

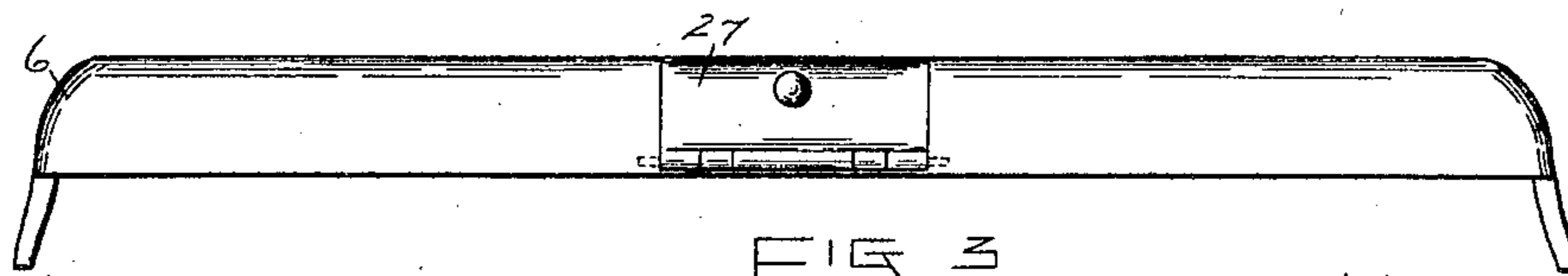
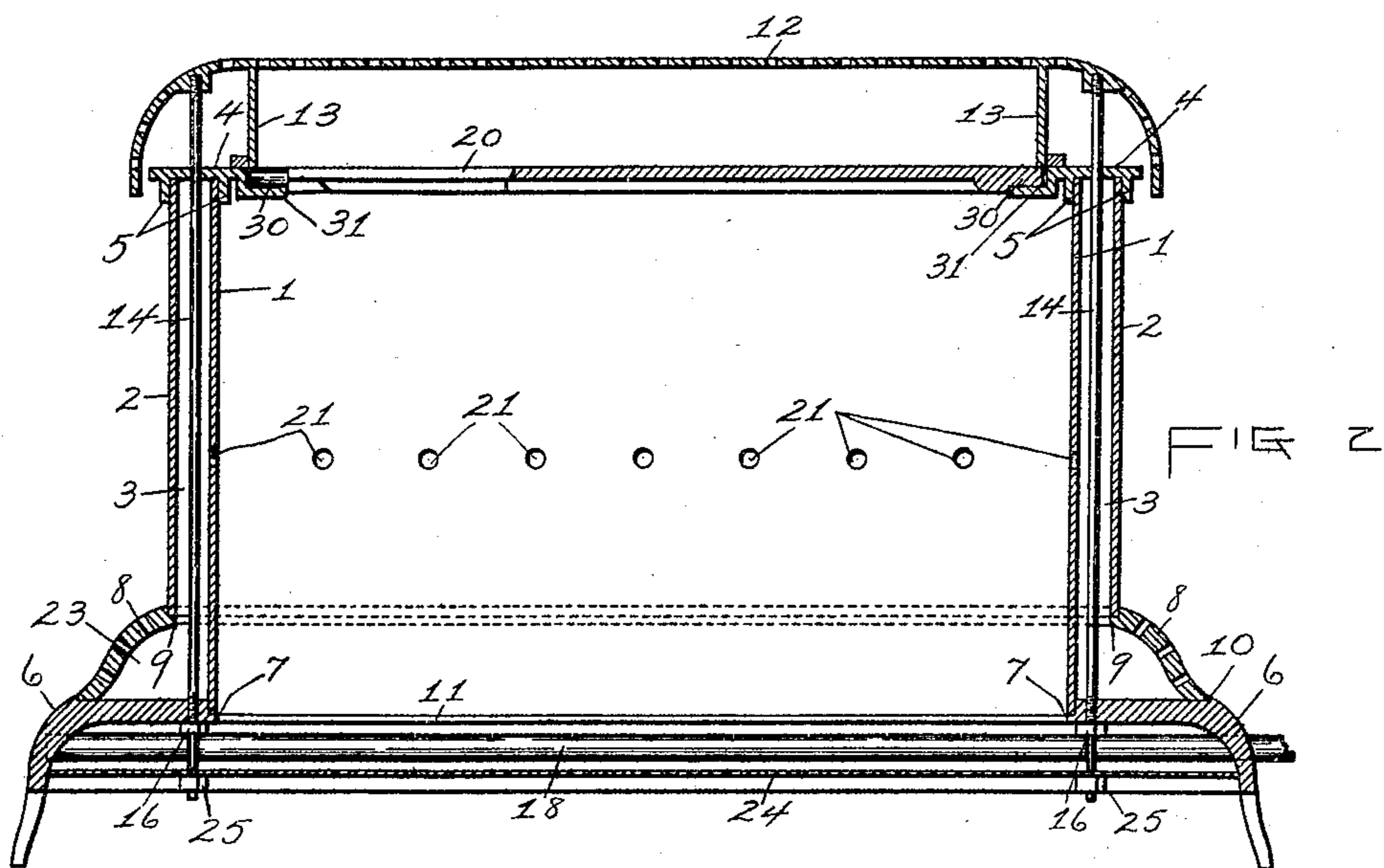
