R. T. PARISEN.

GAS STOVE.

APPLICATION FILED MAR. 6, 1917.

1,272,306.

Patented July 9, 1918.

2 SHEETS—SHEET 1.

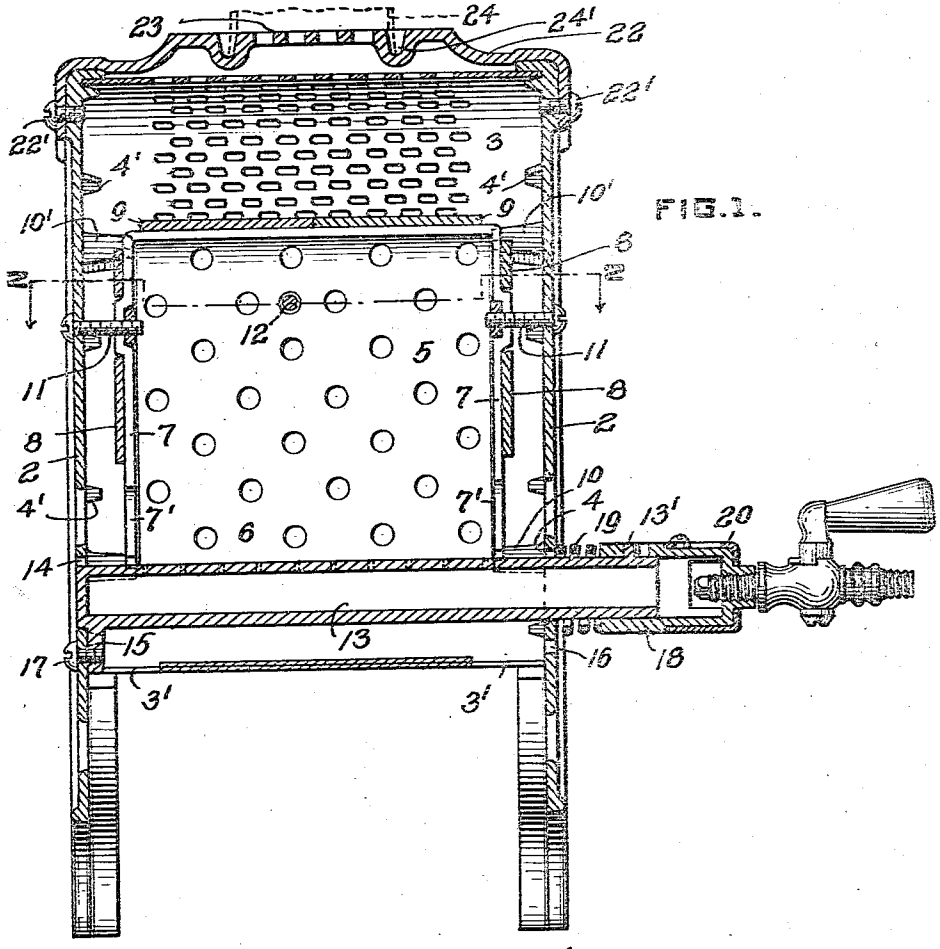


FIG. 1.

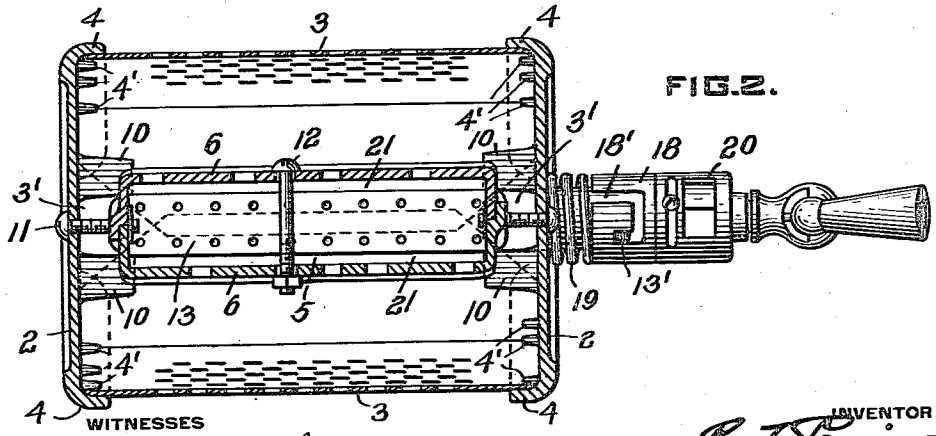


FIG. 2.

