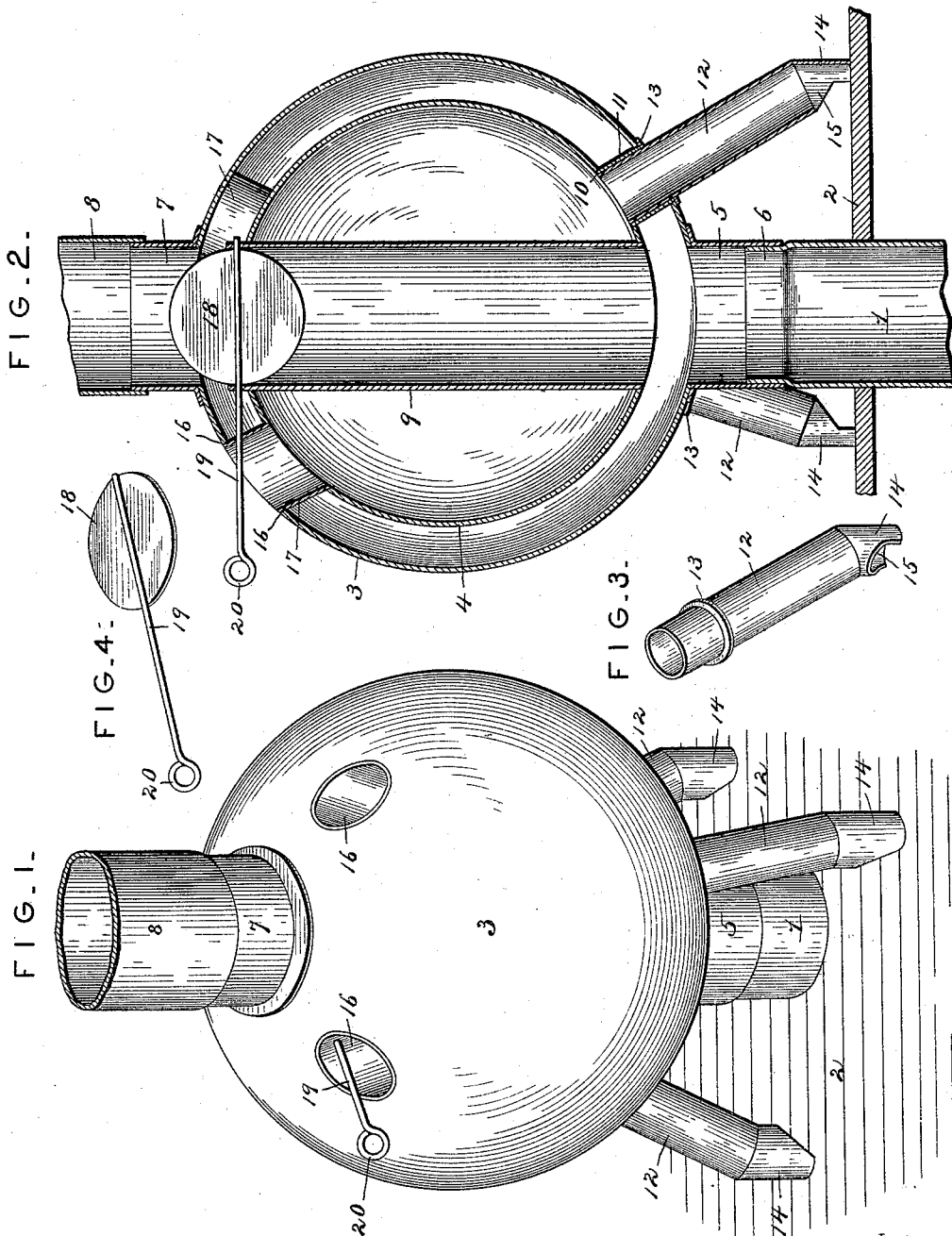


(No Model.)

W. HAMMANN.
HEATING DRUM.

No. 535,004.

Patented Mar. 5, 1895.



Inventor

William Hammann.

Witnesses

Harry L. Ames.
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UNITED STATES PATENT OFFICE.

WILLIAM HAMMANN, OF MILWAUKEE, WISCONSIN.

HEATING-DRUM.

SPECIFICATION forming part of Letters Patent No. 535,004, dated March 5, 1895.

Application filed April 20, 1894. Serial No. 508,294. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HAMMANN, a citizen of the United States, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented a new and useful Heating-Drum, of which the following is a specification.

The invention relates to an improvement in that class of heating-drums wherein the smoke and gases from the fire are passed through a chamber surrounded by or embracing a chamber through which the cold air is passed, whereby the air is heated and subsequently delivered into the apartment.

In the drawings: Figure 1 represents a perspective view of a heating-drum constructed after the manner of my invention; Fig. 2, a vertical section thereof; Fig. 3, a detail of one of the tubes for carrying the cold air to the drum; Fig. 4, a detail of the damper.

