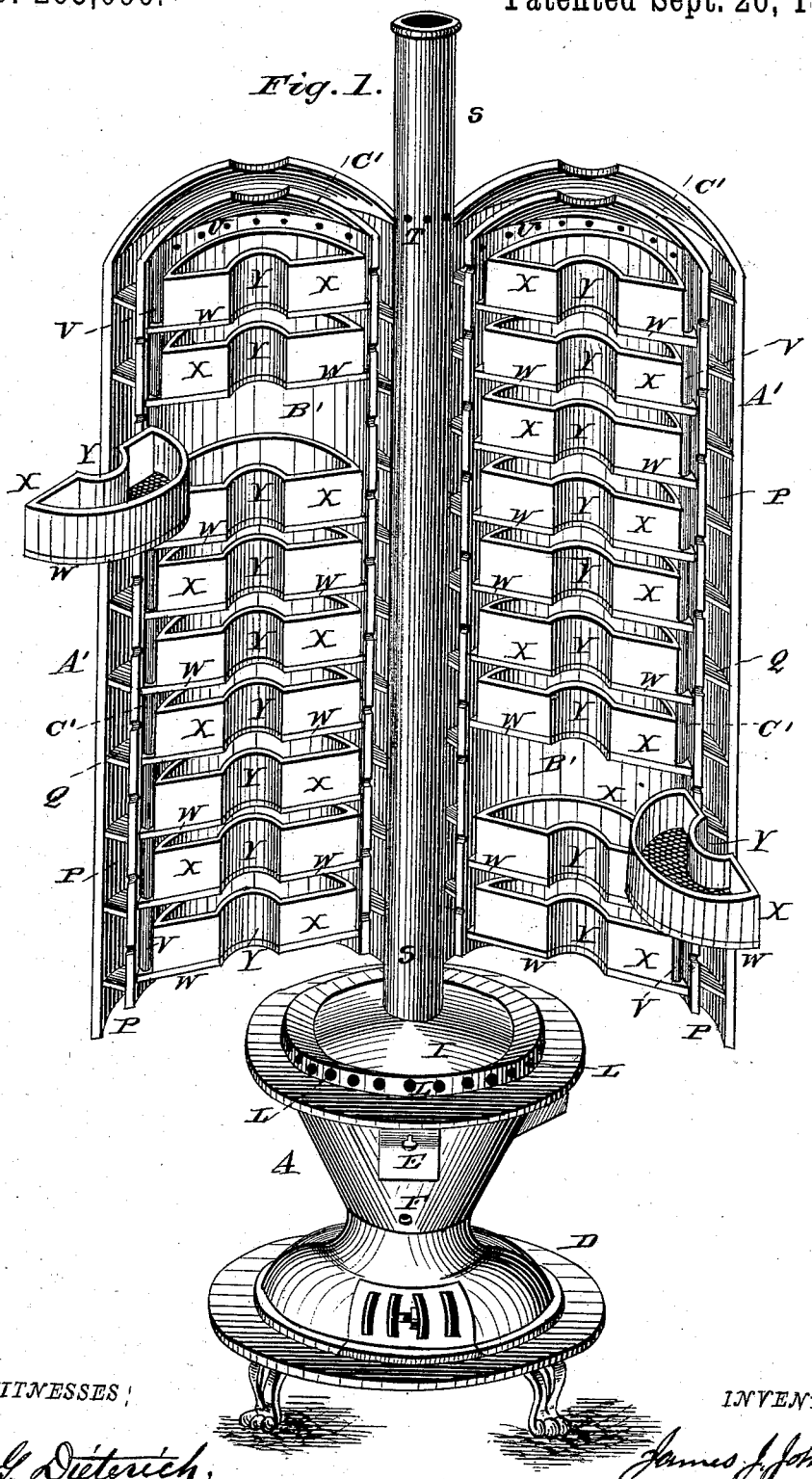
(No Model.) 2 Sheets—Sheet 1.

J. J. JOHNSTON.

FRUIT DRIER.

No. 265,096. Patented Sept. 26, 1882.

Fig. 1.



WITNESSES:

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F. C. Dieterich

INVENTOR

James J. Johnston

(No Model.)

2 Sheets—Sheet 2.

J. J. JOHNSTON.

FRUIT DRIER.

No. 265,096. Patented Sept. 26, 1882.

Fig. 3.

