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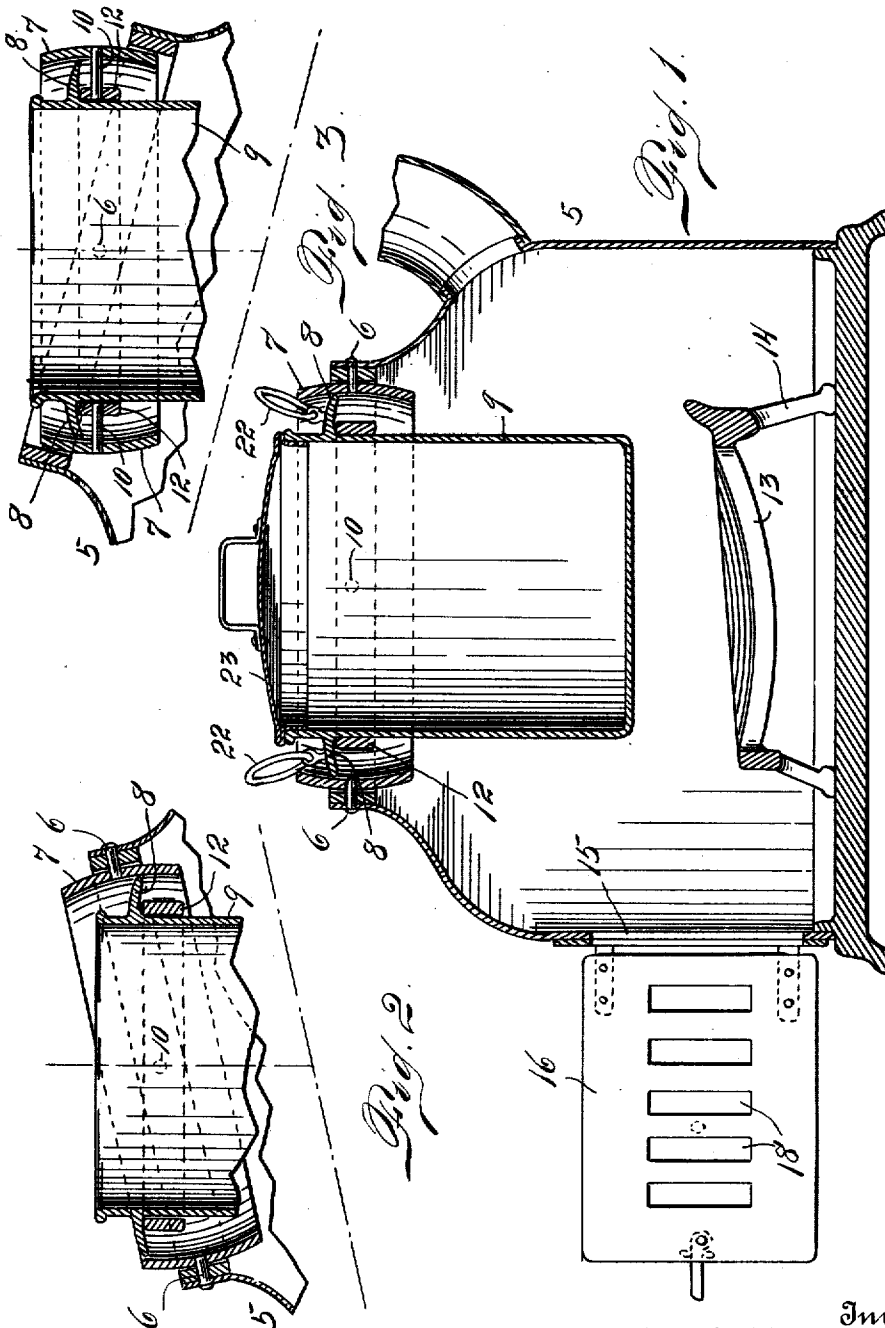
COOKER FOR USE ON BOATS.

APPLICATION FILED MAR. 23, 1917.

Patented Jan. 28, 1919.

2 SHEETS—SHEET 1.

1,292,782.



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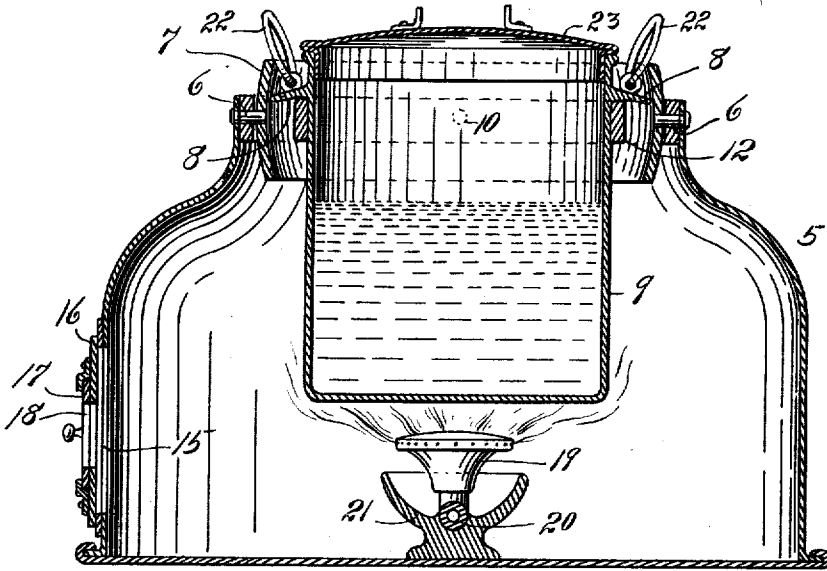


Fig. 4.

