B. IVOR.

ODORLESS GAS HEATING STOVE.

APPLICATION FILED FEB. 13, 1915.

1,164,818.

Patented Dec. 21, 1915.

2 SHEETS—SHEET 1.

Fig. 1.

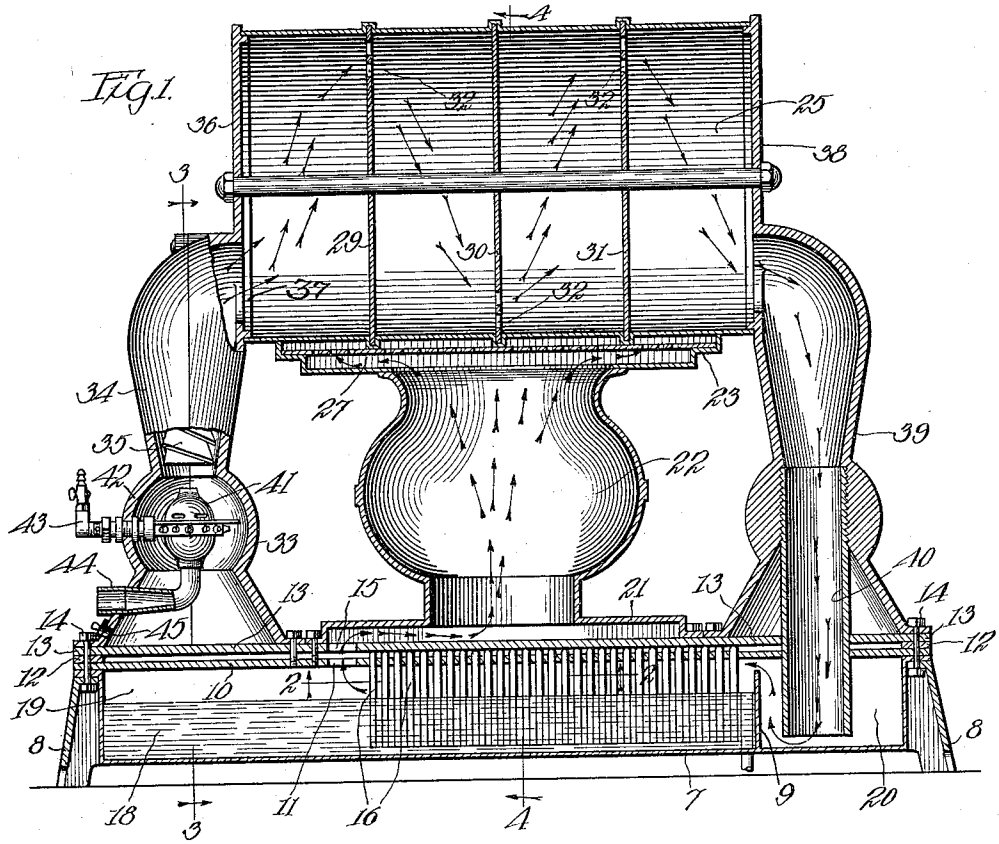
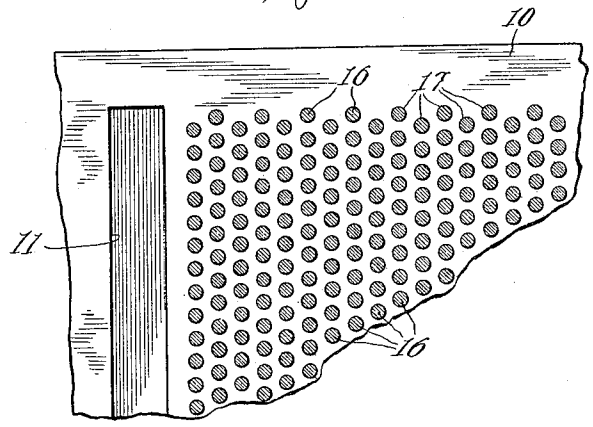


Fig. 2.



