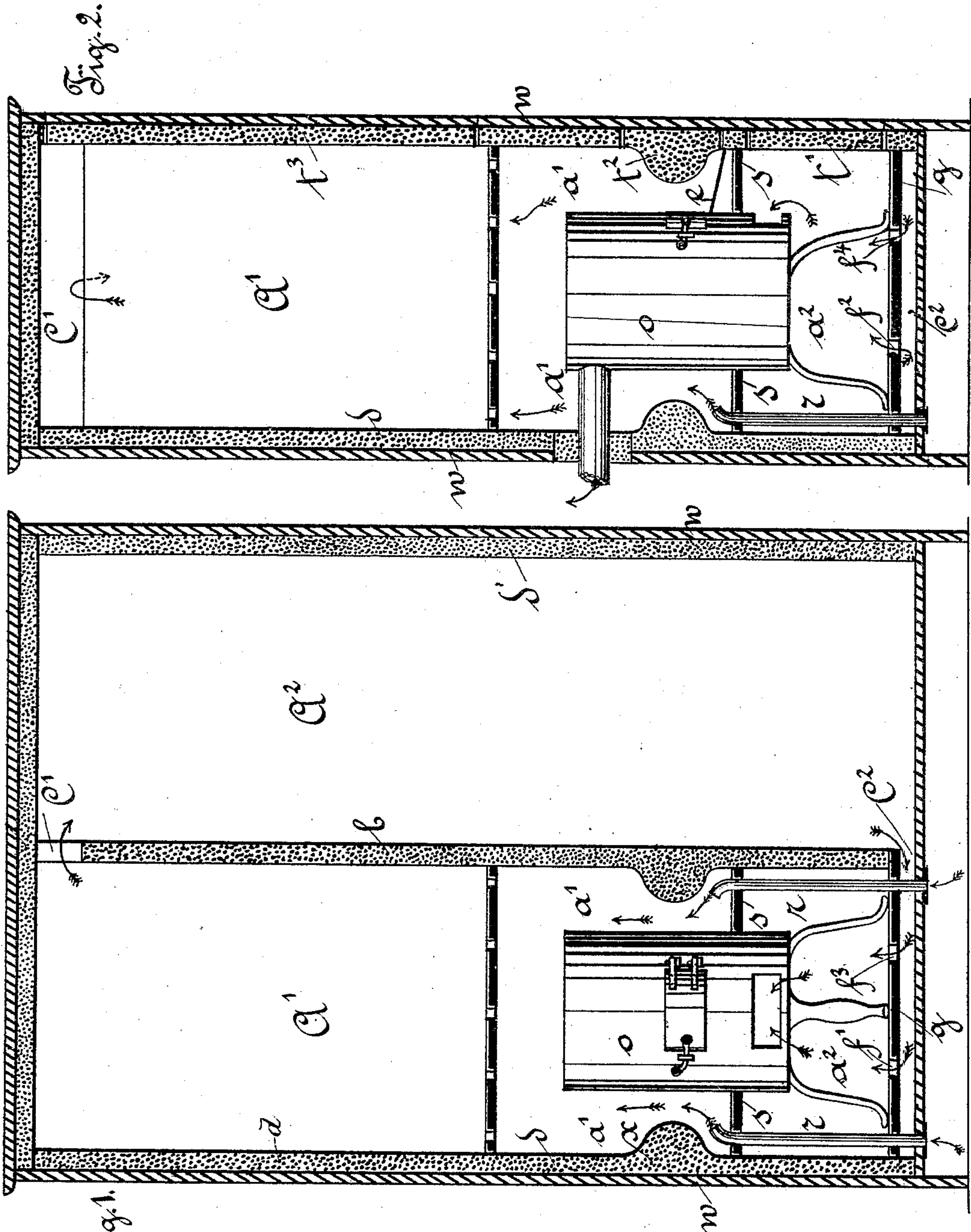


(No Model.)

F. A. WEBER.  
APPARATUS FOR WARMING AND VENTILATING.

No. 443,022.

Patented Dec. 16, 1890.



Witnesses  
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# UNITED STATES PATENT OFFICE.

FRIEDRICH ANTON WEBER, OF FLÖHA, NEAR CHEMNITZ, GERMANY.

## APPARATUS FOR WARMING AND VENTILATING.

SPECIFICATION forming part of Letters Patent No. 443,022, dated December 16, 1890.

Application filed March 1, 1888. Serial No. 265,881. (No model.)

