T. M. DUDGEON.

GAS STOVE.

APPLICATION FILED NOV. 11, 1909.

962,752. Patented June 28, 1910.

Fig. 1.

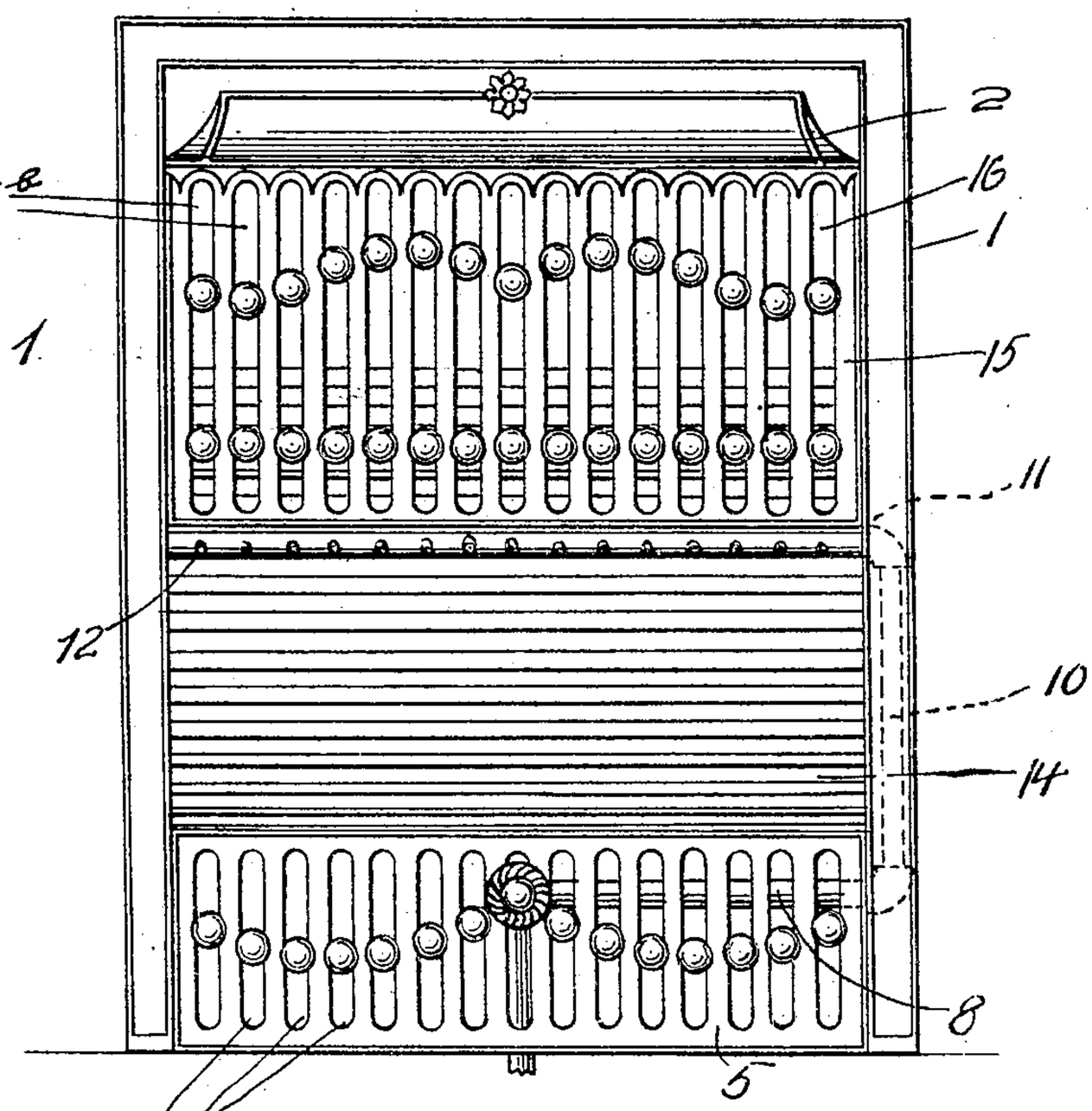
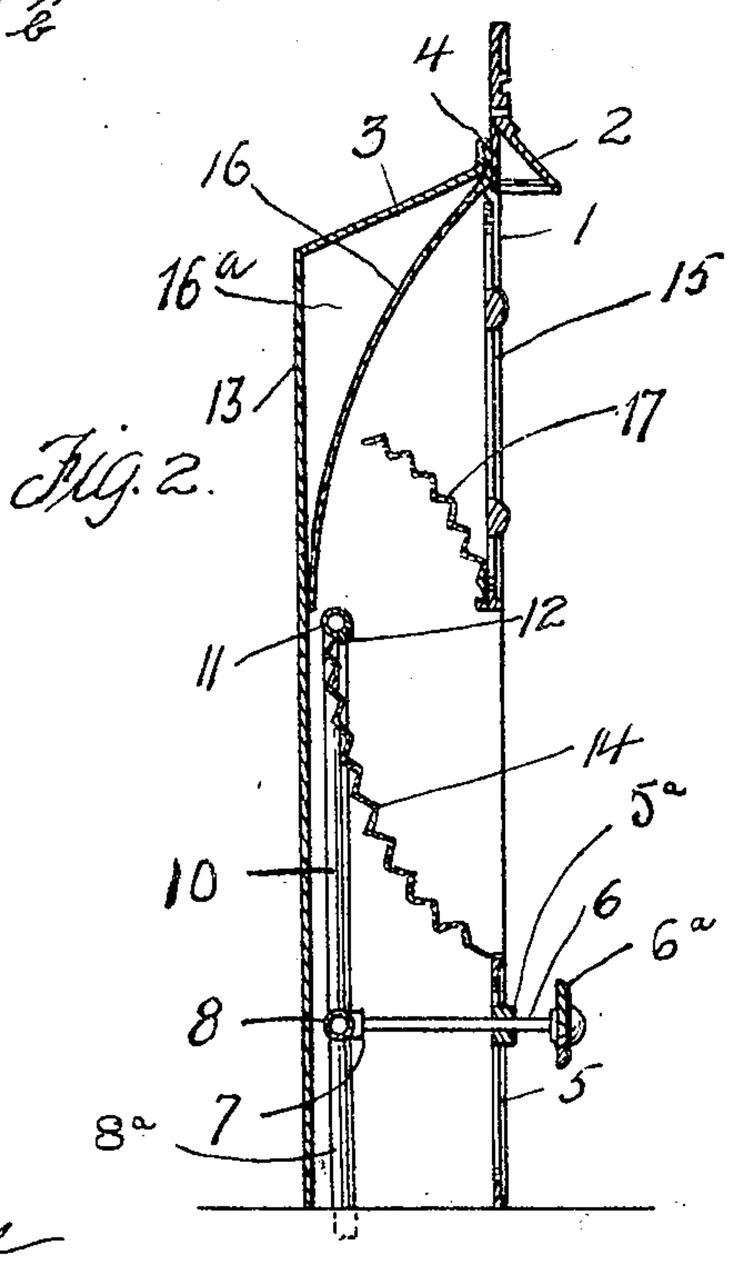


