

No. 791,421.

PATENTED MAY 30, 1905.

R. HOLDEN.
FURNACE CASING.
APPLICATION FILED JUNE 22, 1904.

2 SHEETS—SHEET 1.

Fig. 1.

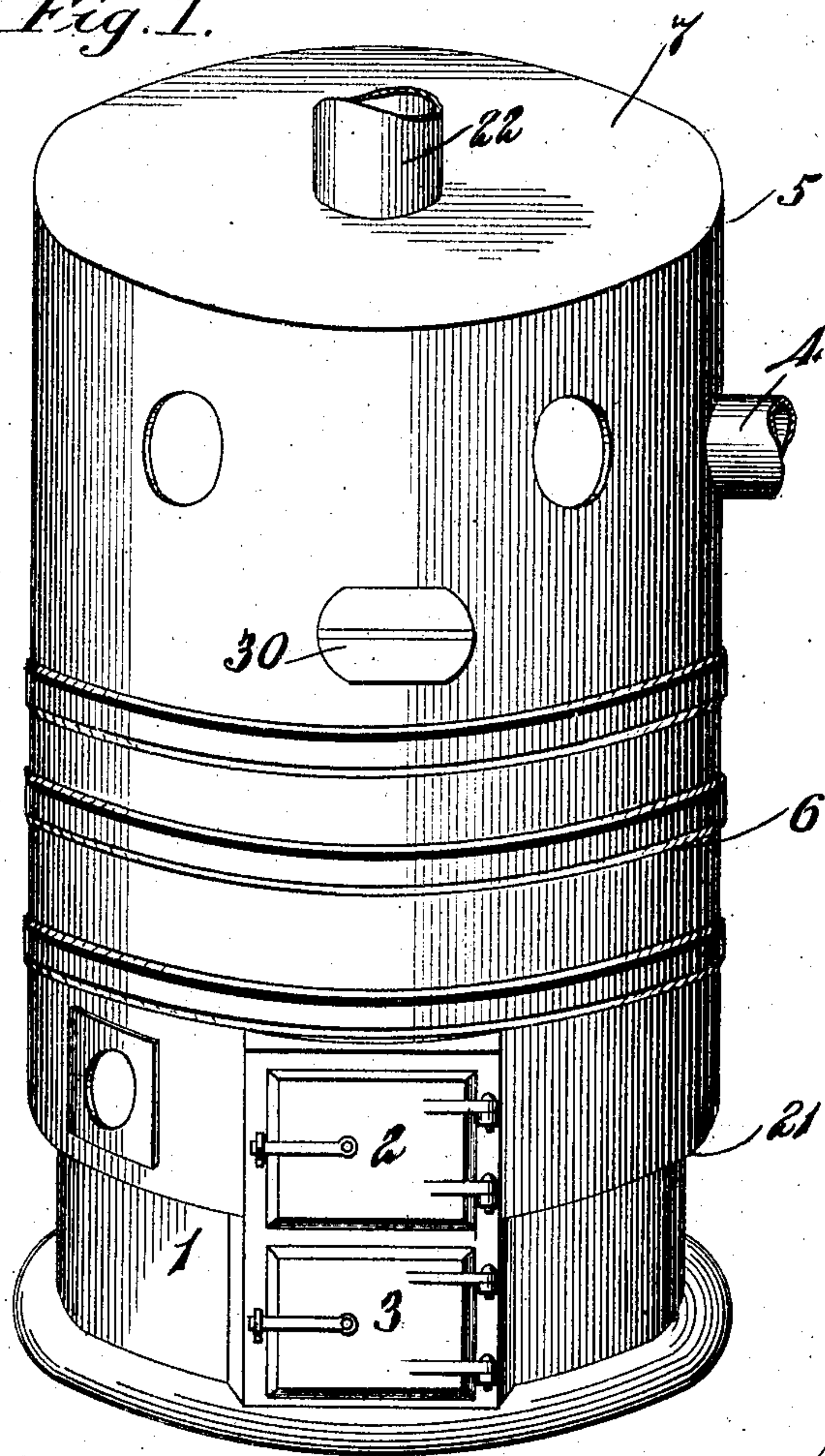


Fig. 4.

