

No. 795,772.

PATENTED JULY 25, 1905.

W. H. JANNEY.

COMBINED HEATER AND ICE AND SNOW MELTING APPARATUS.

APPLICATION FILED DEC. 21, 1904.

2 SHEETS—SHEET 1.

Fig. 1.

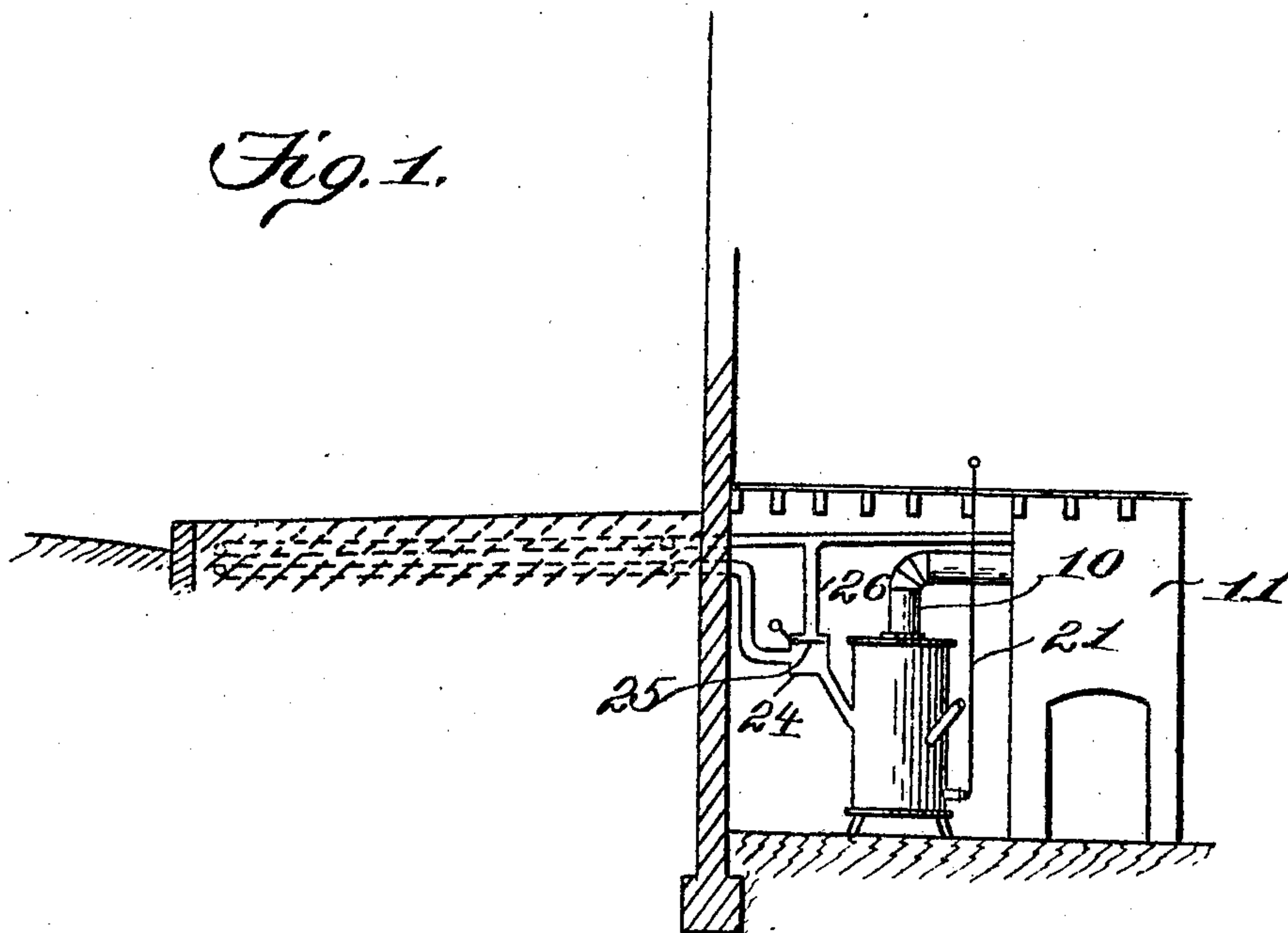


Fig. 2.

