

(No Model.)

S. COLLINS.
FRUIT DRIER.

No. 318,543.

Patented May 26, 1885.

Fig.1.

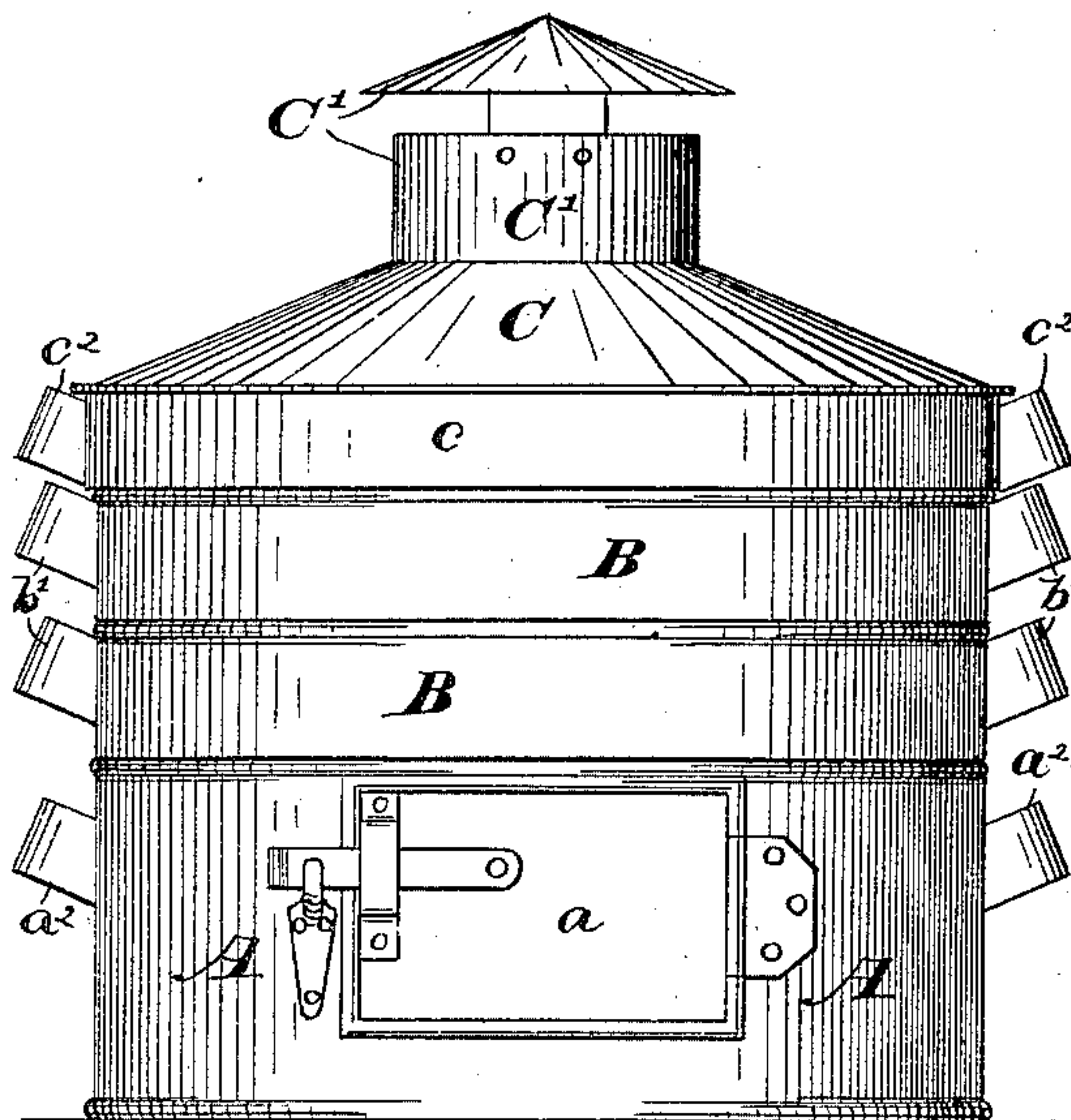


Fig.2.

