W. KRAUS.

STOVE.

APPLICATION FILED MAY 20, 1911.

1,041,306.

Patented Oct. 15, 1912.

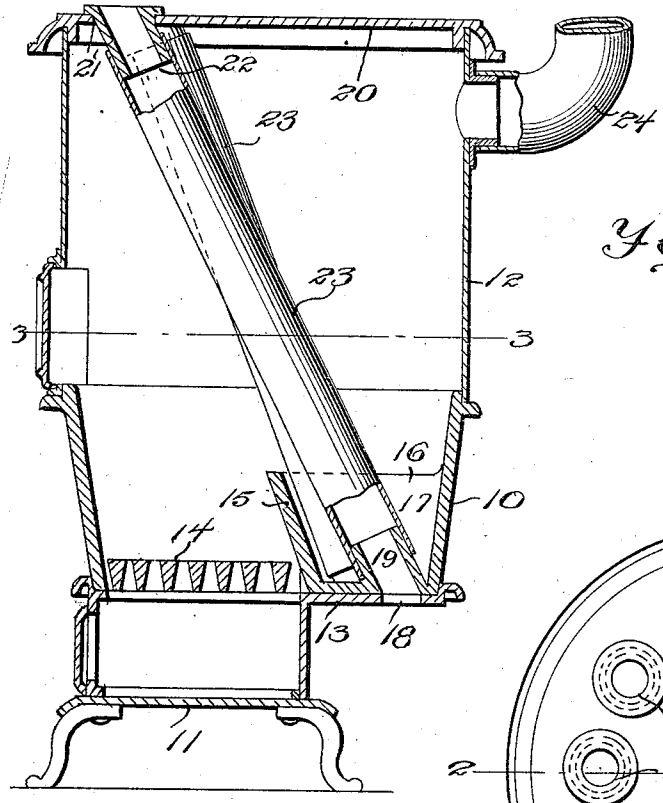
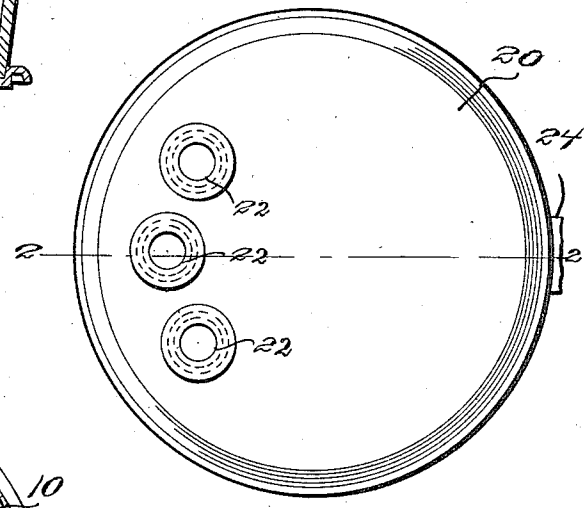


Fig. 2.

Fig. 1.



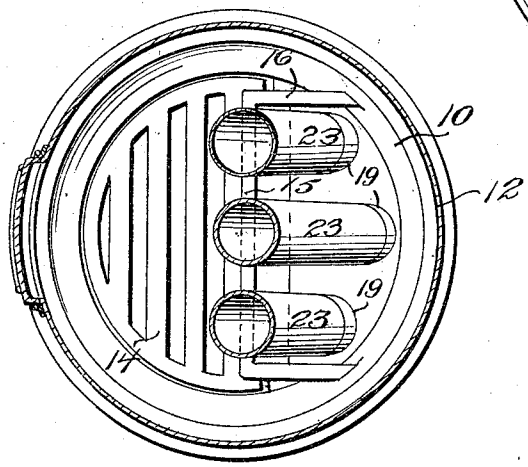


Fig. 3.

Witnesses

W. N. Woodson.

Juana M. Fallin.

Inventor

Willibald Kraus.

By Wallbridge & Stacey, Attorneys.

UNITED STATES PATENT OFFICE.

WILLIBALD KRAUS, OF SELBY, SOUTH DAKOTA.

STOVE.

1,041,306. Specification of Letters Patent. Patented Oct. 15, 1912.

