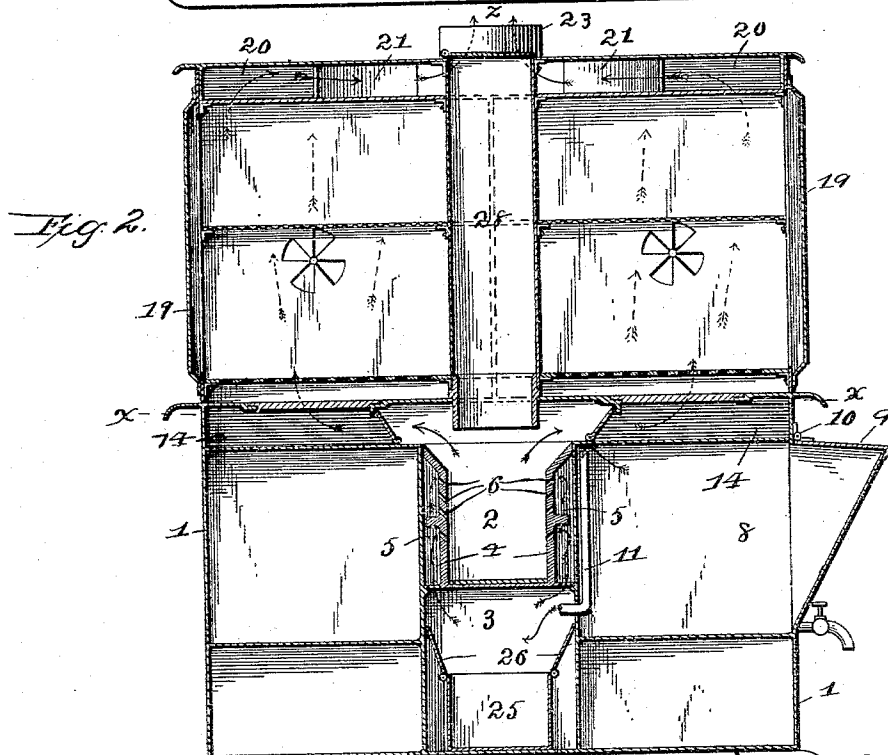
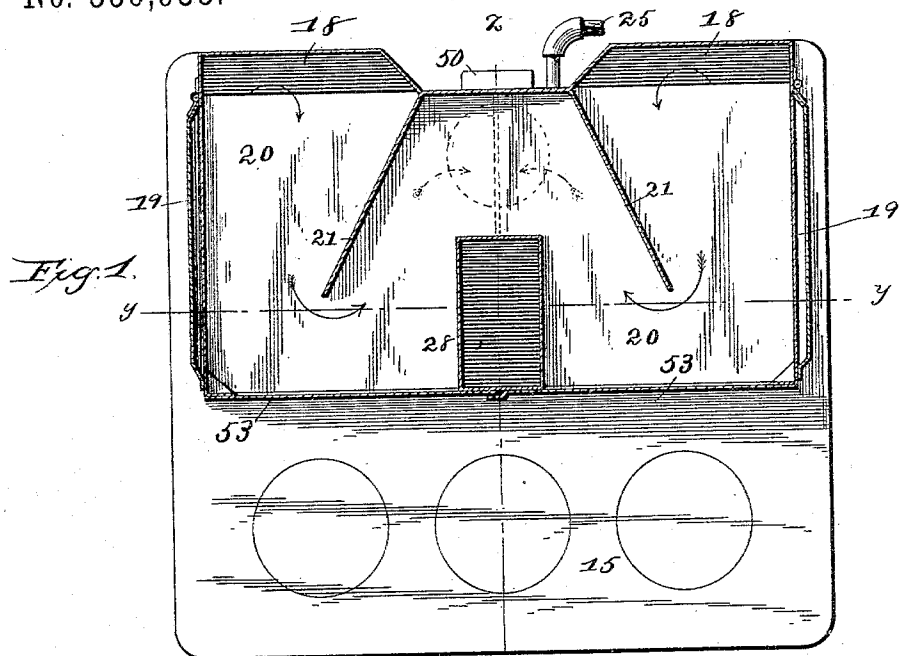


2 Sheets—Sheet 1.

Patented Mar. 24, 1896.

No. 556,938.



Witnesses
E. W. Warden

S. Williamson

Inventor

Francis J. Pribyl
by Geo. H. Holgate
Attorney

F. J. PRIBYL.
STOVE.

No. 556,938.

Patented Mar. 24, 1896.

Fig. 3.

