No. 661,134. Patented Nov. 6, 1900.

A. L. YEARIAN.

STOVE.

(Application filed July 28, 1900.)

(No Model.)

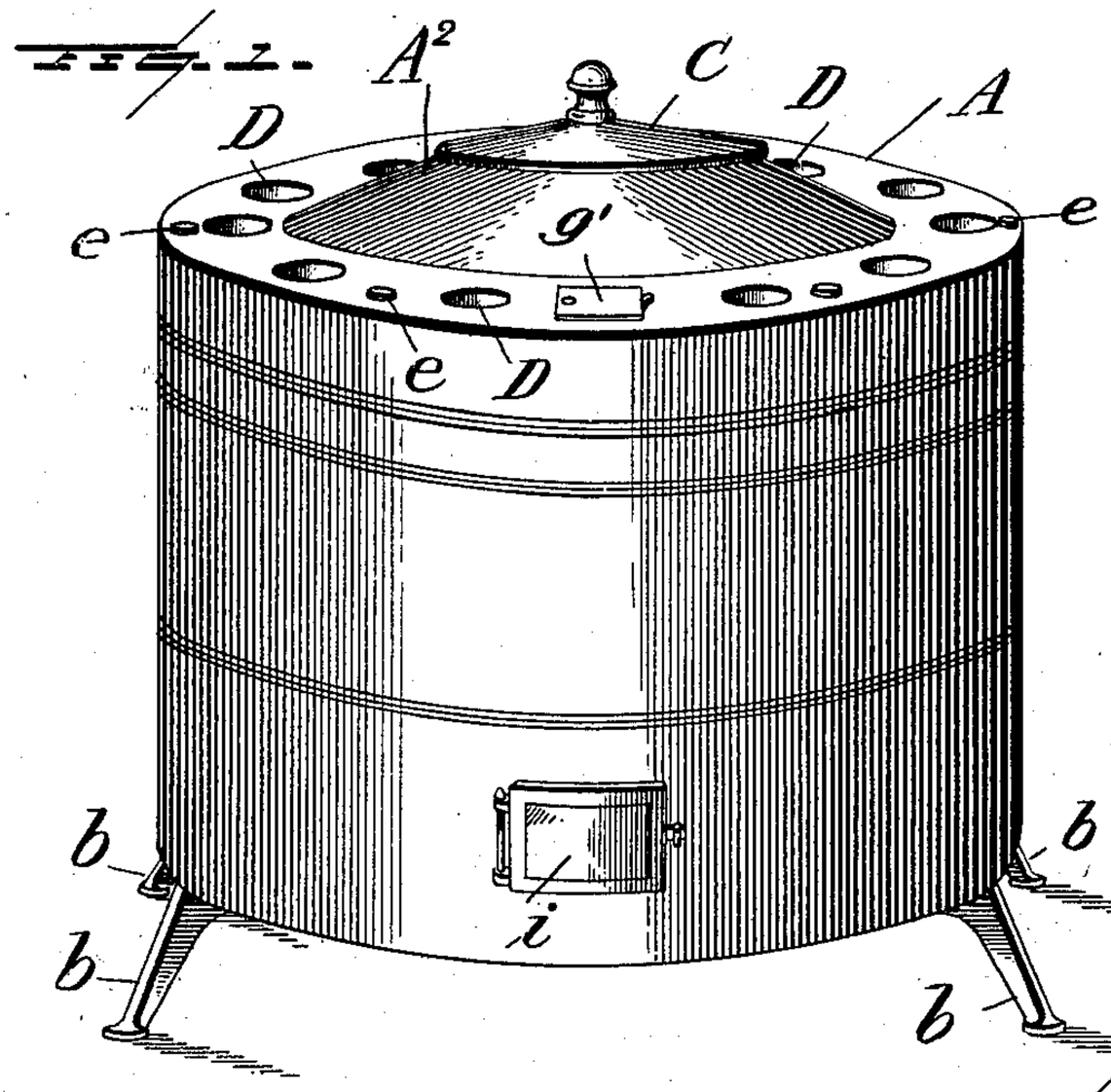


FIG. 2.

