No. 837,663. PATENTED DEC. 4, 1906.

L. O. CAMERON.

HEATER.

APPLICATION FILED JAN. 9, 1906.

Fig. 1

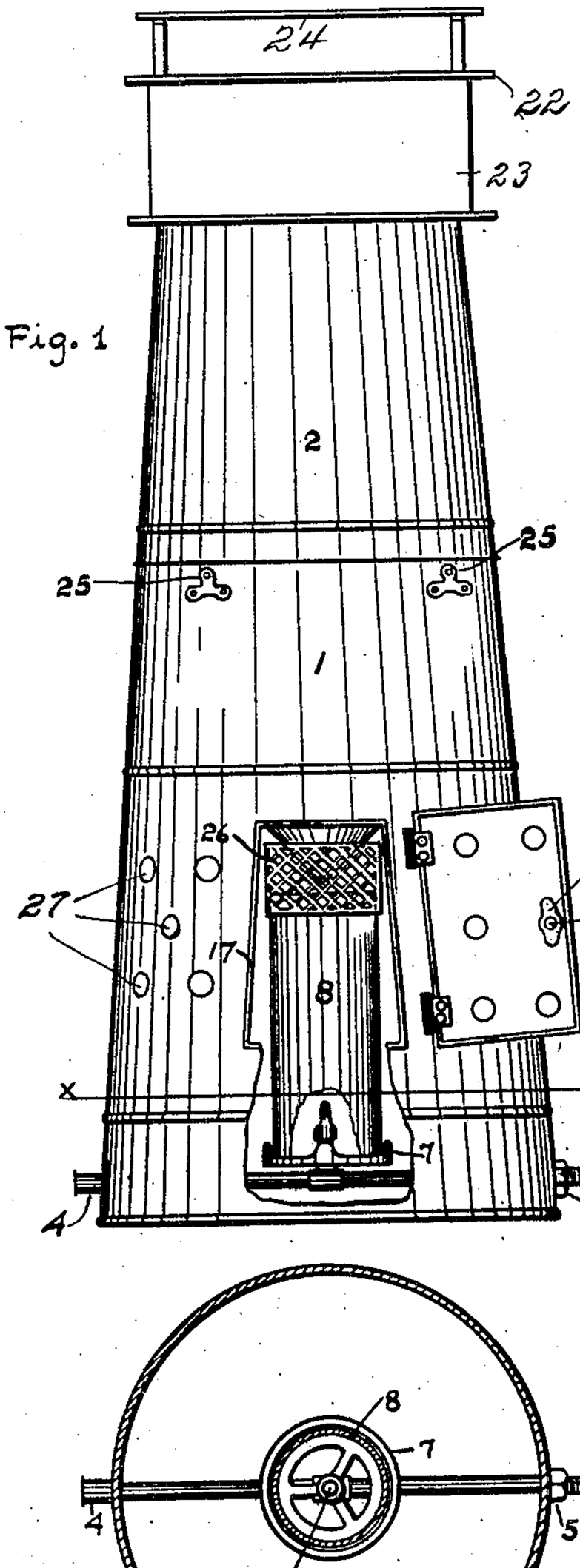

Fig. 2

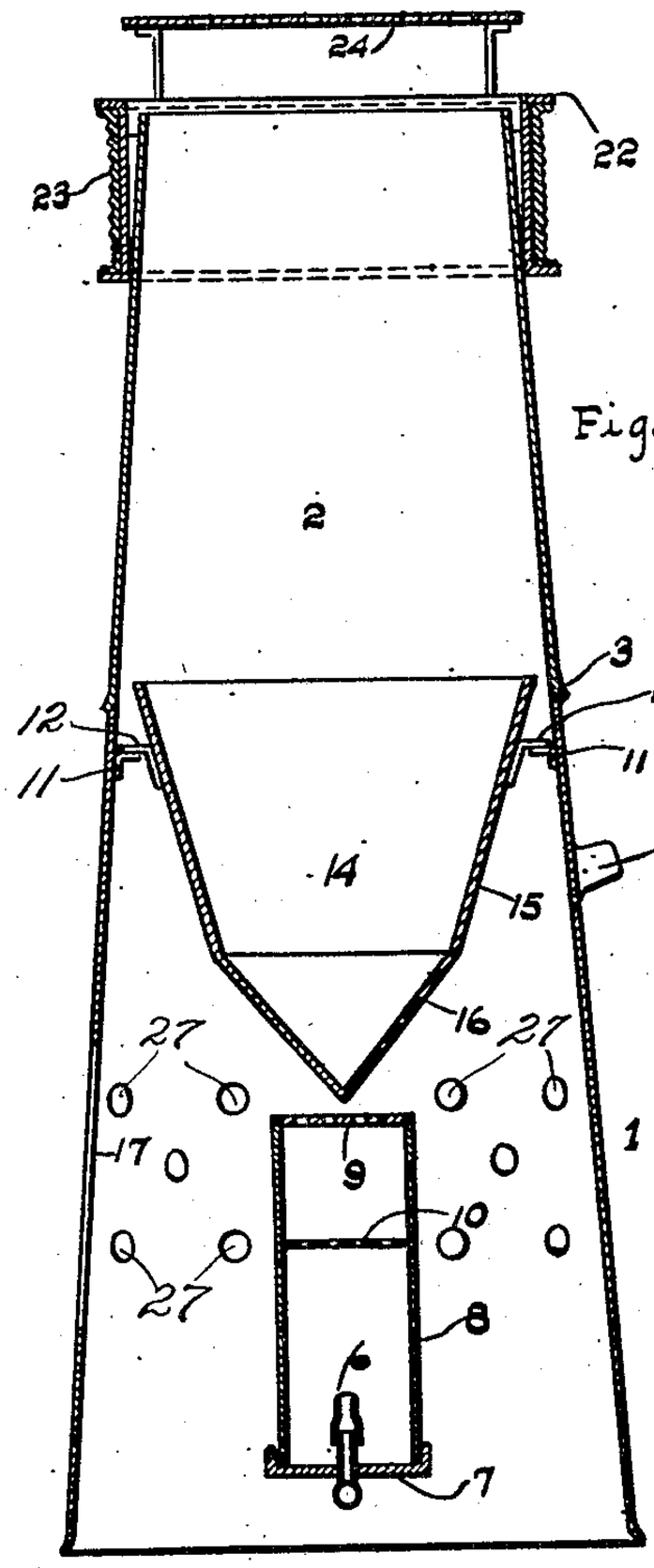

Fig. 3

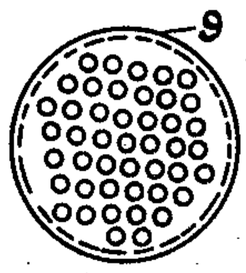

Fig. 4

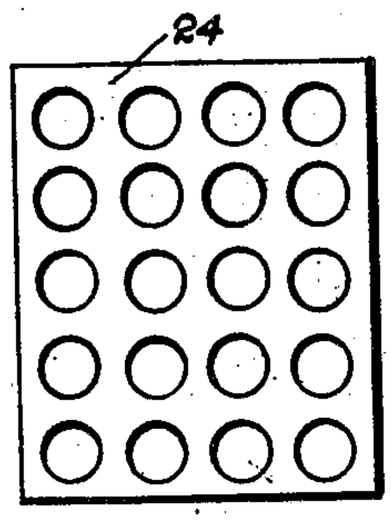

Fig. 5

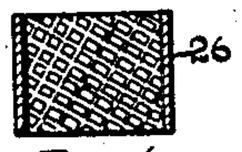

Fig. 6

WITNESSES
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LEWIS O. CAMERON, OF BELLEVUE, PENNSYLVANIA.

HEATER.

No. 837,663. Specification of Letters Patent. Patented Dec. 4, 1906.

Application filed January 9, 1906. Serial No. 295,233.

To all whom it may concern:

Be it known that I, LEWIS O. CAMERON, a citizen of the United States of America, residing at Bellevue, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Heaters, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in heaters; and the invention relates more particularly to a heater wherein gas is employed as a fuel or heating medium.

The primary object of my invention is to provide a portable heater which can be mounted beneath the floor of a building or suspended therefrom, whereby the space above the floor will be thoroughly heated. In this connection my improved heater is adapted to be used in the cellar of a building for heating the first-floor compartments thereof, but may be readily constructed within a suitable casing whereby the second-floor compartments may be easily heated.

To this end I have constructed a simple and inexpensive heater which will utilize all the heat units and produce considerable heat from a minimum expenditure of fuel. The heater is constructed whereby it can be easily and quickly disassembled and in its entirety forms a compact and portable heater.

