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FURNACE AND BOILER

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Fig. 1

Fig. 2

Fig. 3

Fig. 4

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This invention has for one of its objects the provision of a novel, simple and inexpensive boiler and furnace which shall be especially adapted for rendering beeswax and cleaning up an apiary of American foul brood.

A further object of the invention is the provision of a device of the character stated wherein the boiler is adjustably supported in an opening in the furnace whereby to permit the regulation and control of the rate and amount of evaporation of the contents of the boiler.

The foregoing and other objects are attained by the novel construction, combination and arrangement of parts hereinafter fully described and claimed, and illustrated in the accompanying drawing, wherein:

Figure 1 is a view in side elevation of the furnace and boiler;

Figure 2 is a view in front elevation of the furnace and boiler;

Figure 3 is a longitudinal sectional view of the boiler and furnace taken on the vertical plane indicated by the line 3—3 of Figure 2, and

Figure 4 is a transverse sectional view of the boiler and furnace taken on the vertical plane indicated by the line 4—4 of Figure 1.

Corresponding and like parts are referred to in the following description, and designated in the several views of the accompanying drawing, by similar reference characters.

The furnace comprises inner and outer casings 1 and 2 which are spaced to provide an intervening chamber 3. The casings 1 and 2 are secured in relatively spaced relation by stays 5. The front 4 and back 5 of the casing 2 are provided with openings 6 to permit the circulation of air through the chamber 3 so as to reduce to the minimum the absorption of heat by this casing. The front 4 of the casing 2 and the front 7 of the casing 1 are provided near the bottom of the furnace with registering openings 8 and 9, respectively. The front 7 of the casing 1 is provided with a flange 10 which surrounds the opening 9 and contacts with the inner side of the front 4 of the casing 2 so as to prevent the products of combustion from passing into the compartment 3. The opening 8 is closed by a door 11 secured to the front 4 of the casing 2 by hinges 12 and provided with a handle 13. A grate 14 is supported within the casing 1 by lugs 15, and it occupies a position between the top and bottom walls of the openings 8 and 9 so as to permit fuel to be placed upon the grate and ashes removed from the casing 1 through said openings. The casings 1 and 2 are provided in their top sides with registering openings 16 and 17, and the casing 1 is provided about its opening 16 with an upstanding flange 18. This flange contacts with the inner surface of the top side of the casing 1 and prevents the products of combustion from entering the compartment 3. A flue or pipe 19 provided with a damper 20 communicates with the interior of the casing 1.

The boiler 21 extends into the combustion chamber of the furnace through the openings 16 and 17 and is provided at its front and back with handles 22. Brackets 23 are secured to the top side of the casing 1 in outwardly spaced relation to the front and rear ends of the openings 16 and 17. Each of the brackets 23 comprises an accurate base plate 24 secured to the furnace by rivets 25, and a pair of vertical arms 26 provided with vertical rows of aligned openings 27. The handles 22 are positioned between the arms 26 and rest upon pins 28 passing through certain of the openings 27. The handles 22, brackets 23 and pins 28 support the boiler 21 in a manner to permit its depth of penetration into the combustion chamber of the furnace to be varied, and due thereto the rate and amount of evaporation of the contents of the boiler may be regulated and controlled. The boiler 21 has imperforate side and bottom walls, and it extends above and below the casings 1 and 2. It has a snug fit in the flange 18 so as to prevent the products of combustion from passing through the openings 16 and 17. The handles 22 extend horizontally from the boiler 21, and are located adjacent the upper side thereof. The arms 26 are unconnected at their top ends so as to permit the boiler 21 to be completely withdrawn from the furnace.

The furnace is adapted to burn coal or wood, and if desired an oil burner may be placed upon the grate 14. While the device is especially adapted for rendering beeswax and cleaning up an apiary of American foul brood, it may also be used as a stock food cooker or evaporator for maple sap.

It should be understood that the drawing is merely illustrative and does not pretend
to give exact proportions. Furthermore, the said drawing is illustrative of a preferred construction, it being my expectation that various changes and modifications may be made without departing from the spirit and scope of the invention.

What is claimed is:

A device of the character set forth, comprising a furnace having a rectangular opening in the top side thereof, a rectangular boiler having imperforate side and bottom walls and having a snug fit in the opening of the furnace, brackets secured to the top side of the furnace at opposite sides of the opening therein and each consisting of relatively spaced vertical arms having vertical series of openings and unconnected at their top ends, pins removably passing through certain of the openings in the arms, and handles secured to opposite sides of the boiler adjacent the top side thereof and positioned between said arms and resting upon said pins.

In testimony whereof I affix my signature.

GILBERT M. DANIELS