March 28, 1933. W. L. COOPER 1,903,091

COOK STOVE

Filed April 6, 1931

Fig. 1.

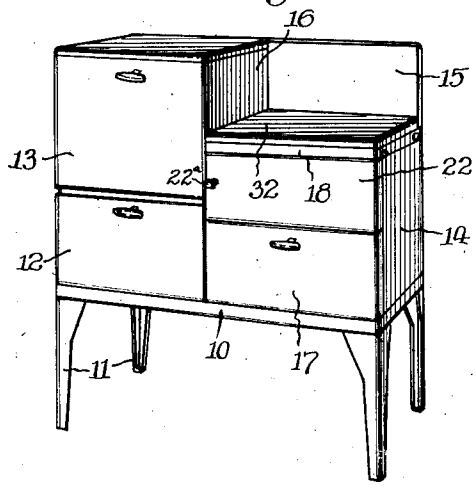
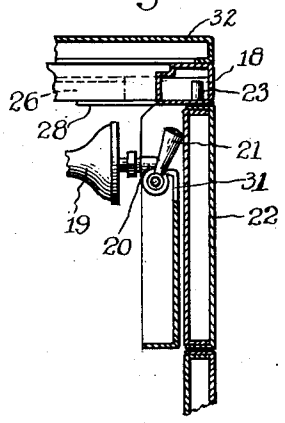


Fig. 2.



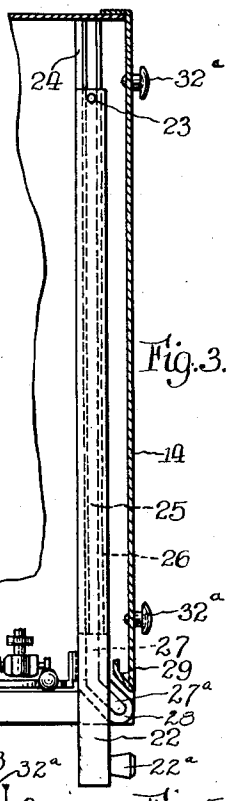


Fig. 3.

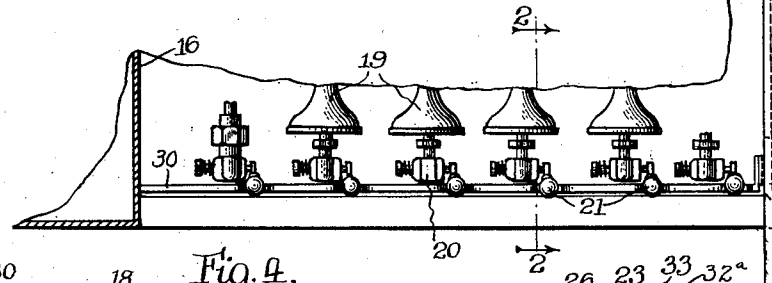


Fig. 4.

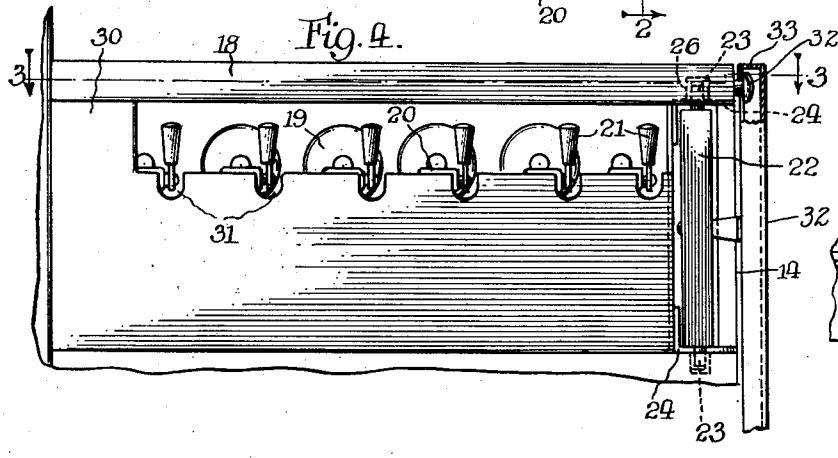
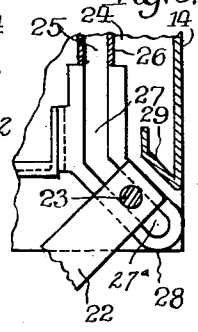


Fig. 5.



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UNITED STATES PATENT OFFICE

WILLIAM L. COOPER, OF KANKAKEE, ILLINOIS

COOK STOVE

Application filed April 6, 1931. Serial No. 527,990.

The invention relates to cook stoves or ranges and more particularly to stoves of the type using gas as a fuel.