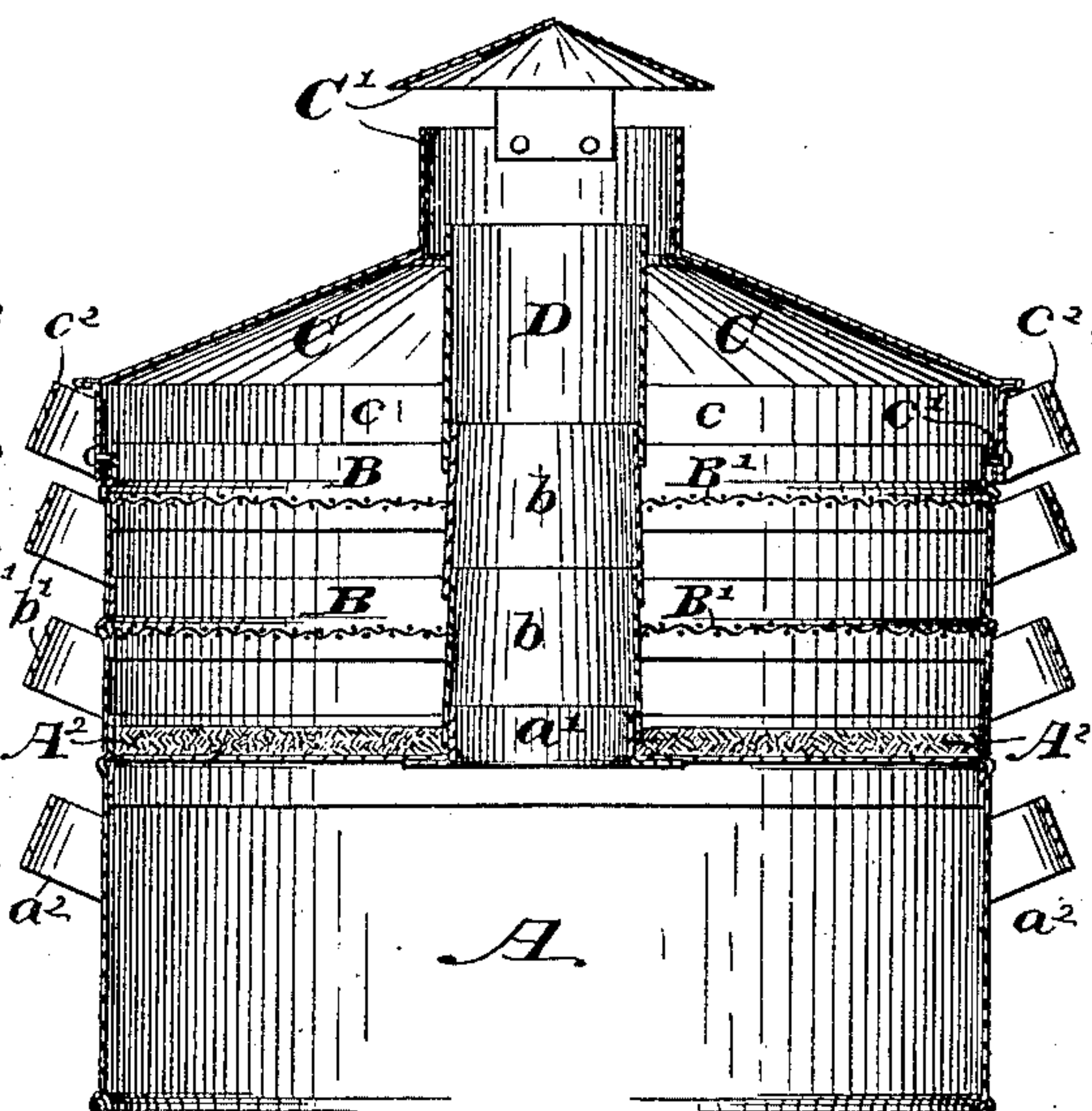
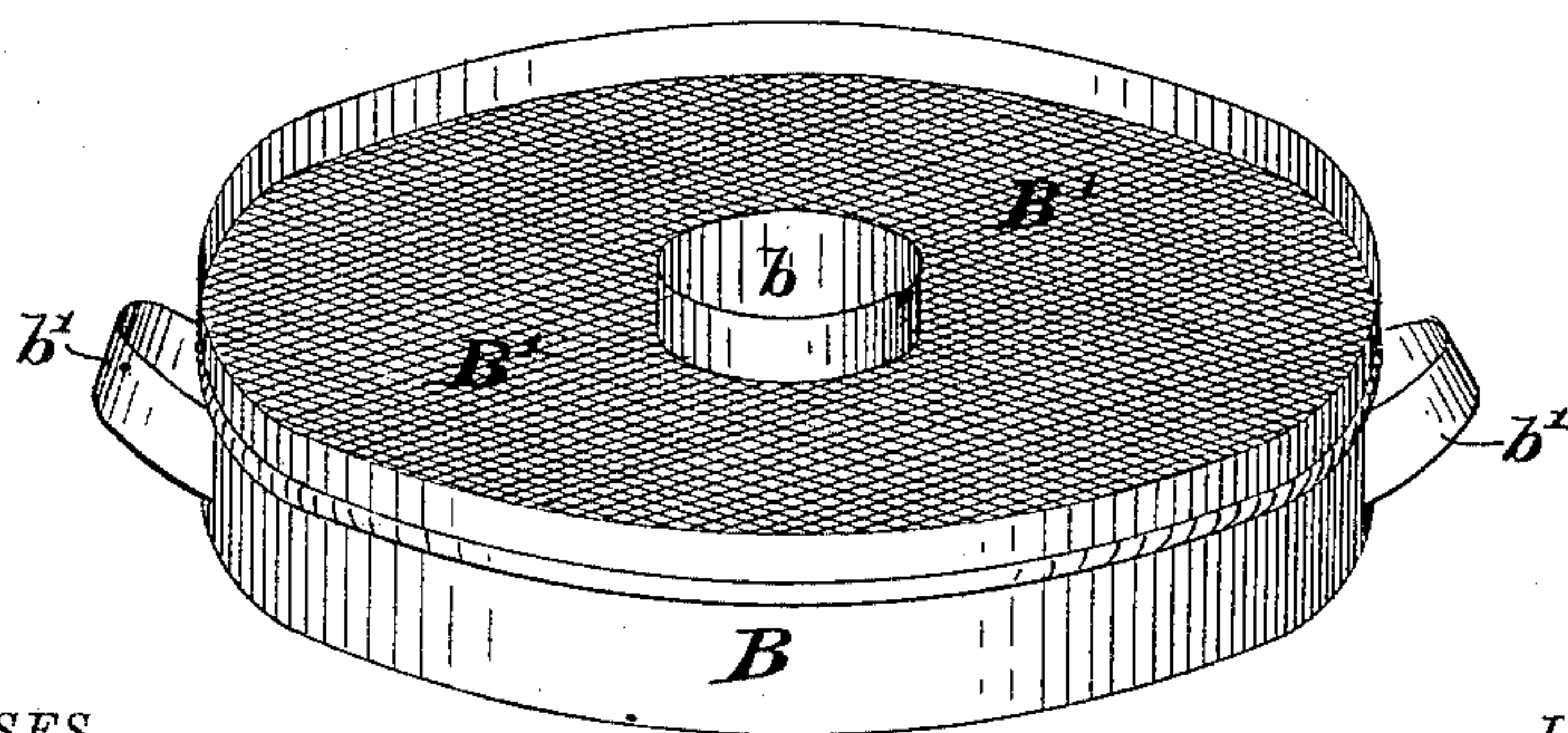


