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T. H. RANEY.

FRUIT CANNING DEVICE.

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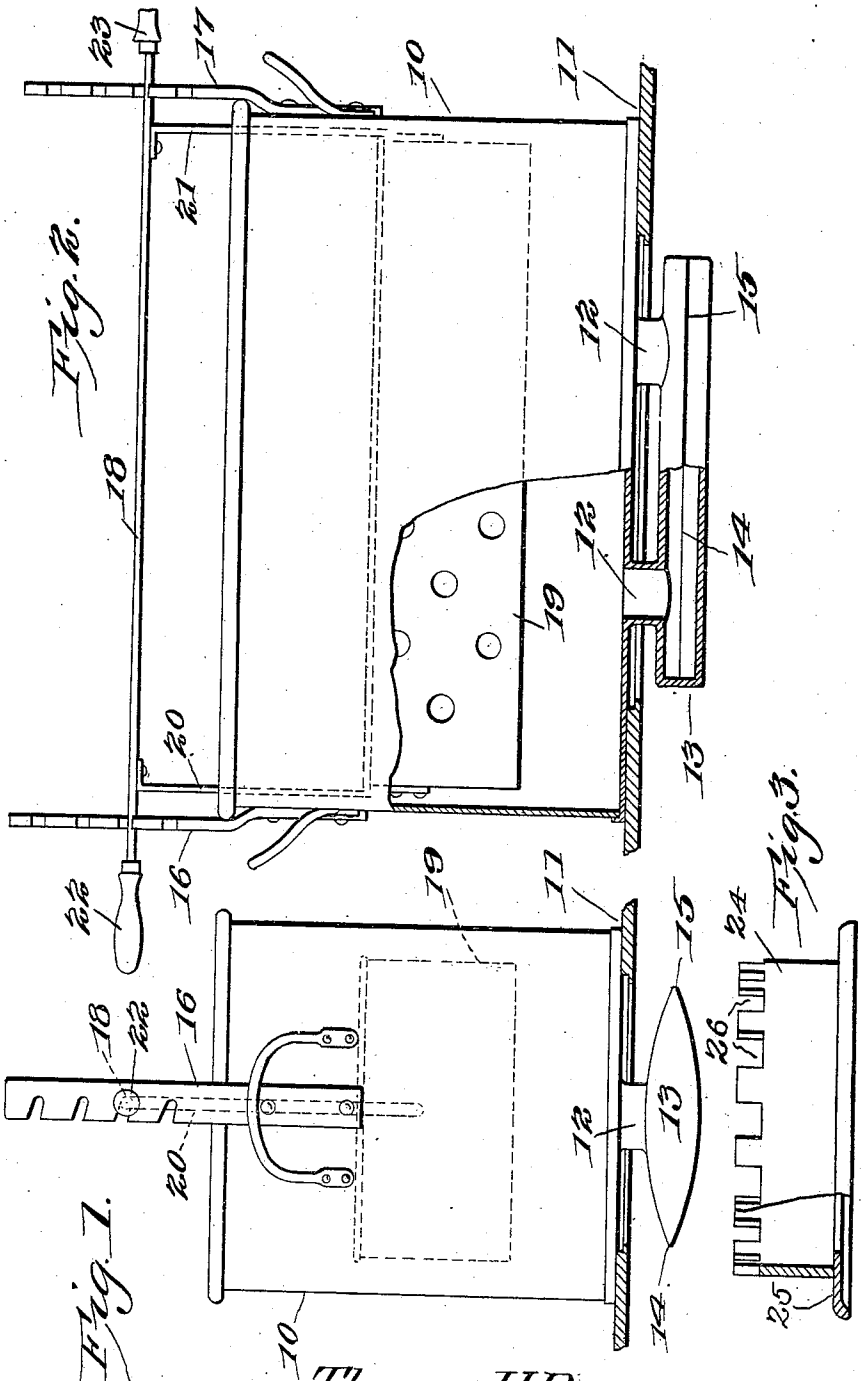

Fig. 2.

Fig. 3.

Fig. 1.

Witnesses

E. F. Stewart

C. H. Woodward.

Thomas H. Raney, Inventor.

by C. A. Snow & Co

Attorneys

UNITED STATES PATENT OFFICE.

THOMAS H. RANEY, OF CHAPEL HILL, NORTH CAROLINA, ASSIGNOR TO RANEY CANNER CO., OF CHAPEL HILL, NORTH CAROLINA.

FRUIT-CANNING DEVICE.

No. 873,603. Specification of Letters Patent. Patented Dec. 10, 1907.

Application filed April 3, 1905. Serial No. 253,667.

To all whom it may concern:

Be it known that I, THOMAS H. RANEY, a citizen of the United States, residing at Chapel Hill, in the county of Orange and State of North Carolina, have invented a new and useful Fruit-Canning Device, of which the following is a specification.

