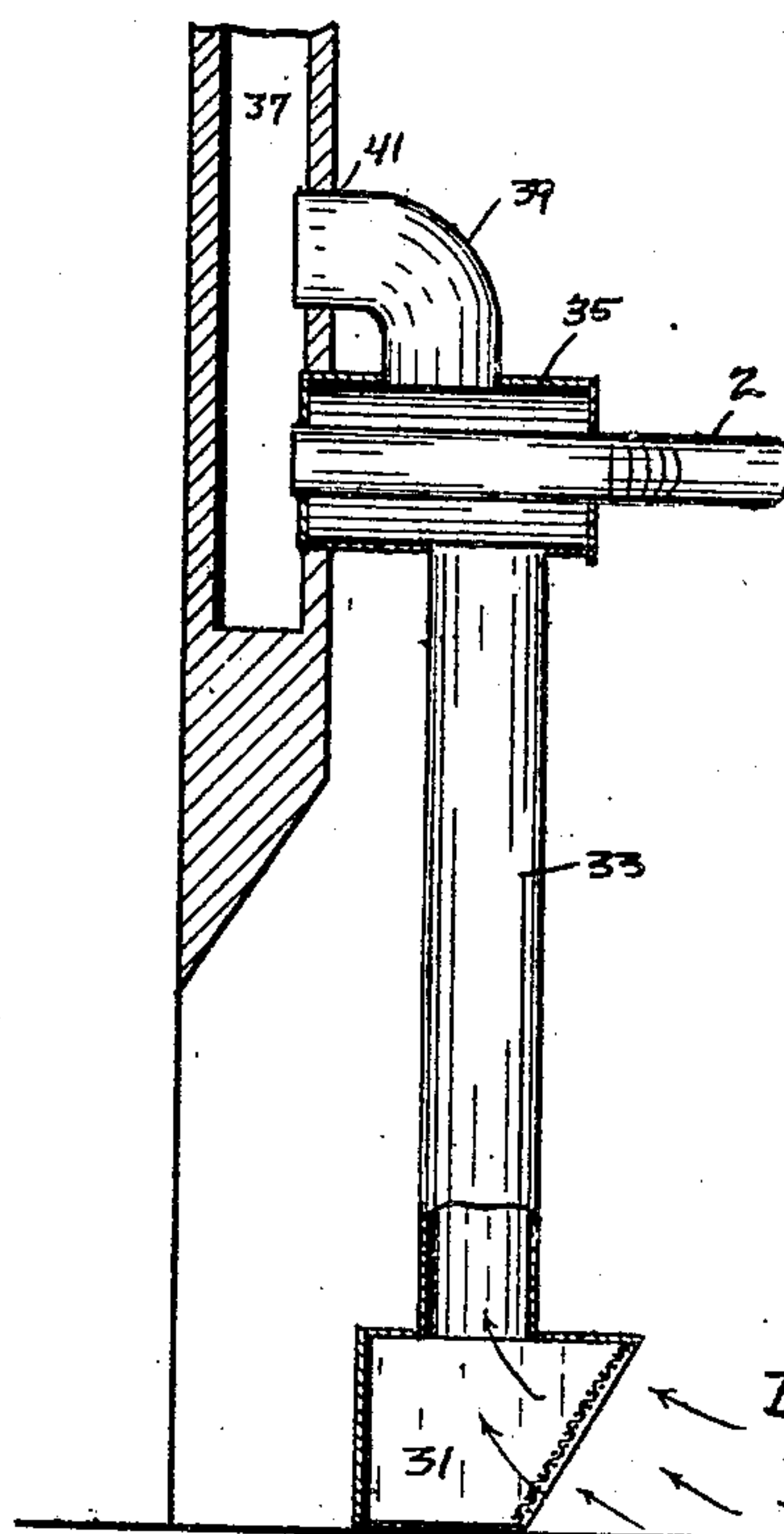
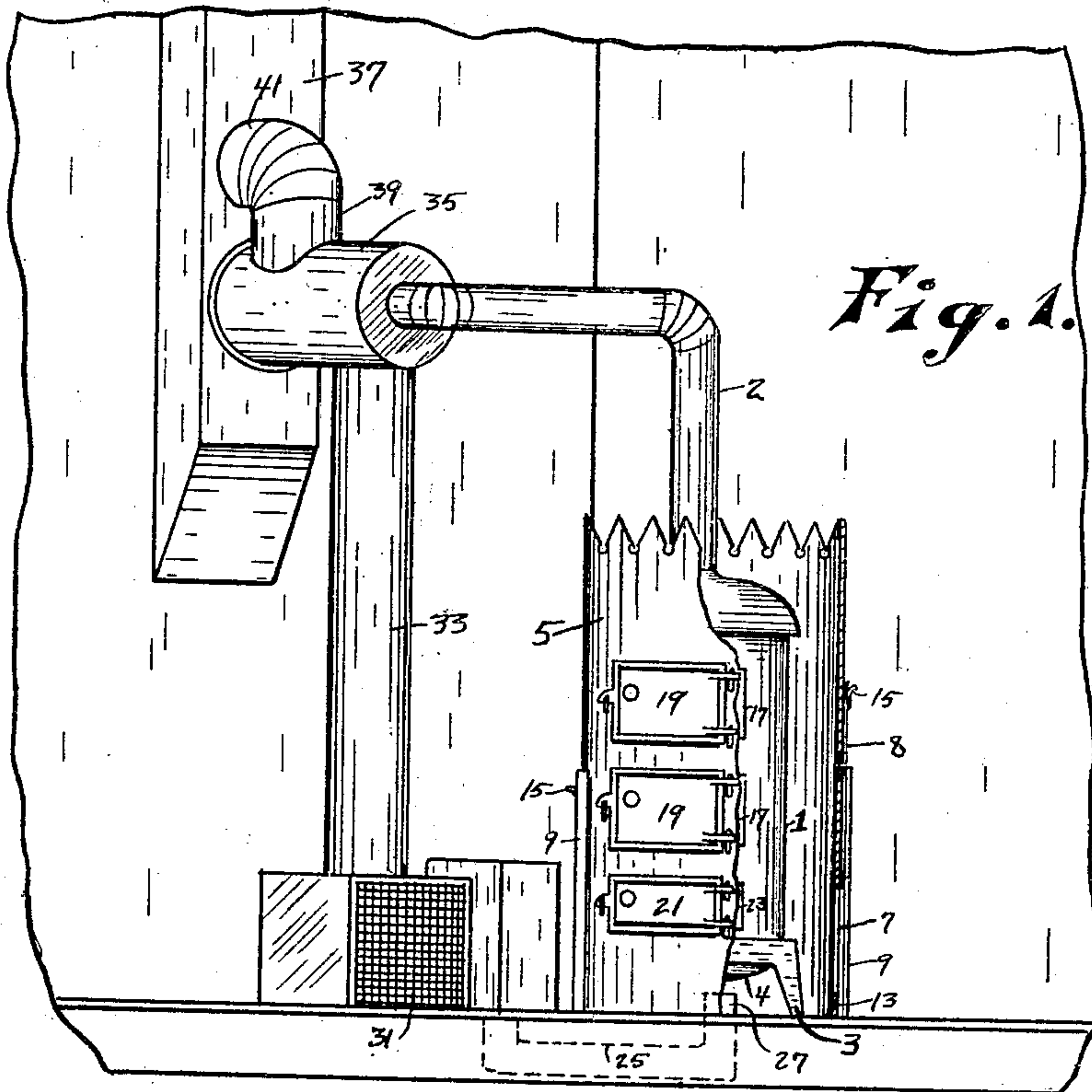