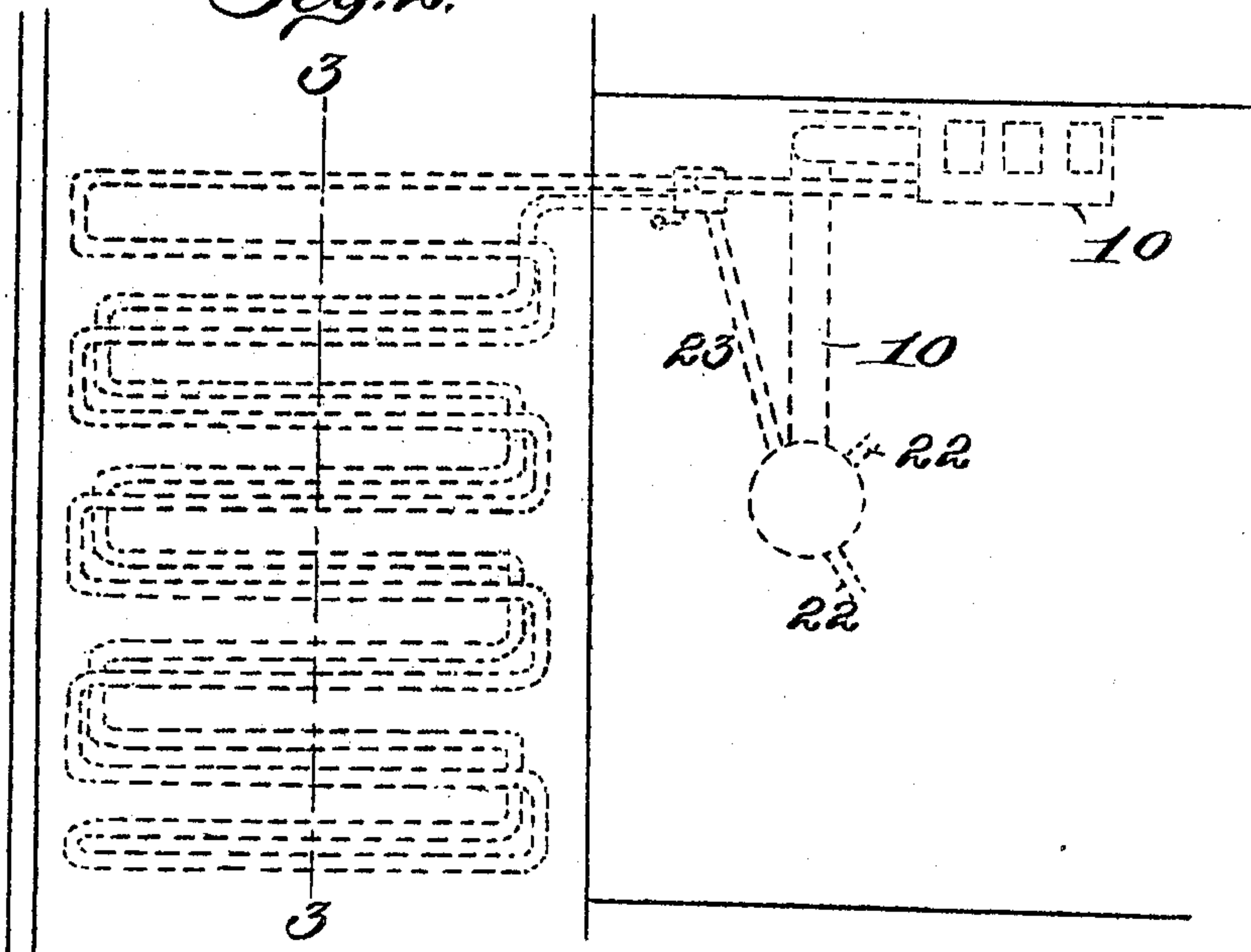


Fig. 3.

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2 SHEETS—SHEET 2.

Fig. 4.