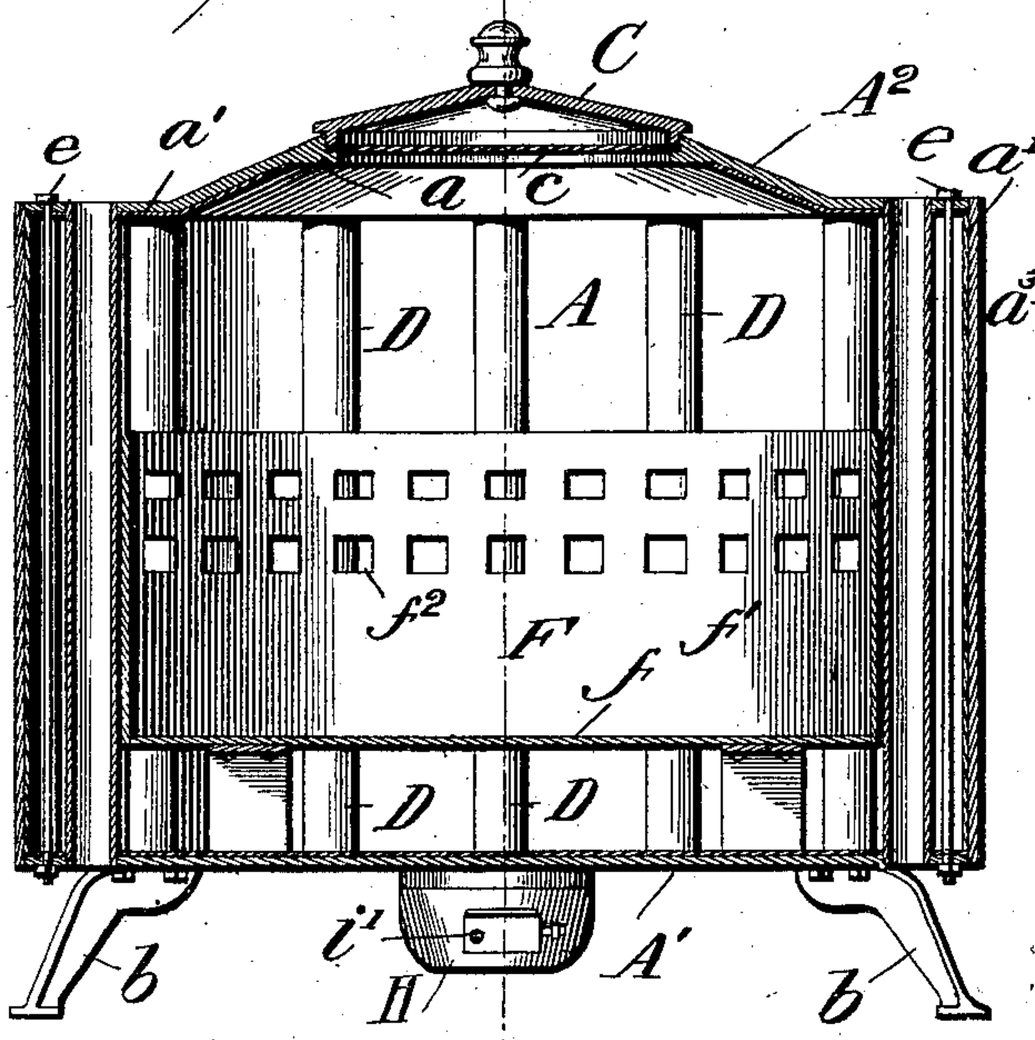
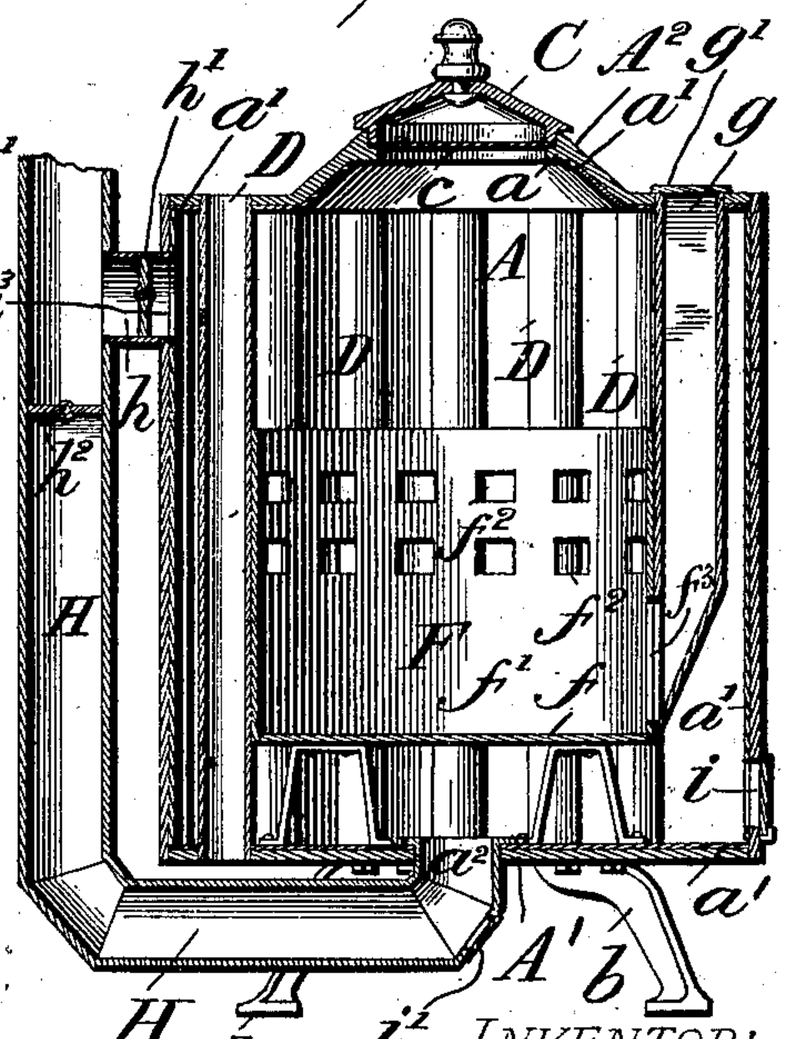


