

No. 652,557.

Patented June 26, 1900.

W. R. HAMPDEN.
STOVE.

(Application filed Mar. 24, 1900.)

(No Model.)

Fig 1

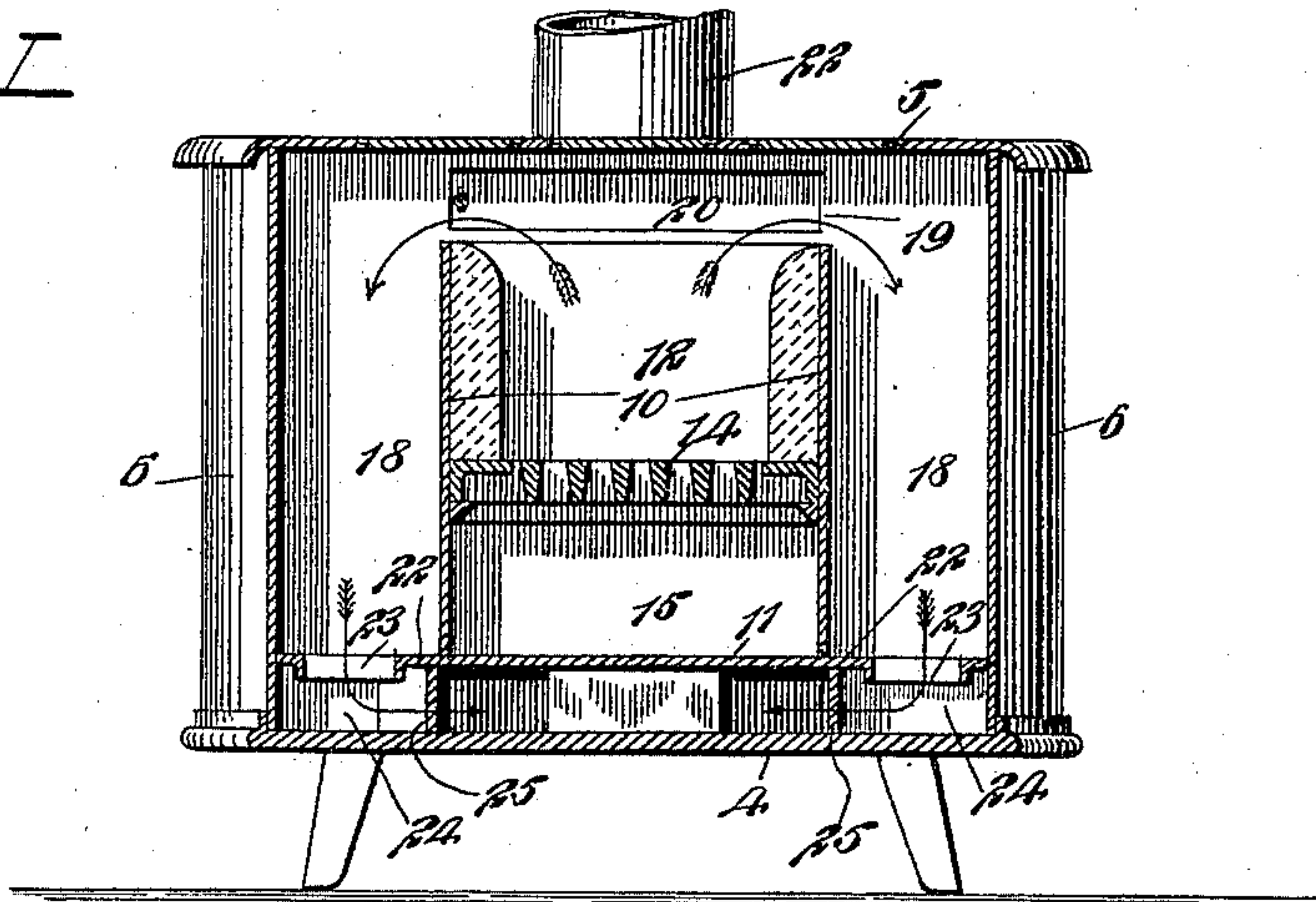


Fig 2

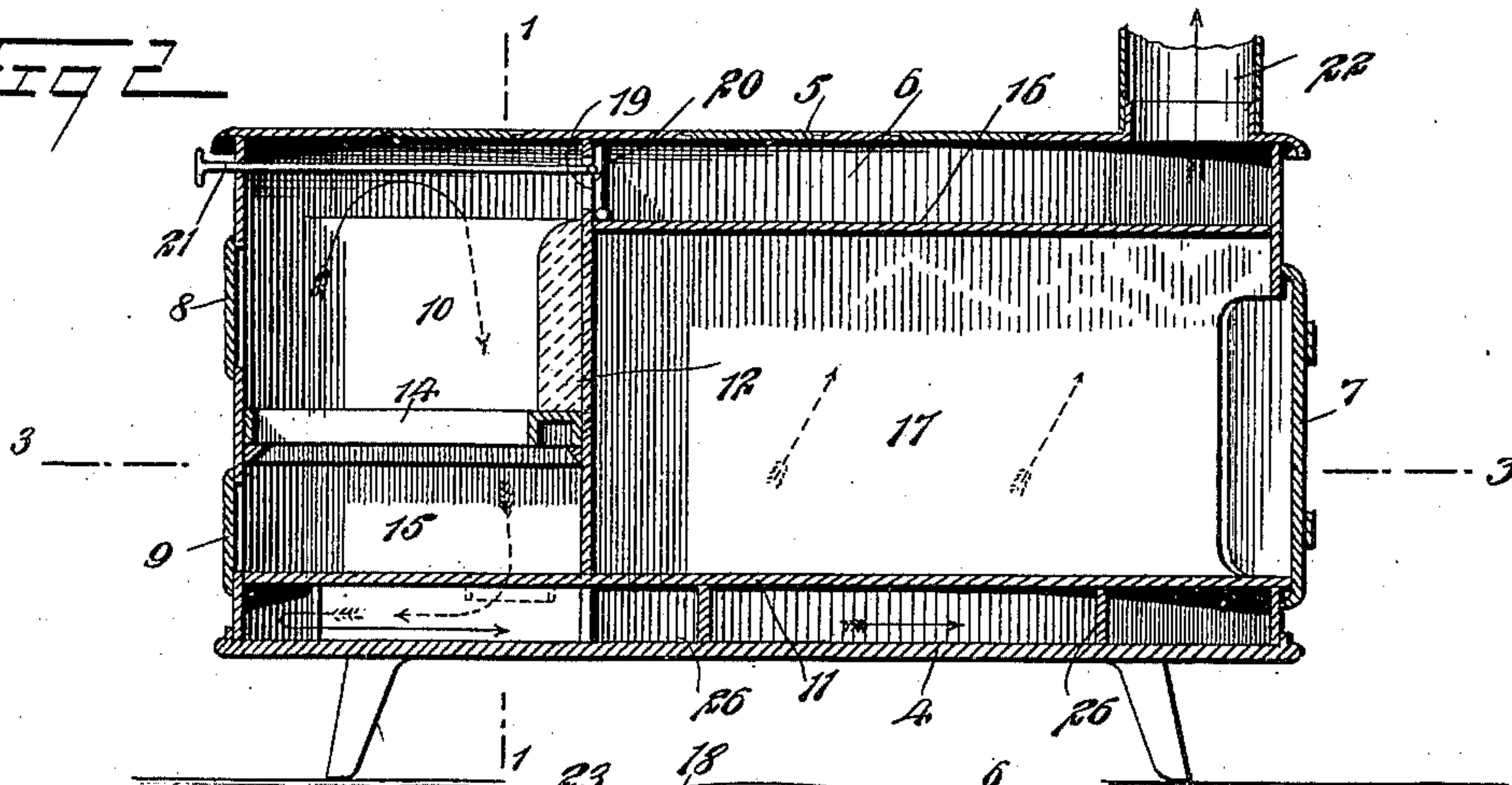
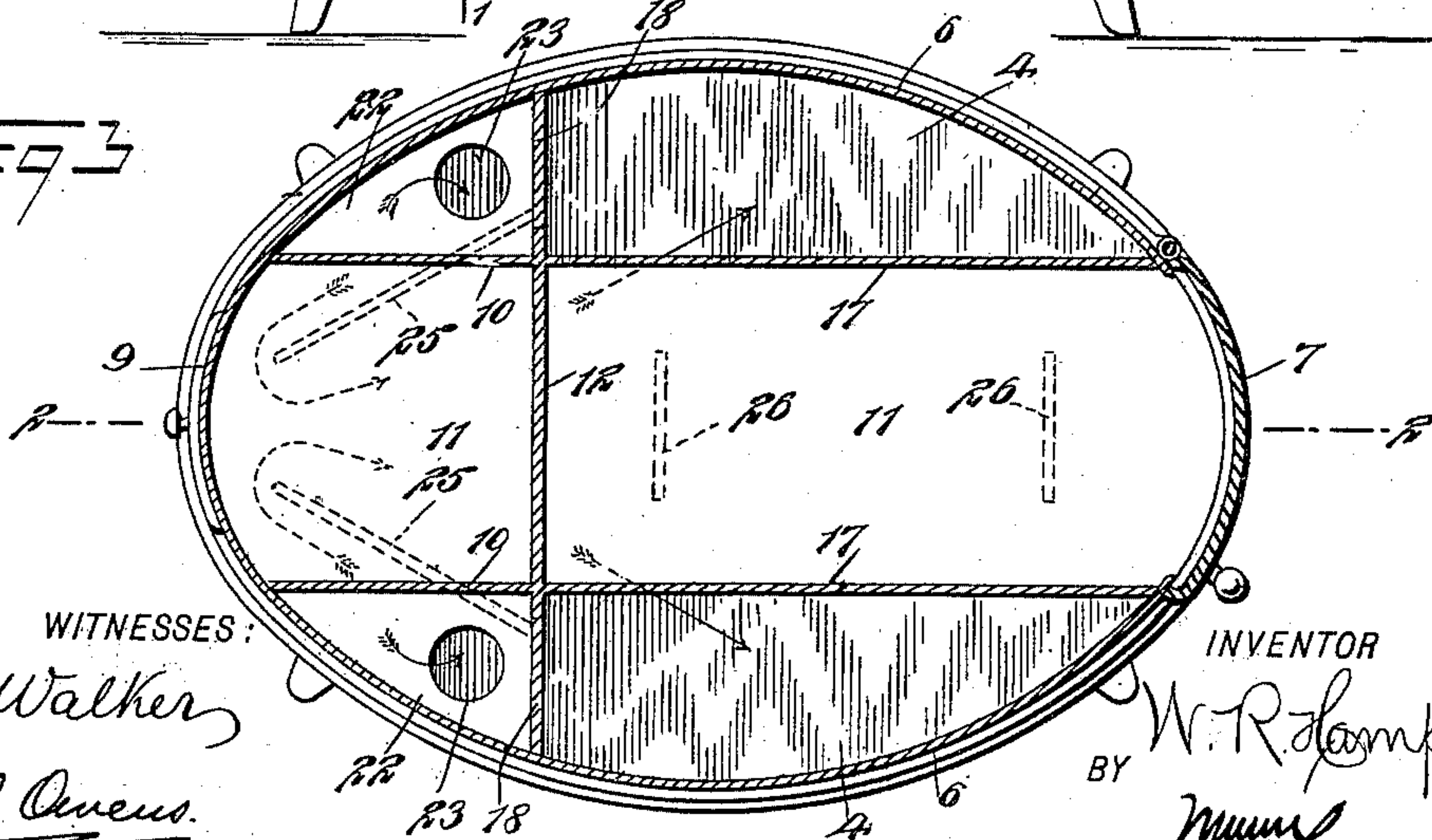