F. H. SCHUPPENER.
INDIVIDUAL ROOM HEATER AND VENTILATOR.
APPLICATION FILED MAR. 30, 1908.

908,614.

Patented Jan. 5, 1909.



WITNESSES:
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FREDRICK H. SCHUPPENER, OF STITZER, WISCONSIN.

INDIVIDUAL ROOM HEATER AND VENTILATOR.

No. 908,614.

Specification of Letters Patent.

Patented Jan. 5, 1909.

Application filed March 30, 1908. Serial No. 424,016.

To all whom it may concern:

Be it known that I, FREDRICK H. SCHUPPENER, a citizen of the United States, residing at Stitzer, county of Grant, and State of Wisconsin, have invented new and useful Improvements in Individual Room Heaters and Ventilators, of which the following is a specification.

My invention relates to improvements in individual room heaters and ventilators.

The object of my invention is to provide means whereby the air of a room such as a school room or church may be connected in continuous circulation by means of a heater placed in one portion of the room and in which such circulation will be maintained without drawing the foul air directly from the floor of the room and mixing the same with the circulating currents, such foul air being drawn along the floor to a ventilating flue and discharged into the chimney.

In the following description reference is had to the accompanying drawings in which,—

Figure 1 is an elevation showing my invention located in the corner of a room, one-half of the heater being broken away in vertical section through one of the air admission openings. Fig. 2 is a detail view showing a smoke flue and ventilator, part in section.

Like parts are identified by the same reference characters in both views.

