M. C. AND D. POWELL.

CULINARY CABINET.

APPLICATION FILED MAY 31, 1918.

1,316,254. Patented Sept. 16, 1919.

Fig. 1.

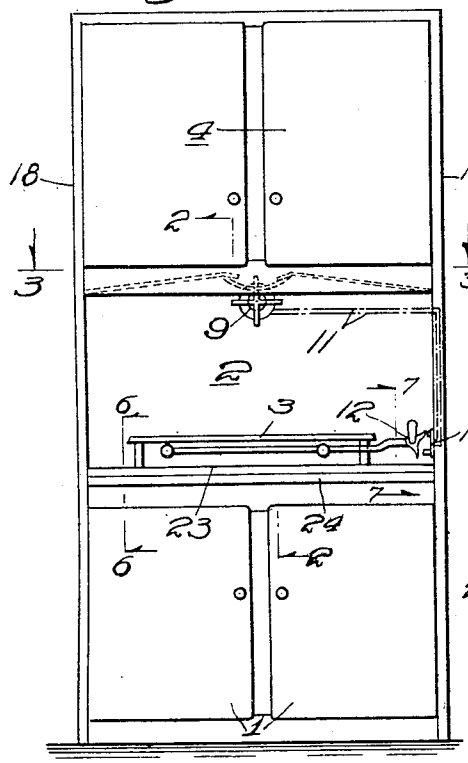


Fig. 2.

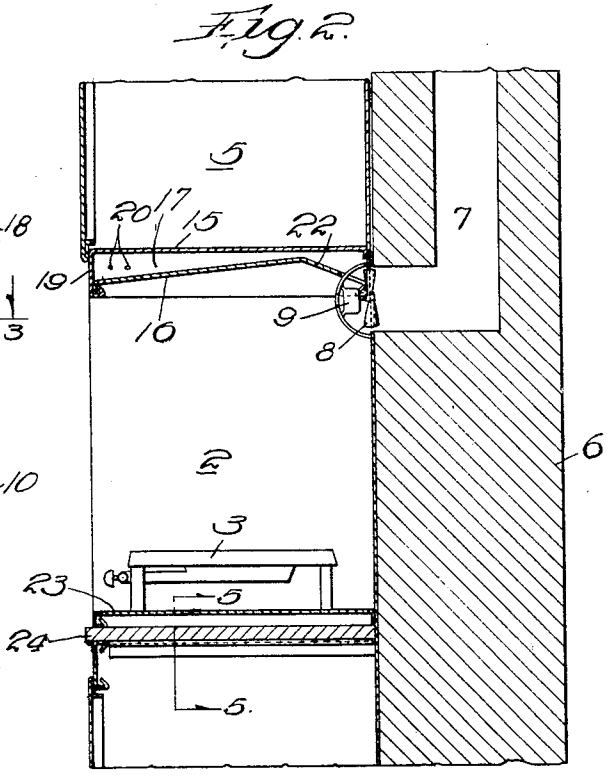


Fig. 3.

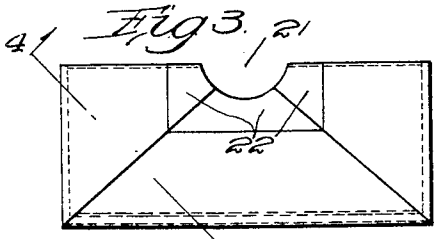


Fig. 4.

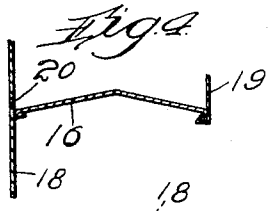


Fig. 7.

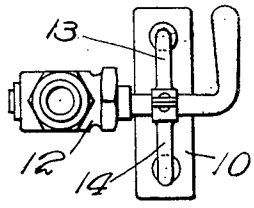
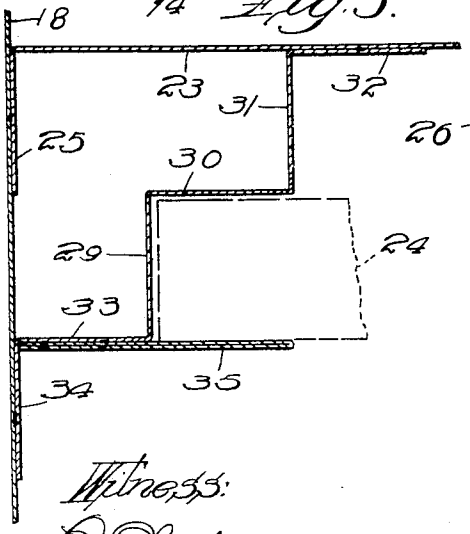


Fig. 5.