Fig. 2.



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THOMAS M. DUDGEON, OF AVALON, PENNSYLVANIA.

GAS-STOVE.

962,752. Specification of Letters Patent. **Patented June 28, 1910.**

Application filed November 11, 1909. Serial No. 527,541.

To all whom it may concern:

Be it known that I, THOMAS M. DUDGEON, a citizen of the United States of America, residing at Avalon, 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, reference being had therein to the accompanying drawing.

This invention relates to stoves, to that type wherein artificial or natural gas is used as a fuel.

The paramount objects of the invention are to provide an odorless gas stove capable of being positioned in a fire place or portable and furthermore to provide the stove with means for utilizing and heating the cold air in proximity to the floor of the compartment in which the gas stove is located.

Other objects of my invention are to provide for a perfect combustion of gas in connection with a stove of the foregoing type, and to dispense with the use of flues or chimneys for the stove.

Further objects of my invention are to provide a simple, durable and inexpensive gas stove with a novel reflector and deflector adapted to insure a passage of cold air in proximity to the burner of the stove, to reflect the gas flame of the stove to that extent as to increase the brilliancy of the burner and enhance the general appearances of the stove within a compartment; and to produce a maximum amount of heat units from a minimum expenditure of fuel.

With the above and other objects in view the invention consists in the novel construction, combination and arrangement of parts to be hereinafter described and illustrated in the accompanying drawing forming a part of this specification.