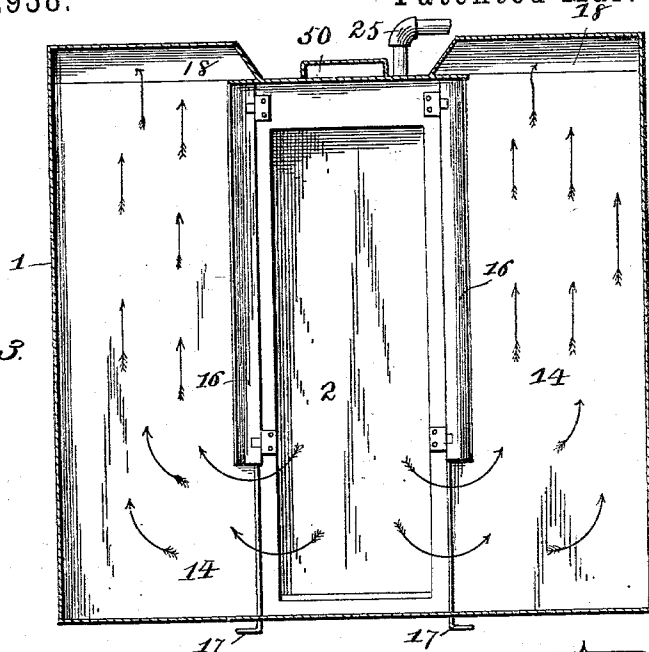
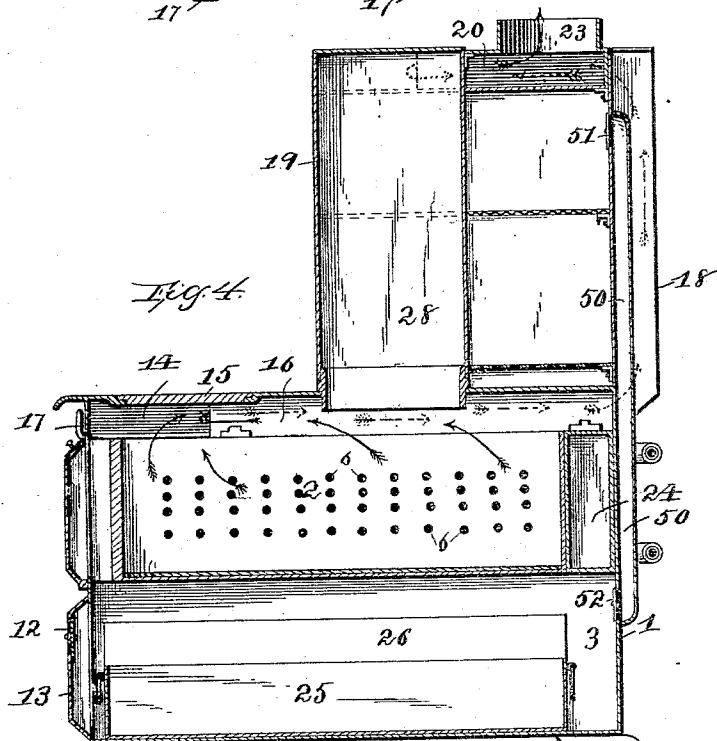


Fig. 4.



Witnesses:

E. W. Hildeman

S. Williamson

Inventor

Francis J. Pribyl

By G. W. Holgate

Attorney

UNITED STATES PATENT OFFICE.

FRANCIS J. PRIBYL, OF HAZLETON, PENNSYLVANIA.

STOVE.

SPECIFICATION forming part of Letters Patent No. 556,938, dated March 24, 1896.

Application filed June 3, 1895. Serial No. 551,498. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS J. PRIBYL, a citizen of the United States, residing at Hazleton, in the county of Luzerne, State of Pennsylvania, have invented certain new and useful Improvements in Stoves, of which the following is a specification.

My invention relates to a new and useful improvement in stoves, and especially to the fire-box thereof, and has for its object to so construct a stove as to greatly facilitate the combustion of the fuel and more thoroughly utilize the heat generated therefrom than has heretofore been the case; and with these ends in view it consists in the details of construction and combination of elements hereinafter set forth, and then specifically designated by the claim.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, I will describe its construction and operation in detail, referring by number to the accompanying drawings, forming a part of this specification, and in which—

Figure 1 is a sectional plan view of a cooking-stove embodying my improvement; Fig. 2, a vertical section at the line *yy* of Fig. 1; Fig. 3, a section at the line *xx* of Fig. 2; Fig. 4, a vertical section at the line *zz* of Fig. 1.

Similar numbers denote like parts in all the views of the drawings.

Referring to Figs. 1, 2, 3, and 4, in which several views of a cooking-stove are shown, 1 represents the body of the stove, in which is formed the fire-box 2 and ash-pit 3, all of any convenient shape and size. 4 is a lining for said fire-box so arranged adjacent the walls thereof as to form air-passages 5, and this lining is provided with a number of small openings 6 having a downward inclination toward the center of the fire-box, so that air admitted to the fire-box through these openings is caused to pass downward, so as to more thoroughly mix with the products of combustion at the point of their generation, for the purpose hereinafter set forth.