Fig 3



WITNESSES:
H. Walker
J. A. Owens.

INVENTOR
W. R. Hampden
BY
Munn
ATTORNEYS

UNITED STATES PATENT OFFICE.

WELLESLEY R. HAMPDEN, OF SPOKANE, WASHINGTON.

STOVE.

SPECIFICATION forming part of Letters Patent No. 652,557, dated June 26, 1900.

Application filed March 24, 1900. Serial No. 10,057. (No model.)

To all whom it may concern:

Be it known that I, WELLESLEY R. HAMPDEN, a citizen of the United States, and a resident of Spokane, in the county of Spokane and State of Washington, have invented a new and Improved Stove, of which the following is a full, clear, and exact description.

The purpose of this invention is to provide a stove in which the combustion of the fuel will be rendered more complete than in other stoves of this class, which object I attain by providing a peculiar construction causing the draft from the fire-box to pass circuitously throughout various portions of the stove, thus not only superheating the fuel, but facilitating the combustion of the combustible gases which pass from the fire-box.

This specification is the disclosure of one form of the invention, while the claims define the actual scope thereof.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a sectional view of the invention on the line 1 1 of Fig. 2. Fig. 2 is a section on the line 2 2 of Fig. 3, and Fig. 3 is a section on the line 3 3 of Fig. 2.

The stove is constructed with a bottom 4 and a top 5, which latter may be provided with the usual stove-lids, if desired. The sides 6 of the stove are shaped to give the stove an ovate form and are provided at their rear with a door 7, opening into the oven of the stove, and at the front with a fire-door 8 and a draft or ash-pit door 9. The front wall of the fire-box is formed with the front wall of the stove, and the fire-box is bounded at its sides by side walls 10, which extend from a point near the top 5 downward to the sub-bottom 11 of the stove. The back of the fire-box is formed by a wall 12, which extends down from the top 5 of the stove to the sub-bottom 11. The bottom of the fire-box is formed by a grate 14, which permits the ashes to fall in the ash-pit 15, situated below the grate and formed by the subbottom 11 and the walls 10 and 12. The oven is formed by a top wall 16, located below the top 5 of the stove, and by side walls 17, which are practically extensions of the side walls 10 of the fire-box. The bottom of the oven is formed

by the subbottom 11, which is continued throughout the length of the stove, the side edges of such bottom 11 terminating at the walls 10 and 17. Beyond the walls 10 and 17 the wall 12 has extensions 18, which extend to the respective sides of the stove. This wall 12, with its extensions 18, projects upward to the top 5, so as to form a barrier between the fire-box and the rear of the stove. If desired, the upper part of the wall 12, above the top wall 16 of the oven, may be formed with an opening 19, commanded by a damper 20, to which is attached a rod 21, which passes through the front of the stove. When this damper 20 is opened, the draft from the fire-box may pass unrestrained directly from the fire-box over the top of the oven and out by the flue 22.

