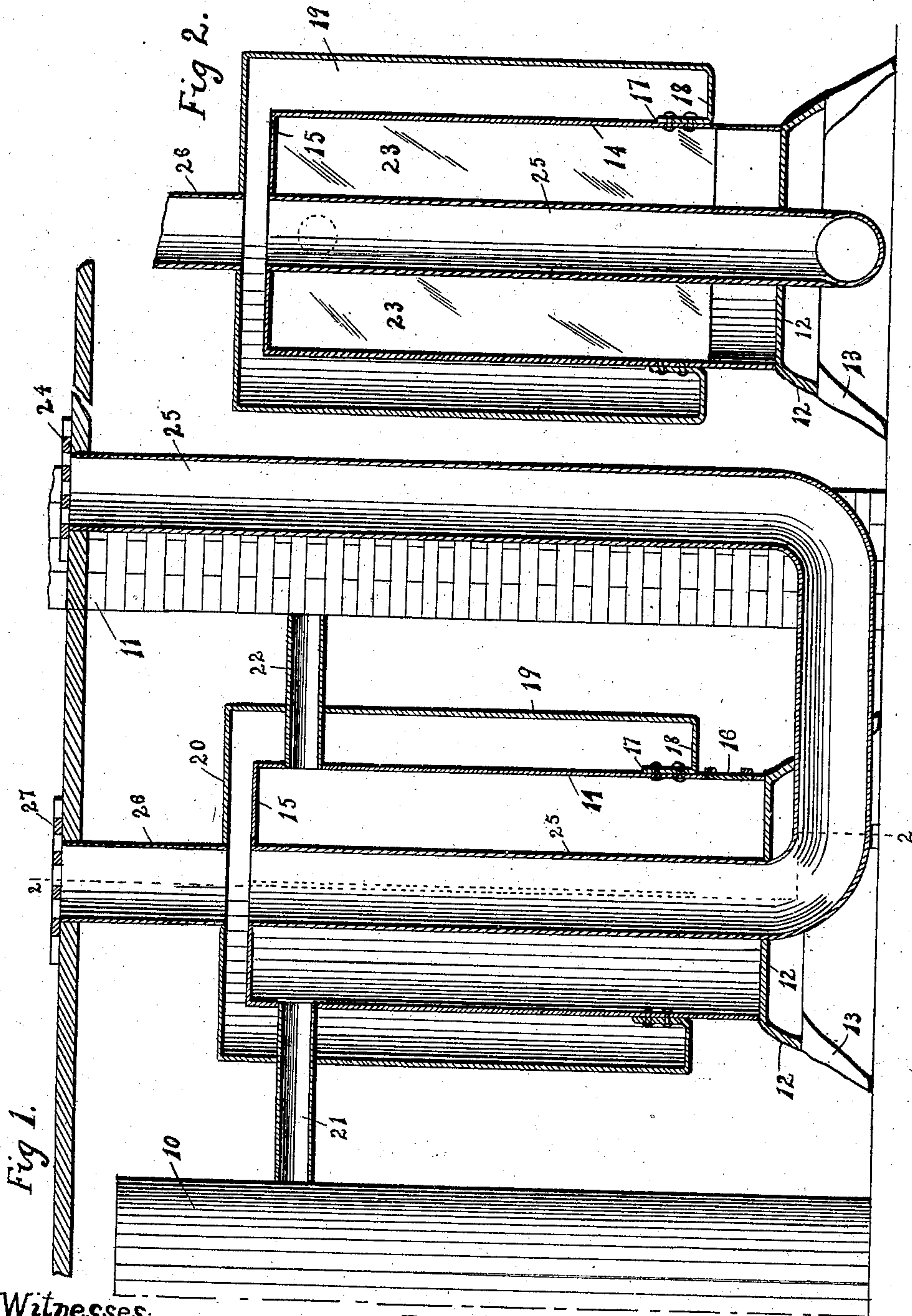


No. 815,624.

PATENTED MAR. 20, 1906.

W. A. NORTON.
HOT AIR DRUM.

APPLICATION FILED MAR. 27, 1905.



Witnesses:

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UNITED STATES PATENT OFFICE.

WILLIAM A. NORTON, OF MARSHALLTOWN, IOWA.

HOT-AIR DRUM.

No. 815,624.

Specification of Letters Patent.

Patented March 20, 1906.

Application filed March 27, 1905. Serial No. 252,281.

To all whom it may concern:

Be it known that I, WILLIAM A. NORTON, a citizen of the United States, residing at Marshalltown, in the county of Marshall and State of Iowa, have invented a certain new and useful Hot-Air Drum, of which the following is a specification.

