March 16, 1926. 1,576,603

H. C. HAMILTON ET AL

HEATING STOVE

Filed May 1, 1925

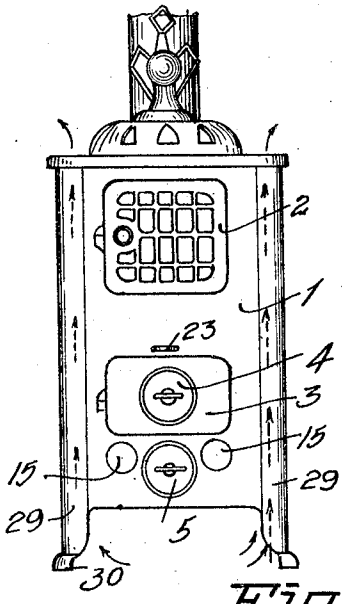


Fig. 1

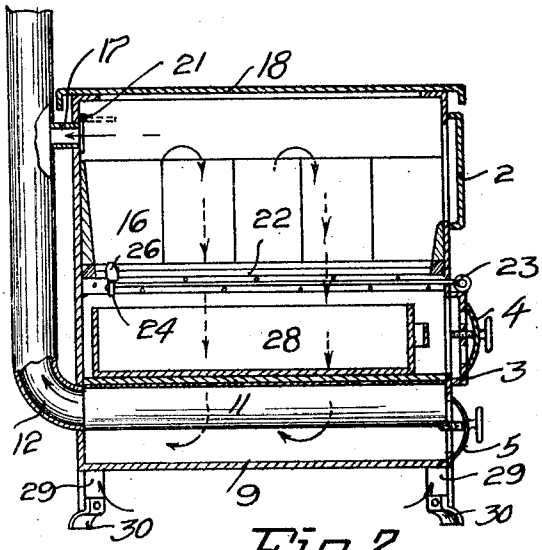


Fig. 2

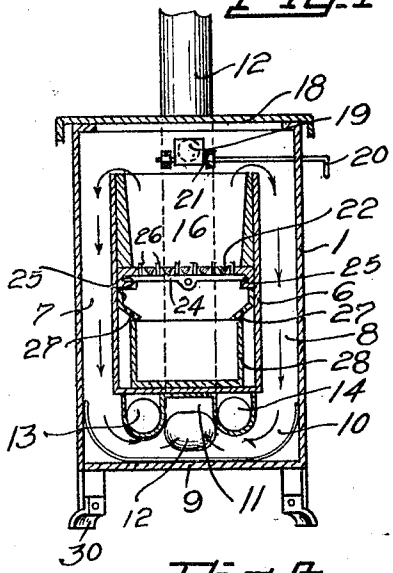


Fig. 3

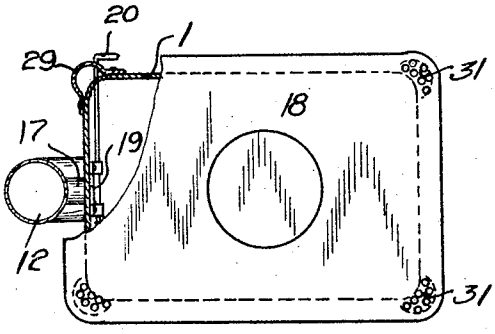


Fig. 4

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UNITED STATES PATENT OFFICE.

HENRY C. HAMILTON AND GEORGE W. BAILEY, OF SPOKANE, WASHINGTON.

HEATING STOVE.

Application filed May 1, 1925. Serial No. 27,190.

To all whom it may concern:

Be it known that we, HENRY C. HAMILTON and GEORGE W. BAILEY, citizens of the United States, residing at Spokane, in Spokane County and State of Washington, have invented certain new and useful Improvements in Heating Stoves, of which the following is a specification.

Our present invention relates to improvements in heating stoves of the hot air heat radiating type employing a horizontal body and provided with means for giving the gases of combustion a direct or an indirect course to the outlet flue of stove pipe.

The invention contemplates certain novel features of construction and combinations and arrangements of parts involving the means for directing the drafts through the stove and for heating currents of air, as will hereinafter be more fully set forth and claimed.

In the accompanying drawings we have illustrated one complete example of the physical embodiment of our invention wherein the parts are combined and arranged in accordance with the best mode we have thus far devised for the practical application of the principles of our invention.

Figure 1 is a view in front elevation of a stove embodying our invention.

Figure 2 is a longitudinal vertical sectional view of the stove.

Figure 3 is a transverse vertical sectional view of the stove.

Figure 4 is a top plan view of the stove, partly broken away for convenience in showing the arrangement of vertical hot air tubes.