WITNESSES

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2 SHEETS—SHEET 2.

FIG.3.

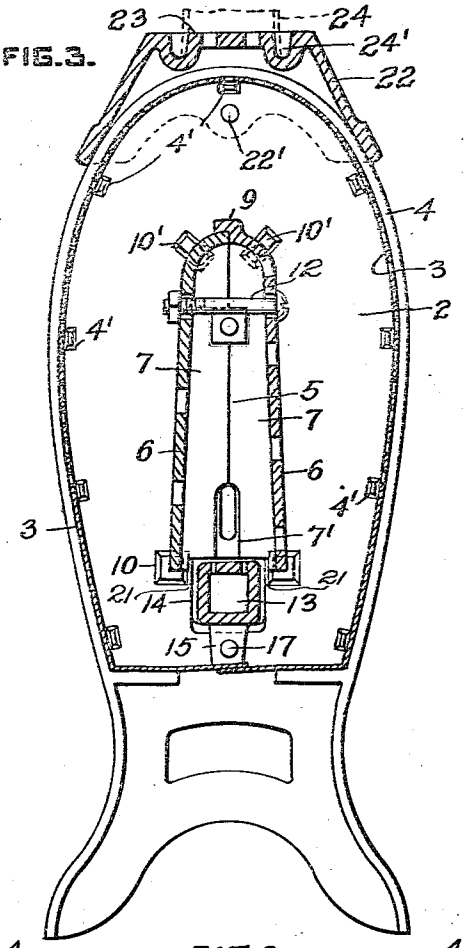


FIG.5.

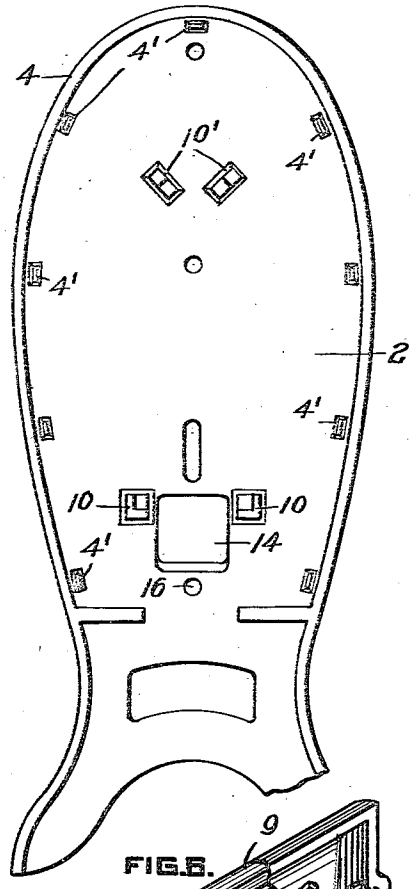


FIG.4.

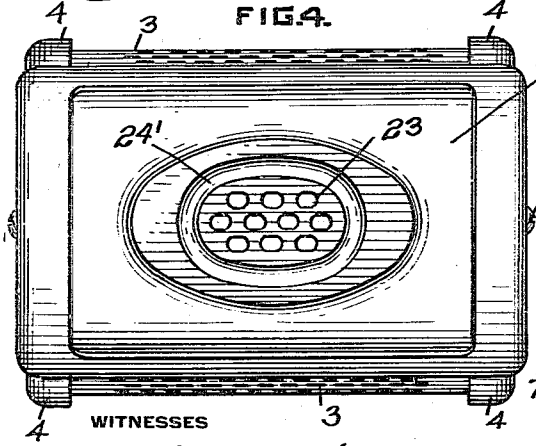
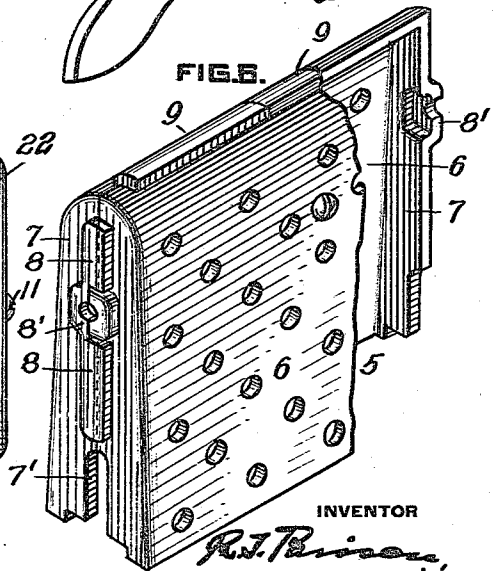


FIG.6.



