

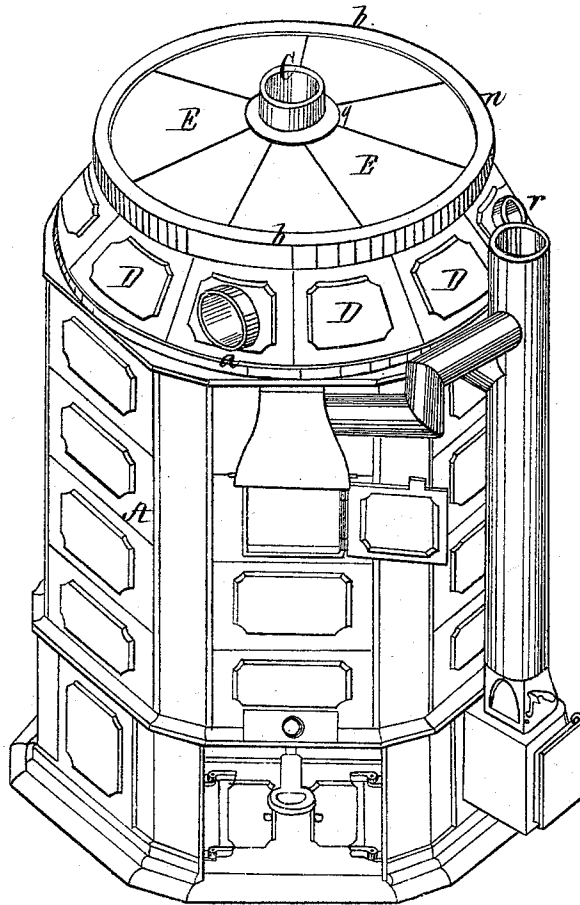
J. MAGEE.

Casings of Hot-Air Furnaces.

No. 147,279.

Patented Feb. 10, 1874.

Fig. 1.



Witnesses,
N. W. Stearns
W. J. Cambridge

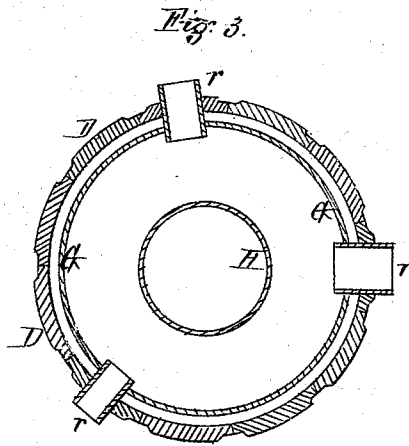
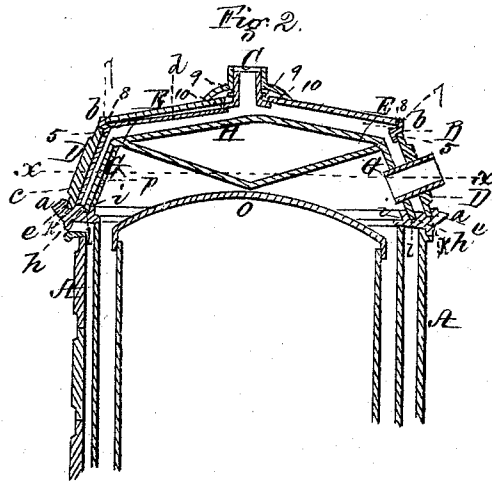
Inventor,
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UNITED STATES PATENT OFFICE.

JOHN MAGEE, OF CHELSEA, MASSACHUSETTS, ASSIGNOR TO THE MAGEE FURNACE COMPANY.

IMPROVEMENT IN CASINGS OF HOT-AIR FURNACES.

Specification forming part of Letters Patent No. 147,279, dated February 10, 1874; application filed June 30, 1873.

To all whom it may concern:

Be it known that I, JOHN MAGEE, of Chelsea, in the county of Suffolk and State of Massachusetts, have invented certain Improvements in the Casings of the Tops of Furnaces, &c., of which the following is a full, clear, and exact description, reference being had to the accompanying drawings making part of this specification, in which—

Figure 1 is a perspective view of a furnace having the casing of its top constructed in accordance with my invention. Fig. 2 is a vertical section through the center of the same. Fig. 3 is a horizontal section on the line *xx* of Fig. 2.