In the drawing there is illustrated a preferred embodiment of my invention; but it is to be understood that the structural elements thereof can be varied or changed, as to size, proportions and manner of assemblage without departing from the spirit and scope of the invention as claimed.

In the drawings:—Figure 1 is a front elevation of a gas stove constructed in accordance with my invention, and Fig. 2 is a vertical sectional view of the same.

In the drawings 1 denotes an inverted U-shaped frame having the front of the upper end thereof ornamented and also provided with an integral overhanging hood 2.

3 denotes a metallic casing having flanged edges 4 which are connected to the rear side of the frame 1, the latter constituting the front of the casing and which is exposed.

The front of the stove at the bottom thereof is provided with a cold air inlet, as shown consisting of a rectangular plate standing on edge and formed with a series of vertically-disposed slots 5^b, or in other words said means to constitute the cold air inlet is in the form of a vertically-disposed grating and is indicated by the reference character 5. The grating 5 is arranged within the frame 1 and has extending therethrough a valve stem 6 having its inner end connected to a valve 7 carried by a gas supply pipe 8^a, which projects into the casing 3. If the casing 3 is positioned in a hearth, it is mounted over the gas supply pipe 8^a, the latter extending in the hearth. The grating 5 is formed with a bushing 5^a for supporting the valve stem 6, the latter projects outwardly therefrom and has secured thereto a knob or finger piece 6^a to facilitate the convenient manipulation of the stem 6. Connected to the valve 7 and extending horizontally with respect to the casing 3 is a pipe branch 8 which opens into a vertically-disposed pipe connection 10 positioned at one side of the casing 3 and which opens into a horizontally-disposed burner 11. The pipe branch 8 and pipe connection 10 constitute what may be termed a feed pipe for the burner 11 and the latter is perforated or provided with nipples 12 which project downwardly at an acute angle with respect to the rear wall 13 of the casing 3. The burner 11 is arranged in proximity to the rear wall 13 of the casing 3 as well as approximately centrally thereof.

14 denotes a curved corrugated deflector and reflector corresponding in length to the width of the casing 3 and which has the lower edge thereof connected to the top of the grating 5. The upper edge of the combined reflector and deflector is suitably secured to the under side of the burner 11. The combined reflector and deflector is preferably made of a highly polished sheet of metal finished to harmonize with the finish of the frame 1.

At the top and front of the stove there is

arranged a means to constitute a hot air outlet and which is of a height so as to occupy approximately one-half of the opening formed by the frame 1. The means to constitute a hot air outlet consists of a plate standing on edge and provided with vertically-disposed elongated slots 15[b], or in other words is in the form of a grating and is indicated by the reference character 15. The grating 15 is arranged within the frame 1 and when finished is adapted to harmonize with the grating 5.

16 denotes a curved metallic deflector plate arranged in the casing to serve a two-fold purpose, as will presently appear. The plate corresponds in length to the width of the casing and has the lower edge thereof secured to the rear wall 13 contiguous to the burner 11, while the upper edge thereof is secured between the frame 1 and the flanged upper edge 4 of the casing 3. This deflector plate is made of sheet or cast metal and is adapted to coöperate with the corrugated deflector or reflector plate 14 for the following purpose: first, to direct the heat units through the grating 15 into the room or compartment, and second to provide a hollow or open space 16[a] between the rear wall 13 of the casing and the deflector 16, thus preventing overheating or danger of fire to adjacent walls.

17 denotes an auxiliary corrugated reflector plate secured to the lower end of the grating 15 and which is curved and extends upwardly to a point in proximity to the plate 16. The plate 17 is of a length equivalent to the plates 16 and 14 and the rear side of said plate 17 serves to deflect the heat units toward the plate 16 and the front side of said plate 17 acts as a reflector adapted to coöperate with the plate 14 in projecting rays of light through the grating 15.

The cold air passes through the grating 5 and upwardly between the wall 13 and the corrugated plate 14 to a point where the cold air encounters the heat units from the burner 11 and comingles to that extent as to furnish hot air adapted to pass through the grating 15 and from which has been liberated all matter that is impure and would have a tendency to create an odor.

The plate 17 prevents the heat units from rising and passing directly through the grating 15 without encountering and co-mingling with the cold air, besides deflecting a sufficient quantity of air toward the burner 11 as to insure proper combustion.