Fig.3.



WITNESSES.

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STEPHEN COLLINS, OF HUNTSVILLE, ALABAMA.

FRUIT-DRIER.

SPECIFICATION forming part of Letters Patent No. 318,543, dated May 26, 1885.

Application filed December 5, 1884. (No model.)

To all whom it may concern:

Be it known that I, STEPHEN COLLINS, of the city of Huntsville, in the county of Madison and State of Alabama, have invented certain new and useful Improvements in Fruit-Driers, of which the following is a specification.

The object of my said invention is to produce a device for drying fruit, vegetables, and such articles as are usually cured in this manner for preservation which shall be of a cheap yet efficient construction, and capable of having its capacity adjusted to suit the wants of the user. The device by which I accomplish this object consists of an appropriate fire-place or furnace as a base and a drying-chamber mounted thereon composed of independent sections, each of which is provided with a section of pipe, which is arranged to form, together with similar pipe-sections in the other sections and a flange on the top of the furnace, a continuous flue up through the drying-chamber, thus permitting the addition or removal of sections when it is desired to increase or diminish the capacity of the device without changing its construction or impairing its operation, as will be hereinafter more fully described.

Referring to the accompanying drawings, which are made a part hereof, and on which similar letters of reference indicate similar parts, Figure 1 is a front elevation of my said invention; Fig. 2, a central vertical section through the device, and Fig. 3 a perspective view of one of the sections of the drying-chamber.

In said drawings, the portions marked A represent the furnace; B, the several sections of the drying-chamber; C, the top or cover to said drying-chamber; C', a ventilator thereon, and D a joint of pipe connecting with said ventilator and the pipe which runs up through the drying-chamber.