My present invention consists in the top of the casing of a furnace provided with a series of panels, slabs, or sections capable of being removed and of being slid around within their frame to any desired point in order that a panel provided with an opening or thimble of the required size may be readily brought into the proper position for connecting one of the hot-air conducting-pipes therewith, whereby the inconvenience, labor, and delay incurred in measuring and marking the top at the points where the pipes are to connect, and of conveying the top to and from the factory or workshop, to have the apertures made in the exact places and of the desired sizes, are avoided, it being simply necessary to slide the panel provided with the required opening around to the proper point, or to remove one panel and substitute the right one therefor.

To enable others skilled in the art to understand and use my invention, I will proceed to describe the manner in which I have carried it out.

In the said drawings, A is a casing consisting of panels of soap-stone or other suitable non-conducting material surrounding the cylindrical portion of the furnace. To the top of this casing is securely fitted the lower annular plate or ring, *a*, of a metal frame, B, its upper ring *b* being connected with the lower ring *a* by inclined braces *c*, braces *d* extending from the inside of the upper ring to a central pipe or thimble, C, by which the latter is supported. The outer periphery of the

lower ring *a* is provided with three upright flanges, *e h i*, between the two outer ones, *e h*, of which is formed an annular groove, *k*, for the reception of the lower ends of a series of tapering panels, D, of soap-stone or other suitable non-conducting material, while between the two inner flanges *h i* is formed a groove, *l*. The upper ring *b* is provided with a flange, *5*, projecting down from its under side, and of a less diameter than the upper portion of the ring. Against this flange *5* rests the inner surface of the top of each panel D, being secured in this position and snugly against each other. In addition to the flange *5*, on the under side of the upper ring *b* it is provided on its inner side with a horizontal flange, *7*, which forms a shoulder, *8*, against which bears the outer lower ends of a series of tapering panels or plates, E, of soap-stone, the inner upper ends of these plates resting on and being confined within a groove formed between two flanges, *9 10*, projecting horizontally or nearly so out from the central pipe or thimble C. Between the top of the furnace proper and the panels D and E of the sides and upper surface of the top of the soap-stone casing is interposed a casing formed of separate and independent plates H, and a partition, G, of metal, the upper and lower ends of the plates H being confined in grooves formed within a frame placed inside of and connected with the outer frame which supports the soap-stone panels E. The metal partition G is connected and supported by braces *p* proceeding from the said inner frame, and forms the inner casing of the top of the furnace. When made of metal, the plates G are provided with pipes or thimbles *r*, preferably made in one and the same piece therewith and extending through the soap-stone panels of the outer casing, whereby the pipes for conducting heat to the various apartments may be conveniently connected therewith. As thimbles of different sizes passing through both the inner and outer rows of panels are provided, and as these panels are capable of being moved around within their frames to any desired point, and as they are also made to be taken out of their frames, any panel hav-

ing a thimble of a diameter corresponding to that of a given pipe to be connected may be brought into a position opposite thereto with extreme facility, and the labor and delay heretofore necessitated in measuring and marking the top of the casing at the proper points where the hot-air pipes are to be entered, and of conveying the top to the workshop or factory to have the several apertures made, are entirely avoided, it being simply necessary to slide the proper panel (with its aperture or thimble already provided) around to the desired point, or to remove one panel and substitute the right one therefor.

I am aware that the tops of the furnaces have been made so as to shift the hole for the pipe from point to point; and I do not, therefore, claim this feature of my invention broadly; but

What I claim as new, and desire to secure by Letters Patent, is—

In combination with the body of a furnace, the top casing, constructed as described, and consisting essentially of the rings *a b* of the metal frame B, provided with the flanges *e h i* and 5, the panels D and E, of soap-stone or other non-conducting material, the panels E, and plates G with the pipe-openings, all arranged and operating substantially as and for the purpose set forth.

Witness my hand this 24th day of June, A. D. 1873.

JOHN MAGEE.

In presence of—

N. W. STEARNS,
W. J. CAMBRIDGE.