I prefer to use a closed grate 7, which is composed of two plates having suitable openings so arranged relative to each other as to open any width desired or close by the proper manipulation of a shaker, in order to remove

ashes or cinders; but it is normally closed. I may also use another form of grate with adjustable openings.

8 is a water-reservoir provided with a suitable lid 9, which may be bolted steam-tight thereon and adapted to be opened and swung upon the hinge 10 for the purpose of filling said reservoir, or the latter may be connected by pipe and valve to any convenient water supply. Leading from the upper portion of this reservoir to the ash-pit is a pipe 11, through which steam generated in the reservoir will pass to the ash-pit.

12 is an air-inlet arranged upon the ash-pit door 13 and adapted to be so operated as to admit more or less air to said pit, from whence said air mingled with the steam from the pipe 11 will pass in the directions indicated by the arrows through the passages 5 and openings 6 to the fire-box. Thus it will be seen that ignited coals within the fire-box will be fed from all directions with moist hot air, which, as is well known, will not only support combustion but cause said coals to coke, thereby giving up their gases, which will so commingle with the air and steam entering the fire-box as to cause an intense flame without loss of any of the products of combustion, and this effect may be increased or decreased in accordance as more or less air and steam are admitted to the fire-box, which may be regulated by the proper dampers and valves.

In practice I have found an intense blue hydrocarbon flame of considerable length may be produced by the use of my improved fire-box.

14 represents the draft-passages formed immediately beneath the heating-surface of the stove, and 16 are dampers having the proper manipulating-rods 17. These dampers are so arranged that when closed or in their upright position gases passing from the fire-box are compelled to travel around the front ends of the dampers in order to gain access to the uptakes 18 through the draft-passages 14.

19 is an oven, the front part being detachable and so arranged as to rest upon the heating-surface 15 of the stove, and the uptakes 18 are formed with or attached to the back of this oven, and their upper ends communicate with the compartment 20, formed

upon the top of the oven, and are provided with diagonal partitions 21, so arranged as to cause the gases to travel the circuitous routes shown by the arrows in reaching the flue 23.

5 This arrangement of draft-passages is such as to utilize the entire heat generated in the fire-box, and by the proper regulation of the draft-dampers a sheet of flame may be formed of sufficient length to reach from the fire-box
10 to the flue 23, which will make the working of the stove very effective.

The heat imparted to the water-reservoir 8 from the walls of the fire-box and bottom of one of the air-passages 14 will be sufficient
15 to generate steam within said reservoir, by which the air entering the ash-pit will be properly impregnated with moisture.

24 is a water-back having the proper pipe-couplings 25, whereby it may be connected
20 with a suitable boiler for providing hot water for domestic purposes.

26 is an ash-pan adapted to slide within the ash-pit through the door thereof, and this pan is provided with hinged wings 27, which are
25 so disposed as to rest against the side walls of the ash-pit when the pan is in its proper relative position, so that all dirt or ashes falling from the grate will be guided into the pan, and when the pan is removed from the pit it
30 may be closed by folding the wings down, thus providing a neat method for removing ashes from the pit.

In order to keep the body of the ignited coals in the fire-box covered by a layer of
35 fresh coal, which is not acted upon directly by the air admitted to the fire-box through the openings 6, I provide a magazine 28 extending up to the proper height flush with

the top of the oven, and having its lower end in juxtaposition to the fire-box, so that by
40 keeping a sufficient supply of coal within said magazine the top of the ignited coals will be covered with fresh coal, causing the ignited coals to give up their gases after the manner of manufacturing gas.

50 is a flue leading from the upper portion
45 of the oven to the ash-pit and provided with dampers 51 and 52, whereby the gases which tend to form disagreeable odors in a room are withdrawn from the oven and delivered to
50 the ash-pit, from whence they pass to the fire-box and are consumed.

Access may be had to the oven through the sliding doors 53, which are held in place and guided by suitable flanges upon the front of
55 the oven in connection with suitable flanges formed upon said doors.

Having thus fully described my invention, what I claim as new and useful is—

In a stove, a hollow perforated fire-box, the
60 walls of which are provided with downwardly-inclined perforations leading toward the center of the box, a water-reservoir at the side of the fire-box with an intervening air-space, a
65 steam connection from the top of the reservoir to the ash-pit, and connections between the ash-pit and the perforations of the fire-box, as and for the purpose described.

In testimony whereof I have hereunto affixed my signature in the presence of two
70 subscribing witnesses.

FRANCIS J. PRIBYL.

Witnesses:

S. S. WILLIAMSON,
GEORGE MCCURDY.