1 is a heating stove which may be of any ordinary construction which is provided with a smoke pipe 2 leading to the chimney. The heating stove is supported in a raised position by ordinary legs 3, and is provided with a rounded bottom 4 below the ash pit. The stove or heater is inclosed by a metallic cylindrical shell 5 which is of sufficient diameter to leave an annular space between it and the stove. This shell is provided with openings 7 which may be closed by damper slides 8, the sides of which are engaged by suitable guide members 9, whereby the slides may be raised to admit air through the openings 7 to the spaces between the shell and the stove at the bottom and raised flange 13, coincident with the bottom of the shell prevents the air from entering directly from the surface of the floor. The slides are provided with suitable operating handles 15. Walls 17 and 23 preferably connect the stove proper with the shell around the spaces covered by the doors 19 and 21.

The specific construction of this portion of the device, however, is not material to my invention, as herein claimed.

A supply of cold air may be admitted through the cold air duct 25 which extends inwardly through the wall of the building and downwardly underneath the floor of the room and thence inwardly and upwardly through the floor where it enters the air spaces directly underneath the rounded bottom of the stove. The walls 27 of the air duct are extended above the surface of the floor and arranged to deliver the air against said rounded bottom of the stove substantially at the center and in such a manner that the air current is divided and caused to pass upwardly and outwardly in the air spaces between the stove and shell. By providing the raised walls 27, the cold air is prevented from flowing outwardly along the surface of the floor and in case any of the cold air drops to the surface of the floor it is again turned upwardly by means of the flange 13 into the path of the air entering from the room, whereby it is again deflected in the direction of the stove. The cylindrical shell 5 is open at the top whereby it is adapted to deliver the heated air into the room.

A ventilating register 31 permits the foul air from the floor of the room to enter a duct 33 whereby it is conveyed to a jacket 35 which surrounds the smoke pipe, preferably near the point where the latter enters the chimney 37. The pipe 39 leads from the upper portion of this jacket and enters the chimney at 41 above the point where the smoke pipe enters, the object of this being to avoid interference between the ventilating current and the current caused by smoke and gases of combustion. The admission of a ventilating current through the same chimney opening as that which receives the smoke pipe seriously obstructs the draft and usually causes the heater to emit smoke and gases into the room. By locating the ventilating connection at a higher point, it increases the draft through its tendency to create an ascending current, and also prevents accumulations of soot from entering the ventilator flue. The register 31 is preferably inclined downwardly and inwardly so that it draws air directly from the surface of the floor. It is therefore obvious that a circulation of the purer air in the room will be continuously maintained by the heater

whenever the slide dampers 8 are opened and that fresh air may be simultaneously introduced from the exterior and delivered along the heater surfaces into the room without being permitted to pass directly outwardly through the circulation openings controlled by said slide dampers. Such dampers, however may be closed when desired in which case all the air circulated by the heater will be drawn from the exterior. By providing a flange 13 to keep air from the floor from entering the heater, and providing a ventilator opening in close proximity to the heater, the air moving toward the heater is divided and the impure air drawn into the ventilator, while the upper portion is again put into circulation.

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

1. In a heater and ventilator of the described class, the combination with the floor of the room, of a cylindrical shell open at both ends, with its lower ends resting on said floor, a stove supported from the floor in a raised position, said shell being provided with lateral openings near its lower end, a raised flange at the bottom of each such opening and guide flanges at the sides thereof, sliding dampers for said openings engaged by the guide flanges, together with a smoke pipe leading from said stove, a ventilator jacket encircling the smoke pipe and forming an annular air space a pipe leading downwardly therefrom and arranged to receive air from the floor of the room adjacent to the heater, and a pipe leading upwardly from the jacket and adapted to be connected with the chimney above the smoke pipe whereby the air moving along the floor is drawn into the ventilator, and that at a higher level is drawn into the shell and returned to the room.

2. In a heater and ventilator of the described class, the combination with the smoke pipe of the heater, of an encircling jacket of larger diameter than the smoke pipe, a suction pipe extending downwardly from the jacket, and provided with a register inlet at its lower end arranged to receive air from the floor and a delivery pipe extending upwardly therefrom, and adapted to enter the chimney at a point above the smoke pipe.

3. In a heater and ventilator of the described class, the combination with the smoke pipe of the heater, of an encircling jacket of larger diameter than the smoke pipe, a suction pipe extending downwardly from the jacket, and provided with a register inlet at its lower end arranged to receive air from the floor and a delivery pipe extending upwardly therefrom, and adapted to enter the chimney at a point above the smoke pipe, said register inlet being downwardly and inwardly inclined.

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

FREDRICK H. SCHUPPENER.

Witnesses:

O. R. ERWIN,

LEVERETT C. WHEELER.