

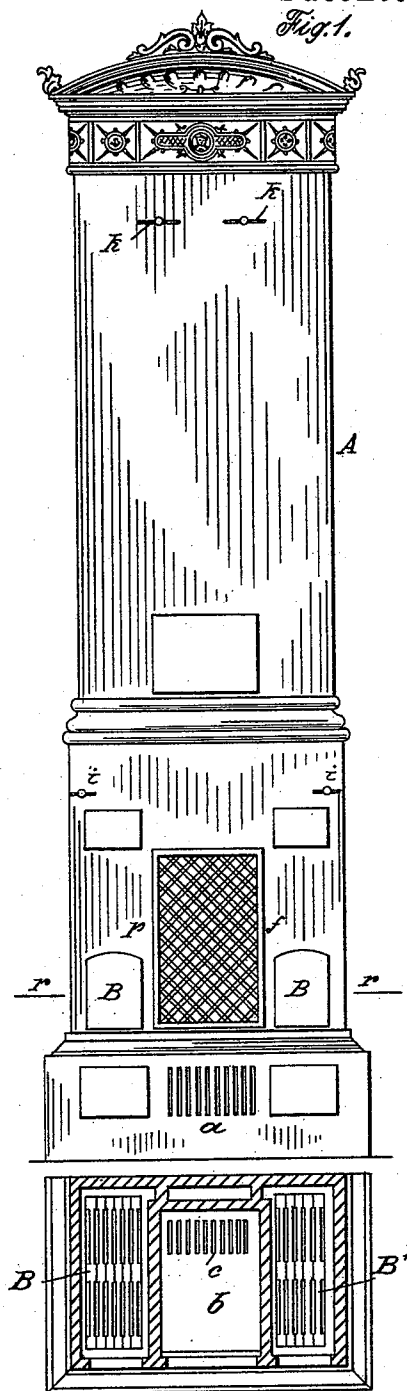
(No Model.)

3 Sheets—Sheet 1.

E. P. H. KELTING.
HEATING APPARATUS.

No. 485,388.

Patented Nov. 1, 1892.



Inventor:

Witnesses:

E. R. Bolton

H. Palmer

Fig. 6.

Ernst Peter Hermann Kelting

By

Richard D.

his Attorneys.

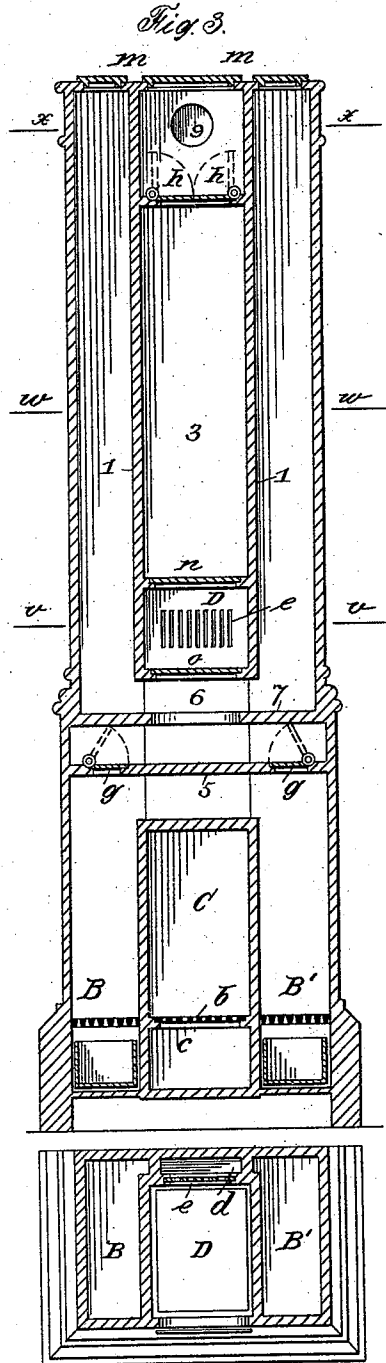
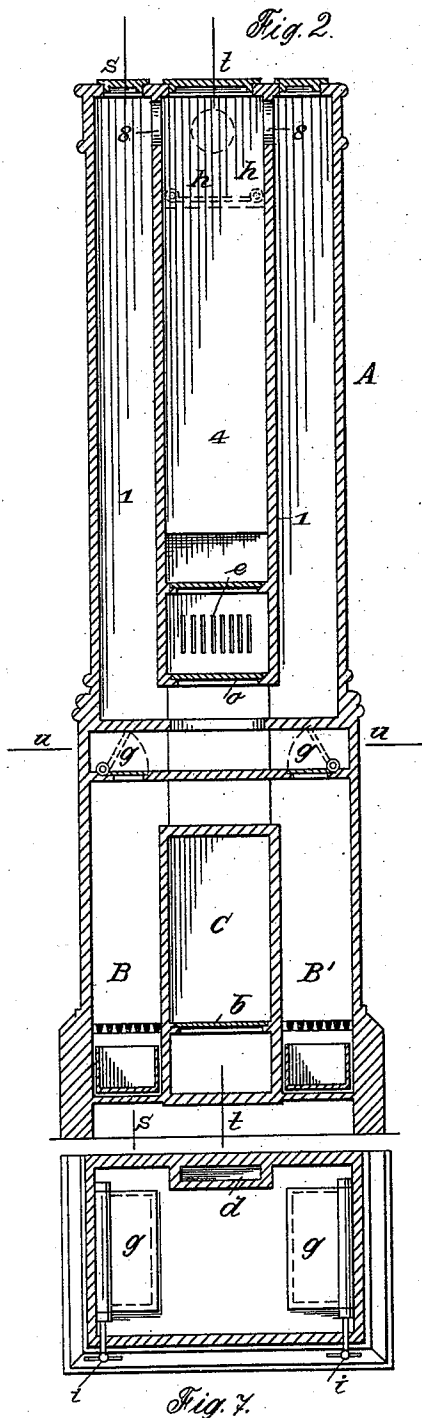
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3 Sheets—Sheet 2.