With the above and other objects in view, which will more readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts to be hereinafter more fully described and then specifically pointed out in the claim, and, referring to the drawings accompanying this application, like numerals of reference designate corresponding parts throughout the several views, in which—

Figure 1 is a front elevation of my improved heater, partly broken away. Fig. 2 is a vertical sectional view of the same with the perforated hood of the jet-casing omitted. Fig. 3 is a transverse sectional view taken on the line *x x* of Fig. 1. Fig. 4 is a plan of a jet-casing used in connection with the heater. Fig. 5 is a plan of a register or radiator forming the top of my improved heater, and Fig. 6 is a vertical sectional view of a hood used in connection with the heater.

To put my invention into practice, I construct my improved heater of two frusto-conical casings 1 and 2, the lower end of the casing 2 being flared, as at 3, to snugly fit upon the casing 1. The casing 1 near its bottom is provided with a transversely-arranged gas-inlet pipe 4, the one end of which is plugged or capped, as at 5. Centrally of the pipe 4 is a gas-jet 6, and mounted upon said jet is a spider-plate 7, which supports a cylindrical jet-casing 8. The jet-casing extends upwardly to about midway within the casing 1 and has its upper end partially closed by a perforated plate 9, while a similar plate 10 is located centrally within the casing 8 as a horizontal partition. Obviously wire-gauze may be used in lieu of the perforated plates 9 and 10.

Adjacent to the upper end of the casing 1 the inner walls are provided with brackets 11, which support a plurality of brackets 12, carrying an inverted-cone-shaped hood 14, having tapering sides 15 and 16, the sides 16 being of a greater taper than the sides 15. The depending end of the hood 14 extends within close proximity to the jet-casing 8, and the tapering sides 16 of said hood are adapted to deflect the heated air, while the tapering sides 15 of the hood, together with the side walls of the casing 1, are adapted to deflect the heated air downwardly, thus causing a thorough circulation of the air around the jet-casing before its admission to the compartments to be heated.

The casing 1 upon its one side is provided with a suitable opening 17, having a hinged door 18, which may be locked in a closed position by a conventional form of latch 19, carried by the handle 20 of the door. The casing 1 is also provided with a handle 21, whereby the casing may be easily carried, together with its appurtenant parts.

The casing 2 extends into a rectangular metallic frame 22, which is mounted in the floor of a compartment, asbestos 23 or like material being used to line the rectangular frame to prevent the heated air from injuring or distorting the floor through which it passes. The rectangular frame 22 is adapted to support a register 24 of a conventional form, which is provided with openings through which the heated air from the heater passes into the compartment.

To support the heater in proper relation to

the floor in connection with which it is used, I have provided the upper edges of the casing 1 with eyelets 25, to which supporting-wires may be attached to brace and support the heater-casings 1 and 2 in proper position relative to the floor through which the heated air passes.

In order to protect the gas-flame of the jet 6 in rough and windy weather, I have devised a perforated hood 26, which is mounted over the upper end of the jet-casing 8, this hood being adapted to house the flame within the casing and prevent the walls of the casing 1 from fusing or becoming excessively heated.

In operation cold air is adapted to pass upwardly through the bottom of the heater, and when contacting with the heated sides of the jet-casing 8 and the hood 14 the cold air becomes heated, especially since the tapering sides 15 of the hood 14 baffle and deflect the cold air, while the heated air is deflected and baffled by the tapering sides 16 of the hood 14. The air when heated passes upwardly between the hood 14 and the outer walls of the heater through the register or radiator 24 to the compartment to be heated.

To facilitate combustion, the casing 1 and door 18 are provided with openings 27 for the admission of air.

I preferably construct my improved heater of galvanized sheet iron or steel, whereby a light and durable structure will be provided capable of being used for a long period of time.

Such changes in the construction and operation of my improved heater as are permissible by the appended claim may be resorted to without departing from the spirit and scope of the invention.

What I claim, and desire to secure by Letters Patent, is—

In a heater, the combination with a suitable gas-supply pipe and a register, of a two-part frusto-cone-shaped casing connecting with said register, a gas-jet mounted in said casing and connecting with said supply-pipe, a cylindrical jet-casing carried by said jet, perforated plates mounted in said casing, an inverted-cone-shaped hood suspended in said heater-casing above said jet-casing, a perforated hood mounted upon said jet-casing, said heater-casing having openings formed therein, and a hinged door closing one of said openings, substantially as described.

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

LEWIS O. CAMERON.

Witnesses:
K. H. BUTLER,
E. E. POTTER.