Corrugations of the plates 14 and 17 not only retard the air to such a degree as to insure heating of the same, but causes a radiation of light that enhances the general appearances of the stove when in operation.

The stove has not only been designed particularly to meet one's esthetic taste but also to meet such requirements for heating, as well as dispensing with flues and chimneys and eliminating all odors.

Having now described my invention, what I claim as new is:—

1. In a gas stove, the combination with a frame, a casing secured to said frame, and a gas burner arranged horizontally and approximately centrally of the casing and spaced from the rear wall of the latter, of a cold air inlet grating arranged at the bottom of said frame, a hot air outlet grating arranged at the top of said frame, a curved reflector connected to the upper edge of said cold air inlet grating and to said burner, a deflector connected to the rear wall of said casing adjacent to said burner and to the upper edge of said hot air outlet grating, and a curved reflector connected to the lower edge of said hot air outlet grating adapted to extend in proximity to the last mentioned deflector.

2. In a gas stove, the combination with a frame, a casing connected with said frame, and a gas burner arranged centrally and longitudinally of said casing and spaced from the rear wall thereof, of a cold air inlet grating arranged at the bottom of said frame, a curved corrugated reflector plate connecting the upper edge of said grating and said burner, a hot air outlet grating arranged in the upper part of said frame, a curved deflector plate connecting the rear wall of said casing and the upper edge of said outlet grating, and a curved corrugated reflector plate connected to the lower edge of the outlet grating and adapted to extend in proximity to the last mentioned deflector, substantially as described.

3. A gas stove comprising a frame, a casing connected with said frame, a cold air inlet grating arranged in the bottom of said frame, a corrugated curved plate connecting with the upper edge of said grating and adapted to extend upwardly into said housing to deflect cold air upwardly therein, a hot air outlet grating arranged in the upper part of said frame, a curved plate carried by said casing and having the lower edge thereof in proximity to the first mentioned plate and adapted to deflect the air from the first mentioned plate toward said hot air outlet grating, means arranged at the upper edge of the first mentioned plate for heating air deflected toward the last mentioned plate, and means carried by the lower edge of said hot air outlet grating adapted to deflect heat units in the path of the cold air adapted to pass through said housing.

4. A gas stove comprising an open front casing, a gas burner arranged horizontally thereof and adapted to communicate with a gas supply and spaced from the rear wall of said casing, means to constitute a cold air inlet arranged at the lower portion of the

front of said casing, means to constitute a hot air outlet arranged at the front of said casing, a reflector having its lower end connected to the cold air inlet means and its upper end to said burner, a deflector having its lower end connected to the rear wall of said casing adjacent to said burner and having its upper end connected to the upper portion of said hot air outlet means, and a reflector connected to the lower portion of said hot air outlet means and extending toward and terminating at a point removed from said last mentioned deflector.

5. A gas stove comprising an open front casing, a horizontally-disposed burner arranged within the casing in proximity to the rear wall thereof, means to constitute a cold air inlet arranged at the lower portion of the front of said casing, means to constitute a hot air outlet arranged at the upper portion of said casing at the front thereof, a curved combined deflector and reflector secured at its lower end to said inlet means and at its upper end to said burner, a curved deflector having its lower end secured to the rear wall of said casing at the back of said burner and its upper end to the upper portion of said outlet means, and a curved reflector having its lower end secured to the lower portion of said outlet means and extending inwardly and upwardly and terminating at a point removed from the forward face of said last mentioned deflector.

6. A gas stove comprising an open front casing, a horizontally-disposed burner arranged within the casing in proximity to the rear wall thereof, means to constitute a cold air inlet arranged at the lower portion of the front of said casing, means to constitute a hot air outlet arranged at the upper portion of said casing at the front thereof, a curved and corrugated combined deflector and reflector secured at its lower end to said inlet means and at its upper end to said burner, a curved deflector having its lower end secured to the rear wall of said casing at the back of said burner and its upper end to the upper portion of said outlet means, and a curved and corrugated reflector having its lower end secured to the lower portion of said outlet means and extending inwardly and upwardly and terminating at a point removed from the forward face of said last mentioned deflector.

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

THOMAS M. DUDGEON.

Witnesses:

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MAX H. SROLOVITZ.