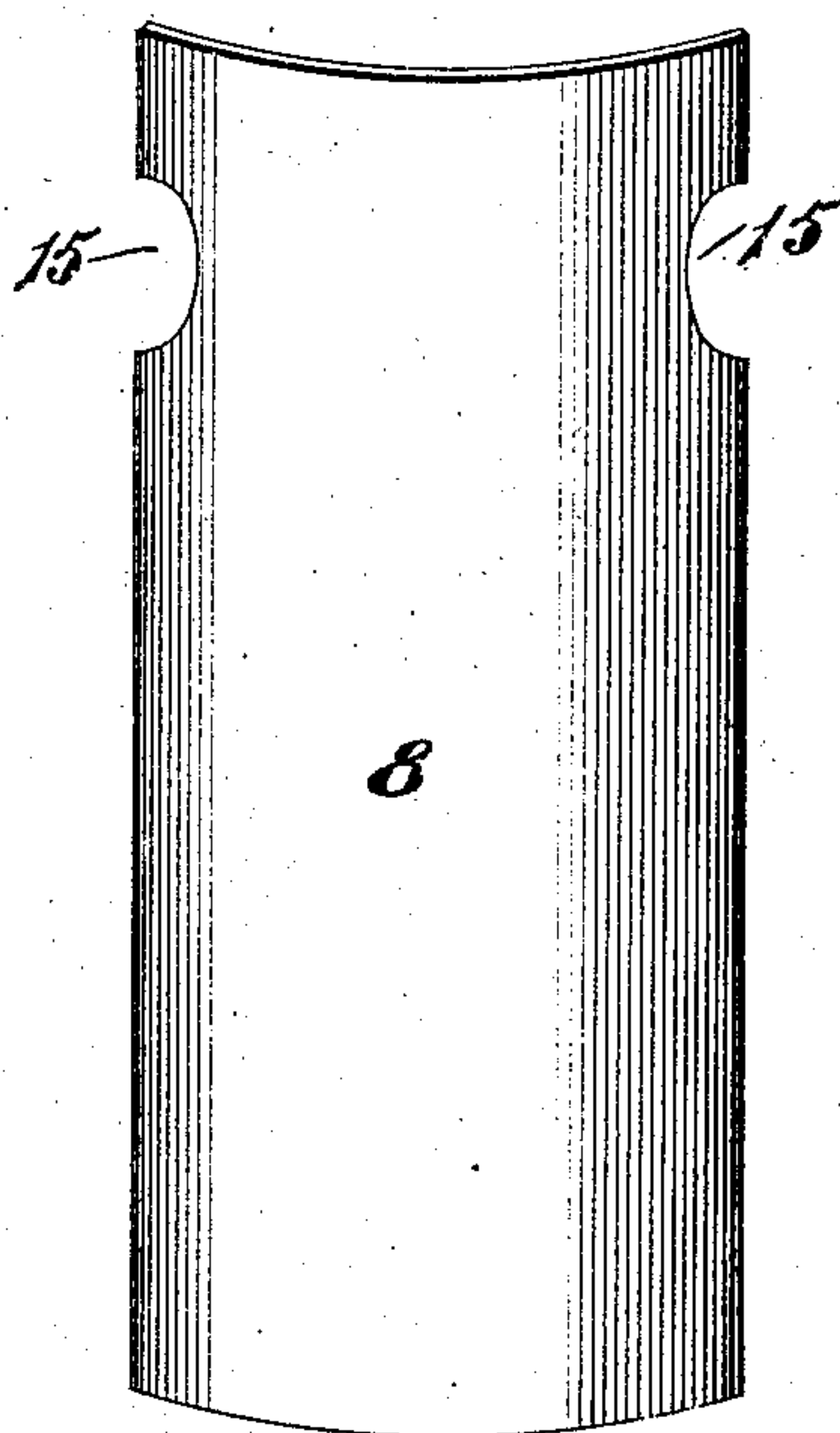


Fig. 5.