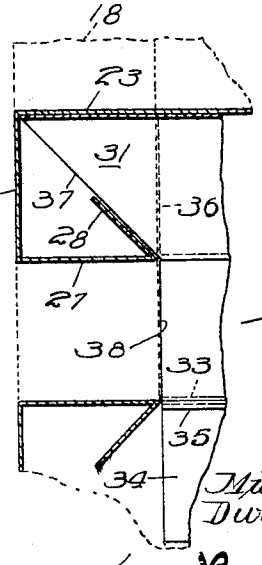


Fig. 6.

Witness:

Inventors:
Milton C. Powell and
Dwight Powell,
by Burton & Burton
their Attys.

UNITED STATES PATENT OFFICE.

MILTON C. POWELL AND DWIGHT POWELL, OF CHICAGO, ILLINOIS.

CULINARY CABINET.

1,316,254. Specification of Letters Patent. Patented Sept. 16, 1919.

Application filed May 31, 1918. Serial No. 237,472.

To all whom it may concern:

Be it known that we, MILTON C. POWELL and DWIGHT POWELL, citizens of the United States, residing at Chicago, in the county of Cook and the State of Illinois, have invented certain new and useful Improvements in Culinary Cabinets, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof.

This invention relates to a culinary cabinet of the type having a compartment containing a heater or cook-stove, and one object of the invention is to provide for adequate ventilation of such compartment. The invention relates also to novel means for preventing transmission of heat from this compartment to an adjacent one and is further concerned with certain structural features adapting the cabinet to be built of sheet metal,—all of which is hereinafter described and shown in the drawings, the novel features and combinations being particularly indicated by the claims.

In the drawings:

Figure 1 is a front elevation of a cabinet embodying this invention.

Fig. 2 is a vertical section taken on a larger scale and showing principally the compartment containing the heater or cook-stove together with the ventilating means and connections associated therewith, being taken as indicated at line 2—2 on Fig. 1.

Fig. 3 is a transverse, horizontal section taken as indicated at line 3—3 on Fig. 1.

Fig. 4 is a detail section taken as indicated at line 4—4 on Fig. 3.

Fig. 5 is a detail section of a slide support and guide, being taken as indicated at line 5—5 on Fig. 2.

Fig. 6 is a detail section illustrating supporting and reinforcing means for a shelf, and being taken at line 6—6 on Fig. 1.

Fig. 7 is a detail elevation of a gas valve and electric switch interconnected for simultaneous operation.

The cabinet shown in Fig. 1 for the purpose of illustrating this invention comprises a lower compartment inclosed by doors, 1, 1, a middle compartment, 2, which may contain a heater or cook-stove such as that indicated at 3, therein, and an upper compartment identified by the doors, 4, 4, in Fig. 1, and which may be assigned to any desired use, but which will ordinarily comprise storage space either for dishes or for food stuffs, a portion of such space being indicated at 5, in Fig. 2. It may be understood that this cabinet is preferably a built-in feature of a kitchen or other apartment, being secured against the apartment wall, 6, while the latter is provided with a ventilating flue, 7, opening into the rear wall of the cabinet for communication with the compartment, 2, containing heater or cook-stove, 3.

For insuring that the heat and also the vapors and odors resulting from cooking operations carried on in the compartment, 2, shall be prevented from escaping forwardly into the room, a suction fan, 8, is mounted at the entrance to the flue, 7, for creating a strong draft up the flue. The fan, 8, is shown as arranged to be driven by an electric motor, 9, which may be provided with a control switch at 10, the connecting wires between said switch and the motor, 9, being shown diagrammatically by lines, 11, on Fig. 1. Preferably this switch is mounted adjacent the valve, 12, which controls the fuel supply for the stove, 3, which, ordinarily will be gas, and, as indicated in Figs. 1 and 7, the stem of the valve or cock, 12, is provided with extending arms, 13 and 14, arranged for contact respectively with the two buttons of the control switch, 10, so that when the gas or other fuel supply is turned on or off by manipulation of the valve, 12, the electric current supply for the fan motor, 9, is correspondingly turned on or off by the same movement. In fact, with the arrangement shown, the control switch, 10, can not be otherwise operated; hence this relation insures that, when the exhaust fan is stopped, the gas supply to the stove, 3, is completely shut off, thus preventing the possibility of gradual escape of gas through leaky burner valves, and the resulting unpleasant odor; while, on the other hand, whenever the stove is definitely put out of use by shutting off the fuel supply, there will be no unnecessary supply of current by continued operation of the electric exhaust fan.