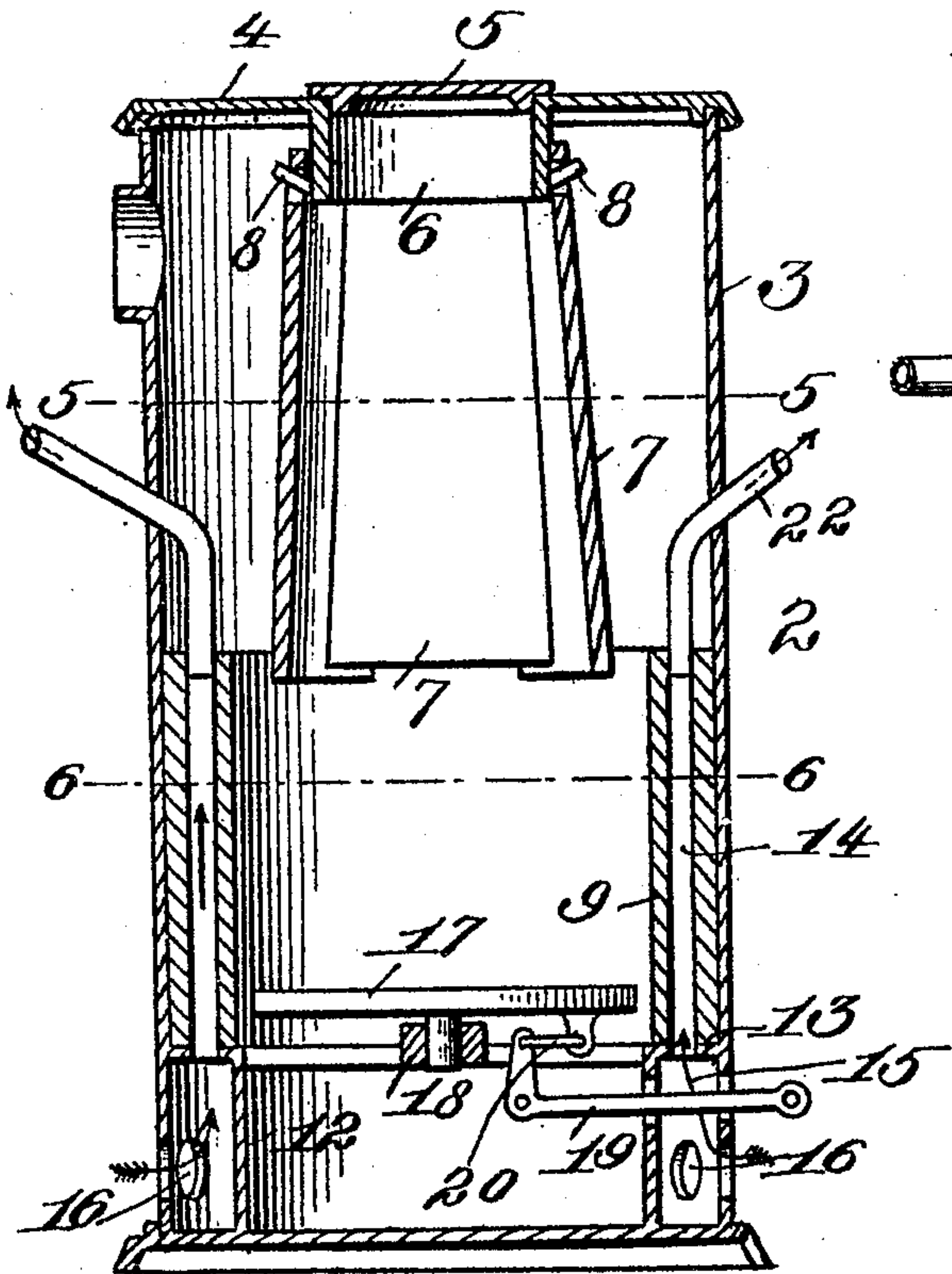


Fig. 5.