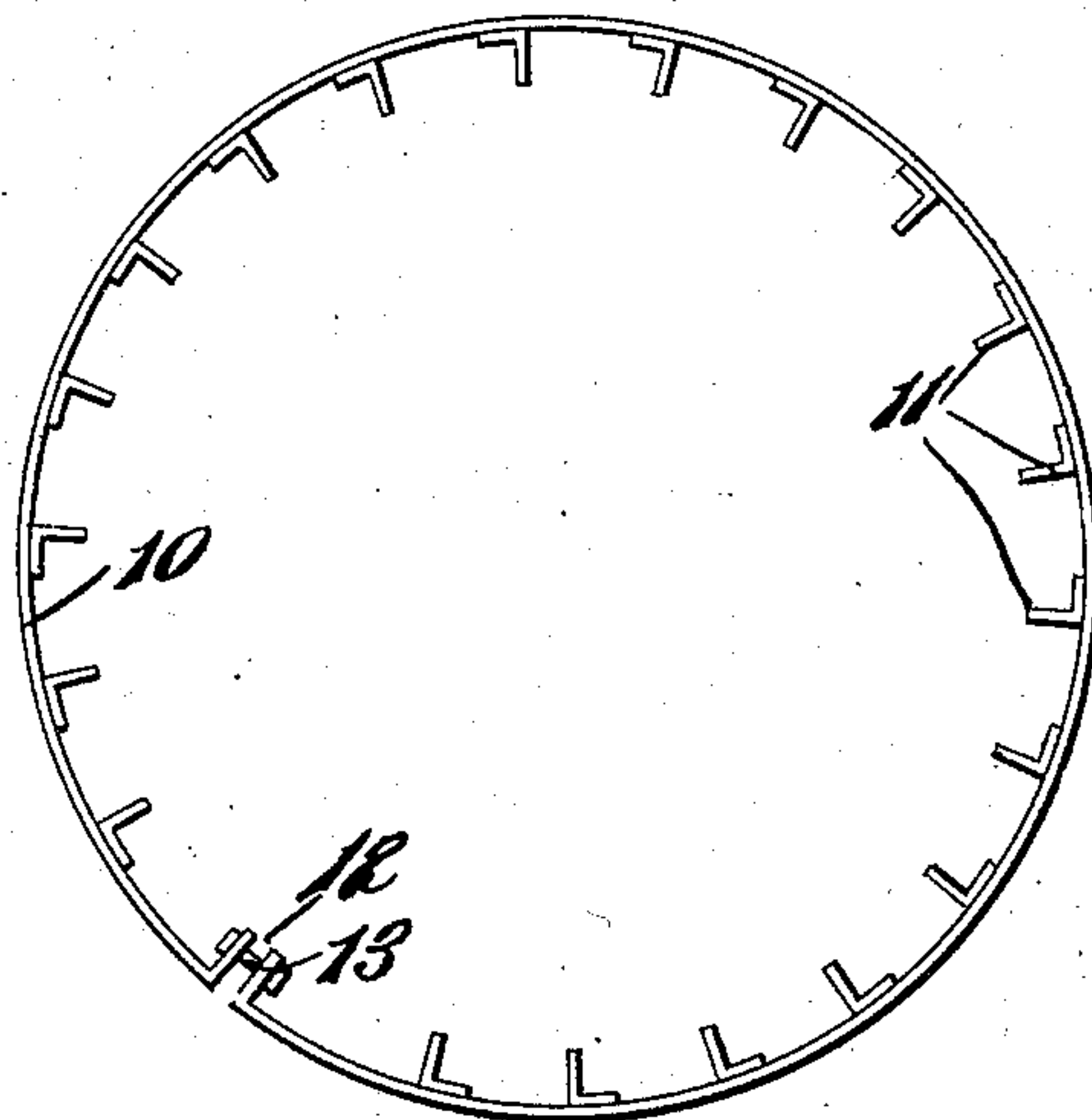
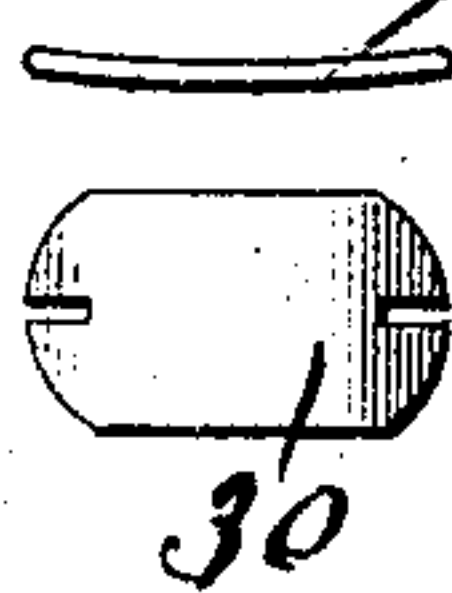


