No. 764,191. PATENTED JULY 5, 1904.

H. F. HOESMAN.

HEATER.

APPLICATION FILED NOV. 6, 1903.

NO MODEL.

Fig. 1.

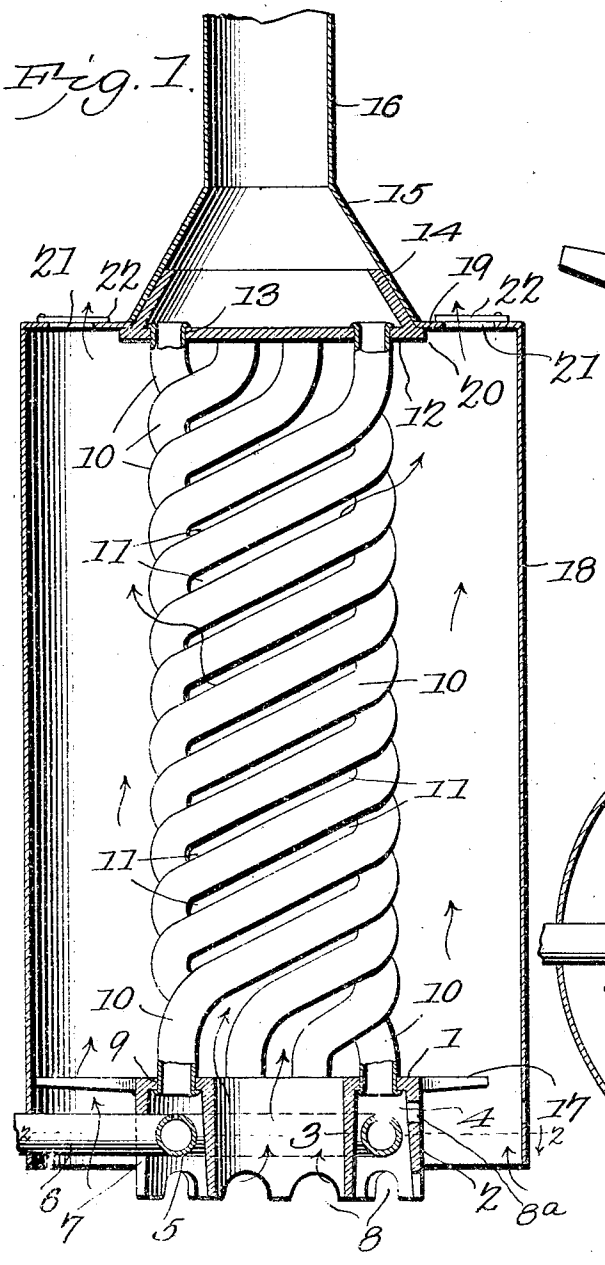


Fig. 3.

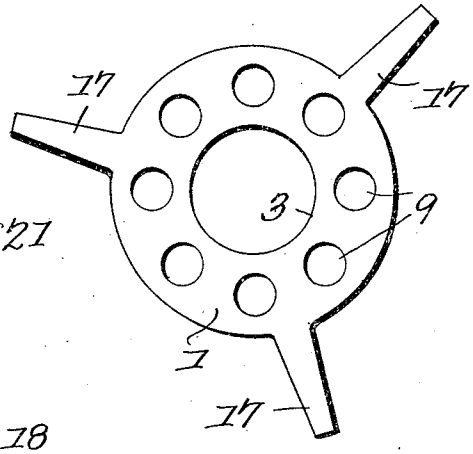
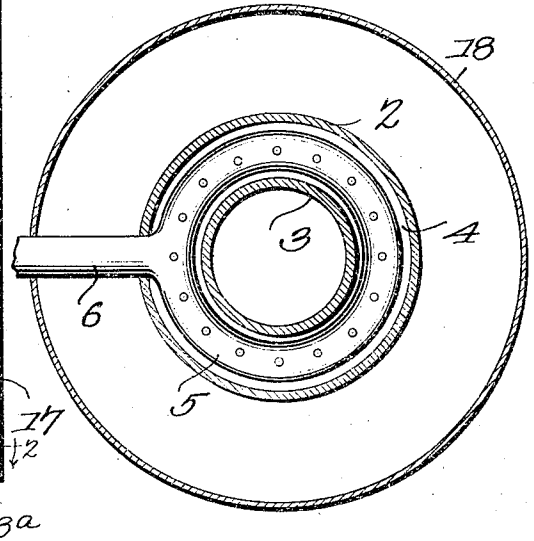


Fig. 2.



Witnesses
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No. 764,191. Patented July 5, 1904.

UNITED STATES PATENT OFFICE.

HERMAN FREDRICK HOESMAN, OF SAN JOSE, CALIFORNIA.

HEATER.

SPECIFICATION forming part of Letters Patent No. 764,191, dated July 5, 1904.

Application filed November 6, 1903. Serial No. 180,059. (No model.)

To all whom it may concern:

Be it known that I, HERMAN FREDRICK HOESMAN, a citizen of the United States, residing at San Jose, in the county of Santa Clara and State of California, have invented a new and useful Heater, of which the following is a specification.

