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K. ARAKI

CHIMNEY PROTECTOR

Filed June 20, 1923

Fig. 1.

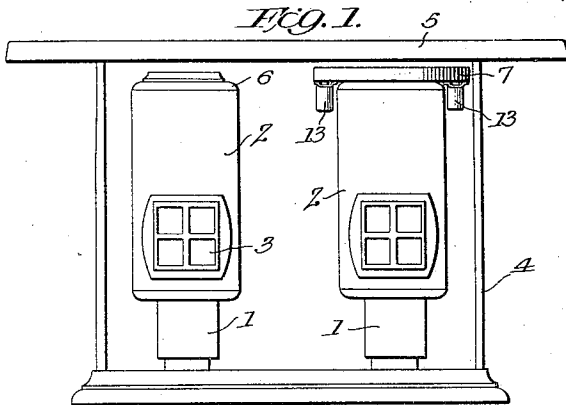


Fig. 4.

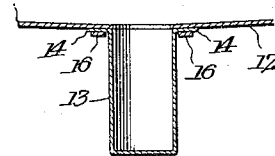


Fig. 2.

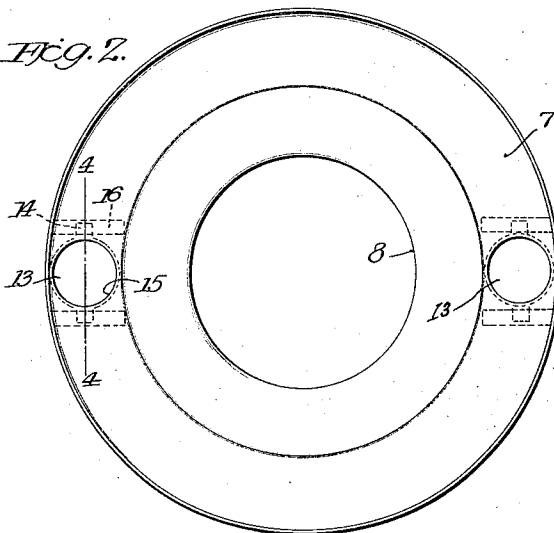


Fig. 5.

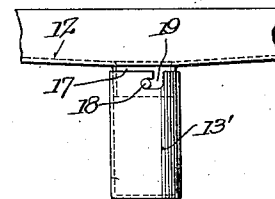


Fig. 6.

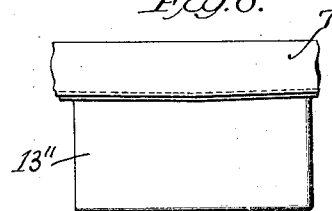
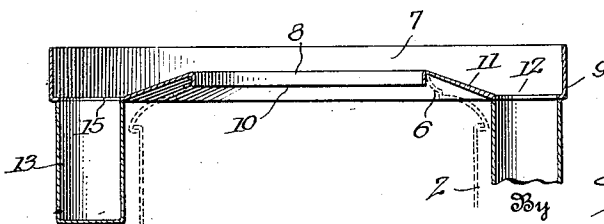


Fig. 3.



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KENICHI ARAKI, OF HONOLULU, TERRITORY OF HAWAII.

CHIMNEY PROTECTOR.

Application filed June 20, 1923. Serial No. 646,676.

To all whom it may concern:

Be it known that I, KENICHI ARAKI, a citizen of the United States, residing at Honolulu, in the county of Honolulu and Territory of Hawaii, have invented a new and useful Chimney Protector, of which the following is a specification.

The present invention is a protector for the chimneys of oil stove burners.

10 The principal object of the invention is first to prevent the chimney in cooking stoves from becoming foul or rusting by the overflow of liquids, the dropping and overflow of grease, etc., during the cooking operation.

15 A further object of the invention is the provision of such a protector as above described having a trap thereon which enlarges the capacity of the pan of the protector and which can be removed and emptied as desired without necessitating the entire removal of the protector during the cooking operation.

20 The invention further resides in sundry details and construction and arrangement of parts which will appear as the specification proceeds.

25 In this specification and the annexed drawings, the invention is disclosed in the form in which it is considered to be the best, but the invention is not limited to such form because it is capable of being embodied in other forms; and it is to be understood that in and by the claims following the description herein it is intended to cover the invention in whatever form it may embody within the scope thereof.

30 In the drawings which show the preferred embodiment of the invention as at present devised:—

40 Figure 1 is a detailed sectional view of the portion of the oil cooking stove showing a chimney protector applied thereto,

Fig. 2 is a plan view of the protector.

45 Fig. 3 is a transverse sectional view of the protector shown in Fig. 2 and illustrated as applied to the chimney of the oil burner.

Fig. 4 is a transverse sectional view taken substantially on line 4—4 of Fig. 2.

50 Fig. 5 is a view similar to Fig. 4 showing a modified form of the invention, and

Fig. 6 is a view similar to Fig. 4 illustrating a further modified form of the invention.

Like characters of reference denote similar and like parts throughout the specification and drawings.

The protector of this invention is particularly adapted to be applied to the chimneys of fuel oil burners which are more or less standardized in size and shape, and which consist of a burner portion 1, tubular chimney member 2 surmounting the burner and having transparent doors 3 therein for purposes well understood. These burners, including their chimneys, may be mounted on a frame 4 having a top or supporting grating 5, or they may be singly constructed to form a single burner or heater of the form well known. The upper end 6 of the chimney 2 is usually of a substantially frusto-conical shape and open at its extremity.