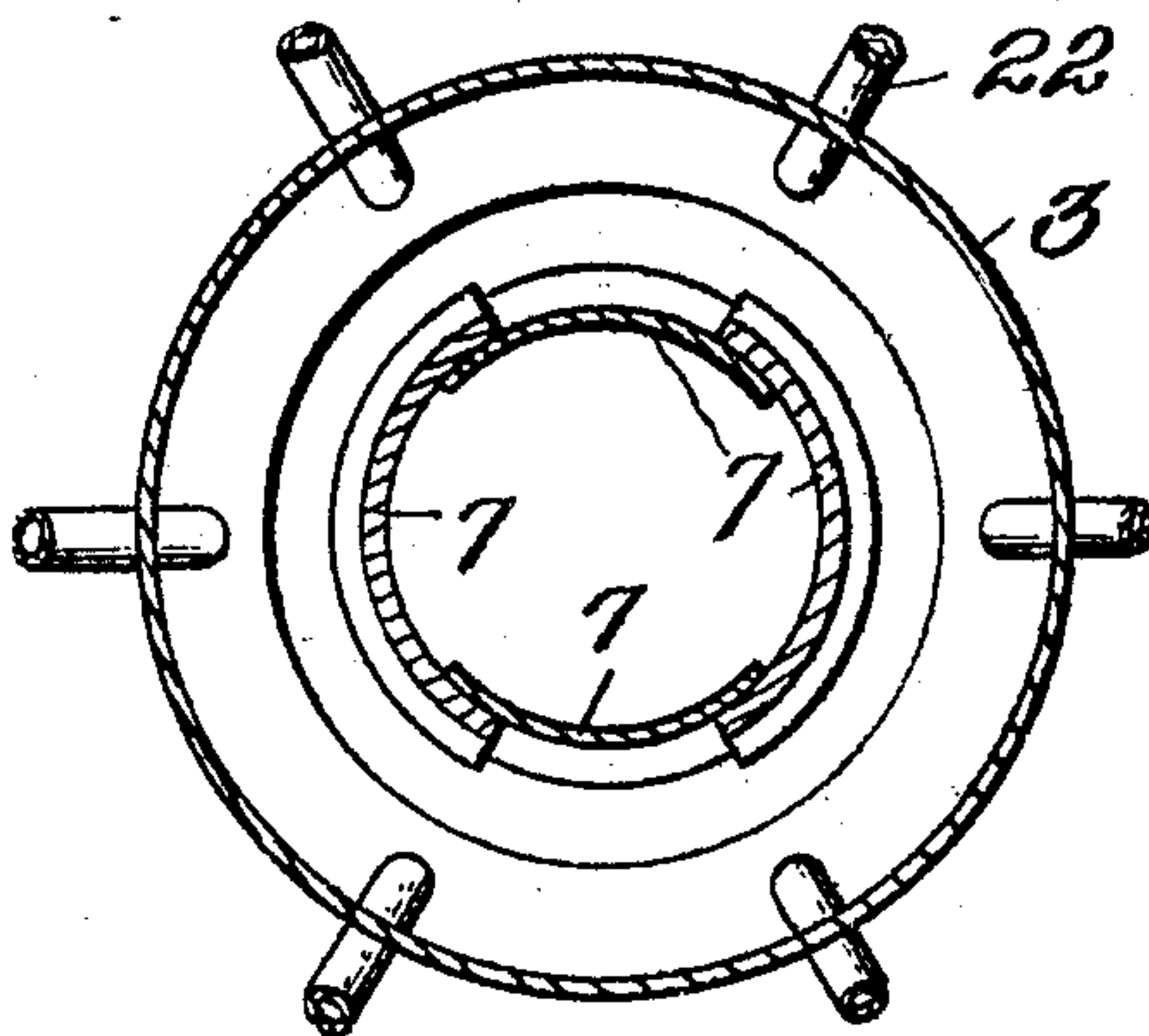


Fig. 6.

