Oct. 16, 1928. 1,688,019

G. E. PICKUP

COOK STOVE

Filed Dec. 9, 1926

Fig. 1.

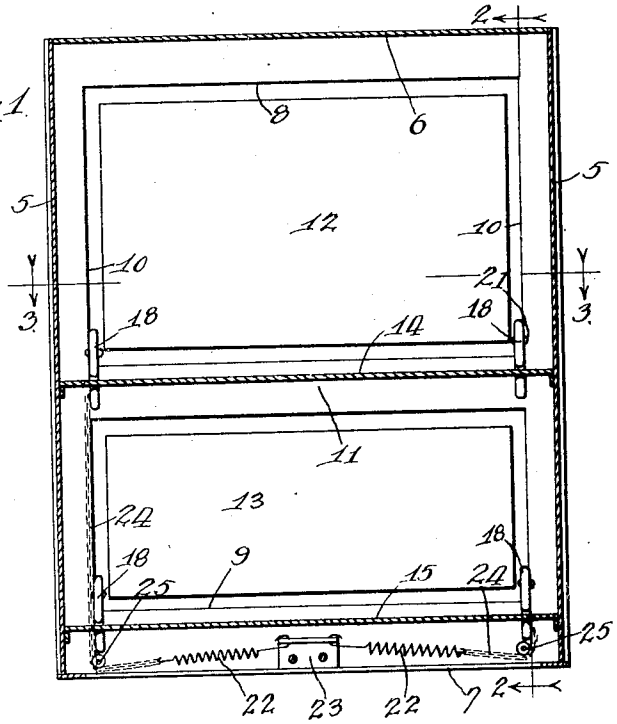


Fig. 3.

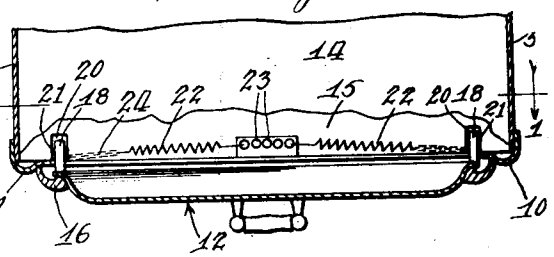
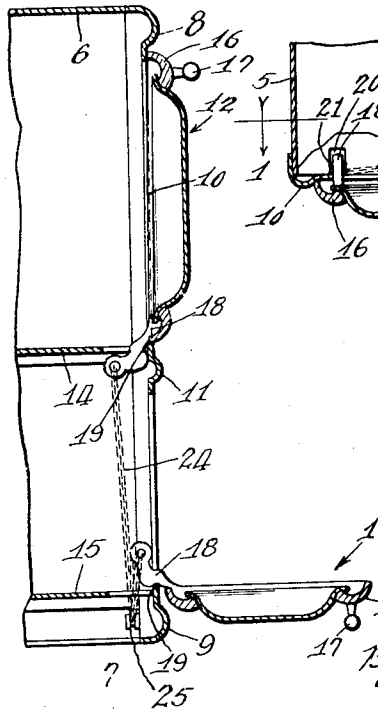


Fig. 2.



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UNITED STATES PATENT OFFICE.

GEORGE E. PICKUP, OF NEWARK, OHIO, ASSIGNOR TO THE WEHRLE COMPANY, OF NEWARK, OHIO, A CORPORATION OF OHIO.

COOKSTOVE.

Application filed December 9, 1923. Serial No. 153,497.

This invention relates generally to cooking stoves and more particularly to a means for mounting the oven door.

The object of the invention is to provide a simple hinge construction of the concealed type, for mounting a stove door on the frame of a stove.

Another object is to provide such a hinge construction, having means for counterbalancing the weight of the door in certain positions thereof and which is furthermore operative to hold the door in proper operative relation to the frame in all positions of the door.

Other objects and advantages will become apparent from the following description and in the accompanying drawings, in which:

Figure 1 is a view taken from the inside of the oven section of a stove and showing the doors in closed position.

Fig. 2 is a fragmentary vertical section approximately in the plane of line 2—2 of Fig. 1 showing one of the doors in open position.

Fig. 3 is a horizontal section taken in the plane of line 3—3 of Fig. 1.

