

(No Model.)

W. H. ALBACH.
STOVE.

No. 592,039.

Patented Oct. 19, 1897.

Fig: 2.

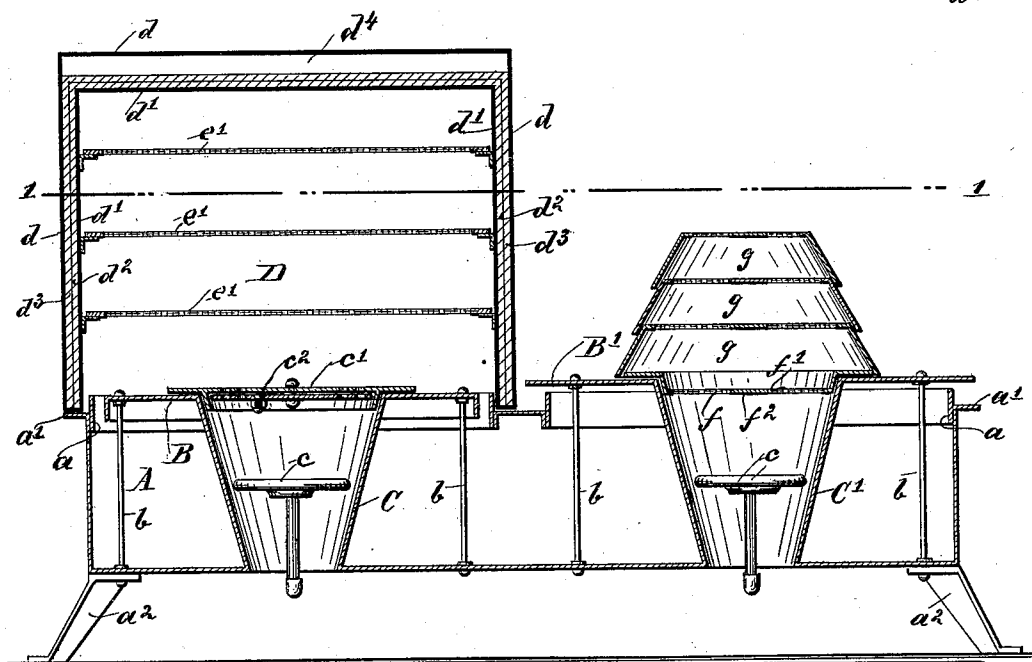
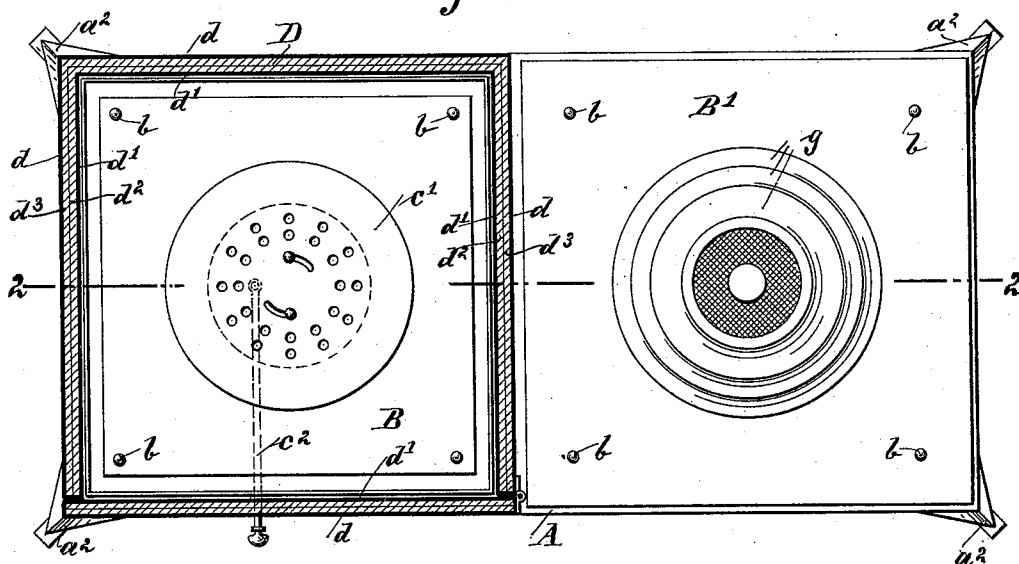


Fig: 1.

Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM HARRISON ALBACH, OF MANSFIELD, OHIO.

STOVE.

SPECIFICATION forming part of Letters Patent No. 592,039, dated October 19, 1897.

Application filed October 26, 1896. Serial No. 610,087. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HARRISON ALBACH, a citizen of the United States, residing at Mansfield, in the county of Richland and State of Ohio, have invented certain new and useful Improvements in Stoves, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates to a class of stoves which are designed to be heated by means of gas, gasolene, kerosene, electricity, &c., and which are adapted to be used for purposes of cooking and baking.

The object of my invention is to provide in a stove of the above-described class means whereby the greatest possible heat can be utilized with the least consistent consumption of fuel, which is accomplished by concentrating the heat, preventing radiation, preserving as nearly as possible the intensity of the heat, and keeping it uniformly and evenly distributed in the oven.

As a stove of this class is particularly adapted for use in small apartments, it is a further object to make the stove as compact as possible and to so construct the several parts that it can be readily converted from a baking to a cooking stove or vice versa.

My invention consists in the novel features of construction hereinafter set forth and described, and more particularly pointed out in the claims hereto appended.

Referring to the drawings, Figure 1 is a sectional elevation of the stove, and Fig. 2 is a cross-section on the line 1 1 of Fig. 1.

In the drawings, A denotes the base of the stove, consisting of an oblong sheet-metal structure having vertical flanges *a a*, horizontal flanges *a' a'*, and legs *a² a²*.

B B' represent sheet-metal top plates secured to the base by means of rods *b b* and in a manner which prevents these plates and the base from coming in contact. The object of this construction is to afford as little opportunity as possible for heat-conduction between the top plate and the base, thereby saving the loss of heat due to radiation from the base when the latter is allowed to absorb a considerable amount of heat; as in stoves of ordinary construction. Said top plates having no metallic connection with the base

except these slender rods and the thin metal shell of the mixer described below, through which a stream of air is constantly passing, the conductive path is reduced to a minimum. The edges of the plate B are shaped in the manner shown in order to allow the oven D to pass over the flanges *a a* on that end of the stove, thus holding the oven in the proper position, and to leave a space between the base and the turned edges of the said top plate. The plate B', however, being designed for use on the cooking part of the stove only, is so extended over the flanges on that end of the stove (without touching them) as to leave no space, thereby guarding against the admission of dirt and refuse to the interior of said base.

C C' are circular mixers, shaped like the frustum of an inverted cone, connected either integrally or otherwise with the base and the top plates B B' respectively, which parts are provided with suitable openings to receive them. Within each of these mixers is shown a gas-jet of ordinary construction *c*. If it is desired to admit more air in order to facilitate combustion, the mixers may be fitted with additional perforations, below the source of heat, communicating with the exterior of the base by any desired means.

c' is a removable lid having a suitable flange for retaining it in position, composed of two circular disks pivoted one upon the other, each provided with corresponding perforations which are adapted to register with each other and to act as a damper by being closed, when it is desired to exclude additional heat from the oven. These perforations are closed by turning one of the said disks by means of the rod *c²*, thus simultaneously closing the perforations in both.

D denotes an oven composed of the outer wall *d* and the inner wall *d'*. Between these two walls is an interlining composed of a layer of asbestos *d²* and a layer of thick paper or other non-conductive material *d³*. This interlining, by reason of the high non-conductive quality of the paper, confines the heat within the oven, preventing radiation, while the layer of asbestos interposed between the paper and the inner wall prevents the great heat in the oven from affecting the paper by charring or in any other way. An air-

space d^4 is preferably formed at the top of the oven, as at that point there will naturally be greater heat, and the interlining is attached to the inner wall d' .