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To all whom it may concern:

Be it known that I, WILLIBALD KRAUS, a citizen of the United States, residing at Selby, in the county of Walworth and State of South Dakota, have invented certain new and useful Improvements in Stoves, of which the following is a specification.

This invention relates to improvements in heating stoves of the class wherein means are provided for causing a rapid and free circulation of air upwardly therethrough, and has for one of its objects to improve the construction and increase the efficiency and utility of devices of this character.

Another object of the invention is to provide a device of this character wherein the heat is utilized to the largest extent and great economy in the use of the fuel thereby insured without materially increasing the expense of construction or detracting from the strength or durability of the stove.

With these and other objects in view, as will more fully appear as the description proceeds, the invention consists of certain constructions, arrangements and combinations of the parts that I shall hereinafter fully describe and claim.

For a full understanding of the invention, reference is to be had to the following description and accompanying drawing, in which:

Figure 1 is a plan view of the improved stove; Fig. 2 is a vertical section on the line 2—2 of Fig. 1; Fig. 3 is a transverse section on the line 3—3 of Fig. 2.

The improved stove comprises a fire pot portion 10, an ash pit portion 11 and an upper shell 12. The fire pot portion 10 is preferably formed with converging sides and the ash pit portion is reduced at the rear so that the fire pot portion overhangs the ash pit portion as represented at 13. The grate represented conventionally at 14, occupies the space above the ash pit, and extending transversely within the fire box portion is a transverse partition 15, the partition being preferably inclined toward the front of the fire box as shown in Fig. 2. At its ends the partition is connected to the inner walls of the fire pot by end members 16. By this means a pocket-like cavity 17 is formed within the fire box at the rear and above the overhanging portion 13. The overhang 13 is provided with a plurality of apertures one of which is shown at 18, and rising from the bottom of the fire pot within the cavity 17, is a plurality of thimbles one of which is represented at 19, each of the apertures 18 having one of the thimbles extending therefrom. The top of the stove is generally constructed of cast metal as represented at 20, and provided with a plurality of apertures 21 corresponding to the apertures 18, but located near the front of the top 20, as shown. Depending from the top 20 are a plurality of thimbles, one for each of the apertures 21 and indicated at 22. The thimbles 22 and 19 are arranged obliquely to the vertical axis of the stove and are connected by flues 23. By this arrangement it will be noted that the flues are inclined forwardly above the fire in the fire box, and are thereby subjected to a relatively large degree of the heat as the smoke, flames and other products of combustion pass upwardly through the shell and outwardly through the discharge flue 24. By this simple means the air within the flues 23 is very rapidly heated and a correspondingly rapid circulation of the air upwardly therethrough insured, thus drawing the cooler air from near the floor and discharging it upwardly through the openings 21. Any required number of the flues 23 may be employed and of any required size to correspond to the size of the fire box. The fire box 10 and the partition 15 together with the thimbles 19 will preferably be cast in one piece as shown, while the thimbles 22 will preferably be separate from the top 20.

It will be noted by reference to Fig. 3 that the portion of the bottom of the fire pot 10 which extends over the extension 13 of the ash pit is imperforate except for the registering openings of the thimbles 19, and that the partition 15—16 rises from this imperforate bottom portion, thus protecting the lower portions of the flues from the intense heat of the fire. It will also be noted that the thimbles 22 are detachably engaged through the top 20 so that the parts may be readily disengaged when broken or impaired to enable new flues 23 to be inserted without discarding the remaining portion of the device or dismembering the other parts. This is an important advantage and adds materially to the efficiency and utility of applicant's device.

The improved device is simple in construction, can be cheaply manufactured in any required size and produces a compact and efficient heating stove.

What I claim is:

In a stove, an ash pit, a fuel combustion chamber above the ash pit and extending beyond the same at one side, said combustion chamber having openings in said extended portion and in the top, a plurality of flues extending diagonally across said combustion chamber over the fire space and engaging the openings in the extended portion and in the top of the same, and a partition forming a portion of the fuel-supporting part of the combustion chamber at one side of the fuel space and protecting the lower portion of said pipes.

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

WILLIBALD KRAUS.

Witnesses:

MABEL ANDERSON,

KENNETH RILEY.