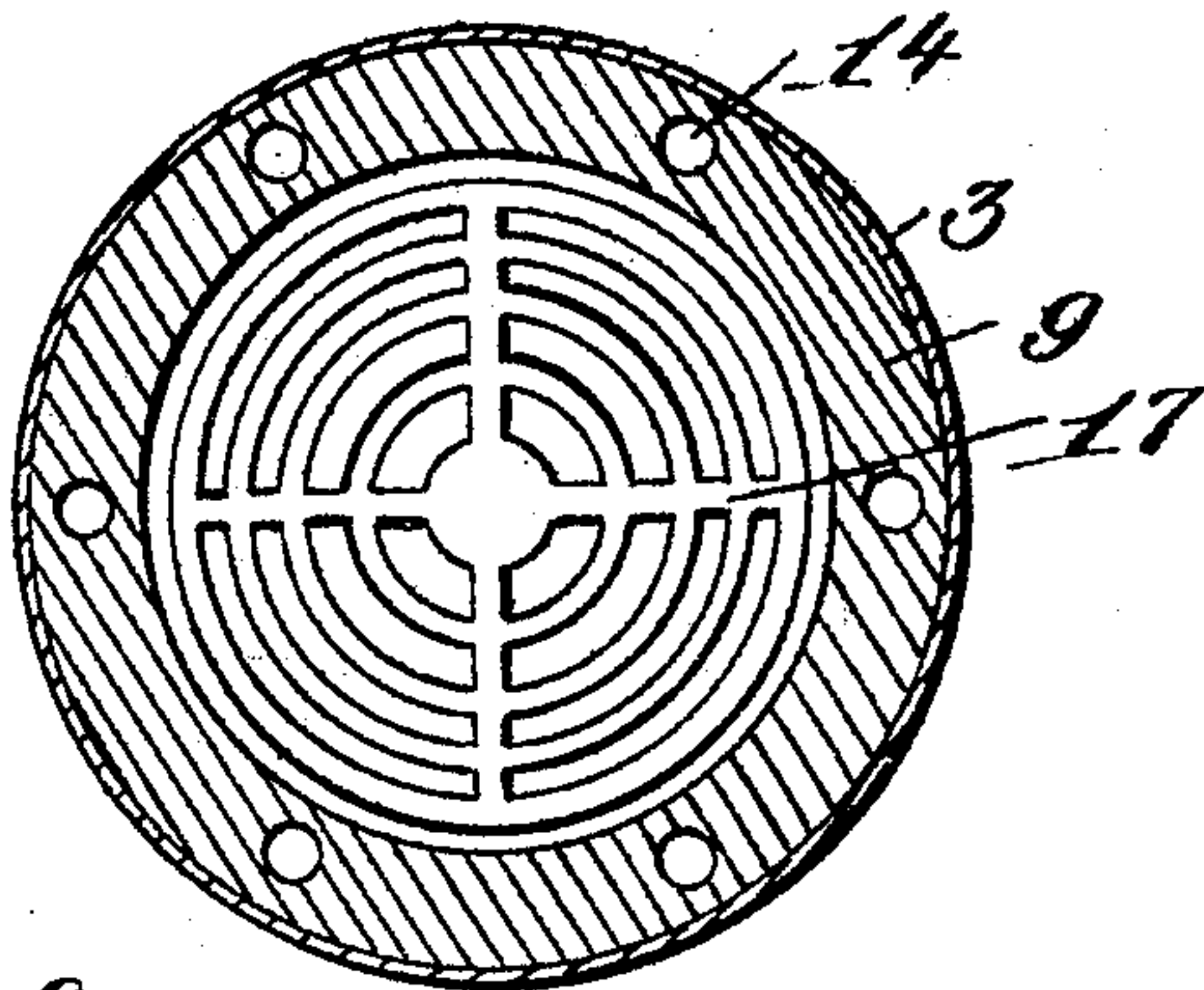


Fig. 7.