This invention relates to that class of heating apparatus in which the heat is usually and preferably supplied by an oil or gas burner, the products of combustion being carried through radiating-pipes to a point of final exit, while the said pipes or flues by radiation heat the surrounding air.

My invention has for its object to provide a device of this class which shall possesss superior advantages in point of simplicity, durability, and general efficiency; and with these and other ends in view the invention consists in the improved construction, arrangement, and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a sectional elevation of my improved heating apparatus. Fig. 2 is a cross-sectional view of the base of the device within which the burner is located, taken on the line 2 2 in Fig. 1. Fig. 3 is a plan view of the base.

Corresponding parts in the several figures are indicated by similar numerals of reference.

The base of my improved heating apparatus is composed of an annular plate 1, provided at its outer and inner edges with downwardly-extending annular walls or flanges 2 and 3, between which is formed a chamber 4, within which the annular burner 5 is disposed. This burner, which has been shown in plan in Fig. 2 of the drawings, may be of any suitable construction to consume either gas or oil, and it has a supply-pipe 6, which extends through an opening 7 in the outer wall 2 of the device. Air to support combustion may be admitted in any suitable manner to the chamber 4—for instance, through recesses 8 in the lower edges of the walls 2 and 3. An opening 8^a for lighting is provided.

The top plate 1 of the device is provided with a plurality of equidistantly-arranged perforations 9, with which are connected the lower ends of a plurality of pipes 10, each of which is coiled spirally, the several pipes being intercoiled, as will be plainly seen in Fig. 1, so as to combine to form what might be termed a "cylindrical" chamber, the sides of which have narrow slots 11, said slots being formed by the interspaces between the coiled pipes. A cap-piece 12 is provided, said cap-piece being provided with perforations 13, with which the upper ends of the coiled pipes are connected. Said cap-plate is, moreover, provided with a frustum-shaped flange 14, adapted to support a coniform flue or funnel 15, from the upper end of which an ordinary cylindrical flue or pipe 16 conducts the products of combustion to the final point of exit.

The base-plate 1 of the device is provided with a plurality of radiating arms 17, which interiorly engage and space apart from the base-plate proper a cylindrical casing 18, the upper end of which has a flange 19, resting upon the edge 20 of the cap-plate 12, which extends beyond the frustum-shaped flange 14. The top plate 19 of the casing 18 is preferably provided with openings 21, adapted to be partly or entirely closed by a rotary damper 22, thus forming a register by means of which the escape of heated air may be regulated.

From the foregoing description, taken in connection with the accompanying drawings, the operation and advantages of my invention will be readily understood.

A gas or oil burner of the simplest possible construction may be used in connection with my invention, and it will be particularly noticed that the vitiated air, deprived of its oxygen by supporting combustion and which is, furthermore, rendered noxious by becoming impregnated with the products of combustion, is not permitted to pass into the room or apartment, but is conveyed through the pipes 10 to the final point of exit. The spiral arrangement of the pipes 10 naturally induces a spiral draft, which is very effective in keeping up a rapid combustion, thus enabling a large quantity of air to be heated by a heating device of comparatively small size. Air will be admitted at the lower end of the casing and also within the circular wall 3, thus causing

the air ascending through the casing to the cylinder formed by the coiled pipes to be thoroughly and quickly heated before it escapes through the register at the top of the casing, as shown in the drawings by darts.

I desire it to be understood that, while I have in the foregoing described a simple and preferred construction of my invention, I do not thereby limit myself to the precise structural details set forth, but reserve the right to any changes, alterations, and modifications which may be resorted to within the scope of my invention and without departing from the spirit or sacrificing the utility of the same.

Having thus described my invention, I claim—

1. In a device of the class described, a base-plate consisting of an annulus having downwardly-extending flanges, coöperating to form a chamber, an annular burner disposed within the chamber, spirally-coiled pipes connected with openings in the upper side of said chamber, a cap-plate having openings connected with the upper ends of said pipes, an annular flange upon said cap-plate, and means connected with said flange for conducting the products of combustion to a final exit.

2. In a device of the class described, a base-plate consisting of an annulus having downwardly-extending flanges coacting to form an annular chamber, the upper side of which is provided with a plurality of openings, a cap-plate having openings corresponding with those in the base-plate, pipes connecting said openings, an inclined flange upon the cap-plate, means connected with said flange for conveying the products of combustion to a final point of exit, a casing provided at its upper end with a flange supported upon the cap-plate exteriorly of the inclined flange upon the latter, and spacing-arms radiating from the base-plate and interiorly engaging said casing.

3. In a device of the class described, a base formed with an annular chamber, an annular burner disposed in said chamber, openings in the upper side of the latter, a cap-plate having openings corresponding with the openings in the base-plate, a flange upon the cap-plate, means connected with said flange for conveying the products of combustion to a final point of exit, a casing having a flange supported upon the edge of the cap-plate, openings in said flange, and a damper coacting with said openings to constitute a register, and arms radiating from the base and interiorly engaging the lower end of the casing to space the latter from the base of the device.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

HERMAN FREDRICK HOESMAN.

Witnesses:
J. L. STULL,
LOUIS SONNIKSON.