This invention relates to apparatus for canning fruit and other food materials, and has for its object to improve the construction and increase the efficiency of articles of this character.

In the canning of fruit and other food products, much annoyance has heretofore been experienced by the sudden reduction of the temperature of the heating medium, generally hot water, when a fresh charge of cans or other material-containing vessels are introduced, thus rendering it very difficult with any degree of accuracy to gage the heat and the time of treatment, and as the exact time of exposure and the degree of heat are very essential to successful canning, especially when treating delicate fruits and berries, the importance of an apparatus in which a uniformity of heat is maintained at all times during the various steps of the operation is manifest.

The principal object of the present invention is to provide a simply constructed and easily operated canning apparatus, wherein the radiation of heat and the consequent circulation of the water are so rapid that the temperature of the canning bath is not materially affected by the introduction, from time to time, of comparatively cool freshly charged cans or other vessels, thereby insuring requsite uniformity of action and pronounced similarity of the output.

With the above and other objects in view, as will appear as the nature of the invention is better understood, the same consists, generally stated, in a fruit canning apparatus comprising a main boiler, conducting tubes projecting from the bottom thereof, and a supplemental boiler connected with the tubes and being double-convex in cross section to secure the maximum superficial heating area with the minimum interference to draft, and also to provide at the junctures between the upper and lower surfaces of the longitudinal edges of the boiler acute-angled water-spaces, whereby the water at the apices of the spaces will become heated in advance of the water at the intermediate portions of the boiler, thus to secure and maintain rapid circulation of heated water in the main boiler during canning operations.

In the accompanying drawings, forming a part of this specification, and in which like characters of reference indicate corresponding parts, Figure 1 is a view in end elevation of the apparatus. Fig. 2 is a view in side elevation, partly in section. Fig. 3 is a view in side elevation, partly in section, of a drum to be employed when the apparatus is used over an oil or gas stove.

The apparatus comprises a main boiler 10, the same being preferably rectangular in contour internally, and is adapted to rest upon the top of the stove or other heater indicated as 11.

Depending from the bottom of the boiler 10 are a plurality of conducting tubes 12, in this instance two in number, to the lower ends of which is connected a supplemental boiler 13, which, as clearly shown in Fig. 1, is double-convex in cross section, and has sharp or angular longitudinal edges 14 and 15. The object in making the supplemental boiler of the contour described, in cross section, is to secure the maximum superficial area with the minimum interference to the draft of the stove or other heater, and also to provide, internally, at the junctures between the upper and lower surfaces of the longitudinal edges 14 and 15 of the boiler acute angled spaces, whereby the water at the apices of these spaces will become heated rapidly and in advance of the water at the intermediate portions of the supplemental boiler thus to secure and maintain rapid circulation of heated water in the main boiler during the canning operations.

Secured to the respective ends of the main boiler are notched standards 16 and 17 with which is adapted to engage a bar 18 having terminal handles 22 and 23. Attached to the bar adjacent to the handles are hangers 20 and 21 which are secured at their lower end portions to the opposite ends of a perforated basket or can holder 19. As usual, the basket is designed to contain the cans or other receptacles holding the food product to be canned, and may readily be adjusted relatively to the liquid or bath in the main boiler

10 by bringing the bar 18 into any appropriate alined pair of notches in the standards 16 and 17.

It will be seen, from the arrangement disclosed, that when the apparatus is placed upon the stove, that the heat from the burning fuel therein will impinge against the under side of the supplemental boiler and lap around its edges 14 and 15, thence pass over the top of the boiler and into engagement with the conducting tubes and the bottom of the main boiler. As will be obvious, as there will be but films of water in the water spaces formed at the junctures of the upper and lower surfaces of the supplemental boiler, these films may be instantly heated, and will start a circulation through the supplemental boiler and through the main boiler, and thereby effect rapid heating of the bath in the latter. As this rapid circulation will be maintained during canning operations, it will be obvious that the temperature of the bath in the main boiler will not be appreciably lowered when a fresh charge of cans is immersed therein.

When the apparatus is employed upon a gas, oil, or gasolene stove, the drum 24, shown in Fig. 3, will be employed, between the top 25 of the stove and the main boiler, and the upper edge of the drum will be provided with ventilating notches 26 to permit escape of the hot air rising from the burners.

Having thus described the invention what is claimed is:—

A fruit-canning apparatus comprising a main boiler, conducting tubes projecting from the bottom thereof, and a supplemental boiler connected with the tubes and being double-convex in cross section to secure the maximum superficial heating area with the minimum interference to draft, and also to provide at the junctures between the upper and lower surfaces of the longitudinal edges of the boiler acute-angled water spaces, whereby water at the apices of the spaces will become heated in advance of the water at the intermediate portions of the boiler, thus to secure and maintain rapid circulation of heated water in the main boiler during canning operations.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

THOMAS H. RANEY

Witnesses:
ALEXANDER MEACHAM.
WM. L. TANKERSLEY