In attaining the objects of this invention, the door or doors are mounted upon the front frame of the oven section, through the medium of lever arms rigid with the door and engaging with the frame so that it acts as a fulcrum upon which the door is adapted to pivot, the door being held on said fulcrum partially by means of its own weight and partially by means of a force exerted thereon by a resilient member.

Herein I have shown for purposes of illustration the oven section of a gas range, providing an upper or baking oven and a lower or broiling oven. This oven section is formed largely of sheet metal and comprises a pair of side walls 5, a top wall 6 and a bottom wall 7. A front frame, preferably of cast metal, has top, bottom and side members 8, 9 and 10 and an intermediate transverse bar 11 constituting the lower member for the front frame of the upper or baking oven, and the upper member for the front frame of the lower or broiling compartment. Each of the openings so formed is adapted to be covered and closed by means of the doors 12 and 13, and suitable bottom plates 14 and 15 are provided for each oven, in the usual way.

The doors may be constructed in any preferred manner. In the present instance each door comprises a frame 16 arranged to abut the front oven frame, and having a filler plate or panel secured therein in any suitable manner. A handle 17 of usual construction may be secured on the door frame.

The preferred means by which the doors are pivotally mounted upon the stove comprises a pair of bent arms or levers 18 rigidly secured near opposite ends of the lower side of the door frame in any preferred manner as by being cast integral with the frame 16. The under side edge of each lever is provided with a recess 19 which is adapted to rest on a rounded surface formed upon the upper edge of the lower frame member 9 or on the intermediate transverse bar 11 as a fulcrum. The lever is so arranged on the door as to extend inwardly horizontally of the stove in the closed position of the door, and to extend upwardly along the side member of the front frame when the door is in its open position. To permit swinging movement of the arms 18 unrestricted by the bottom plates 14 and 15, slots 20 are provided therein; and suitable stop means such as a lug 21 upon the free end of the levers 18 is so positioned as to engage sides 10 of the front frame when the door has been swung open. Thus I have provided a mounting for the door which is adapted to rest upon the edge of the front frame as a fulcrum without positive connection therewith, the amount of travel of the door being prevented by the stop lug 21 upon the lever 18.

I provide means to augment the weight of the door to hold it securely seated upon its supporting member of the front frame and at the same time serve to hold the door in its closed position. To this end, I have shown in the drawings a simple means comprising in the case of each door a resilient member, such as a helical spring 22 anchored at one end in one of a series of perforations in a plate 23 mounted in the central lower part of the oven section as by being secured upon the inner side of the lower front frame member 9. The other end of the spring is connected to a flexible member such as a chain 24 which passes around a guide pulley 25 mounted on the inner side of the front frame at a point beneath one of the supporting levers 18 to which the other end of said chain is attached. The connections for the two doors, as shown, extend from the anchoring plate 23 in opposite directions. It will be seen that when a door is in its closed postion the effective pull of the spring upon the door is at its maximum since the moment arm of the lever 18 is at this time

the greatest. When the door is swung downwardly into open position, the weight of the door acts against a decreasing effective pull by the spring until the door reaches its open position when the inner end of the lever arm approaches its "dead center" position.

Thus the door is firmly held in closed position, while the counterbalancing effect of the spring diminishes, as the door moves into its open position, so as to be ineffective to lift the door from such position. However, the spring acts in all positions of the door to hold the lever arms 18 seated upon the frame of the oven section.

It will be observed that the construction employed is very simple and hence capable of being cheaply manufactured. At the same time, the hinges are entirely concealed from view in the closed position of the doors.

I claim as my invention:

A cook stove comprising, in combination, an oven section having top, side and rear walls and having partitions therein providing upper and lower oven compartments, said partitions forming the bottom of the respective compartments and the lower partition being spaced substantially above the lower edges of the side and rear walls, a front frame providing openings for said compartments, doors for said openings having lever arms rigid therewith and fulcrumed on said frame, said partitions having slots therein to receive said lever arms, a plate secured within the lower edge of said front frame beneath the lower partition, and spring means for said doors acting to counterbalance them and to hold them in operative relation to the frame, said spring means comprising two springs both anchored to said plate, flexible connections between the respective springs and hinge members of the upper and lower doors at opposite sides thereof, and guide sheaves for said connections mounted on said frame at opposite ends thereof beneath said lower partition.

In testimony whereof, I have hereunto affixed my signature.

GEORGE E. PICKUP.