5 f also denotes a removable lid having a flange for retaining it in the proper relation to the mixer C' and a top plate f' , consisting of a sheet of metal having numerous small perforations, or of a piece of wire-netting, and
10 a central imperforate portion f^2 .

The heat-concentrators g are shaped like the frustum of a cone, and each is provided with a partition having numerous small perforations, or composed of wire-netting. These
15 concentrators are so constructed that they may be placed one upon the other, as shown in the drawings.

The inner wall d' of the oven is provided with suitable flanges for holding trays e' .
20 These trays are made of sheet metal of insufficient bulk to retain much heat, and having therein a large number of perforations, or preferably of a wire-netting which supplies sufficient surface to retain any article thereon, and by using a small mesh fulfils the purpose, as hereinafter described.

The construction and arrangement of the mixers $C C'$ allow of a sufficient introduction of air through the opening in the base A in
30 the ordinary construction of the stove, to greatly facilitate combustion; and the entire products of combustion, instead of first heating the top plates or the base itself and being thus wasted, are thrown directly into the oven
35 or under the vessel being used in cooking. In using the oven, the movable lid c' distributes the heat, which distribution is greatly aided as the heat rises and passes through the numerous perforations in the trays e' .
40 This heat is retained within the oven, unless it is desired to provide for its escape to cool the oven or increase the friction, hereinafter referred to, by means of the interlinings d^2 and d^3 , which prevent any extensive radiation of the same and at the same time preserve a low temperature of the outer wall d .
45 The base A is also kept cool by preventing it from coming in contact with any portion of the stove which is likely to become hot from
50 long use. The concentrators g serve both to concentrate the heat upon a certain object and to accommodate the stove to vessels of different sizes.

By using an object of sufficient bulk to retain heat in a large degree in connection with
55 the concentrators, it is possible to maintain sufficient warmth in an apartment with ordinarily a small quantity of fuel.

The oven being detachable from the base,

it is possible to remove it at will and to use 60 the stove exclusively for cooking purposes. The lids being detachable are interchangeable, or may be entirely dispensed with, if desired.

By the foregoing means I accomplish the 65 objects of the invention. The heat generated within the mixers is all thrown directly within the oven or under the vessel being used in cooking or heating, and radiation is prevented by suitable non-conductive interlinings, and
70 the escape of heat from other causes prevented to a certain extent by the use of concentrators.

Having so fully described my invention as to make it possible for others skilled in the art to construct and use the same, what I
75 claim as my invention, and desire to have protected by Letters Patent, is—

1. In a stove, in combination, a base, a mixer connected with said base, and a top plate, unconnected with said base except
80 through the said mixer and slender supporting-rods, whereby the heat is in a measure prevented from being conducted to the said base and thereby lost by radiation, substantially as specified.

2. In a stove, in combination, a base, an inverted conical mixer connected with said base, a fuel-supply within said mixer, an air-supply passage opening into the said mixer at the bottom thereof, and a top plate out of
90 metallic contact with the base except through the mixer and slender supporting-rods, whereby the heat is in a measure prevented from being conducted to the said base and thereby lost by radiation, substantially as specified.

3. A stove having a base, vertical side walls, outturned lateral flanges at the top of the said walls, and vertical flanges within and projecting above said lateral flanges, for preventing displacement of objects, such as an oven, resting upon and supported by the said lateral flanges, substantially as specified.

4. A stove having a base, vertical side walls rising from said base, outturned lateral flanges at the top of said walls, vertical flanges within
105 and projecting above said lateral flanges, and a top plate, unconnected with said side walls and flanges, but supported from the base by slender vertical rods, and a mixer connected with said base and top plate, substantially as
110 specified.

In witness whereof I have hereto affixed my signature, this 19th day of October, 1896, in the presence of two witnesses.

W. HARRISON ALBACH.

Witnesses:

F. T. WENTWORTH,
W. M. ANDRUS.