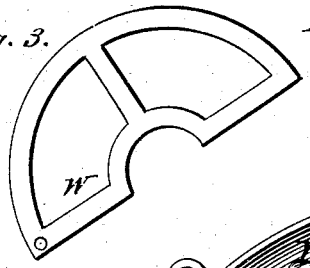


Fig. 2.

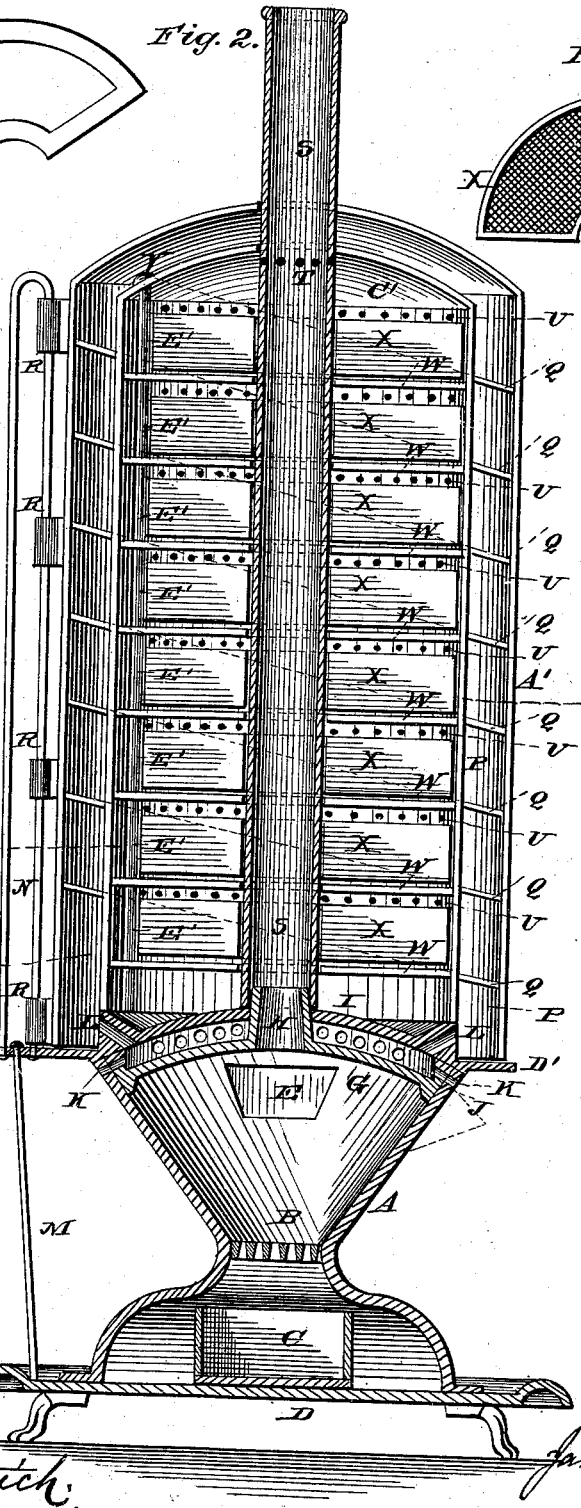


Fig. 4.

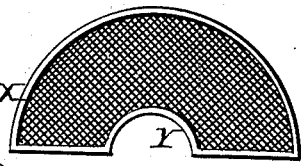
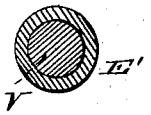


Fig. 5.



WITNESSES

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D. Dieterich.

INVENTOR

James J. Johnston

UNITED STATES PATENT OFFICE.

JAMES J. JOHNSTON, OF COLUMBIANA, OHIO, ASSIGNOR TO THE UNITED STATES IMPROVEMENT COMPANY, (LIMITED,) OF SAME PLACE.

FRUIT-DRIER.

SPECIFICATION forming part of Letters Patent No. 265,096, dated September 26, 1882.

Application filed February 23, 1882. (No model.)

To all whom it may concern:

Be it known that I, JAMES J. JOHNSTON, of Columbiana, in the county of Columbiana and State of Ohio, have invented a certain new and useful Improvement in Fruit-Driers; and I 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.