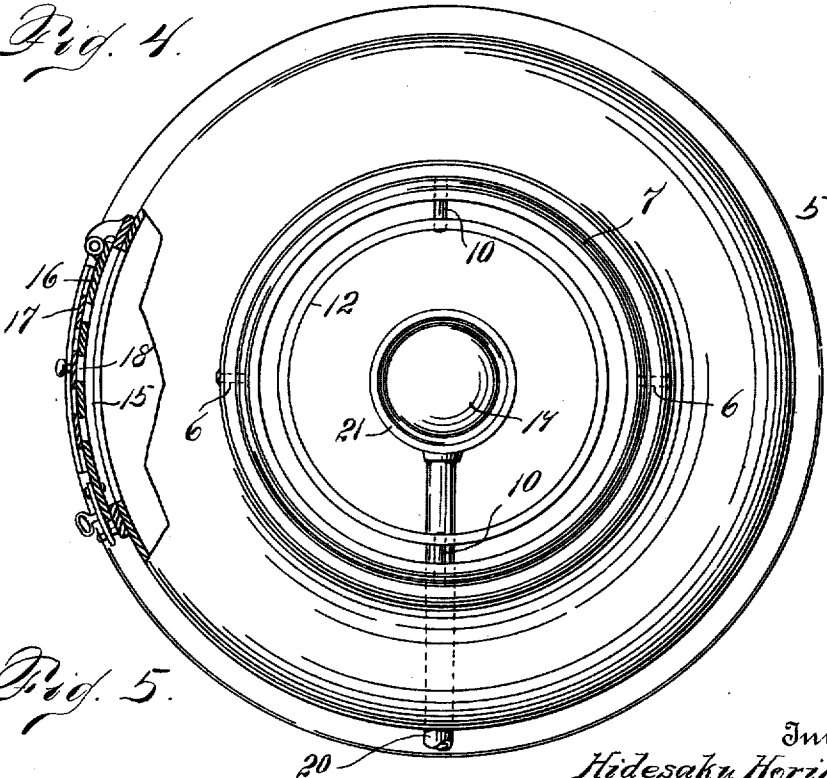


Fig. 5.

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UNITED STATES PATENT OFFICE.

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COOKER FOR USE ON BOATS.

1,292,782.

Specification of Letters Patent.

Patented Jan. 28, 1919.

Application filed March 23, 1917. Serial No. 156,863.

To all whom it may concern:

Be it known that we, HIDESAKU HORIKAWA, KATSUTARO SHIBATA, and TSUCHITARO HIRO, subjects of the Empire of Japan, residing at the city and county of Denver and State of Colorado, have invented certain new and useful Improvements in Cookers for Use on Boats; and we do declare the following to be a 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, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this specification.

Our invention relates to improvements in cookers adapted for use on boats, the object being to provide a stove-like structure so equipped that a removable pot, receptacle or vessel may be supported therein in such a manner that it will maintain its normal vertical position regardless of the tilting of the boat due to the action of the waves. A device of this character is more especially valuable during what is called rough weather on the water when the rocking motion of the boat is such that without some provision of this character, it is impossible to cook food in a receptacle containing water, since the rolling of the boat will tilt the vessel sufficiently to spill its contents or a relatively large portion thereof.

In our improvement, the fuel containing shell or stove-like structure is equipped with what are known as gimbals which consist of two movable hoops or rings, one within the other, the outer being capable of rotation about a fixed horizontal axis lying in its plane, and the inner capable of rotation about an axis lying in the planes of both rings and perpendicular thereto.

When the tilting of the stove or fuel receptacle is in a plane parallel with the axis of the outer ring, this ring alone together with the stove in which its pivots are mounted, are given the tilting movement, while the inner ring within which the cooking vessel is supported, maintains its horizontal position while the cooking vessel maintains its vertical position. Again, when the vessel is tilted in a plane forming angles with the axis of the inner ring, both rings main-

tain their horizontal position or a position in which their axes are both in a horizontal plane, while the stove tilts to form any desired angle with such plane.

Having briefly outlined our improvement, we will proceed to describe the same in detail, reference being made to the accompanying drawing in which is illustrated an embodiment thereof. In this drawing:—

Figure 1 is a central vertical section taken through our improved cooker.

Fig. 2 is a fragmentary section taken on the same plane as in Fig. 1, but showing the stove tilted in a plane parallel with the axis of the outer ring.

Fig. 3 is a similar view showing the stove tilted in a plane forming angles with the axes of both rings.