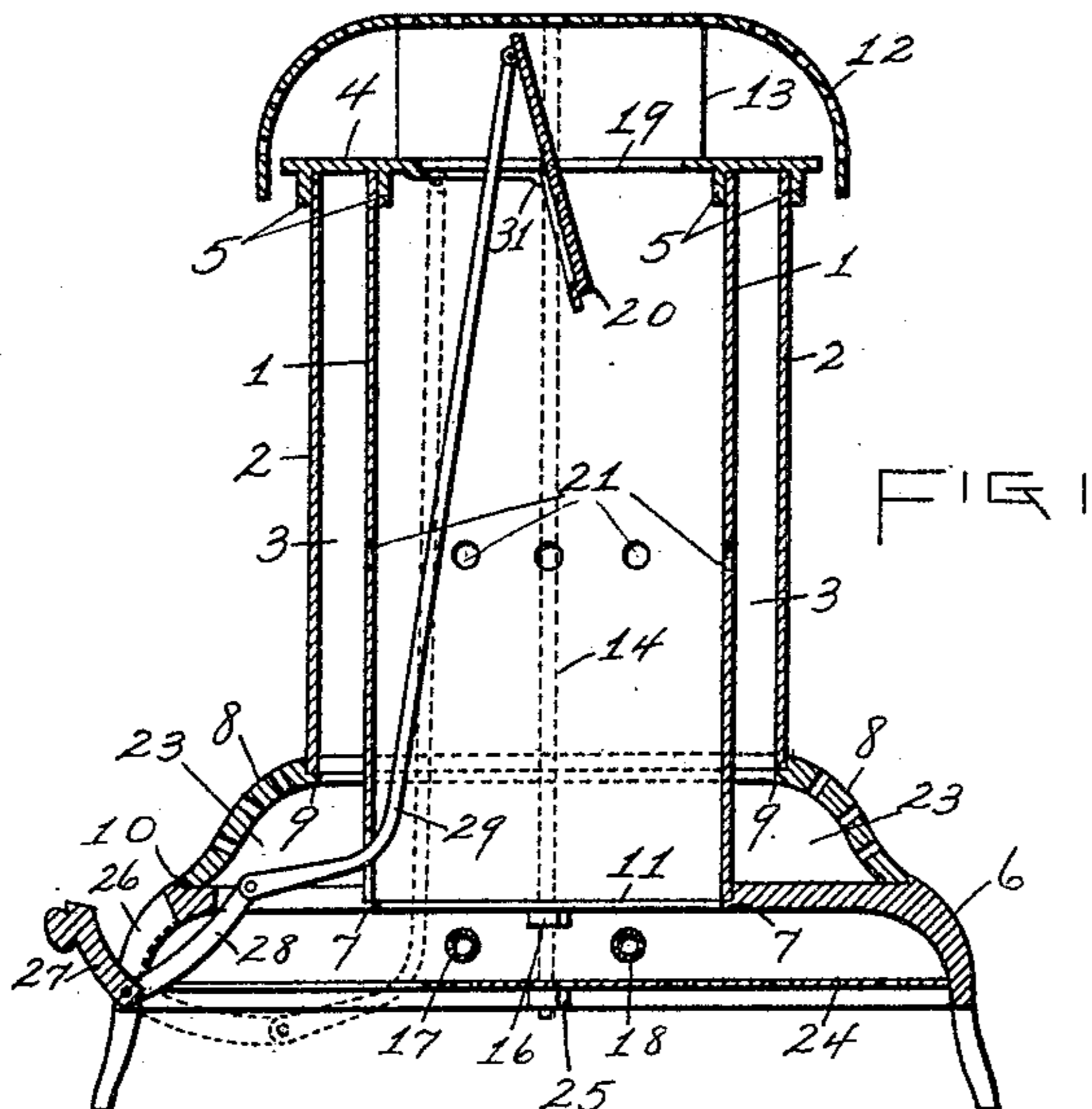
No. 770,615.