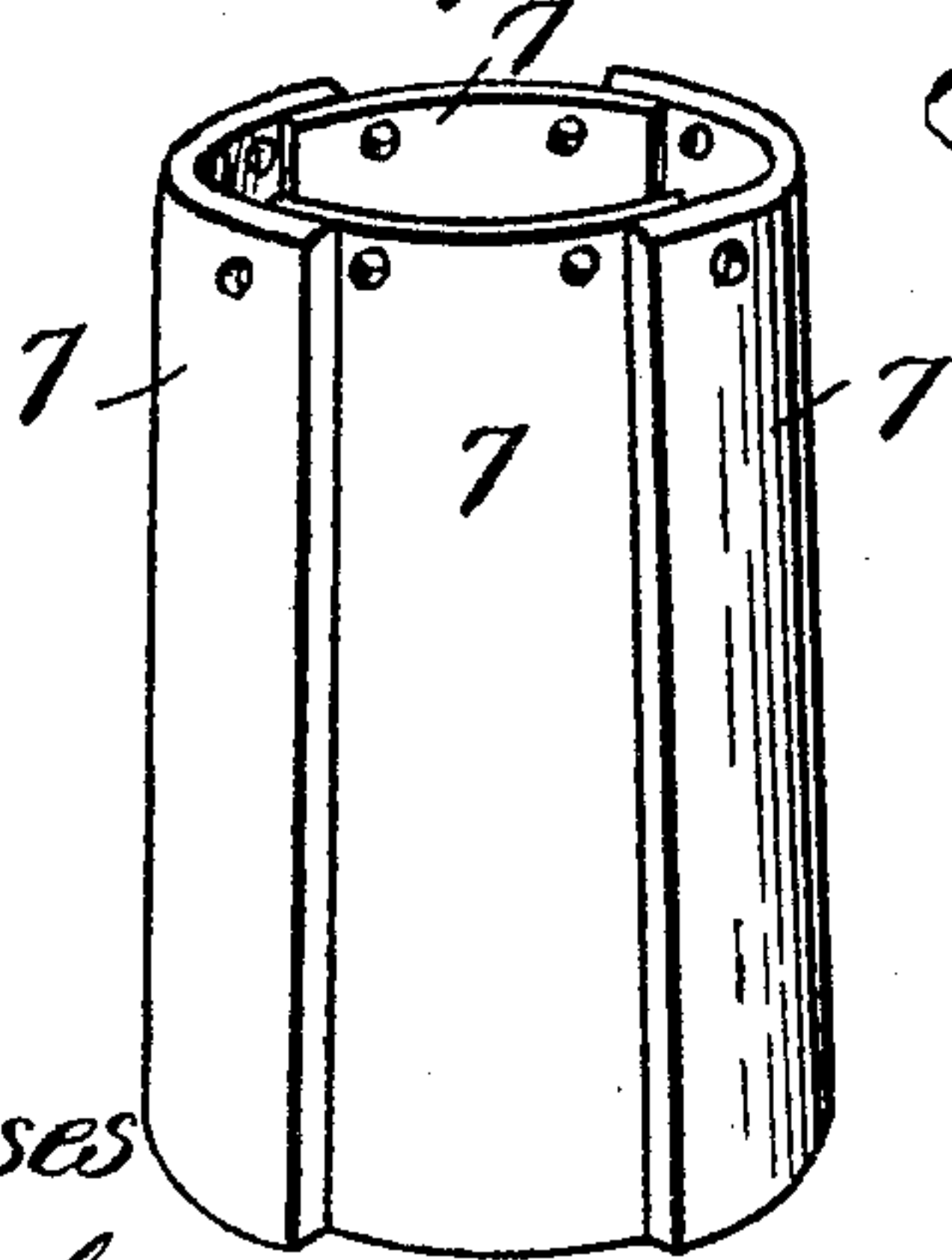
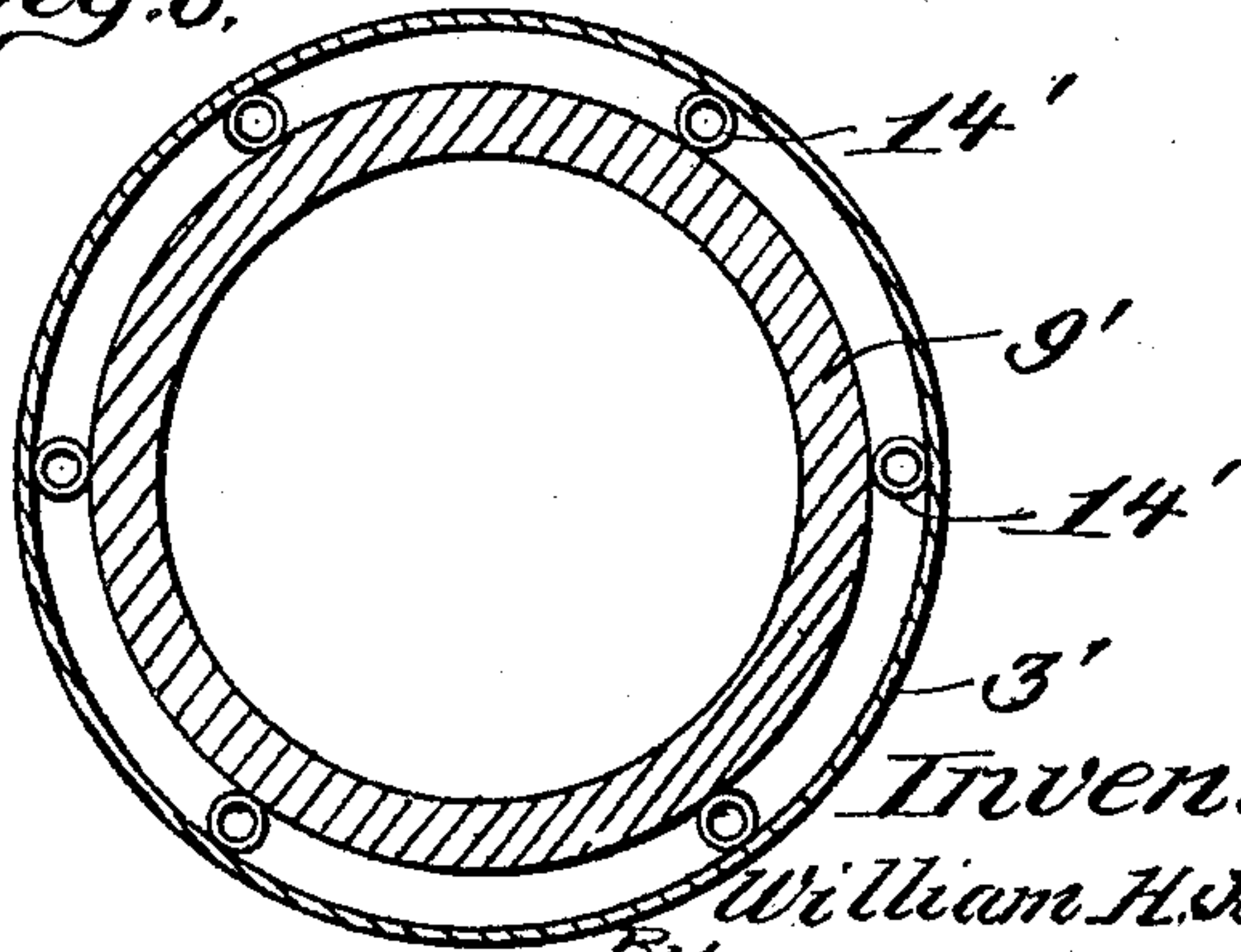


Fig. 8.