*To all whom it may concern:*

Be it known that I, FRIEDRICH ANTON WEBER, of the town of Flöha, near Chemnitz, in the Kingdom of Saxony and German Empire, have invented certain new and useful Improvements in Apparatus for Warming and Ventilating, of which the following is a specification.

My invention relates to improvements in heating and ventilating devices which can be employed for various purposes, such as baking, drying, and other purposes. In rooms which serve for baking, drying, and other purposes it is not only necessary to introduce as much heat as possible, but to take care that the heat which is filled with vapor is withdrawn and replaced with fresh dry air. In order that the warmth contained in the air passing off may not be lost and be employed for assisting the consumption of the fuel and to increase the ventilation, I have made such arrangements that no other air can enter the stove than that which is led through the rooms to be warmed. This I attain by surrounding the stove with a mantle of non-conducting material, which is divided into two or more compartments by a partition of suitable material.

Figure 1 is a vertical section of my improved heating and ventilating device with the stove in elevation. Fig. 2 is a like section at a right angle to the section represented in Fig. 1.

The device consists of a cupboard or chamber subdivided into three smaller chambers—viz., the stove-chamber, the oven  $A'$ , and the drying-chamber  $A^2$ . The walls forming the chamber are of non-conducting material, and preferably consist of the wooden casing  $w$ , the intermediate non-conducting material—such as ashes, slag-wool, fossil-meal—and the interior plate-lining  $d$ . The walls  $d'$  of the stove-chamber are deflected inward at  $x$ , so as to more nearly surround the stove  $o$ , and a partition  $s$  further subdivides the stove-chamber into the upper and lower rooms  $a'$   $a^2$ , the latter having a double bottom, the upper space between the two bottoms communicating with the chamber  $A^2$  by means of the opening  $C^2$ . The upper of the two bottoms is perforated at  $f' f^2 f^3 f^4$ . The tubes  $r r r$  extend from the upper room  $a'$  of the stove-

chamber downward through the double bottom, and thus form a connection between the outer air and chamber  $a'$ . The oven  $A'$  communicates with the drying-chamber  $A^2$  by means of the channel  $C'$  in the partition  $b$ .

The air circulates in the following manner: Air first passes from the outside through the pipe system  $r r$ . Here it is caused to pass close by the stove  $o$  by the deflected part  $x$  of the walls, whereby it is heated by coming in contact with the stove. It now passes through the perforated partitions into the oven  $A'$ , heating the same. From here the air circulates through the channel  $C'$  into the drying-chamber  $A^2$ , which it warms, and then out at  $C^2$ , through the perforations  $f' f^2 f^3 f^4$ , into the lower room  $a^2$ , and into the stove, whence it passes out at the chimney.

Doors  $t' t^2 t^3$  are arranged in the front wall of the device, of which  $t'$  serves for removing the ashes,  $t^2$  for charging the stove, while  $t^3$  serves to introduce the materials to be treated with heated air.

Clothes which it is desired to dry quickly can be hung in the chamber or compartment  $A^2$ , whereby the vapors generated from the same are led through the canal  $C^2$  into the space or compartment  $a^2$ , from whence the same flows through the openings  $f' f^2 f^3 f^4$  to the grate, so that they are converted into hydrogen gas by coming in contact with the glowing coals, and thus serve to increase the heat produced by the stove.

If necessary, an apparatus for producing vapor can be employed, which said vapor is then led into the stove.

$e$  is a sheet-metal plate arranged above the partition of the stove-chamber and in front of the fire-door to prevent ashes, &c., falling and accumulating on the said partition when the stove is charged with fuel.

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—

A device for heating and ventilating, consisting of the stove-chamber divided by a partition  $s$  into an upper and lower room  $a'$   $a^2$ , the former communicating by pipe system  $r r$  with the outer air, the latter with the drying-chamber  $A^2$  at its lowest end by channel  $C^2$ , the said upper room  $a'$  communicating

through the perforated partition with the  
oven A' and the latter by means of channel  
C' with the drying-chamber A<sup>2</sup>, the walls of  
said chambers being preferably of a non-con-  
5 ducting material and in the oven-chamber  
deflected at  $\alpha$ , in the manner and for the pur-  
pose substantially as described and shown.

In witness whereof I have hereunto signed  
my name in the presence of two subscribing  
witnesses.

FRIEDRICH ANTON WEBER.

Witnesses:

ALFRED OTTO THEURKORN,  
WILLIAM R. MATTHES.