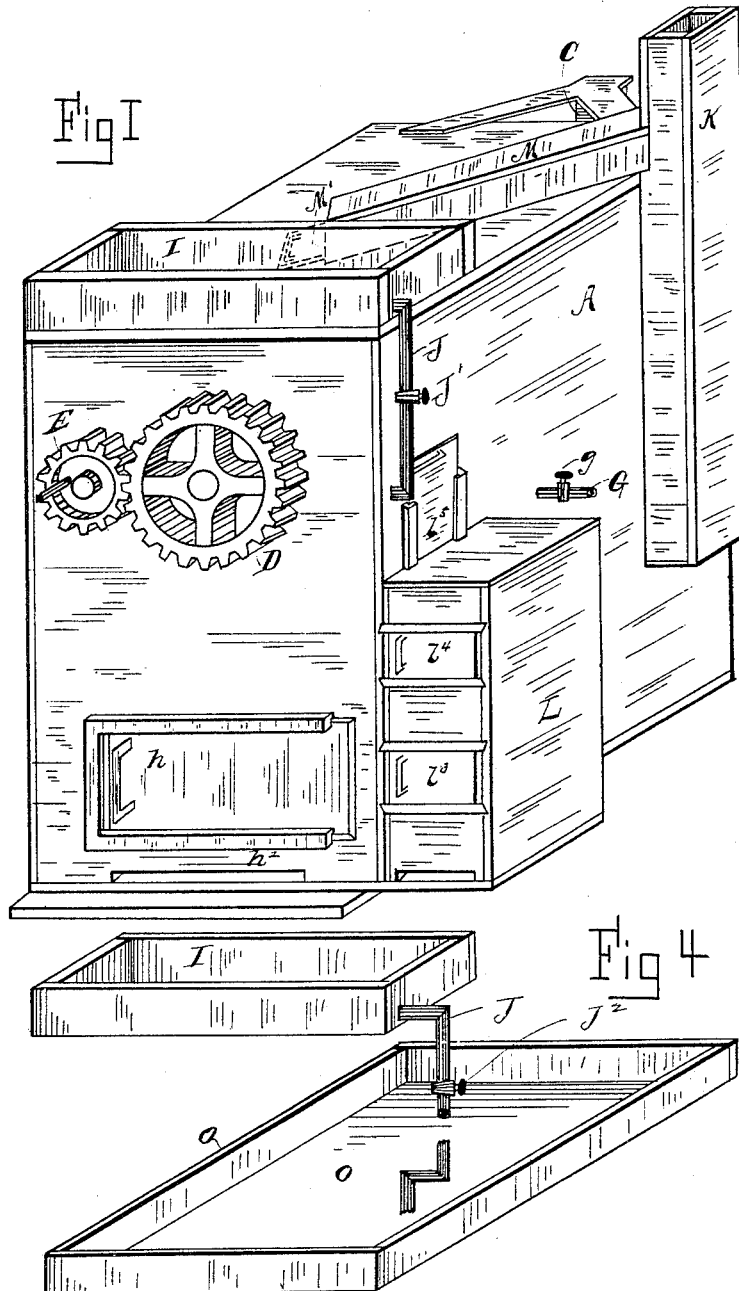


C. PHELAN & H. ELDRIDGE.  
DEVICE FOR STEAMING AND BLEACHING FRUIT.

No. 453,658.

Patented June 9, 1891.



WITNESSES

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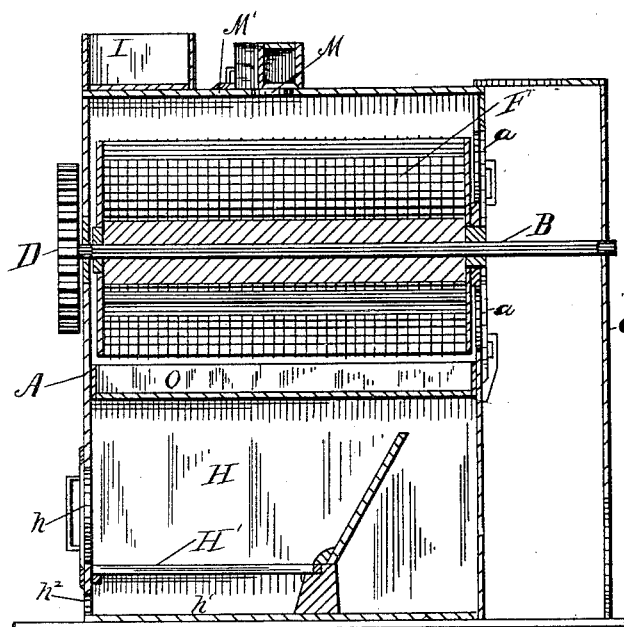


Fig. 2.

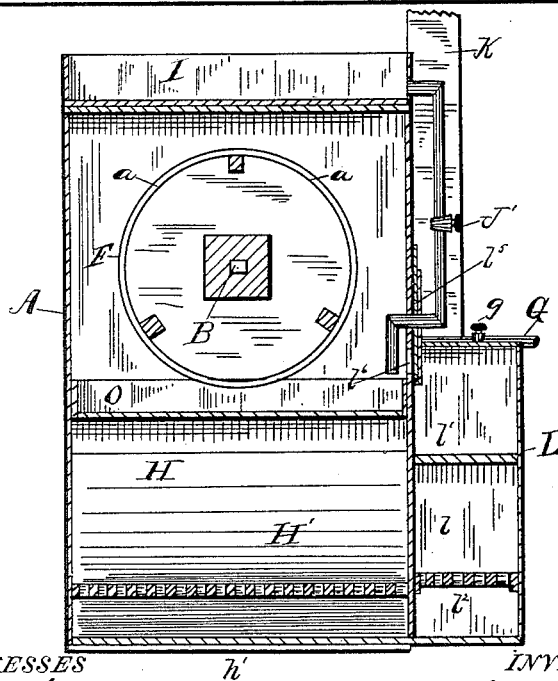


Fig. 3.