Fig. 4 is a view similar to Fig. 1, but showing a gasolene burner for supplying the heat.

Fig. 5 is a top plan view of the construction shown in Fig. 4, with the cooking vessel removed.

The same reference characters indicate the same parts in all the views.

Let the numeral 5 designate the stove having an opening in its top carrying two oppositely disposed pins 6 which are fixed to the stove and upon the inner extremities of which is pivotally mounted a ring 7 which consists of the central segment of a sphere, this ring being curved to permit it to tilt to the position shown in Fig. 2 for instance, without interfering with an outwardly projecting circumferential flange 8 with which the cooking vessel 9 is equipped a short distance below the top thereof. Again, by reason of the curved or spherical structure of the ring 7, the stove member 5 may tilt to a considerable angle (see Fig. 3) without opening the stove at the top to any considerable extent, as will be readily understood by reference to the drawing.

Again, the spherical ring 7 is equipped with two inwardly projecting pins 10 upon whose inner extremities are pivotally mounted the inner ring 12 which fits closely around the cooking vessel just below the flange 8. As shown in the drawing, the axis of the two pins 10 is perpendicular to that of the two pins 6.

The cooking vessel 9 may be of any suitable construction, but preferably should fit closely within the inner ring 12 of the structure, the flange 8 of the vessel forming a stop which engages the ring and maintains the vessel in its properly suspended position for cooking purposes, the heat being supplied from any suitable fuel placed within the stove member 5 of the structure. In Fig. 1 a removable grate 13 is placed on the bottom of the stove and supported by legs 14. Coal may be placed upon this grate or other fuel as wood, if desired. However, when wood is used the grate may be dispensed with and the wood may be placed directly upon the bottom of the stove if desired. The fuel of whatever character, is introduced through an opening 15 which is normally closed by a hinged door 16 which is preferably equipped with a slidable damper 17 whereby openings 18 in the door may be opened or closed at will for regulating the draft. As shown in Figs. 4 and 5, the bottom of the stove is equipped with a burner 19 for gasoline or other fluid fuel which may be supplied by way of a pipe 20. As shown in the drawing, the burner is mounted in a dish shaped casting 21 which is secured to the bottom of the stove and is capable of holding some priming fluid which may be required in starting the fire.

It will be understood that the body of the stove below its upper portion in which the gimbals are mounted may be of any suitable or desirable structure. Where fluid fuel is employed as in the structure shown in Figs. 4 and 5, it will not be necessary to have a smoke flue as shown in Fig. 1, but some perforations may be formed in the top of the stove below the gimbals if desired.

From the foregoing description, the use and operation of our improvement will be readily understood. The cooking vessel is readily removable from the stove, and as readily replaceable. As shown in the drawing (see Figs. 1 and 4), the flange 8 of the vessel is equipped with rings 22 which may form hand-holes to facilitate the lifting of the vessel either for purposes of removal or replacement. The vessel should be provided with a suitable closure at the top which may be of the character indicated in Figs. 1 and 4 and designated by the numeral 23. From the structure as described, it will be understood that the vessel will maintain its normal upright or vertical position regardless of the tilting of the boat or ship where the stove is located. It is evident that the stove may be secured to a suitable stationary support in the boat, to prevent it from shifting its position during the rocking movement of the boat.

Having thus described our invention, what we claim is:

1. A cooker comprising a substantially closed stove casing having an opening at its top and equipped with concentrically arranged rings or gimbals, the outer ring being pivotally connected with the stove casing at diametrically opposite points, while the inner ring is spaced from the outer and pivotally connected with the latter at two opposite points, the axes of the two rings being perpendicular to each other, a cooking vessel surrounded by the inner ring and directly engaged thereby in suspended relation, means to close the space between the two rings, and a heating chamber below said cooking vessel.

2. A cooker comprising a substantially closed stove casing and a cooking vessel, the stove casing being open at the top and equipped with two concentrically arranged rings, the inner of which is pivotally connected with the outer ring, while the outer ring is pivotally connected with the stove casing, the axes of the two rings being perpendicular to each other, a cooking vessel surrounded by the inner ring and having an exterior circumferential flange of such width as to approximately close the space between the two rings and a heating chamber below said cooking vessel.

3. A cooker comprising a substantially closed stove casing having an opening in its top, a ring located within the said opening and pivotally connected with the stove casing at diametrically opposite points, the ring fitting closely within the top opening of the stove casing and constituting a segment of a sphere, and a second ring concentrically arranged within the first named ring and pivotally connected with the latter, the axes of the two rings being perpendicular to each other, and a cooking vessel surrounded by the inner ring equipped with means engaging the inner ring to support the vessel to be acted on by the heat from the fuel arranged within the stove and below the vessel, means to substantially close the space between said rings and cooperate with said partly spherical construction of the first named ring to maintain said space closed, and a fuel chamber below said cooking vessel.

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

HIDESAKI HORIKAWA,
KATSUTARO SHIBATA,
TSUCHITARO HIRO.

Witnesses:

MARY HIGGINS,
A. EMMET O'BRIEN.