FIG. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

ABRAHAM L. YEARIAN, OF ST. ANTHONY, IDAHO, ASSIGNOR OF ONE-HALF TO ZARDIA F. YEARIAN, OF SAME PLACE.

STOVE.

SPECIFICATION forming part of Letters Patent No. 661,134, dated November 6, 1900.

Application filed July 28, 1900. Serial No. 25,120. (No model.)

To all whom it may concern:

Be it known that I, ABRAHAM L. YEARIAN, a citizen of the United States, residing at St. Anthony, in the county of Fremont and State of Idaho, have invented certain new and useful Improvements in Stoves; and I do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in the class of stoves which are especially adapted for burning wood fuel, the object of the invention being the production of a stove of simple and inexpensive construction possessing advantages in point of economy in fuel, comparatively large heating capacity, and uniform heat radiation throughout the stove-body.

Other advantages peculiar to my improved stove appear in the following description, which is directed to the details of construction and operation, and in connection with such description attention is called to the accompanying drawings, in which—

Figure 1 is a perspective view of a stove embodying my invention. Fig. 2 is a vertical longitudinal sectional view. Fig. 3 is a sectional view on line 3 3 of Fig. 2.

Referring to the said drawings by letter, A denotes the stove-casing, which is preferably of elliptical form in horizontal section and which has a bottom plate A′, from which depend supporting-legs *b b*, and a top A^2, centrally of which is an opening over which is removably fitted a cap or cover C. The top is preferably provided around the opening with a flange *a* to support the cover C, and also a lid *c*, upon which may be placed vessels the contents of which are to be cooked or warmed. A portion of the top A^2 is of arch form in cross-section, as shown, and said top is preferably of cast metal, though the body of the casing, as well as a lining *a′* therefor, may be of sheet metal. The top and bottom plates are perforated at equidistant points near the outer edge and air-pipes D D extend between said apertures, whereby vertical air-passages are provided to promote circulation of the air in the apartment containing the stove. These air-pipes have no communication with the interior of the stove. Bolts *e e* are preferably employed to secure the parts of the stove together.