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UNITED STATES PATENT OFFICE.

WILLIAM HENRY JANNEY, OF MARTINSBURG, WEST VIRGINIA.

COMBINED HEATER AND ICE AND SNOW MELTING APPARATUS.

No. 795,712.

Specification of Letters Patent.

Patented July 25, 1905.

Application filed December 21, 1904. Serial No. 237,824.

To all whom it may concern:

Be it known that I, WILLIAM HENRY JANNEY, a citizen of the United States, residing at Martinsburg, in the county of Berkeley and State of West Virginia, have invented new and useful Improvements in a Combined Heater and Ice and Snow Melting Apparatus, of which the following is a specification.

This invention relates to a combined heater and ice and snow melting apparatus, the object of the invention being to provide a simple and effective apparatus of this character which in action will thoroughly heat a room or series of rooms and at the same time is capable of melting snow and ice upon a pavement or walk so that the melted snow and ice can be readily removed.

Other objects and advantages of the invention, including the foregoing, will be set forth at length in the following description, while the novelty of said invention will be covered in the claim succeeding said description.

In the drawings accompanying and forming a part of this specification, Figure 1 is a side elevation of an apparatus involving my invention, showing the heater therein as incorporated in a building, partially shown, and the coils of the apparatus under a pavement adjacent to said building. Fig. 2 is a plan view of the parts represented in the preceding figure. Fig. 3 is a vertical sectional view on the line 3 3 of Fig. 2. Fig. 4 is a vertical sectional elevation of the heater shown in Figs. 1 and 2. Figs. 5 and 6 are horizontal sections on the lines 5 5 and 6 6, respectively, of Fig. 4. Fig. 7 is a perspective view of the magazine of the heater, and Fig. 8 is a horizontal section taken on a line similar to that of 6 6 in Fig. 4, but illustrating a modification.

Like characters refer to like parts in the several figures.

The apparatus involves in its organization a heater, which may be an ordinary furnace or stove. I will, however, describe a heater of novel construction, said heater being denoted in a general way by 2.

The heater 2, which is, in effect, a self-feeding stove, includes in its construction a cylindrical body, as 3, which may be of sheet metal or a casting or may be made in any other desirable way. This heater is represented as being in the cellar of a building in Figs. 1 and 2, and hot-air pipes or flues lead from it to heat the upper apartments or rooms of said building and to also, when occasion re-

quires, melt the snow and ice upon the pavement or walk adjacent to said building, as will hereinafter more particularly appear.

The top of the heater, which fits onto the cylindrical body thereof, is designated by 4, and it has a central opening for the introduction of fuel, adapted to be covered by a removable cap or plate, as 5. The fuel fed into the heater through the opening in the top thereof passes into a magazine of expansible form and shown as supported by a depending collar or annular flange 6 of the top and the opening of which registers with the feed-opening in the top 4.

The magazine is represented as consisting of two pairs of diametrically opposite plates 7 of different thicknesses, the plates being overlapped to present an expansible structure. I do not, of course, limit myself to the use of four plates to produce the magazine. The thin plates, as will be apparent, are directly opposite each other, while the same applies to the thicker plates, and it will be seen upon inspection of Figs. 5 and 7 that the outer faces of the thinner plates adjacent their side edges fit against the inner faces of the thick plates near their side edges, so as to present a magazine that is adapted for accurate and uniform expansion. The plates have perforations near their upper ends to fit over hooks, as 8, projected outward from the outer side of the collar 6. The plates, as will be understood, are of segmental form, so that when they overlap the cross-sectional form of the magazine will be substantially circular.

It will be apparent that the magazine composed of the several overlapping plates 7 is located within the upper side of the body of the heater, the lower end of the magazine being shown as disposed within the fire-box of the stove, formed by the annular wall or cylinder 9. From the upper side of the heater a smoke-pipe, as 10, leads to carry off the products of combustion from the heater. It will be understood that the magazine is separated from the upper part of the body of the heater and that its lower end is separated from wall 9 sufficiently to permit the passage of the products of combustion from the fire-box to the pipe 10, which latter, as will be understood, is connected with the chimney 11, as indicated in Figs. 1 and 2.

