R. L. PAULSON.

GALLEY STOVE.

APPLICATION FILED MAY 3, 1913.

1,090,227.

Patented Mar. 17, 1914.

2 SHEETS—SHEET 1.

Fig. 1

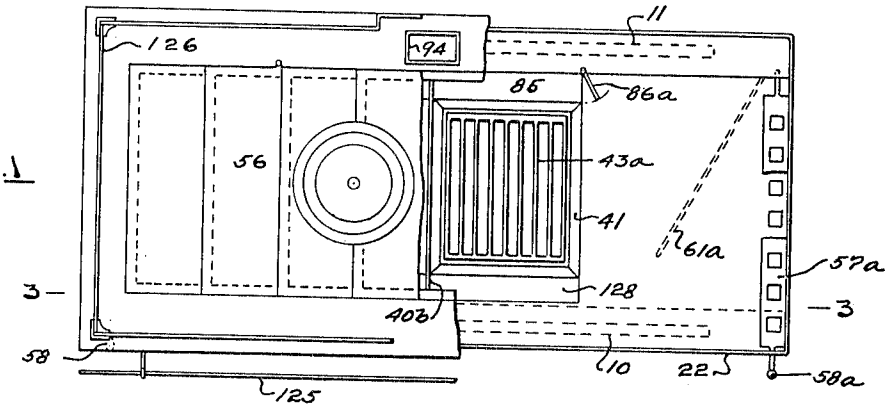



Fig. 2

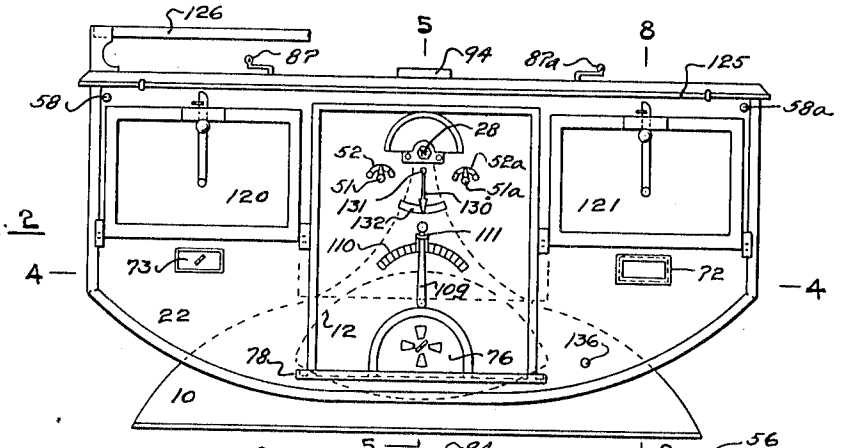
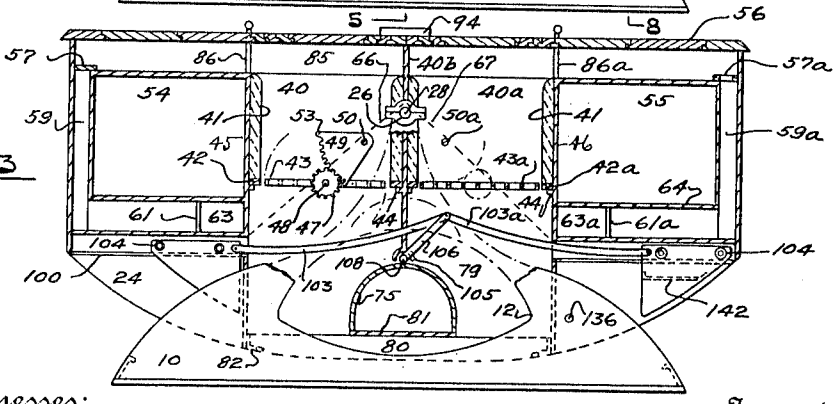



Fig. 3




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2 SHEETS—SHEET 2.