My invention relates to an improvement in fruit-driers; and it consists, first, of a cylindrical case having a heat-chamber and a fruit-drying chamber for the reception of fruit-trays, which latter chamber communicates with the heat-chamber through the medium of a series of openings in the walls thereof, said fruit-drying chamber being surrounded with said heating-chamber, which is provided with spirally-arranged partitions for causing the heat to travel around the fruit-drying chamber circuitously from the bottom to the top threof, said heating-chamber and fruit-drying chamber being divided into equal parts and hinged upon its heating-stove in such manner as to inclose the vertical flue of said stove, which stove is provided with an air-heating chamber, which communicates with said heat-chamber; second, in detachable drying-trays, semicircular in form, with a recess of like form, which fits the vertical flue of the stove, and supporting said trays upon pivoted bearings, which are also of semicircular form, having a semicircular recess adapted to surround said flue of the stove, all constructed, arranged, and combined as will hereinafter more fully and at large appear.

To enable others skilled in the art with which my invention is most nearly connected to make and use it, I will proceed to describe its construction and operation.

In the accompanying drawings, which form part of my specification, Figure 1 is a perspective view of my improvement in fruit-driers. Fig. 2 is a vertical section of the same. Fig. 3 is a top view of one of the supports for the fruit-tray. Fig. 4 is a top view of the fruit-tray. Fig. 5 is a transverse section of the rod and sections of pipe used for pivoting the supports for the fruit-trays.

Reference being had to the accompanying drawings, A represents the heating-stove, having a grate, B, ash-pan C, bottom D, fire-door E, poker-hole F, and top G, having a flue, H. Above the top G is a secondary top, I, forming an air-heating chamber, J, having air-inlets K and channels L, communicating with the heat-chamber P, having spirally-arranged partitions Q, which heat-chamber is formed by the outer case, A′, and the inner case, B′, the last-mentioned case being attached to the inner edge of the partitions Q. The drying-chamber C′ communicates with the heat-chamber P through the medium of openings U in the case B′. The cases A′ and B′ are divided into two equal parts, as shown in Fig. 1. The two sections of the case A′ are hinged by knuckles R to a rod, N, bent into the form shown in Fig. 2, the two ends of said rod being secured in the flange D′ of the top I, which flange at that point is supported by a rod, M, the lower end of which is secured to the stove-bottom D. Upon the flue H, projecting above the top I, is placed a flue or pipe, S, which at the upper end of the drying-chamber C′ is furnished with a series of openings, T, for carrying off the moisture from said chamber. The supports W are constructed of metal in the form shown in Fig. 3, and are pivoted upon a rod, V, having short pieces of tubing E′ placed thereon between the supports, which rest on the upper end of said pieces. Upon the supports W rest the trays X, which are semicircular in contour, having a recess, Y, which fits around the flue or pipe S. The trays are constructed of sheet metal, with bottoms of perforated sheet metal or wire-netting, as shown in Fig. 4.

As the construction of the several parts of the fruit-drier hereinbefore described and the relation that the several parts bear to each other will readily be understood from the foregoing description and by reference to the accompanying drawings, I will therefore proceed to describe the operation of the drier, which is as follows: Fire being made in the stove A, the fruit to be dried is placed in the trays X in the desired quantity and placed upon the supports W. The two sections of the drier are then closed together. The air passing through opening K into the air-heating chamber J becomes heated and passes from the chamber J through channels L into the heat-

chamber P at its lower end, and travels around and up through said chamber, passing into the fruit-drying chamber C′ through openings U. The moisture evolved from the fruit passes into the flue S through openings T, near the upper end of the drying-chamber, and is carried off by said flue. When it is desirable to examine the fruit during the process of drying it the two sections of the drier are opened, as shown in Fig. 1, and the supports W may be turned out, with the tray resting thereon for the purpose of examining the fruit. By having the flue S passing up through the center of the fruit-drying chamber, and the recesses Y of the trays X fitting around said flue, and the heated air from chamber J passing into heat-chamber P and caused to travel around and up through it by partitions Q and distributed by means of the openings U through the drying-chamber, the heat of the stove is thoroughly and effectually utilized, and the process of drying the fruit is facilitated. This, combined with the advantage of compactness of the fruit-drier and the ease and facility afforded for manipulating the fruit-trays, constitutes the leading advantages obtained by the construction of the fruit-drier hereinbefore described.

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

In a fruit-drier, the heat-chamber P, having spirally-arranged partitions Q, communicating with the air-heating chamber J of the stove A, said chamber surrounding the fruit-drying chamber C′, having pivoted supports W and semicircular fruit-trays X, which have recesses Y, said chamber constructed in two parts, which are hinged together and adapted to inclose the flue S of the stove A, substantially as herein described, and for the purpose set forth.

JAMES J. JOHNSTON.

Witnesses:
T. D. D. OURAND,
FRED. G. DIETERICH.