In carrying out our invention as illustrated in the drawings we preferably use a rectangular shaped stove body 1 made up of suitable material and of ample size for various purposes, and in which the various parts are attached or fastened together in approved manner.

At its front the stove is provided with the usual accessories as the fire door 2 for admitting fuel as coal or wood, and the ash door 3 having a damper 4, and a check damper 5 for the draft.

Within the stove body is enclosed a casing 6 of rectangular or oblong shape and extended longitudinally of the stove in horizontal position with its front and rear ends closed by the respective walls of the stove body. Between the side walls of the stove and the side walls of the casing are provided wide down-draft flues 7 and 8 arranged at the respective sides of the casing and communicating with the interior of the casing through the upper portion of the stove above the casing.

The bottom of the casing is elevated above the stove base plate 9 to form a base flue 10 which extends longitudinally of the stove body and with which the two side down-draft flues 7 and 8 communicate.

In the upper portion of the base flue 10 is arranged a longitudinally extended lower smoke flue 11 located centrally of the stove body. This smoke flue 11 is closed at its front end by the draft damper 5 which controls admission of air thereto, and at its rear end the smoke flue communicates with the stove pipe 12 which rises from the base of the stove at the rear.

The smoke flue 11 is formed by the use of a pair of horizontal air heating tubes 13 and 14, spaced at the sides of the longitudinal center of the stove and attached at the lower face of the bottom of the casing 6. The air heating tubes 13 and 14 both have open ends at the front and rear of the stove as indicated at 15 in Figure 1, to permit flow of air currents therethrough for warming the atmosphere in the room.

It will be noted that by this compact arrangement of parts in the base portion of the stove, the air heating tubes not only provide for circulation of air in the room, but also form the side walls of the smoke flue and these walls guide the smoke and other gases of combustion to the stove pipe 12 as indicated by the arrows in Figures 2 and 3.

The fire pot 16 which contains the solid fuel is fashioned in the upper part of the open-top casing 6, and in Figure 3 the revertible indirect course or draft from the fire pot is indicated by the arrows, down the side flues 7 and 8 to the base flue 10 and thence through the smoke flue 11 to the smoke pipe or stove pipe 12.

For a direct draft from the fire pot to the stove pipe 12, provision is made by connecting a short smoke pipe 17 between the upper portion of the stove, beneath its top plate 18, and the stove pipe 12. A damper 19, having a rod 20 extended outside the stove, is hinged at 21 to a wall of the stove body for controlling the opening to the direct draft smoke pipe 17. This damper may be opened to create a direct draft when starting the fire, or for the purpose of directly

carrying off gases of combustion from the fire.

The fire pot is provided with a slotted stationary grate 22, and beneath the grate a raking device is supported for the purpose of cleaning or clearing the lower portion of the fuel bed in the fire pot. This device comprises a longitudinally extending, reciprocable raking bar 23 provided with spaced cross bar 24 and the cross bar is fashioned with perpendicular studs 26 for raking the bed. The ends of the cross bar are slidably supported in grooved guide plates 25 at the sides of the grate and the pins or studs 26 project upwardly from the cross bar through the slots of the grate.

As the ashes are raked from the lower portion of the bed of coals in the fire pot they fall from the grate and are guided by deflecting plates 27 extending longitudinally beneath the grate, to the ash pan 28 located in the lower portion of the casing 6. The pan may be removed and replaced when the ash door 3 is opened.

In addition to the horizontally extending air tubes 13 and 14 in the base of the stove we also provide a series of vertically disposed air heating tubes 29 at the corners of the rectangular stove body. These air tubes at their lower ends terminate in stove feet 30 and open to the air beneath the stove base. At their upper ends the tubes terminate beneath the top plate 18 of the stove which plate is perforated as at 31 for egress of warm air currents rising through the tubes. The air tubes in addition to forming posts or corner supports for the stove body, thus provide for a circulation of air in the room and assist in radiating heat from the stove.

Having thus fully described our invention, what we claim as new and desire to secure by Letters Patent is—

1. The combination in a heating stove having an interior elevated casing to form a base flue and spaced from the side walls of the stove to form downdraft flues communicating with the base flue, of a pair of open end, spaced hot air tubes beneath the casing forming a smoke flue in the upper portion of the base flue, a smoke or stove pipe communicating with the smoke flue, and a fire pot in the casing.

2. The combination in a heating stove having an interior elevated casing spaced from the side walls of the stove to form downdraft flues communicating with a base flue beneath the casing, of a pair of open-end spaced hot air tubes in the base flue forming a central smoke flue, a stove pipe communicating with the smoke flue, a direct-draft smoke pipe connecting the stove above the casing with the stove pipe, and a damper for controlling the direct draft to said smoke pipe.

In testimony whereof we affix our signatures.

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GEORGE W. BAILEY.