Fig. 4

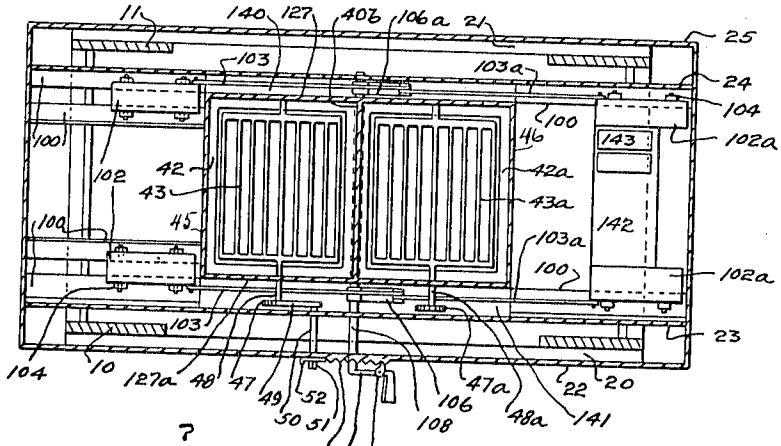



Fig. 5

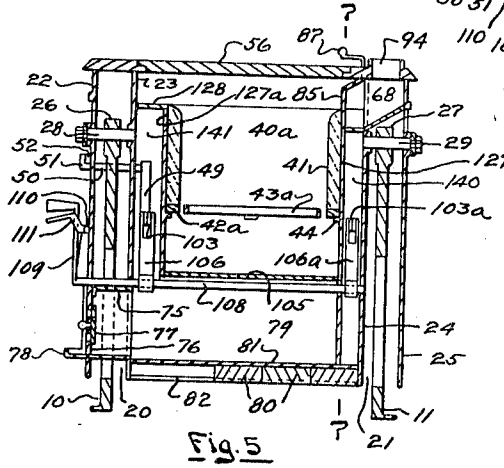



Fig. 6

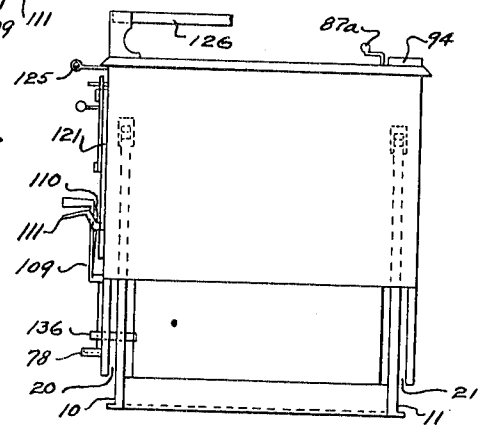



Fig. 7

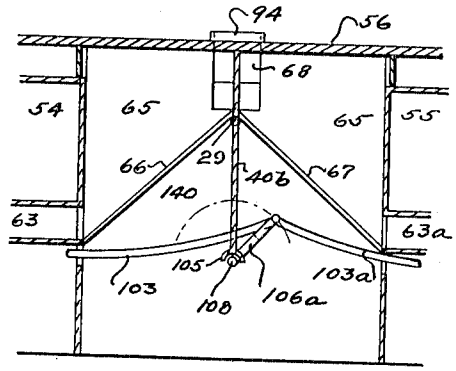
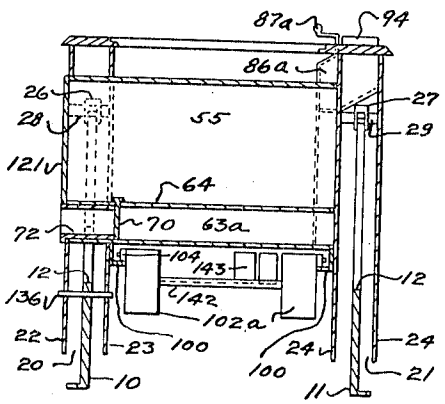



Fig. 8




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# UNITED STATES PATENT OFFICE.

ROBERT L. PAULSON, OF BROOKLYN, NEW YORK.

## GALLEY-STOVE.

1,090,227. Specification of Letters Patent. Patented Mar. 17, 1914.

Original application filed October 24, 1912, Serial No. 727,553. Divided and this application filed May 3, 1913. Serial No. 765,268.

*To all whom it may concern:*

Be it known that I, ROBERT L. PAULSON, a citizen of the United States, and resident of the borough of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Galley-Stoves, of which the following is a specification.

This invention relates to a cooking stove for use on board ships, and more particularly to a galley stove which is self-leveling regardless of the rolling motion of the vessel.

The invention forming the subject matter of this specification has already been disclosed by me in an application for Letters Patent of the United States, Serial Number 727,553 filed on the 24th day of October 1912, of which the present application is a division. In my former application I have claimed the novel construction of the supports for the stove and the spaced outer and inner walls thereof, whereas in this latter application I direct my claims to the new means for compensating unequa' loading of the stove.

The object of the invention is to provide several desirable features of construction, and to these ends the invention consists in the improvements and combinations of parts hereinafter described in their preferred embodiments as illustrated on the accompanying drawings, and pointed out in the appended claims.