It will be evident that even with sufficient ventilation of this compartment, 2, the temperature therein will necessarily be high, when any extensive cooking operations are going on; but since the compartment, 5, di-

rectly above, may be used for storage of food stuffs, it is undesirable that this high temperature be communicated to the upper compartment. To prevent such transmission of heat, the two spaces are separated by a double walled partition composed of the bottom wall, 15, of the compartment, 5, and a top wall or hood, 16, for the compartment, 2, spaced away from the wall, 15, and below it to provide a clear space, 17, between said two walls. This space, 17, is partially inclosed by the side walls, 18, of the cabinet, and by a depending flange, 19, of the bottom, 15, of the upper compartment; but inlet apertures, 20, may be formed in this depending flange, 19, or as shown in the side walls, 18, to admit the outside air to the space, 17, while at the rear of said space a semi-circular opening, 21, affords communication directly with the mouth of the ventilating flue, 7, so that the operation of the exhaust fan, 8, will constantly draw fresh air to the inlet opening, 20, and across the clear space, 17, passing it up the flue, 7, with the result that any heat actually transmitted through the hood or top wall, 16, of the compartment, 2, will be absorbed by such current of air and dissipated thereby before there is opportunity for its transmission to the wall, 15, of compartment, 5. In this manner the temperature of compartment, 2, is prevented from influencing the temperature of compartment, 5. Preferably the top wall or hood, 16, is formed sloping upwardly from its front and side edges toward the opening, 21, adjacent the mouth of the flue, 7, so that even disregarding the effect of the suction fan, 8, the natural upward movement of the air in compartment, 2, caused by the heat of the stove, 3, may result in a current which will be deflected rearwardly in the compartment as it rises and encounters the hood, 16. The short downward trend of this top wall at 22 adjacent the opening, 21, affords an outlet from the space, 17, without materially interfering with the rearward flow of the current of air along the under surface of the hood. A comparison of Figs. 2, 3 and 4 will indicate clearly the form of this hood member, 16.

It may be noted that the cabinet is designed for sheet metal construction, as indicated in the various sectional views. Directly below the bottom wall or shelf, 23, of compartment, 2, it is desirable to provide a slide or extension shelf, 24, and since this will frequently serve the purposes of a molding board or bread board, it may preferably be of wood, and is therefore shown as of solid cross-section in Fig. 2. For supporting and guiding the slide, 24, sheet metal members of angular cross-section are provided as shown in Fig. 5. The shelf, 23, itself is formed with a depending end flange, 25, which is secured preferably by spot-welding to the side wall, 18, of the cabinet. The front edge of the shelf, 23, is formed as shown in sectional outline in Fig. 6, by bending down a depending web, 26, then bending the material rearwardly and horizontally to form the web, 27, finishing with an upward and acutely bent flange, 28. The slide, 24, is spaced below the shelf, 23, to clear the depending edges, 26, thereof, and the lateral guide member for said slide comprises a vertical web portion, 29, adjacent the lateral edge of the slide, a horizontal web portion, 30, extending immediately over said slide near its edge and then bent upwardly at 31, to the under surface of shelf, 23, where its horizontally bent flange, 32, is secured as by spot-welding to the shelf. From the lower edge of the web, 29, a horizontal web, 33, extends from the slide, 24, to the side wall, 18, to which the vertically bent flange, 34, is secured. For supporting the slide member, 24, a strip, 35, shown as of a double thickness of the sheet metal, folded upon itself, is secured to the under side of web, 33, preferably by spot-welding as indicated in Fig. 5 and projecting therefrom for a sufficient distance under the slide, 24.