Fig. 6.



Witnesses:
A. B. Crittenden
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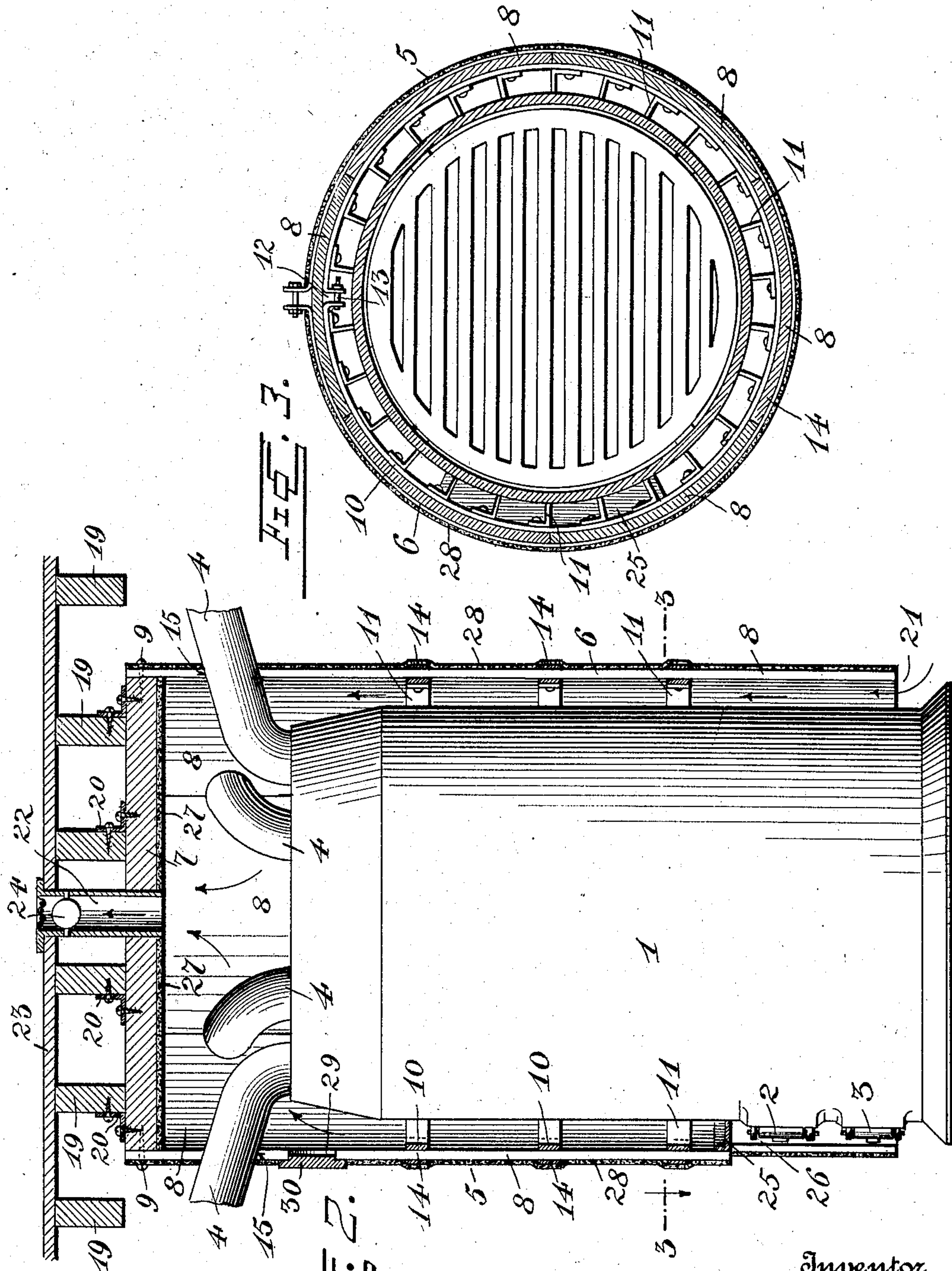
Inventor:
Reuben Holden