In the said drawings Figure 1 is a top plan view of the stove, parts being omitted; Fig. 2 is a front view of the stove illustrated by Fig. 1, parts being broken away; Fig. 3 is a partial longitudinal section of the stove illustrated by Fig. 1, taken on the line 3—3 with a forwardly located element left in position. Fig. 4 is a partial horizontal section of the stove illustrated by Fig. 2, taken on the irregular line 4—4; Fig. 5 is a partial transverse section of the stove illustrated by Fig. 2, taken on the line 5—5; Fig. 6 is a right hand side view of the stove illustrated by Fig. 2; Fig. 7 is a fragmentary section of the stove illustrated by Fig. 5, taken on the line 7—7, and Fig. 8 is a partial transverse section of the stove illustrated by Fig. 2, taken on the line 8—8.

In these views the numerals 10, 11 denote front and rear supports on which the stove is hung. Said supports stand in spaces 20, 21 between double walls 22—23 and 24—25 at the front and rear of the stove respectively. The wall 22 constitutes a guard wall carried by the stove and extending down in advance of the front support. The said supports are provided at their lower and broader parts with wide openings 12, and at their upper and narrower portions with bearings 26, 27. In the latter are journaled trunnion pins 28, 29 the ends of which are fixedly held in the double walls 22—23 and 24—25 respectively. The center of gravity of the stove is well below the pivotal axis which passes through the said pins 28, 29 so that it will remain level notwithstanding the rolling motion of the ship.

The stove proper may be provided with suitable fire-places 40, $40^a$, separated by a transverse partition wall $40^b$. These fire places are lined with fire-clay slabs 41 which rest upon frames 42, $42^a$ supported on lugs 44 projecting from the central wall $40^b$ and also from the side partition walls 45, 46. The said frames 42, $42^a$ carry dumping grates 43, $43^a$, operated by gears 47, $47^a$ respectively. The latter are secured to shanks 48, $48^a$ formed with the grates. Sectors 49 one of which is shown, are in mesh with the said gears 47, $47^a$, respectively. These sectors are operated by shafts 50, $50^a$ having at their outer ends levers 51, $51^a$ which may be locked in position by latches 52, $52^a$ respectively. Disengagement of each gear from its sector is prevented by providing the latter with long end teeth 53. It will be observed that the shafts 50 $50^a$ are located at some distance to one side of the upper part of the support 10 so that there can be considerable relative movement between them without danger of interference.

The hot gases from the fire-places 40, $40^a$ travel over the top of the ovens 54, 55 respectively. These ovens extend forwardly through the wall 23 to the wall 22 where they are provided with suitable doors 120, 121. The gases flow under the removable top plates 56 and pass thence the open dampers 57, $57^a$ (operated by handles 58, $58^a$ respectively), down through passages 59, $59^a$ at the outer sides of the ovens, and

thence through other passages 63, 63ª under the ovens, where the gases are deflected by plates 61, 61ª respectively. From the latter passages the said gases travel upwardly along a passage 65 back of the fire places, following the inclined baffles 66, 67 (shown to best advantage in Fig. 7), and thence out through a rearwardly offset passage 68 at the top. Direct draft may be secured by opening a by-pass 85 immediately in rear of the fire places on top of the ovens. This by-pass may be closed by damper doors 86, 86ª one at each end thereof, operated from above the stove by means of handle knobs 87, 87ª respectively.

The passages 63, 63ª under the ovens are each provided with a clean-out opening, which may be closed by a sliding door 70 that is inserted downwardly through a slot in the bottom wall 64 of the oven. The said clean out openings register with other openings in the guard wall 22 and these latter openings may be covered by false doors 73, one of which is shown in position in Fig. 2. When it is desired to clean out the spaces below the ovens, removable thimbles 72 are inserted in the registering openings in the walls 22 and 23 so that the soot may be raked forward without being allowed to fall down into the gap between the spaced front walls. A larger thimble 75, also removable, is inserted through the opening 12 in the support 10 and through the lower portions of the walls 22, 23 so as to bridge the space between them and permit the ashes in pit 79 beneath the grates to be taken out. Under ordinary conditions these thimbles may be left in place and the stove kept locked to the supports by means of a removable bolt or pin 136. The said larger thimble 75 has a removable door 76 provided with an air regulator 77 and at the lower edge of this thimble projects a shelf 78, under which a suitable pan may be placed to receive the ashes when the latter are pulled out from the ash-pit 79. In order that the suspended stove may not be too sensitive when heavy articles are placed on top of the plates 56 weights 80 may be inserted under the bottom 81 of the ash-pit and supported on ledges 82 formed at the lower edges of the walls 45, 46.