The protector 7 takes the form of a circular pan having a circular opening at its center as at 8. The outer edge of the pan is provided with an upstanding flange 9 and the edge of the opening is provided with a downwardly depending flange 10, which extends into the opening at the end 6 of the chimney and has a fitting engagement with the edge thereof. The bottom wall of the pan 7 has a portion thereof adjacent the opening 8 therein depressed inwardly of the pan to form the inclined wall 11 which will shed any overflow from a cooking utensil overlying the burner into the trough 12, the bottom of which is slightly inclined downwardly toward the traps 13. There may be as many of these traps as desired. The traps 13 may be rigidly and permanently secured to the pan 7, as illustrated in Fig. 6, or they may be detachably mounted as shown in Figs. 2, 4 and 5. The purpose of the traps is to enlarge the capacity of the pan for receiving the overflow.

In the cooking of rice and other similar foods it is preferable and desirable to allow it to boil over in order to effect proper cooking according to the ideas and customs of certain peoples. This continuous overflow would ordinarily quickly fill the trough 12 of the protector and would necessitate that the vessel containing the food stuff be removed from the fire while the protector was being emptied. Therefore, the traps 13 are provided, and as shown in Figs.

4 and 5 have been made detachable so that they can be removed and emptied without disturbing the cooking operation, or to drain the trough 12 when necessary.

5 In Figs. 2 and 4 the traps 13 consist of depending pockets or receptacles of any suitable shape having at their upper and opened ends outwardly and laterally extending projections 14. These traps are arranged under
10 openings 15 provided in the bottom wall 12 of the pan at spaced intervals, or only one opening may be provided in some instances. On opposite sides of the openings 15 are arranged strips 16 spaced slightly from the
15 bottom or underface of the pan and secured thereto in any suitable manner at their ends. The spacing of the strips 16 is sufficient to accommodate the thickness of the projections 14 and to hold the traps tightly against
20 the bottom wall of the pan and in alignment with the openings 15. In this form of the invention as will be seen, that to remove the traps it is only necessary that they be turned slightly, say 45°, and the projections
25 14 will disengage the strips.

In Fig. 5 the traps 13' are shown as having the same construction as the traps 13 except as to their manner of attachment to the pan 7. In this embodiment the openings
30 15' are provided at their edges with depending flanges formed with a lateral projecting stud which may be stamped therefrom, or otherwise provided, the depending flanges 17 being adapted to fit to the open end of the
35 traps and the stud 18 to engage into a suitable bayonet slot 19 in the edge of the trap as shown.

In Fig. 6 the traps 13'' are shown as being rigidly and permanently secured to the
40 underface of the pan 7 such as by soldering, welding, or by any other suitable fastening means, or they can be made integral with the pan. These traps 13'' are shown as being of larger capacity than the traps 13.

45 It will readily be seen that from the location and form of the protector of this invention, it is adapted to effectually catch and retain any overflow or wastage that may pass from the utensil in which food stuffs are
50 being cooked and supported above the burner, during the process of cooking, thereby preventing the soiling or rusting of the chimneys and other portions of the stove or burner; and also that provision has been
55 made for collecting the overflow from the pan into traps or pockets which increase the capacity of the protector, and that the traps may be removed and emptied when desired.

Having thus described the invention what

is claimed as new and upon which it is desired to secure Letters Patent is:

1. A protector for chimneys of oil stove burners, comprising a pan having a central opening therein to register with the opening in the upper end of the chimney and adapted
60 to rest on the upper end of said chimney, and a drain trap in the bottom of the pan to supplement the capacity of said pan.

2. A protector for chimneys of oil stove burners, comprising a pan to be supported
70 by and rest upon the upper end of said chimney and having an opening in the central portion thereof to register with the opening in the upper end of the chimney, means about said central opening of the pan
75 to prevent liquid from passing therethrough when at a normal level in the pan, a drain trap communicating with the bottom of the pan and removably secured thereto.

3. A protector for chimneys for oil stove
80 burners, comprising a pan to be supported by and rest upon the upper end of said chimney and having an opening in the bottom thereof to register with the opening in the upper end of the chimney, the bottom of
85 said pan about said opening therein being raised to restrict liquid within the pan from passing down said chimney, and a cup-like receptacle depending from the bottom of the
90 pan and communicating with the interior of the pan for receiving liquid from said pan.

4. A protector for chimneys for oil stove burners as set forth in claim 3, further characterized by said cup-like receptacle being
95 normally adapted to lie outside of the chimney and being removably secured to said pan.

5. A protector for chimneys of oil stove burners as set forth in claims 3 and 4, further characterized by the connection between the cup-like receptacle and the bottom of the pan being provided by an opening in the
100 bottom of the pan, and a pair of strips arranged on opposite sides of the opening and having their ends secured to the bottom of the pan and their medial portions spaced therefrom, and outwardly extending lateral
105 projections on the upper edge of the cup-like member to extend between said strips and the bottom of the pan, whereby the cup-like member is maintained in position and may
110 be removed by slightly rotating same on its axis.

In testimony whereof I have hereunto set
115 my hand.

KENICHI ARAKI.