An object of the invention is to provide a new and improved means for concealing the operating elements of the cooking burners when the stove is not in use, such means being readily movable to a completely out-of-the-way position to permit of access to said elements, whereby under all conditions the stove is neat and ornamental in appearance.

More specifically stated, the invention resides in the provision of a stove embodying a burner compartment having side walls defining an open face through which the handles for the burner valves are accessible, and a door having a closed position in which the door lies in the plane of the stove surface and conceals said valve handles, and having an open position in which the door lies parallel and closely adjacent to one of the side walls of the compartment.

In conjunction with the foregoing object, the invention has, as an object, the provision of novel means for mounting the door which permits of a pivotal movement thereof to one position and a guided shifting movement to an out-of-the-way concealed position.

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

Figure 1 is a perspective view of a cook stove embodying the features of the invention.

Fig. 2 is a fragmentary vertical section on an enlarged scale taken through the front of the stove as indicated by the line 2—2 of Fig. 3.

Fig. 3 is a fragmentary plan section taken on the line 3—3 of Fig. 4.

Fig. 4 is a front elevation of the burner compartment of the stove showing the door in open position.

Fig. 5 is a plan section of a detail of the door assembly.

While the invention is susceptible of various modifications and alternative constructions, I have shown in the drawing and will herein describe in detail the preferred embodiment, but it is to be understood that I do not thereby intend to limit the invention to the specific form disclosed, but intend to cover all modifications and alternative constructions falling within the spirit and scope of the invention as expressed in the appended claims.

In general, the cook stove which has been selected for the purpose of illustrating the features of the invention embodies the customary frame having a base 10 (Fig. 1) supported by legs 11. At one side, the base supports a plurality of walls forming vertically arranged compartments 12 and 13 which comprise a broiler and an oven respectively. At the other side of the base, a side wall 14 and a rear wall 15 together with the adjacent wall, generally indicated at 16, of the broiler and oven, provide an enclosure, the lower part of which is arranged to receive a drawer 17 or the like.

The upper portions of the walls 14, 15 and 16 form a burner compartment having an open front face and an open top which is defined by a frame 18 for supporting burner grids (not shown). In the present embodiment, the oven and broiler doors, the front of the drawer, as well as the visible portions of the frame, all lie in substantially the same plane when the doors and drawer are closed.

Within the burner compartment below the frame 18 is the usual arrangement of spaced burners (not shown) to which fuel gas is supplied through air mixing devices 19. Valves 20 having operating handles 21 accessible through the front face control the flow of gas to said burners. Preferably, the type of valve employed is one in which the operating handle is swung forwardly about a horizontal axis in the opening of the valve and rearwardly to close the valve. The valves are so arranged immediately adjacent the open front face of the burner compartment that the valve handles lie substantially in the plane of said face when the valves are closed and extend into said face when the valves are open.

The door 22 for closing the open front face may be of any suitable construction and in width is adapted to fit snugly between the

front portion of the frame 18 and the upper edge of the front of the drawer 17. The length is such that one end of the door abuts against the wall 16 of the oven and broiler, while the other end when the door is closed is positioned in the plane of the side wall 14. Consequently the exposed faces of the door will lie flush with the front and side walls of the stove.

In mounting the door for movement to a concealed position, the preferred arrangement embodies means adjacent one wall for pivotally supporting said door, and other means for guiding a shifting movement of said pivot means so that the door may be shifted bodily to a concealed position extending along the internal side of the wall. As herein illustrated with reference to Figs. 3, 4 and 5, the door is mounted to swing on a vertical axis located adjacent the outer side wall 14, and the door is shifted endwise toward the rear of the stove after it has been swung open. To this end, the upper and lower sides of the door, near one end, have outwardly projecting pivot pins 23 secured thereto. Guide members 24 having longitudinal ways 25 therein defined by integral flanges 26 are supported in parallel and vertically spaced relation on the frame 18 and the side wall 14 respectively. The pins 23 engage the ways 25 to guide the endwise movement of the door toward or away from the rear of the stove.

The front ends of the ways 25 are open and communicate with slots 27 formed in end plates 28 which are rigid with the guide members 24. The slots 27 extend to points near the front of the stove as continuations of the ways 25 and have angular portions 27^a leading from such points substantially to the corner of the stove. These angular portions 27^a support the pivot pins 23 during the swinging movement of the door and, when the door has been opened, guide the pivoted end thereof inwardly of the stove with respect to the side wall 14. After the end of the door has cleared the wall 14 and the door is substantially alined with the ways 25, the door may be slid bodily into the stove. Preferably, the adjacent edge of the side wall 14 has a strengthening flange 29 thereon which constitutes a frame member forming one side of the front opening of the burner box, the flange being turned inwardly at an acute angle to allow the corner of the door to pass. As a result of this construction, the door is substantially concealed while the stove is in use and cannot interfere with the operator.