Underneath the passages 63, 63ª are guides 100 on which are movably mounted counterweights 102, 102ª, one at each side of the ash-pit, and consequently below and at opposite sides of the pivotal axis of the stove. These weights are coupled by means of connecting rods 103, 103ª to the ends of levers 106, 106ª which are secured to a rockshaft 108. As shown, this rockshaft extends across the ash-pit 79 directly below the transverse partition wall 40ᵇ, and a guard 105 at the lower edge of the latter protects the shaft from heat and falling ashes. The said shaft 108 has its ends journaled in the spaced walls 22–23 and 24–25, and the lever 106ª near the rear end thereof, together with its connecting rods operate in a compartment 140 formed between the inner rear wall 24 and a partition wall 127 located immediately in rear of the fire places 40, 40ª and below the inclined baffles 66, 67. The other lever 106 and the rods connected therewith work in a compartment 141 located between the inner front wall 23, and a partition wall 127ª disposed directly in advance of the fireplaces, below a top cover plate 128. In the latter compartment are also located the hereinbefore mentioned gears and sectors for the operation of the grates, respectively 47, 48 and 47ª and 48ª. The counterweights 102, 102ª are provided with rollers 104 for reducing the friction when the former are moved on the guides 100. A sheft 142 connects the opposed inner sides of these weights and may have additional weights 143 placed thereon if it is desired to make them heavier. This shelf has been omitted from the left hand portion of Fig. 4 because its use is not always necessary. Further it is obvious that the counterweights at the rear of the stove could also be left out depending upon the size and other conditions which govern its design. The weight operating shaft 108 is provided at its front end with a handle crank arm 109 which has a latch 111 that coöperates with a toothed sector 110 on the front wall 22. In this way the said weights 102, 102ª may be held at a predetermined point so as to displace the center of gravity in one direction or the other in order to compensate for unequal loading of the stove.

To enable the cook to tell at a glance how much it is necessary to shift the counterweights to one side or the other, a gravity index 130 is pivoted at 131 to the front or guard wall 22 of the stove. This index hangs like a pendulum over a curved scale 132 disposed on said wall 22 so that the point of the index will indicate the amount of overbalancing it is required to counteract.

In front, the stove may be provided with a hand-rail 125 as well as with a guard rail 126 extending around the top thereof. For the purposes of conducting away the smoke any suitable compensating smoke outlet may be applied to the neck 94 at the upper end of the offset passage 68.

While I have shown and described the preferred embodiments of my device, it will be understood that changes in the form, arrangement, size, proportions and details thereof may be made without departing from the scope of the invention as defined by the appended claims.

Having described my invention, what I

desire to secure by Letters Patent and claim is:—

1. In a galley stove, the combination of supports, a stove hung between said supports, counterbalance weights at opposite sides of and below the pivotal axis of said stove, and means for simultaneously moving said weights to shift the center of gravity of the stove in one direction or the other.

2. In a galley stove, the combination of supports, a stove hung between said supports, counterbalance weights at opposite sides of and below the pivotal axis of said stove, a lever, means for connecting said lever with the weights, and other means for holding said lever at various adjustments.

3. In a galley stove, the combination of supports, a stove hung between said supports and having a guide below its pivotal axis, a weight movable on said guide, and means at the front of the stove for shifting and holding said weight.

4. In a galley stove, the combination of supports, a stove pivoted on an axis passing through said supports, said stove being provided with ovens one on each side of its pivotal axis, counterweights disposed below said ovens, and means for conjointly moving said weights to counterbalance unequal loading of the stove.

5. The combination of a galley stove having spaced front walls, a support standing in the space between the walls on which the stove can pivot, a compartment located in the rear of the inner one of said walls, a counterweight below the stove's pivot, a device in said compartment for adjusting said weight and means for actuating said device extending forwardly across the walls.

6. The combination of a pivotally supported galley stove, a weight below the stove's pivot to balance loads unequally imposed thereon, means for shifting and holding said weight, and an index for indicating the amount of counterbalancing required.

7. The combination of a pivotally supported galley stove, a guide disposed below the stove's pivot, a movable counterweight provided with rollers mounted on said guide, a shaft having a lever arm connected up with said weight, and means for operating said shaft to shift the weight.

8. The combination of a pivotally supported galley stove, counterweights below the stove's pivot, compartments located at the front and rear of the stove, a shaft extending transversely across the latter, levers and rods connecting up the weights with the shaft and operating in said compartments, and means for actuating said shaft.

9. The combination of a pivotally supported galley stove, said stove being provided with a fire place and having ovens, one on each side thereof, a shaft passing beneath said fire place, counterweights movably mounted below said ovens, connections between said weights and the shaft, a handle arm at the outer end of said shaft and means for holding said arm at a predetermined point.

10. The combination of a pivotally supported galley stove, a counterbalance below the stove's pivot to counteract unequally imposed loads, a device for shifting and holding said balance, and means for applying additional weight to the balance.

Signed at the borough of Manhattan in the county of New York and State of New York this 2nd day of May A. D. 1913.

ROBERT L. PAULSON.

Witnesses:
H. C. KARLSON,
W. H. GEE.

**Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."**