The reference numeral 1 indicates the pipe which carries the smoke and other products of combustion from the fire below, and this is shown as passed through the floor 2 of the apartment in which the drum is shown as located.

The drum is spherical in form, and consists of two shells 3 and 4, arranged one within the other and concentric with each. The shell 3 is the outer shell, and this is provided with the downwardly-extending collar 5 at its lower side, which collar fits over the reduced upper end 6 of the pipe 1, whereby the pipe is connected to the drum. The upper side of the shell 3 is provided with the collar 7, which projects upwardly therefrom and fits into the open lower end of the pipe 8. The pipe 8 proceeds upwardly from the drum, and operates to carry off the smoke, &c. The shell 4 has an opening formed in the upper and lower sides, respectively, and these openings have the ends of the pipe 9 securely fastened therein. The pipe 9 is of a size equal to that of pipes 8 and 1, is vertically coincident therewith, and communicates directly with each pipe at its upper and lower ends, respectively.

Formed in the shells 3 and 4, and at their lower portions, are the openings 10, which are radially coincident in each shell and fitted with the collars 11, whereby clear openings or passages are formed from the interior of the shell 4 to the exterior of the shell 3; and pas-

sages which have no communication with the space between the two shells. Arranged in these passages are the tubes 12, which fit snugly in place and are provided with the annular flanges 13, bearing against the outside of the shell 3 and operating to form a close joint.

The tubes 12 extend downwardly and outwardly from the drum, and have their lower ends reduced to form the feet 14, which are adapted to rest on the floor 2, and to support the drum in place. In addition to this function the tubes 12 operate to convey cold air to the drum, and to this end the openings 15 are formed in the feet 14.

The shells 3 and 4 have formed within their upper portions the openings 16, which are very similar to the openings 10, and are provided with collars 17, rigidly secured to the shells, and serving to form passages out of the interior of the shell 4. These openings 16 are by preference three in number, and have for their purpose to convey the heated air of the drum into the apartments with which the drum is used. Arranged at the upper extremity of the pipe 9, and directly adjacent to the shell 4, is the damper 18, which is secured to the spindle 19, and capable of oscillating in its mountings to open or close the pipe 9. The spindle 19 proceeds out through one of the openings 16 in the shells 3 and 4, and is provided at its outer end with a bail 20, by which it may be operated.

Thus it will be seen that the products of combustion—smoke, gas and heated air—will pass up pipe 1, and into and through the space between the shells 3 and 4, when the damper 18 is closed, but when the damper is open the products of combustion will have a free passage up through the pipe 9 and out by way of the pipe 8.

To operate the device, the tubes 12 are arranged so that they will convey the cold air from the bottom of the apartment or room into the interior of the shell 4, from whence it passes, by way of the openings 16, back into the room. During this passage the heated gases, &c., in the space between the shells 3 and 4 will act on it and cause the cold air to be heated, so that when it passes back into the room it will have been heated to a degree sufficient to warm the room. It will be under-

stood that the damper 18 will have to be closed when it is desired that the appliance shall operate in this way, and when it is preferred that the smoke have a clear passage out of the drum, the damper may be opened.

By means of the spherical shape which I give to the drum, the smoke passing up the pipe 1 will be divided equally, and upon passing back into the pipe 8 will proceed freely up the chimney and not assume the spiral form which is usually the case with heating-drums wherein the smoke is made to traverse a circuitous path in the performance of the operation of heating the air.

Having described my invention, what I claim is—

As an improved article of manufacture, the herein-described heating-drum, the same having concentric spherical inner and outer shells spaced apart to form an intervening passage which completely surrounds the inner shell, an inlet-pipe communicating with the said passage at its lowermost point, an outlet-pipe communicating with said passage at its uppermost point and in co-axial alignment with the inlet-pipe, a conductor corresponding in cross-sectional area with the inlet and outlet pipes and arranged diametrically in the inner shell in co-axial alignment with said inlet and outlet-pipes and communicating with said pas-

sage surrounding the inner shell, a damper arranged in said conductor at its upper extremity whereby when said damper is closed the products of combustion introduced by the inlet-pipe fill the interior of said conductor and the surrounding passage and are adapted to pass from said passage to the outlet pipe, air-outlet passages arranged at the top of the inner shell and consisting of collars connecting registering openings formed in the inner and outer shells to provide for the escape of heated air from the interior of the inner shell, and air-inlet pipes extending through the outer shell and communicating with the interior of the inner shell by means of openings formed in said inner shell, these inlet-pipes being provided with annular shoulders to bear against the exterior surface of the outer shell and being extended downwardly to form legs to support the drum, the same being provided at their lower extremities with openings for the admission of air, substantially as specified.

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

WILLIAM HAMMANN.

Witnesses:

NICHOLAS TREIS,
ELIZABETH SCHIFFLER.