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2 SHEETS—SHEET 2.

Fig. 3.

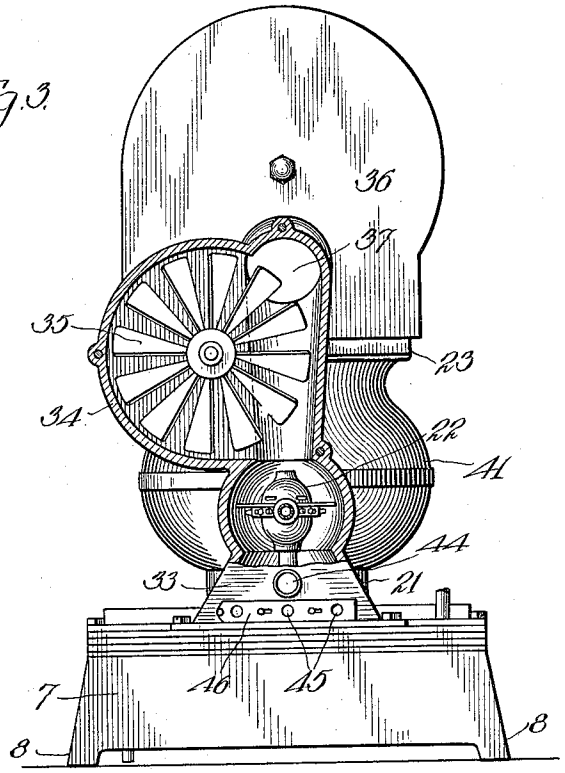
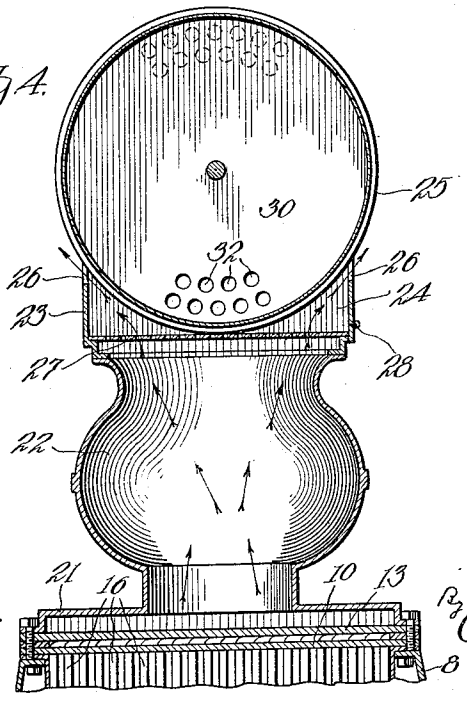


Fig. 4.



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UNITED STATES PATENT OFFICE.

BARRY IVOR, OF CHICAGO, ILLINOIS.

ODORLESS GAS HEATING-STOVE.

1,164,818. Specification of Letters Patent. Patented Dec. 21, 1915.

Application filed February 13, 1915. Serial No. 7,920.

To all whom it may concern:

Be it known that I, BARRY IVOR, a citizen of the United States, residing at the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Odorless Gas Heating-Stoves, of which the following is a specification.

This invention relates to improvements in that class of stoves used for heating purposes, in which the ordinary or commercial gas employed for consumption in furnishing light or heat is used as fuel, and while it appertains more particularly to heating-stoves, and will be hereinafter described and explained in connection with such a stove, and is so shown in the accompanying drawings, yet it will be understood that it can be applied to and used in connection was gas ranges, or cooking stoves, and that modifications and variations may be made therein without a departure from the spirit of the invention.

The principal object of the invention is to provide simple and efficient means for the economical consumption of gas in connection with a stove, so as to furnish from the gas and stove, a maximum amount of heat, without the emanations of the usual noxious or disagreeable odors, and it consists in certain peculiarities of the construction, novel arrangement and operation of the various parts thereof, as will be hereinafter more fully set forth and specifically claimed.