E. P. H. KELTING.
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Patented Nov. 1, 1892.



Witnesses:
C. R. Bolton
H. A. Blum

Fig. 8. Inventor:
Ernst Peter Hermann Kelting
By *Richard D.*
his Attorneys.

(No Model.)

3 Sheets—Sheet 3.

E. P. H. KELTING.
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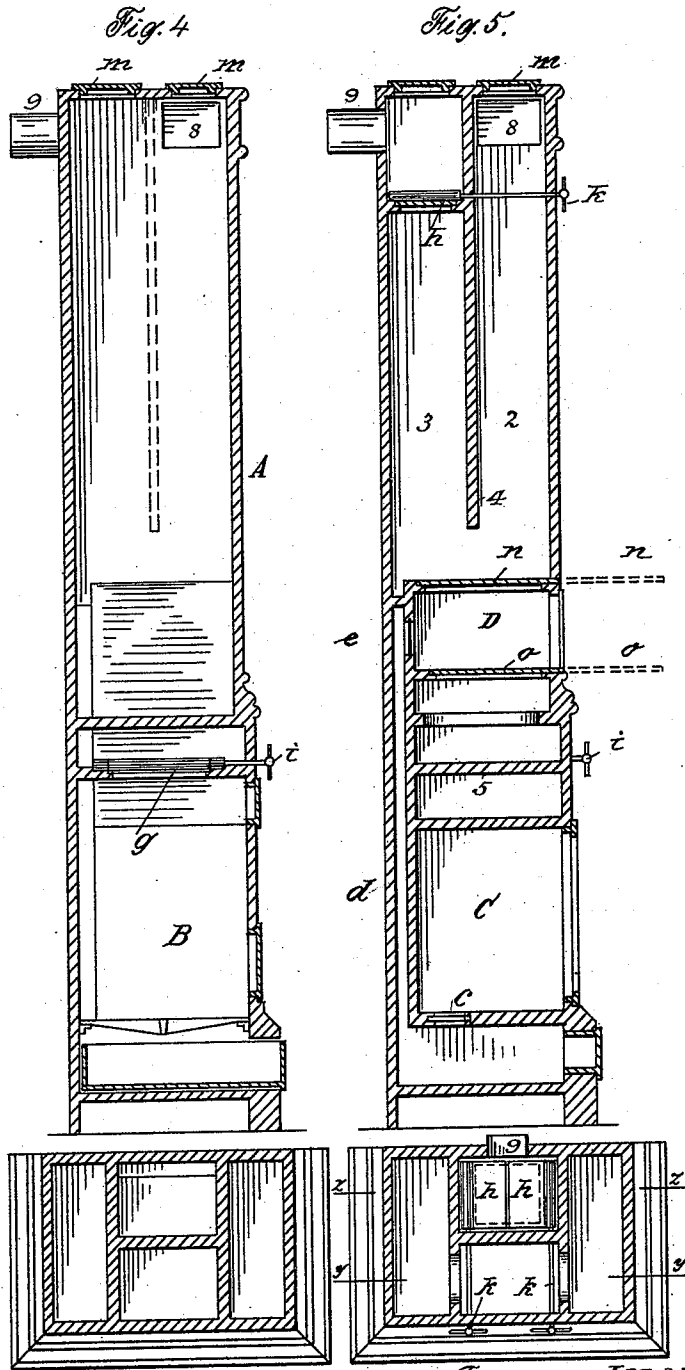


Fig. 9.

Fig. 10. Inventor:

Emil-Peter Hermann Kelting

Witnesses:

E. K. Bolton
H. Palmer

BY

Richardson
his Attorneys.

UNITED STATES PATENT OFFICE.

ERNST PETER HERMANN KELTING, OF OLDESLOHE, GERMANY.

HEATING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 485,388, dated November 1, 1892.

Application filed February 8, 1892. Serial No. 420,182. (No model.)

To all whom it may concern:

Be it known that I, ERNST PETER HERMANN KELTING, a subject of the King of Prussia, German Empire, and a resident of Oldeslohe, in the Kingdom of Prussia, Germany, have invented certain Improvements in Heating Apparatus, of which the following is a specification.