WITNESSES

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UNITED STATES PATENT OFFICE.

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GAS-STOVE.

1,272,306. Specification of Letters Patent. Patented July 9, 1918.

Application filed March 6, 1917. Serial No. 152,572.

To all whom it may concern:

Be it known that I, ROBERT T. PARISEN, a citizen of the United States, and resident of Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Gas-Stoves, of which the following is a specification.

This invention relates to certain improvements in the gas stove shown and described in the patent to J. M. Tobias, No. 1,121,691, December 22, 1914. One object is to improve and render more efficient the inner combustion chamber by so contracting the latter, particularly its lower portion, as to produce substantially perfect combustion throughout the entire area of the chamber. A further object is to provide a stove wherein the upright wall-forming end plates are adapted for use interchangeably at opposite ends of the stove, the construction being such that the burner may be entered through either end and when so entered operates to close the burner receiving opening in the opposite end, the parts being also adapted for securing the burner to either end plate. Another object is to provide for so spacing the combustion chamber from the end plates and for so closing the ends of the combustion chamber as to prevent dangerous overheating of the stove ends.

The improved stove also embodies a top of novel construction which is adapted for use as a grill in the absence of a flue connection, or which may be utilized for attaching a pipe leading to a chimney.

In the accompanying drawings, Figure 1 is a longitudinal sectional elevation of a stove embodying the several features of the invention, and Fig. 2 is a sectional plan taken on line 2—2 of Fig. 1. Fig. 3 is a central cross-sectional elevation of the stove, and Fig. 4 is a top plan of the same. Fig. 5 is an elevation of the inner side of one of the wall forming end plates. Fig. 6 is a detail view of portions of the combustion chamber.

Referring to the drawings, 2 are the opposite upright wall-forming plates which are of identical construction throughout, being preferably cast from the same pattern and hence adapted to be used interchangeably for either end of the stove. Between and secured to the end plates is the perforated body or drum portion 3 which is preferably bent to conform with the outline of the end plates, being held to the latter by outer flanges 4 of said plates and inner lugs 4′. The extremities of the sheet from which drum or body 3 is formed preferably overlap beneath the burner, with the ends of the overlapped portions cut away to provide the air inlets 3′, Figs. 1 and 2, at opposite ends of the stove.

Within the perforated body or drum 3 is combustion chamber 5 which is formed of two interchangeable castings adapted to be united as shown. Each of said castings consist of a perforated side wall 6 and opposite end walls 7, one of the end walls carrying the joint-covering notched flange 8 which embraces a boss 8′ on the adjoining end wall, and at the top of the castings are the corresponding joint-lapping flanges 9. Thus, both portions of the combustion chamber may be cast from the same pattern, dispensing with right-hand and left-hand parts. The ends of the combustion chamber are fitted to and spaced from the wall-forming end plates 2 by notched lugs 10 and 10′ projecting from the latter with bolts 11 securing the ends of the spaced combustion chamber to said walls, the bolts extending through apertures formed in the interlocking flanges 8 and bosses 8′, as shown. A transverse bolt 12 serves to unite the opposite portions of the combustion chamber, maintaining it assembled until it can be positioned between lugs 10 and 10′ and bolts 11 inserted.

The end walls 7 of the combustion chamber are closed above the lighting slots 7′ formed in the lower portions thereof, and with said walls spaced from end plates 2, the latter do not become excessively heated.

At the base of the combustion chamber is the elongated hollow gas burner 13 which is preferably of rectangular cross-section and extends from end to end of the stove. Each end wall 2 is formed with an opening 14 adapted to receive and be substantially

filled by the burner, and the length of the latter is such that it extends through the stove and enters and closes opening 14 in the opposite end wall. A tapped lug 15 projecting downwardly from the burner adjacent its extremity is adapted to aline with bolt passage 16 in one or the other end wall for receiving bolt or screw 17 which holds the burner in place. Thus it will be seen that it is quite immaterial which end of the stove receives the burner, the result in either case being the same.