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# UNITED STATES PATENT OFFICE.

CHARLES PHELAN AND HACKLEY ELDRIDGE, OF PORTLAND, OREGON.

## DEVICE FOR STEAMING AND BLEACHING FRUIT.

SPECIFICATION forming part of Letters Patent No. 453,658, dated June 9, 1891.

Application filed January 2, 1891. Serial No. 376,454. (No model.)

*To all whom it may concern:*

Be it known that we, CHARLES PHELAN and HACKLEY ELDRIDGE, citizens of the United States, residing at Portland, in the county of Multnomah and State of Oregon, have invented certain new and useful Improvements in Fruit Renovators and Cleaners; and we do hereby declare the following to be full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The object of this invention is to provide improved means for renovating and cleaning all kinds and grades of dried or evaporated fruit by the application of steam or sulphur or steam and sulphur together. This object is effected by means of the construction and combination of devices hereinafter set forth and claimed.

In the accompanying drawings, Figure 1 represents a perspective view of our improved renovator and cleaner. Fig. 2 represents a vertical central section from front to rear of the same. Fig. 3 represents a vertical section through the sulphur-burning attachment at right angles to Fig. 2. Fig. 4 represents a detail view of the water-tank, the pan or boiler, and their connection.

A designates the casing of our renovator and cleaner; B, a shaft extending through said casing from front to rear; C, a standard or frame in which one end of said shaft is journaled outside of said casing; D, a gear-wheel on the other end of said shaft outside of said casing; E, a driving-wheel mounted on a stud attached to said casing, these two wheels meshing together, and F an open-wire cylinder mounted on and turning with the shaft B. This cylinder is movable endwise on said shaft, so as to protrude at will through the front of said casing, which is provided with doors *a a* to allow such motion. When thus protruding, it is charged with dried or evaporated fruit and then moved back within the casing. The doors are then closed again. The wire of this cylinder is preferably made in sections for convenience in cleaning it, fitting over a cylindrical skeleton frame. The meshes are of course fine enough to retain the fruit. During the rotation of this cylinder and its contents the latter may be subjected to steam from a pipe G, communicat-

ing with a boiler or other means of steam-supply. A cock *g* in this pipe cuts off or lets on the steam at will, the discharge being through an opening in the side of the casing below said cylinder.

In many cases it is not feasible or convenient to obtain steam from any external source. We therefore provide a furnace or fire-box H within and at the bottom of said casing and place an open pan O above it, but below said cylinder. This pan is supplied from a tank I on top of said casing or at some other convenient point through a pipe J, which is controlled by a cock *J'*. The heat of the furnace vaporizes the water in the pan O and causes it to ascend into the wire cylinder, moistening the fruit and thereby freshening and cleaning it. The products of combustion escape from the furnace through the flue K.

Said furnace is supplied with fuel through a door *h* and provided with a gate H', an ash-pit *h'*, and an ash-door *h''*.

It is often necessary to apply the fumes of sulphur to certain grades of dried fruit in order to insure their preservation. For this purpose I employ a sulphur-burning attachment L, consisting of a fire-box *l*, and a sulphur-chamber *l'*, arranged above it, also an ash-box *l''* at the bottom. The fire-box *l* and chamber *l'* are provided with doors *l'' l'''*, and a slide-valve *l'''* opens and closes a doorway *l''''* between said chamber and the interior of the main casing below the cylinder. An outlet-passage M extends from the top of said casing to the flue K, and is provided with a slide M', which opens and closes at will communication between said passage with the oven or space around said cylinder and starts the draft.

Of course by means of the above device we may apply the sulphur, only cutting off the steam, or the steam with no sulphur, or the steam and sulphur together. In the latter case we may regulate the proportions of the two supplies according to the grade of the fruit and the treatment needed.

Other substances may be employed instead of sulphur or in addition thereto.

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

1. In combination with an open-work cyl-

inder and mechanism for rotating the same, a pan under the said cylinder, a tank and pipe for supplying the said pan with water, a calorific device under the said pan for converting the contents of the latter into steam, a casing which incloses the said cylinder, pan, and calorific device, and an outlet-flue from said casing, substantially as set forth.

2. The casing A, in combination with a tank I, attached to and supported on its top, a pan arranged within said casing, a pipe extending from said tank to said pan, an attachment L, fastened to the side of said casing and provided with a fire-box, and a chamber for supplying sulphur fumes to the interior of said casing, a fire-box or furnace under the

said pan O, and an open-work cylinder arranged within the said casing and adapted to contain fruit or other substances to be acted on, the said casing being provided with valves for controlling its inlets and outlets to regulate the kind and quantity of vapor applied to the contents of said cylinder and the degree and duration of its action, substantially as set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

CHARLES PHELAN.  
HACKLEY ELDRIDGE.

Witnesses:

WARREN E. THOMAS,  
C. MAHER.