The object of my invention is to provide an apparatus by which the heat can be regulated in proportion to the temperature to thoroughly warm the room by an increased circulation of air; and this is principally accomplished by including in the apparatus two independent fireplaces and intermediately-located chambers, in which the air is heated.

The invention further involves special provision for permitting convenient access to the flues and ducts to enable their ready cleaning.

In the accompanying drawings, forming part of this specification, Figure 1 is a front view of a heating apparatus embodying my improvements. Figs. 2 and 3 are vertical sectional elevations of the improved heating apparatus, taken on the lines *yy* and *zz*, respectively, Fig. 10. Figs. 4 and 5 are vertical sectional elevations taken on the lines *ss* and *tt*, respectively, Fig. 2. Fig. 6 is a sectional plan view taken on the line *rr*, Fig. 1. Fig. 7 is a sectional plan view taken on the line *uu*, Fig. 2; and Figs. 8, 9, and 10 are sectional plan views taken on the lines *vv*, *ww*, and *xx*, respectively, Fig. 3.

The apparatus A is of permanent character, its walls and frame generally being constructed of masonry. The front is of ornamental material, such as tiling or other vitreous material. The fireplaces B and B' are located on opposite sides of the air-heating chamber C. The space beneath said chamber and the chamber itself communicates with the room through openings *a* and *p* in the front of the apparatus, communication between said space and chamber being secured through openings *c* in the bottom *b* of the latter at the rear thereof. (See Figs. 3, 5, and 6.) The cold air entering through plate *a* circulates beneath the bottom *b* and divides, so that part flows into chamber C, while the major portion passes upward along a vertical duct *d*, located in the rear of the

apparatus at the back of the chamber C, and enters an upper chamber D through rear openings *e* in a thoroughly-heated condition (see Figs. 2, 3, 5, and 8) and passes to the room through a front opening covered by a closed door, or through front perforations.

The side walls *ll* of the chamber D are continued to the top of the structure to form an upper vertical chamber divided into front and rear compartments 2 3 by a depending partition 4 of a length admitting of a communication between the front and rear compartments 2 3 adjacent to its lower end. The compartments 2 3 have openings in the top closed by cap-plates *mm*.

The products of combustion from the fireplaces B B' ascend along the vertical sides of the chamber C, through openings in a horizontal partition 5, flow horizontally to and through an opening 6, located centrally in a horizontal partition 7, to contact with the bottom of chamber D, and then pass along the sides of the latter and also with the extended sides of the compartments 2 3 enter the former compartment by way of openings 8 8, descend and pass beneath partition 4 to compartment 3, and, finally, escape to discharge-flue 9. The openings in the partition 5 are closed by plates *g*, operated by shafts *ii*, extending through the front of the apparatus and terminating in handles. Communication with the discharge-flue 9 may be intercepted by plates *h h*, located in the upper part of the chamber 3 and operated by shafts *k*, extending through the front of the apparatus and provided with handles. The extended combustion-passages at each side of the compartments 2 3 also have top openings covered by suitable cap-plates.

The fireplaces may be either fired together or singly, according to the amount of heat required. The arrangement of combustion-passages is such that the heat is utilized to the highest possible degree. By raising but one of the plates *g* the heat may be concentrated on that side of the apparatus. The plates *h h* admit of regulating and controlling the draft.

By having the top and bottom of the chamber D formed of removable plates *no* the latter can be withdrawn, so that the cap-plate

can be detached and access readily afforded to the several compartments and passages for cleaning purposes. As shown in Figs. 2 and 3, the bottom *b* of the chamber C may also be removable for a like purpose. By having the door of the chamber D imperforate the latter may be utilized as an oven.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. In a heating apparatus, the combination of the independent fireplaces B B' and intermediate air-chamber C, having a perforated front and bottom, the front of the apparatus containing an air-induction below the bottom of said chamber C, substantially as set forth.

2. In a heating apparatus, the combination, with the independent fireplaces B B' and intermediate air-chamber C, having a perforated front and bottom, of the upper chamber D, having front and rear openings, the latter communicating with a vertical air-passage, the front of said apparatus containing an air-induction below the bottom of chamber C and communicating with said vertical air-passage, substantially as set forth.

3. In a heating apparatus, the combination

of the independent fireplaces B B' and intermediate air-chamber C, having a perforated front and removable perforated bottom, together with upper chamber D, having removable top and bottom and openings and communications, substantially as set forth.

4. The combination, with the furnaces, intermediate chamber C, and upper chamber D, constructed and operating as described, of the upper compartments 2 3 and extended side combustion-passages communicating with the compartment 2, said compartments and passages having top openings closed by cap-plates, substantially as set forth.

5. The combination, with the furnaces and intermediate chamber C, of the upper chamber D and horizontal partitions 5 7 beneath the same, the former having side openings closed by pivoted plates and the latter having an opening centrally beneath the chamber D, substantially as set forth.

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

ERNST PETER HERMANN KEITING.

Witnesses:

KARL ZIRLEWAGEN,
HEINRICH SUHM.