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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

REUBEN HOLDEN, OF NORTH KINGSVILLE, OHIO.

FURNACE-CASING.

SPECIFICATION forming part of Letters Patent No. 791,421, dated May 30, 1905.

Application filed June 22, 1904. Serial No. 213,738.

To all whom it may concern:

Be it known that I, REUBEN HOLDEN, a citizen of the United States, residing at North Kingsville, in the county of Ashtabula and State of Ohio, have invented certain new and useful Improvements in Furnace-Casings; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in casings for furnaces, stoves, and other heaters; and it consists in certain novel features of construction, combination, and arrangement of devices hereinafter described and claimed.

The object of my invention is to provide a simple, inexpensive, durable, and efficient jacket or hood adapted to be suspended above the upper portion of a furnace or the like to confine the heat radiated from the outer surface of the latter and conduct it by means of suitable pipes to the room or rooms located above the furnace.

The above and other objects, which will appear as the nature of my invention is better understood, are accomplished by the construction illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of a furnace-casing constructed in accordance with my invention, the same being shown applied to a furnace. Fig. 2 is a vertical sectional view through the same, showing it suspended from the joists of the cellar or room in which the furnace is located. Fig. 3 is a horizontal sectional view taken on the line 3 3 of Fig. 2. Fig. 4 is a detail perspective view of one of the segmental sections of which the casing is constructed. Fig. 5 is a detail view of one of the adjustable spacing-bands which are provided within the casing to space the latter from the outer surface of the furnace, and Fig. 6 shows two detail views of one of the hand-hole closures.

Referring to the drawings by numeral, 1 denotes a furnace or heater of any desired construction, having the usual fire-grate door 2, ash-pit door 3, and hot-air pipes 4, which latter, as shown in Fig. 2 of the drawings,

project upwardly and outwardly from the top of the furnace.

My improved casing 5, which is in the form of a jacket or hood, comprises a cylindrical body 6 and a circular head 7, which closes the upper end of said body. Said body 6 is composed of a plurality of segmental sections 8, preferably constructed of sheet metal and having their upper ends secured by nails, screws, or other fastening means 9 to the edge or periphery of said head 7, the latter being preferably constructed of wood. The body portion 6 is spaced from the outer surface of the furnace by a series of annular bands 10, disposed within said sections at suitable intervals. Said bands 10 have upon their inner faces inwardly-projecting angle-irons 11, which hold said bands, and hence the casing, at a suitable distance from the outer surface of the furnace 1. In order to adjust said bands, I cut them transversely and bend their meeting ends inwardly, as shown at 12. Said ends are formed with openings, one of which is screw-threaded, to receive a clamping-screw 13, by means of which the ends of said bands may be drawn together. The lower portion of the sections 8 are held together by a series of annular bands 14, which are made adjustable, similar to the bands 10, and which surround said sections in alignment with said bands 10, so that the sections will be firmly clamped together and between said bands, as clearly shown in Figs. 2 and 3 of the drawings. In order to permit the hot-air pipes 4 when the furnace 1 is of the hot-air type to project through said casing, the sections 8 may be constructed as shown in Fig. 4, semicircular-shaped recesses 15 being provided at suitable points in the side edges of said sections, so that when the contiguous edges of two of the sections are placed together said recesses will form a circular opening to receive one of the pipes 4.