The burner comprises a tie for uniting the opposite end walls 2, this in addition to the tie formed by combustion chamber 5. In order that the burner, which remains relatively cool, may compensate for the expansion and contraction of the combustion chamber and the resulting relative movements of walls 2, the projecting portion of burner 13 is formed with a boss 13′, and fitting the outer end of the burner is collar 18 of the mixer attachment which is formed with a bayonet slot 18′ adapted to interlock with the boss as shown, being thus held by coiled spring 19. With the spring thus contracted between wall-forming plate 2 through which the burner extends and the abutment-forming collar 18, it comprises resilient means for uniting the frame and the tie-forming burner. Any suitable form of gas cock may be employed. The air admitted to the burner is preferably controlled by the adjustable sleeve or damper 20.

A characteristic of the invention is the construction and arrangement of the combustion chamber with reference to the burner. By contracting the perforated sides of the combustion chamber they are caused to rise in substantially parallel relation, there being only slight upward convergence, the combustion chamber being relatively narrow and the lower portions of its walls being close to the burner, leaving only the relatively narrow air inlet passages 21. This construction and arrangement effectually closes the combustion chamber in such manner as to produce substantially perfect combustion throughout its entire area, a result that cannot be obtained with the parts arranged as shown in the Tobias patent above referred to.

The top member 22 of the stove is a distinctive feature of the present invention, and consists of a cap-like casting which embraces the upper extremities of end walls 2 to which it is secured by bolts 22′. Top 22 is laterally closed and is of such expanse as to collect and direct any fumes or products that may issue upwardly from the perforated drum or body. The outer surface of top 2 is preferably flat and perforated to provide a grill 23 for heating or cooking purposes if no flue pipe is used. If a flue 24 is desired or required, the grill-forming top portion provides for conveniently connecting the same, being formed with the depressed pipe-receiving groove 24′ which encompasses the perforations. The construction of the stove, particularly with regard to the combustion chamber 5, is such as to maintain substantially perfect combustion, so that there are no products nor waste gases. However, provision is made for a flue to meet the requirements of those users who wish to observe every precaution or to conform to the regulations of municipalities where the use of gas stoves without flues is prohibited.

I claim:

1. A gas stove comprising opposite wall-forming plates, a combustion chamber between and secured to said plates with the combustion chamber adapted to expand and contract, a gas burner for the combustion chamber with the burner comprising a tie for uniting said plates, and resilient means for uniting the burner and plates.

2. A gas stove comprising opposite wall-forming plates with one of said plates formed with a burner passage, a combustion chamber between and secured to said plates, a burner of greater length than the distance between said wall-forming plates with the burner entered in said plate passage and secured to the opposite wall, and resilient means securing the burner to said passage-formed plate.

3. A gas stove comprising opposite wall-forming plates, a combustion chamber between and secured to the plates, one of the plates having a burner receiving passage, a burner of greater length than the distance between said wall-forming plates with the burner entered through said passage and secured to the opposite wall-forming plate, the burner having an abutment at the exterior of said passage-formed plate, and a coiled spring embracing the burner intermediate said abutment and the passage-formed plate.

4. A gas stove comprising opposite wall-forming plates with one of said plates formed with a burner passage, a combustion chamber between and secured to the plates, a burner of greater length than the distance between said plates and adapted to be entered through said passage and be secured to the opposite plate, the burner having a boss at its outer end, and an abutment-forming collar adapted to fit the extremity of the burner and formed with a bayonet slot adapted to embrace the burner lug, and a coiled spring encircling the burner intermediate said collar and said passage-formed plate.

5. A gas stove comprising opposite upright wall-forming end plates, an intermediate perforated body-forming portion se-

cured to the plates, a laterally closed top member secured to the end plates and providing a cap for the perforated body portion, the top member having a grill-forming perforated top surface shaped to receive a flue pipe, and a gas burner within the stove.

In testimony whereof I affix my signature in presence of two witnesses.

ROBERT T. PARISEN.

Witnesses:

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E. B. MOLTER.