The furnace A is preferably of cylindrical form, constructed of sheet-iron or other suitable material, and of a size appropriate for the size of evaporator desired. It is provided with a top, A', which forms the bottom or floor of the drying-chamber, which I usually cover with an inch or two of dry dirt, A², in order to equalize and prevent excessive heat.

In the center of this top is provided an opening, and a flange or short section of pipe, a', is riveted around its edge, extending up a sufficient distance to connect with the section or joint of pipe in the lower section, B, of the drying-chamber, as shown. The top edge of the wall of furnace extends up beyond its top A' for a short distance, and is slightly en- 55
smallled and formed into a flange, which is adapted to be inserted within the lower flange of the bottom section, B, as will be presently more fully described. 60

The sections B of the drying-chamber are provided with an open floor, B', on which the articles to be dried may be laid. Said floor 65
may be formed of wire-netting, as shown, of perforated sheet metal, or any other suitable material. In its center each section is provided with a section or joint of pipe, b, which extends below the floor a sufficient distance 70
to join with a similar joint in the chamber-section immediately below, or, in the case of the bottom section, with the flange a', which surrounds the opening in the top of the furnace, and above said floor a sufficient 75
distance to join with a similar joint in the chamber-section immediately above, the ends of the several joints of pipe being constructed to connect in the same manner as are those of ordinary stove-pipe. The walls 80
of the several chamber-sections are also constructed in a similar manner, the portion above its floor being ensmallled and adapted to be inserted within the next section above, the lower section fitting onto the top of the furnace, which is formed in the same manner as before described. These sections are of the 85
proper height, so that the floors shall be the required distance apart. There may be as many of these sections as are necessary to make the apparatus of the desired capacity, as will be readily understood. Each section is preferably provided with handles b', as shown, by which it may be conveniently handled. The 95
cover or top C is conical in shape, and has a flange, c, extending down around its edge, which is adapted to fit around the top of the drying-chamber loosely. Lugs c' are preferably formed on the inside of said flange to keep an open space between said flange and the wall of the drying-chamber, through which 100

any moisture which gathers on the inside of said cover may escape. It is also provided with handles c^2 , for convenience in handling.

The ventilator C' is of an ordinary and well-known construction for the purpose, and is mounted on the cover around a central hole therein. The joint of pipe D is adapted to fit onto the joint b in the top section, B , and extends up into the ventilator C' on the cover, thus forming a continuous flue up from the furnace through the center of the drying-chamber to the ventilator.

The operation of my invention is as follows: The several parts are put in place, the articles to be dried being placed within the drying-chamber. The fire is then started in the furnace. The heat passes up through the top of the furnace, which is preferably provided with a layer of dry dirt or similar substance to modify and equalize the heat as before described, and into the drying-chamber, passing up through the several sections to the top. The steam and products of evaporation are allowed to pass out around the pipe D into the ventilator, and pass off with the smoke, while the moisture which gathers on the inside of the cover is allowed to escape through the open space between said cover and the top of the drying-chamber, as before described. The heat which passes up into the flue also passes out into the drying-chamber through the walls of said flue, and nearly all the heat is thus utilized.

As will be readily understood, the apparatus may be made of various sizes, and, as before stated, the drying-chamber may be composed of as many sections as desired.

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

1. An evaporating or fruit-drying apparatus

consisting of a furnace and a drying-chamber, said drying-chamber being composed of removable sections, each section being provided with a portion of the smoke-pipe, each of which engages directly with the other portions, whereby a continuous pipe is provided, substantially as set forth.

2. An evaporating apparatus consisting of the furnace A , having a top consisting of a portion, A' , having a layer of dirt, A^2 , therein, and a drying-chamber composed of sections B , mounted on said furnace, each of said sections having an open or perforated floor, B' , substantially as set forth.

3. The combination of the furnace A , having top A' , with flange a' , mounted thereon, drying-chamber composed of the sections B , arranged one on top of another, joints of pipe b , one secured in each portion B , and the cover C , substantially as set forth.

4. The combination of the furnace A , drying-chamber composed of sections B , mounted one on top of another, the joints of pipe b , one secured in each section and connecting with each other, the lower one of which connects with the flange a' on the top of the furnace, the cover C , mounted on the top of said drying-chamber with an opening between said cover and said top, the ventilator C' , and the joint of pipe D , mounted on the top of the joint b , and extending up into the ventilator, substantially as described, and for the purposes specified.

In witnesses whereof I have hereunto set my hand and seal, at Clarksville, Tennessee, this 29th day of November, A. D. 1884.

STEPHEN COLLINS. [L. S.]

In presence of—

WESLEY DRANE,
ED. S. MUNFORD.