The casing 5 may be supported upon the furnace in any desired manner; but, as shown in Fig. 2 of the drawings, it is suspended above the same by securing its head 7 to the rafters 19 of the cellar or room in which the furnace 1 is located by means of angle-brackets 20 or any other suitable fastening means.

The head 7 is thus disposed at a suitable distance above the top of the furnace and the open lower end of the cylindrical body 6 of the casing is spaced from the floor of the room or cellar, as shown at 21, to permit the cold air in the latter to pass up through the space between the furnace and casing and become warmed or heated by the heat radiated from the outside of the furnace 1. This heated air in the upper portion of the casing passes out of the same through one or more suitable pipes 22, which, as shown in Fig. 2 of the drawings, project through the head 7 and through the flooring 23, which is secured to the joists 19, the upper end of the pipe 22 being closed by the usual damper 24. If desired, the pipe or pipes 22 may project through or between the sections 8 of the casing instead of through its top or head. If desired, the bottom of the casing 5 may be closed and connected to the usual cold-air-inlet pipe of the furnace, as will be readily understood. In order to prevent the dust and smoke rising from the doors 2 and 3 when the latter are open, I provide a guard or hood 25 around the opening 26 in the body portion 6 of the casing, said opening 26 being disposed in alinement with the doors 2 and 3 to permit easy access to the same. In order to prevent all liability of the head 7 of the casing taking fire, a covering 27, of asbestos or other material which is a non-conductor of heat, is provided upon the under side of the same, as shown in Fig. 2, and, if desired, a covering 28, of asbestos or the like, may be provided upon the outer surface of the body 6 of the casing, as shown in Fig. 2 of the drawings, in order to prevent the radiation of heat from the casing. One or more of the sections 8 of the furnace-casing may be formed with handholds 29, which are adapted to be closed by removable covers 30, as shown in Figs. 2 and 6 of the drawings.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

While I have shown and described the preferred embodiment of my invention, it will be understood that I do not wish to be lim-

ited to the precise construction herein set forth, since various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

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

1. A furnace-casing comprising a plurality of vertically-disposed sections, a head secured in the upper end of said sections, spacing-bands disposed within said sections and having projections to engage the outer surface of a furnace or the like, and annular clamping-bands disposed upon the outside of said sections in alinement with said spacing-bands, substantially as described.

2. A furnace-casing comprising a cylinder formed of a plurality of vertically-disposed segmental sections, a circular head having the upper ends of said sections secured to its periphery, a covering of non-conducting material upon the under side of said head, means for securing said head to the top or ceiling of a room, to suspend the cylinder therefrom, adjustable annular bands within said cylinder, angle-iron projections upon said bands for spacing them from the outside of the furnace, adjustable annular bands upon the outside of said cylinder in alinement with said inner bands, and a covering of non-conducting material upon the outside of said cylinder, substantially as described.

3. In combination with joists, of a head secured thereon, a furnace-casing secured to said head and suspended therefrom, said casing being formed of a plurality of vertically-disposed sections and having air inlet and outlet openings, bands and angle-irons for spacing said sections from the outside of a furnace or the like, and means for clamping said sections together.

In testimony whereof I affix my signature, in the presence of two witnesses, this 11th day of June, A. D. 1904.

REUBEN HOLDEN.

In presence of—

A. B. CRITTENDEN,
A. M. CRITTENDEN.