A suitable handle 22^a is provided for the door which handle is, in this instance, mounted near the end of the door opposite the pivot pins, whereby the handle is conveniently located regardless of the position of the door.

If desired, the mechanisms within the burner compartment may be substantially concealed when the door is open by means which also serves as a heat and flame guard. In the present instance, a plate 30 (Fig. 4) is provided for this purpose, said plate being suitably supported in advance of the valves 20 by the frame 18, the side wall 16 of the oven and broiler, and the guide members 24. The plate is cut away to expose the valve handles and may, if necessary, be recessed as at 31 adjacent each valve handle 21 to allow opening of the valves to their fullest extent.

As has been mentioned, the valve handles 21 extend into the open front face of the burner compartment when the valves are open or partially so. If any valve is fully open, its handle is directly on the line of closing movement of the door. The door will, therefore, be held against closing by engagement thereof with the handle. If, however, a valve is only partially open, engagement of the handle by the closing door will move the handles to valve-closing position. The features of preventing the door from closing when a valve is open, or for closing an open valve by the closing movement of the door are important from a safety standpoint.

In order to carry out the wholly enclosed effect of the stove when it is not in use, a cover 32 (Fig. 1) is fashioned to fit over and conceal the open top of the burner compartment. When the stove is in use, the cover is supported in a convenient position adjacent the side wall 14 by such means as transversely spaced headed pins 32^a engageable by a marginal flange 33 or the like on the cover. Inasmuch as the external finish of the stove will, in most cases, be embodied in the cover as well, this manner of mounting the cover on the side does not affect the appearance of the stove but rather serves to conceal the identity of the cover.

From the foregoing, it will be evident that a new and improved stove structure has been provided which presents an entirely closed, ornamental appearance when not in use. Moreover the stove is capable of being readily placed in condition for use by movement of certain concealing members, to remote out-of-the-way positions. Further, from a safety standpoint, the construction is advantageous since the burner concealing door cannot be closed without absolutely preventing any escape of fuel gas.

I claim as my invention:

1. In a stove having a substantially flat face, the combination of a burner box having an open forward face and top, bottom and side walls, one of said side walls terminating short of said flat face of the stove, a door for closing said open face adapted when in its closed position to overlie and conceal the forward end of said one of said side walls, pins at the top and bottom of said door adjacent one end thereof, and guide members having slots therein engaging said pins to permit pivotal and sliding movement of the

door relative to said members, said members extending into said burner box along said one of the side walls to guide said door for sliding movement into said box, and the forward ends of said slots being formed to extend angularly toward the plane of said one of the side walls to permit movement of the end of said door into concealing relation to the forward end of the wall.

2. A cook stove having, in combination, an oven section with a front face, a burner box having a forward opening and having a frame member defining one edge of the opening and offset rearwardly from said front face of the oven section, a door for closing said opening and wholly concealing said front frame member with the front face of the door disposed substantially flush with front face of the oven section, and means for supporting one end of said door for swinging movement into a position substantially perpendicular to said opening and also for rearward bodily sliding movement adjacent said frame member into the burner box.

3. A cook stove having, in combination, an oven section with a front face, a burner box having a front opening and a side wall the forward edge of which defines one end of said opening, a door for closing said front opening of the burner box and having one end overlying said forward edge portion of the side wall in the closed position of the door, and means whereby the door may be swung first into an open position perpendicular to the plane thereof and thence rearwardly into the burner box, said means comprising a pivotal support for said overlying end of the door shiftable laterally relative to said side wall and thence rearwardly into the burner box.

4. A cook stove having, in combination, a burner box with a forward opening and a side wall the forward edge of which constitutes one side of said opening, a door for closing said forward opening of the burner box and having one end overlying said forward edge portion of the side wall in the closed position of the door, and means whereby the door may be swung into an open position and thence moved bodily rearwardly comprising a pivot on said overlying end of the door and a guide supporting said pivot for movement laterally and also rearwardly relative to said side wall.

5. A cook stove having, in combination, a burner box with a forward opening and a side wall the forward edge of which constitutes one side of said opening, a door for closing said opening of the burner box and having one end overlying said forward edge portion of the side wall in the closed position of the door, and means whereby the door may be swung into an open position and then moved bodily rearwardly comprising a pivot on said overlying end of the door and a guide operating as an incident to a rearward thrust on the door when in its forward open position to move said pivot laterally relative to the side wall.

In testimony whereof, I have hereunto affixed my signature.

WILLIAM L. COOPER.