The object of my invention is to provide a device of this class of simple, durable, and inexpensive construction adapted to be used in connection with a furnace or stove for furnishing additional heat either in the same room as the furnace or stove or in an adjoining room.

Referring to the accompanying drawings, Figure 1 shows a vertical central sectional view of the hot-air drum and connected parts, and Fig. 2 shows a vertical sectional view on the line 2 2 of Fig. 1.

In the accompanying drawings I have used the reference-numeral 10 to indicate a furnace or stove, and 11 to indicate a chimney or flue.

The hot-air drum comprises a base 12, supported on legs 13. On top of the base is a sheet-metal cylinder 14, having a top 15, and also having a door 16 to provide for cleaning out the interior of the cylinder. Surrounding the cylinder 14 is a sheet-metal jacket, the lower edge of which is indicated by the numeral 17 and is bolted or riveted to the cylinder 14 some distance above its lower end. The said jacket projects outwardly at 18, then upwardly at 19, and is formed with a top 20. The sides 19 and the top 20 are spaced apart from the sides and top of the cylinder.

The numeral 21 indicates a pipe or sleeve communicating between the furnace or stove and the interior of the cylinder 14 near its top and passed through an opening in the jacket. At a point diametrically opposite from the point 21 is a similar pipe 22, communicating between the interior of the cylinder 14 and the chimney or flue 11. This pipe passes through an opening in the jacket. To prevent products of combustion from passing direct from the furnace through the pipe 21, the cylinder 14, and the pipe 22 to the chimney or flue, I have provided deflector-plates 23 within the cylinder and extending from the top thereof to a point spaced apart from the bottom, and these deflector-plates are arranged substantially at right angles to the pipes 21 and 22, so that products of combustion

passing through the pipe 21 will strike said deflector-plates and be directed downwardly and under the deflector-plates before they can rise and pass through the pipe 22.

The numeral 24 indicates a grating arranged in a suitable position to receive cool or fresh air. This grating communicates with a fresh-air-supply pipe 25, which extends downwardly, then laterally, and then upwardly through the base 12 and through the top 15 of the cylinder 14. A hot-air-discharge pipe 26 communicates with the interior of the jacket at a point directly above the discharge end of the pipe 25 and spaced apart therefrom and extends to the grating 27, through which the heated air is discharged.

In practical use and assuming that the parts are arranged as shown it is obvious that the hot-air drum may, if desired, be located at a point distant from the furnace or stove. All of the smoke, gases, and other products of combustion from the stove will enter the top portion of the cylinder at one side and be directed by the plates 23 downwardly to the bottom of the cylinder, and they will then rise on the opposite side of the cylinder to the top and from thence be discharged to the flue or chimney. In this way the heat from the products of combustion will be thrown against or brought into contact with the entire surface of the cylinder 14 and also with the entire surface of the portion of the pipe 25 within said cylinder. Hence a large portion of the heat contained in the products of combustion will be transmitted to the cylinder and be radiated from the outer surface thereof. All of the heat radiated from the part of the pipe 25 within the cylinder will be discharged upwardly through the top of the pipe 25, and all of the air that is discharged through the pipe 26 is brought by the pipe 25 from a distant elevated point where fresh air may be obtained. In this way the circulation through the pipe 25 is greatly accelerated, because the cool air will readily enter the induction end of the pipe 25 and the heated air will readily discharge from the other end, so that a good circulation is obtained, even when the drum is heated to a relatively slight degree. By the arrangement shown none of the smoke or gases from the furnace or stove can in any way enter or become mingled with the fresh air discharging through the pipe 26.

Having thus described my invention, what

I claim, and desire to secure by Letters Patent of the United States therefor, is—

In a heating-drum, the combination of a base, a sheet-metal cylinder on the base having a closed top, a jacket surrounding the sheet-metal cylinder, spaced apart from its sides and top and extending to a point near the lower end of the cylinder, a door for providing access to the cylinder below the jacket, deflector-plates on the interior of the cylinder extending from the top to a point near its lower end, a pipe passed through the jacket and into the interior of the cylinder at its top substantially at right angles to the deflector-

plates, a second pipe passed through the jacket and into the top of the cylinder diametrically opposite from the first, a cold-air-supply pipe extending downwardly and then upwardly through the base of the cylinder and also through the top of the cylinder and a hot-air-discharge pipe communicating with the interior of the jacket at a point in line with the discharge end of the cold-air-supply pipe.

WILLIAM A. NORTON.

Witnesses:

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