PATENTED SEPT. 20, 1904.

R. STURGES.
GAS STOVE.

APPLICATION FILED JAN. 20, 1904.

NO MODEL.



WITNESSES
A.C. Booth.
E.M. O'Reilly.

FIG 3

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UNITED STATES PATENT OFFICE.

ROBERT STURGES, OF WATERVLIET, NEW YORK.

GAS-STOVE.

SPECIFICATION forming part of Letters Patent No. 770,615, dated September 20, 1904.

Application filed January 20, 1904. Serial No. 189,822. (No model.)

To all whom it may concern:

Be it known that I, ROBERT STURGES, a citizen of the United States, residing at Watervliet, county of Albany, and State of New York, have invented certain new and useful Improvements in Gas-Stoves, of which the following is a specification.

The invention relates to such improvements; and it consists of the novel construction and combination of parts hereinafter described and subsequently claimed.

Reference may be had to the accompanying drawings, and the reference characters marked thereon, which form a part of this specification.

Similar characters refer to similar parts in the several figures therein.

Figure 1 of the drawings is a central vertical cross-section of my improved gas stove or heater. Fig. 2 is a central vertical longitudinal section of the same. Fig. 3 is a view in side elevation of the lower base of the stove.

The object of my invention is to secure greater economy, efficiency, and safety in the use of gas for heating purposes.

Referring to the drawings, wherein the invention is shown in its preferred form, 1 represents the inner casing, of sheet metal, of general rectangular form in horizontal section, and 2 a similar casing of larger dimensions inclosing the inner casing with a free air-space 3 between the two casings. The inner and outer casings are fitted at their upper ends upon a top casting 4, provided with depending flanges 5, adapted to receive the upper ends of the respective casings. The lower end of the inner casing is mounted directly upon the lower base 6, provided with a flange 7, adapted to receive the casing, and the lower end of the outer casing is in like manner mounted upon the upper base 8, provided with a flange 9 to receive said outer casing. The upper base is mounted upon the lower base occupying a seat within the flange 10 on the lower base. Superposed upon the top casting 4 is an ornamental top plate 12, provided with depending transverse flanges 13, adapted to rest upon the top casting.

The parts above mentioned are secured

firmly together by means of two vertical rods 14, screwed at their upper ends into the ornamental top plate 12 and passing down through apertures in the top casting 4 and lower base 6, said rods being provided with screw-threads adapted to receive the nuts 16, adapted to bear upon the under side of the lower base. The parts being assembled in the relative positions shown in the drawings and the said nuts being tightened displacement of any of the parts is prevented and a durable built-up structure is secured.

Gas-burners 17 and 18 are mounted in the lower base with their burner-apertures located just below the lower end of the inner casing, whereat the base casting is provided with an aperture 11 of approximately the size of said casing, through which the heated gases from said burners are permitted to pass upwardly inside the inner casing. The top casting is provided with an aperture 19, which is normally closed by the valve 20, whereby the escape of the heated gases through the top of the stove is prevented. Intermediately of the top and bottom of the stove the inner casing is provided with a series of apertures 21, which establish communication between the interior of the inner casing and the inclosed space 3, between the inner and outer casings. The space 3, between the inner and outer casings, opens at the lower end of the outer casing into the space 23, between the top and bottom bases, which forms a chamber in the base structure. Heated gases can thus pass outwardly and downwardly from within the inner casing through the apertures 21, space 3, between the casings, and space 23, between the upper and lower bases, and outwardly through the upper base, which is apertured or in the form of a grating to permit the free escape of the heated gases.

When the valve 20 is closed, a chamber is formed in the upper end of the inner casing, which is filled with a considerable volume of gas, which receives the ascending currents of heated gas from the burners and quickly arrests their velocity. The heated gases from this chamber in the upper part of the inner casing escape through the apertures 21 and

out through the openings in the upper base in more dense form and with less velocity than the gases coming directly from the burners, which are in highly-rarefied condition and have great velocity. The heated gases are thus deposited in relatively dense condition in the lower part of the room to be heated and rise less quickly than more rarefied gases, giving a greater length of time for the dissemination of the heat through the lower atmospheric strata in the room.

The sheet-metal bottom 24, apertured to permit the necessary supply of air to the burners, is secured across the under side of the lower base by means of nuts 25, screwed upon the lower ends of the rods 14, which extend down through apertures in said bottom. Access may be had to the burners for the purpose of lighting the stove through the opening 26 in the side of the lower base, which opening is adapted to be closed by a hinged door 27. The door 27 is provided with an offset arm 28, pivotally connected with the lower offset end of the link 29, which link is pivotally connected at its upper end with the valve 20. The valve 20 is provided with trunnions 30, mounted in depressed bearings 31 in the top casting, which trunnions are held in their bearings by the transverse flanges 13, which extend above said trunnions transversely thereof.

The parts are so arranged and connected that the opening movement of the door will cause an opening movement of the valve and a closing movement of the door will cause a closing movement of the valve. The burners being accessible only through the opening 26, it will be seen that a free vent is provided for

the initial explosion caused by igniting the gas from the burners.

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

1. In a gas-stove, the combination with a base structure provided with a chamber and outlets leading therefrom; of inner and outer casings inclosing between them a space communicating at its lower end with the chamber in the base, said inner casing being provided with apertures intermediately of its ends; a closure for the upper ends of said casings provided with an aperture opening into the inner casing; a valve for closing said aperture; and a burner adapted to deliver heated gases into the lower end of the inner casing.

2. In a gas-stove, the combination with a casing provided with outlet-openings intermediately of its ends; a closure for the upper end of the casing provided with an aperture; a valve adapted to close said aperture; a gas-burner communicating with the interior of said casing at the lower end thereof; an inclosure for the lower end of said casing and said burner provided with an aperture permitting access to said burner; a movable door closing said access-aperture, and operating connections between said door and said valve whereby they are caused to operate in unison with each other.

In testimony whereof I have hereunto set my hand this 18th day of January, 1904.

ROBERT STURGES.

Witnesses:

FRANK C. CURTIS,
E. M. O'REILLY.