The walls 17 extend upwardly to meet the wall 16, and the walls 10 extend upward about level with the walls 17, so that the draft from the fire-box may pass over the tops of the walls 10 and down between said walls and the adjacent side walls of the stove. The auxiliary bottom 11 at the walls 10 has side extensions 22, passing outward from the walls 10 and formed with openings 23 therein, so that the draft passing down the outer sides of the walls 10 may continue through the openings 23 to the space between the main bottom 4 and the auxiliary bottom 11. The extensions 18 of the wall 12 have their lower ends 24 projected downward below the auxiliary bottom 11 into engagement with the main bottom 4, thus forming barriers for the draft and causing the draft to take a forward course. Contacting with the lower ends 24 of the extensions 18 are deflector-plates 25, which extend forwardly and which are converged, as indicated by the dotted lines in Fig. 3. These deflector-plates 25 form continuations of the ends 24 of the extensions 18 and cause the draft to pass from the openings 23 forwardly to the front of the stove, whereupon the draft may pass centrally between the deflector-plates 25 and rearward beneath the auxiliary bottom 11, as indicated by the arrows in Fig. 3. From here the draft passes beneath the oven and up the sides thereof and out by way of the flue 22. Supports 26 may be provided for the auxiliary bottom 11, and these will serve also as deflectors for the draft, causing

it to pass to the sides of the oven, as explained.

From the foregoing description it will be apparent that by manipulating the damper 20 the draft may be caused to take a direct course through the flue or an indirect course. When the damper 20 is closed, the draft passing down the sides of the fire-box will carry the combustible gases to these points, where they will be consumed, and the fuel in the fire-box will be superheated, thus enabling it to be readily and thoroughly consumed. The amount of combustion may be regulated by the draft-door 9, as will be understood. As the burning gases pass from the spaces between the walls 10 and the side walls 6 of the stove, which spaces are virtually compression-chambers, the gases will continue their course until they pass under the auxiliary bottom 11 and thence around the oven to effectually heat the same. Therefore it will be seen that all the fuel placed in the stove may be effectually consumed and that the best possible results are attained.

The spaces between the outer sides of the stove and the sides of the fire-box form the combustion-chambers. The ports at the bottom of the combustion-chambers are each one-half the area of the stovepipe, thus giving an equal draft to the combustion-chambers, and by reason of their being smaller than the top or mouth of the combustion-chambers they hold the gases in check, thus allowing them to be consumed in the combustion-chambers and not permitting said gases to escape under the bottom of fire-box and oven. Thus fuel is economized and the formation of soot is prevented, as all ingredients that go to form soot are consumed.

The stove will be constructed to use any kind of fuel—coal, wood, oil, or gasolene.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A stove, having a body, walls mounted therein and forming a fire-box, the walls be-

ing separate from the side walls of the body to form combustion-chambers at each side of the fire-box, an auxiliary bottom in the stove, such auxiliary bottom having side extensions forming bottoms for the combustion-chambers, and the side extensions having openings therein permitting the draft to pass downward beneath the auxiliary bottom, and means situated beneath the auxiliary bottom, for conducting the draft from said openings to the flue.

2. A stove having a body with means for carrying off the products of combustion, walls arranged therein to form a fire-box, the side walls of the fire-box being separate from the sides of the body to form combustion-chambers, additional walls situate in the body to form an oven located rearward of the fire-box, the side walls of the oven being separate from the side walls of the body to form smoke-passages, and the fire-box and oven being raised above the bottom of the body and means for causing the draft to pass downward from the combustion-chambers, beneath the fire-box and oven and into the smoke-passages at the sides of the latter.

3. A stove having a body with means for carrying off the products of combustion, walls in the front thereof to form a fire-box, the side walls of the fire-box being separate from the sides of the body to form combustion-chambers, additional walls in the back of the body to form an oven, the sides of which are separate from the sides of the body to form smoke-passages, and an auxiliary bottom for the body such auxiliary bottom passing under the fire-box and oven and forming a passage beneath them for the products of combustion in passing from the combustion-chambers.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WELLESLEY R. HAMPDEN.

Witnesses:

NULTON E. NUZUM,
J. G. MCGUIGAN.