In the accompanying drawings, which serve to illustrate an embodiment of the invention—Figure 1 is a vertical longitudinal sectional view through a stove constructed according to the improvements; Fig. 2 is a bottom plan view of a fragment of the cover for the base of the stove taken on line 2—2 of Fig. 1; Fig. 3 is a vertical sectional view, partly in elevation, taken on line 3—3 of Fig. 1, looking in the direction indicated by the arrows; and Fig. 4 is a transverse sectional view taken on line 4—4 of Fig. 1, looking in the direction indicated by the arrows.

Like numerals of reference refer to like parts throughout the different views of the drawings.

The reference numeral 7 designates, as a whole, the base of the stove, which base is hollow and is provided at or near its corners with supporting legs 8, which may also be hollow and open at their lower portions, as shown in Fig. 1 of the drawings. The hollow base 7 is divided transversely by means of a partition 9, which extends from one side of the base to the other thereof, and from the bottom of the same to a point slightly below the perforated cover 10, of the base, which cover is of sufficient size to extend over the top of the base, and by preference rests on the upper edges of the latter. The cover 10 is provided between its ends with a slot or opening 11, which is by preference transversely disposed with respect to said cover, and is for the passage of the deodorized fluids, as will be presently explained. Located above the cover 10 and held at a slight distance therefrom by means of plates or parts 12 is a supplemental cover or top 13, between which and the cover 10, the parts 12 are located near or at the ends of the base, as well as between the side edges of the plates or covers 10 and 13. The plates or covers 10 and 13 are secured to the base 7 in any suitable manner, but by preference by means of bolts 14, which are extended through suitable openings in said plates, and through the upper portions of the legs 8 of the base, as will be clearly understood by reference to Fig. 1 of the drawing. The supplemental plate or cover 13, is provided with a slot or opening 15, by preference in register with the slot or opening 11 in the perforated plate. The plate 13 carries on its lower surface a series of strands or wicks 16, of any suitable absorbent material, which strands or wicks are by preference arranged in transverse rows, yet in staggered relation with one another, as is clearly shown in Fig. 2, and project downwardly through perforations 17, formed in the plate 10, and have their lower portions immersed in a quantity of water 18, which is held in a compartment 19, of the base and forms a reservoir, which compartment is separated from another compartment 20 in the base by means of the partition 9, which, as before stated, terminates at its upper edge below the cover 10 of the base.

Mounted on the central portion of the supplemental cover or plate 13 is a casing 21, which encompasses the slot or opening 15, and has extended upwardly therefrom a conduit 22, which is substantially globular in form, but with its upper end open. Horizontally mounted on the upper end of

the conduit 22 is a casing 23, which in the present instance is shown as being elongated and by preference has at each of its ends a segmental end piece 24, which provides rests for a radiating drum or casing 25, which may be circular in cross section, or of any other desired shape. At the upper portion of each of its sides the casing 23 is provided with a longitudinally extended opening 26 for the passage of the heated fluids. Horizontally and removably located in the casing 23 is a perforated plate or sheet 27 of asbestos, or any other suitable material, which, if desired, can be withdrawn from the casing 23, through a suitable opening, closed by a door 28, on one side of said casing. The radiating casing or drum 25 is divided into compartments by means of transversely and vertically disposed baffling partitions 29, 30 and 31, which are provided alternately at their upper and lower portions with perforations 32, of any suitable size and number.

Mounted on and extended upwardly from one end of the supplemental plate or cover 13 of the base is a "Venturi tube" 33, which communicates at its upper portion with a fan casing 34, in which is rotatably mounted a vane wheel or fan 35 of the ordinary or well-known construction. The upper part of the tube 33 and fan casing 34 may, if desired, be provided with an extension 36 to form a closure for one end of the radiator 25, which radiator has communication through an opening 37 in the upper part of the fan casing with said casing and said tube. The opposite end of the radiator or drum 25 is closed by means of a plate 38, which has leading from its lower portion a downwardly extending conduit 39, which is secured to the upper surface of the supplemental plate or cover 13, at or near its end opposite that on which the tube 33 is mounted. Extended from the lower portion of the conduit 39, through suitable openings in the plates or covers 10 and 13 is a tube 40, which terminates at its lower end a slight distance above the bottom of the base and within the compartment 20 thereof.

