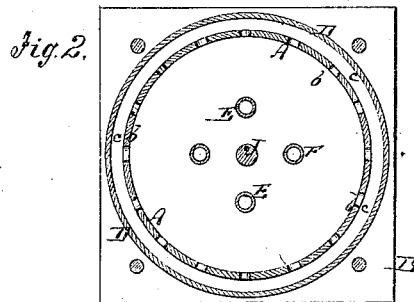


*Patented Nov. 1. 1870.*



Attorneys.

# United States Patent Office.

ALBERT KILBERN HOWE, OF NEW YORK, N. Y., ASSIGNOR TO HIMSELF,  
H. E. DONOR, AND EDWARD PURDY, OF SAME PLACE.

Letters Patent No. 108,788, dated November 1, 1870.

## IMPROVEMENT IN APPARATUS FOR DRYING AND PRESSING LARD-SCRAPS.

The Schedule referred to in these Letters Patent and making part of the same.

*To all whom it may concern :*

Be it known that I, ALBERT KILBERN HOWE, of the city of New York, in the county and State of New York, have invented a new and improved Apparatus for Drying and Pressing Lard-Scraps; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification.

Figure 1 represents a vertical central section of my improved scrap-drying and pressing machine.

Figure 2 is a detail vertical section of a modification of the same.

Figure 3 is a horizontal section of the same, taken on the plane of the line *x x*, fig. 1.

Similar letters of reference indicate corresponding parts.

This invention relates to a new machine for treating the scraps of lard, with a view of extracting from the same all the oily or fatty substances which they may yet contain.

The chief object of the invention is to so construct the apparatus that the process can be carried on without allowing the escape of the offensive odor which usually arises from such devices.

The invention consists chiefly in the use of a perforated vessel containing a sliding piston, by means of which the scraps can be compressed to discharge their fatty or oily substances through the apertures of the vessels, while the scraps cannot escape. Instead of having the vessel perforated, the piston may have the apertures, and is, in that case, connected with a hollow piston-rod, so that the oily matter may be discharged through said piston and rod.

The invention consists, also, in the use within said vessel of a series of steam-pipes or inlets, by means of which steam is conducted to the vessel above the piston, for thoroughly boiling and agitating the scraps without permitting the steam to escape.

Finally, the invention consists in the application to said vessel of a false bottom and outer jacket, as hereinafter more fully described.

A in the drawing represents a metallic vessel, of cylindrical or other form.

It is in a vertical position, set upon a suitable frame, B, and is closed by a cover, C, which is fastened by means of screws, *a*, or other equivalent fastening devices.

The sides *b* of the vessel A are perforated, so that the interior of the cylinder communicates with an annular space, *c*, that is formed around said cylinder by means of an outer jacket, D.

Below the bottom *d* of the cylinder is, by a lower plate, *e*, formed a chamber, *f*.

From the chamber *f* project into the cylinder four, more or less, vertical pipes, E E, which reach to the cover C, or are otherwise closed at their upper ends, while near the same they are perforated, as shown.

A pipe, F, serves to let steam into the chamber *f*, whence, through the pipe E, such steam can escape into the upper part of the cylinder.

Another pipe, G, connects with the lower part of the cylinder, to let steam into the same, and has a downward-projecting branch, H, for carrying away the oil and condensed steam.

I is a piston, fitted into the cylinder, and mounted upon a rod, J, by means of which it can be worked up and down at will, either by the aid of a screw-pinion, *g*, or other suitable mechanism.

The lard to be treated is placed into the cylinder, and steam let in through the pipe F while the piston is down.

When the lard has been thoroughly boiled and agitated, so that the oil has, in part, flowed off into the space C through the apertures in the sides *b*, the steam-pipe F is closed, and the piston worked up. At the same time the steam is let in through the pipe G, so that it may enter the lower part of the cylinder.

The piston compresses the scraps against the cover of the cylinder, pressing the oil or fat, together with the condensed steam, out through the apertures of the cylinder. The steam at the same time enters the space *c*, and passes thence into the upper part of the cylinder, confining the scraps in the center of the cylinder, and aiding in their more thorough compression.

After the scraps have been completely compressed, the steam is turned off and the pipe H opened, to let the products of condensation, together with the liquid oil and fat, flow away from the annular space *c*.

During the entire process the cylinder is completely closed, so that no vapor can escape.

Having thus described my invention,

I claim as new and desire to secure by Letters Patent—

The combination of the perforated cylinder A with the annular space *c*, chamber *f*, pipes E, and piston I, all arranged to operate substantially as herein shown and described.

ALBERT K. HOWE.

Witnesses:

GEO. W. MABEE,

ALEX. F. ROBERTS.