F denotes the combustion-chamber, which consists of an inner casing preferably of the same form in cross-section as the outer casing, but of less dimension than the latter, whereby a space is provided for the accommodation of the air-pipes and also for the passage of the products of combustion, as will presently appear. The inner casing is elevated to provide a space between it and the bottom plate A′. The bottom plate *f* of the inner casing is imperforate; but the sides *f′*, which extend above the horizontal center of the stove, are provided with numerous perforations or openings f^2 f^2 in a number of planes and extending entirely around said sides. The lower portion of the sides *f′* is without these perforations; but at f^3 there is provided a draft-inlet, to which is connected an air-pipe *g*, leading upward through the casing-top A^2, where a draft-regulator in the shape of a pivoted plate *g′* is provided. Centrally of the bottom plate A′ is an opening a^2, from which leads the smoke-pipe H. This pipe preferably extends upward, and close to one side of the casing A and near the top of the latter is an opening a^3, from which leads a branch *h* of the stovepipe. In the branch is a damper *h′*, which when open affords a direct draft, this being desirable in starting a fire. The pipe H is provided with a downdraft-damper h^2, which is closed when a direct draft is desirable, or, if preferred, both dampers may be opened at the same time to produce a direct and a down draft. Handholes are provided in the base of the stove and in the smoke-pipe where it joins the plate A′, which holes are covered by plates *i i′*.

In practice the fuel is introduced through the opening in the top A′ and the fire is started, preferably, by the use of the direct draft. When the dampers are adjusted to obtain a downdraft, the air which is admitted at the inlet f^3 enters the body of the fuel, and the products rising therefrom pass through the openings f^2 and over the top of the inner cas-

ing and thence downwardly between the casing sides and around the air-pipes and finally center at the outlet a^2 below the inner casing and pass off through the smoke-pipe. In this manner not only is the heat distributed evenly around the casing, but by reason of the openings f^2 the flames and products are directed to heat the stove from bottom to top, whereby the heat radiation is rendered uniform throughout the stove-body.

The means employed for breaking up the flames and products prevent any great heat being centered on any particular part of the stove, so that the structure is rendered very durable.

The stove is simply constructed, may be cheaply made, and is highly efficient in operation.

I claim as my invention—

1. In a stove of the class described, the combination of an outer closed casing having an inlet for air in its upper end and an outlet for the products of combustion centrally in its base, an inner casing supported away from the base and sides of the outer casing, said inner casing having a closed base, an open top, a plurality of openings in the upper portion of its wall, and an air-draft inlet in its lower portion connected to the air-inlet in the outer casing.

2. In a stove of the class described, the combination of an outer closed casing having an inlet for air in its upper end and an outlet for the products of combustion centrally in its base, an inner casing supported away from the base and sides of the outer casing, said inner casing having a closed base, an open top, a plurality of openings in the upper portion of its wall, and an air-draft inlet in its lower portion connected to the air-inlet in the outer casing, and air-pipes between the casing-walls and extending between openings in the top and bottom of the outer casing.

3. In a stove of the class described, the combination of an outer casing having an inlet in its top for air and an outlet in its bottom for the products of combustion, a smoke-pipe leading from the bottom opening, a direct-draft opening in the top of the casing connected with the smoke-pipe, a damper for the pipe and a damper for the direct-draft opening, an inner casing supported in the outer casing away from the base and sides, an air-inlet in the base of the inner casing, a pipe connecting said air-inlet with the inlet in the outer casing top, and a regulator for said pipe.

In testimony whereof I affix my signature in presence of two witnesses.

ABRAHAM L. YEARIAN.

Witnesses:

W. H. CARBINE,

R. E. DAVIS.