As shown in Fig. 1 of the drawings, a gas burner 41, which may be of the ordinary or any preferred construction, is located within an enlargement 42, of the tube or conduit 33, and has connection through a gas cock 43, with a supply of gas (not shown). Leading from the lower portion of the burner 41 and communicating with the cavity thereof is an air supply pipe 44, which is extended outwardly through the lower portion of the tube 33, and is used for the purpose of supplying air to the interior of the burner. The lower portion of the conduit 33 is provided with a series of openings 45 for the admission of air, which openings may be opened or closed or partially so by means of a damper 46, movably supported on the lower portion of the conduit 33, in any suitable manner.

From the foregoing and by reference to the drawings, it will be readily understood and clearly seen, that by turning on the gas by means of the cock 43, so as to supply the burner 41 therewith, and by lighting the gas, the heat generated in the conduit 33 or Venturi tube will ascend, in which operation a draft will be created through the conduit 33 and fan casing, which will cause the fan 35 to continuously rotate, thus assisting the heated fluids to pass from the upper portion of the fan casing through the opening 37, into the drum or radiator 35, in the direction indicated by the arrows, and out of the radiator or drum through the conduit 39 and tube 40 into the compartment 20 of the base, from which it will pass between the saturated strands 16, within the compartment 19, and from thence through the openings 11 and 15 into the casing 21, from which it will pass through the conduit 22, and out through the openings 26 in the casing 23, which is located below the radiator or drum 25, as before explained. In this operation the saturated strands or depending members 16 will absorb the odors of the gas and cause it to be deposited in the water 18, which may be withdrawn from the base by any suitable means as often as desired. Besides removing the odors of the gas the saturated members 16 will permit the heated fluids to absorb or become impregnated with moisture, so that when they are discharged from the stove into the room they will contain a healthful amount of moisture instead of being deleteriously dry, as is usually the case.

Having thus fully described my invention what I claim as new and desire to secure by Letters Patent is—

1. In a stove of the class described, the combination with a burner having communication with a supply of fuel, of a conduit or passageway for air and the products of combustion leading therefrom, said conduit having an upwardly extended enlarged cavity near the burner and provided with a horizontally disposed drum or casing, a fan rotatably mounted in said enlarged portion of the conduit, vertically disposed and spaced apart apertured baffle plates located transversely in said drum or casing, a liquid containing reservoir in communication with one end of the drum and located below the same, an air outlet conduit extended from the reservoir, and means within said reservoir for holding liquid in suspension.

2. In a stove of the class described, the combination with a base having a reservoir for the reception of liquid, of a suitably mounted burner having communication with a supply of fuel, an air supplying tube com-

municating with said burner, a conduit surrounding the burner and extended upwardly of the base, a fan rotatably mounted in said conduit, an upright conduit mounted near the opposite end of the base from the burner and communicating with the reservoir of the base, a drum or casing mounted between said conduits and having communication with each, a series of strands or wicks of fibrous material supported above the liquid in the reservoir and extended into said liquid, and an air outlet conduit mounted between the first named conduits and on the upper portion of the base and in communication with the reservoir.

3. In a stove of the class described, the combination with a base having a reservoir for the reception of liquid, of a burner mounted above the base and having communication with a supply of fuel, an air supplying tube communicating with said burner, a conduit mounted on the base and surrounding the burner at a distance therefrom and extended upwardly from the burner, an upright conduit mounted on the opposite end of the base and communicating with the reservoir, a drum or casing mounted between said conduits and having communication with each, a series of strands or wicks of fibrous material supported above the liquid in the reservoir and extended into said liquid, and an air outlet conduit mounted between the first named conduits and on the upper portion of the base and in communication with the reservoir.

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