From the bottom of the heater a cylindrical wall 12 is shown as rising, the upper edge of said wall and an annular flange 13 in horizontal alinement with said upper edge serv-

ing as a support for the wall 9, which, as will be understood, constitutes the body of the fire-box of the heater. The wall 9 is snugly fitted in the cylindrical body or shell 3, and it has a plurality of vertical ducts 14 extending entirely through the same and opening at their lower ends into the chamber 15, which is formed between the wall or flange 12 and the lower part of the cylindrical shell or body 3. Opening into said chamber 15 is a circularly-arranged series of holes or perforations 16 for the passage of atmospheric air, which air leaving the chamber ascends through the ducts or passages 14 and is heated by heat radiating from the fire-box. The bottom of the fire-box is represented as consisting of a grate 17, having a central depending vertical spindle supported for turning movement by a spider-like frame 18, located within the heater below the grate. An angle-lever 19 is illustrated as supported below the grate and as serving to operate, through the link 20, said grate. The outer end of the angle-lever 19 is connected with the lower end of a grate-shaker, as 21, and shown as an elongated stem or bar extending upward from the lever and through the floor above the heater, so that the grate may be operated without descending to the cellar of the building.

It will be seen that the ducts or flues 14 cannot be clogged by soot or ashes, in that such substance cannot by virtue of the arrangement described and illustrated enter said ducts or flues.

Connected with the upper ends of the ducts or flues 14 are hot-air pipes 22 and 23. These pipes, which pass through the cylindrical shell, may be of any desirable number, although I have shown three of them. The pipes 22 may be employed for heating apartments or rooms in the building above the cellar in which the heater 2 is installed, while the pipe 23 may be used as snow and ice melting means. For securing the function set forth by the pipe 23 it will be seen that it is projected after it leaves the heater from out of the building and under the pavement or walk adjacent said building to near the curb or outer edge of said pavement and is then returned to a flue in the chimney 11, being, as will be understood, in communication with said flue, so as to promote the passage of hot air through said pipe 23, as will hereinafter appear. Where the pipe 23 is under the pavement, it is coiled into a large number of coils, bends, or whirls, as clearly indicated in Figs. 1 and 2, so that heat radiating therefrom will act upon a considerable surface of the pavement to quickly melt the snow and ice thereon. I find that by using hot air in the manner indicated there is no possibility of the snow and ice melting means

becoming useless in cold weather when the same is required, as would be the case were hot water circulated through the coils of the pipe 23. Said pipe 23 near the heater 2 is intersected by a valve or damper-box or casing 24, in which a damper 25 is located. From the upper side of the damper-box 25 a by-pass pipe 26 leads, being connected at its opposite end with the pipe 23 near the chimney. When it becomes necessary to melt snow, the damper or valve 25 will be manipulated to permit hot air to pass from the damper-box into the by-pass pipe 26 and from thence into that flue of the chimney into which the pipe 23 opens to heat said flue. When said flue is heated, the valve or damper 25 will be operated to cause the hot air from the damper-box to enter the coiled portion of the pipe 23, and by reason of the fact that the flue is heated the hot air will be drawn through said coiled portion with rapidity.

In Fig. 8 I have illustrated a slight modification. The body of the heater is denoted by 3' and incloses a wall 9', supported exactly like the wall 9, and which, with a grate, constitutes a fire-box. Between the wall 9 and the body 3' are vertically-disposed flues or pipes 14', the equivalent of the ducts 14. These pipes 14' open at their lower ends into the chamber 15 or an equivalent thereof and are connected at their upper ends with the hot-air pipes or flues 22 and 23, respectively. With the exception noted the modified form is the same as the other.

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

In a combined heater and ice and snow melting apparatus, the combination of a hot-air heater, a flue, a hot-air pipe communicating with and extending from the heater, said hot-air pipe being connected with the flue and serving to conduct hot air from the heater to the flue and being projected under a pavement, the projected portion being coiled; a damper-box intersecting the hot-air pipe between the heater and the coiled portion, a by-pass pipe leading from the damper-box and connected with the hot-air pipe between the coiled portion of the latter and the flue, and a damper in said damper-box to direct hot air into the coiled portion of said hot-air pipe or into the by-pass pipe, said damper being manually operable.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLIAM HENRY JANNEY.

Witnesses:

A. PARK McKOUN,
J. FRANK SEIBERT.