An appearance of substantial thickness is given to the side walls, 18, and they are also materially stiffened by a formation of their front edges similarly to the front edge of the shelf, 23, already described. This requires notching out the corners of the front edge, 23, and prevents any effective extension of the securing flanges, 25, beyond the vertical plane of the acute angled bend between the web, 27, and the flange, 28, of the shelf member, and the corresponding bend in the similarly formed side panels, 18. Said flange, 25, therefore stops as indicated at the dotted line, 36, in Fig. 6, and to support and stiffen the extended forward edge of the shelf, 23, the up-bent web, 31, of each of the guide members for the slide, 24, is projected forwardly at its upper edge into the angle between the upper slide, 23, of the shelf and its depending front web, 26; but to clear the acutely bent flange, 28, these extended portions of the web, 31, must be mitered as at 37. The remaining portion of the guide member terminates at the plane of the line, 38, as shown in Fig. 6, except the topmost flange, 32, which may extend forwardly to the acute point of the web, 31, for adding stability thereto. It will be seen that while the sheet metal constructions above described are relatively simple to produce, they are especially designed to permit of securement by spot-welding and will therefore result in exceptionally economical and substantial cabinet structure.

We claim:

1. In a culinary cabinet comprising two adjacent compartments one above the other separated by a double walled partition and

with a heating device in the lower compartment, said partition having a clear space between its two walls with inlet and outlet openings at substantially opposite portions of the periphery of said partition respectively for ventilating said space to dissipate the heat transmitted by the wall adjacent the heating device.

2. In combination with a culinary cabinet comprising two adjacent compartments separated by a double walled partition, a heating device in one compartment, a ventilating shaft with an opening leading from said compartment and mechanical draft-producing means associated with such shaft adapted to produce a flow of air through the opening into the shaft, the space between the two walls of said partition communicating directly with said opening and having an inlet opening at a point distant therefrom, whereby the draft-producing device will cause a flow of air between said two walls of the partition for dissipating heat therefrom.

3. In a culinary cabinet comprising two adjacent compartments one above the other separated by a double walled partition and with a heating device in the lower compartment, said partition having a clear space between its two walls with an inlet opening in one edge of the partition leading to said space, a ventilating shaft and an opening thereinto from said lower compartment, the clear space of the partition communicating also with said ventilating shaft whereby the draft created therein by the heating device will produce a flow of air through said space in the partition for dissipating the heat therefrom.

4. In a culinary cabinet comprising two adjacent compartments one above the other separated by a double walled partition, a heating device in the lower compartment, a ventilating shaft leading from said compartment and mechanical draft producing means adjacent the opening from the compartment to the shaft adapted to produce a flow of air into the shaft, the space between the two walls of said partition communicating directly with said opening and having an inlet opening at a point distant therefrom whereby said draft producing device will cause a flow of air between the two walls of said partition for dissipating the heat therefrom.

5. In a culinary cabinet including a compartment provided with a heating device a source of energy for generating heat in said device, a control device for said energy supply, a ventilating flue leading from said compartment, a power driven exhaust device associated with said flue, a source of energy for said exhaust device, and a control device for said energy supply, said control devices being interconnected to provide for supply of energy to the heating device and to the exhaust device simultaneously.

6. In a culinary cabinet including a compartment with a gas heater therein together with a ventilating flue leading from said compartment and an electric exhaust fan associated with said flue, a control cock for the gas supply and a control switch for said fan interconnected with said gas cock by means adapted to open the switch when the gas cock is closed and to close the switch when said cock is open.

7. In a sheet metal cabinet structure comprising side walls, a fixed shelf carried between them by securement of its downturned end flanges to said walls respectively and a slide supported below said fixed shelf; lateral guide members for said slide each comprising a vertical web adjacent the edge of the slide with horizontal webs extending respectively over said slide and away from it at the upper and lower planes thereof, the upper horizontal web being bent up to extend to the fixed shelf and terminating in a horizontal flange attached to the under surface of said shelf and the lower horizontal web extending to the side wall with a vertical flange secured thereto, together with a flat member attached to the under side of said horizontal web and projecting under the slide for supporting it.

8. In a sheet metal cabinet structure including side walls and a fixed shelf secured between them by attachment thereto at its ends, the front edge of said shelf being formed of a depending web with a horizontal rearwardly bent portion substantially parallel to the upper surface of the shelf and spaced below it, and a terminal flange bent up acutely with respect to the horizontal web from the rear edge thereof; auxiliary supporting means for said shelf comprising a strip having a horizontal flange secured to the under surface of the shelf, and a vertical web spaced away from the side wall of the cabinet extending forwardly into the space between said under surface and the horizontal web of the shelf edge, the front edge of said supporting web being mitered back from the depending web of the shelf edge to the rear edge of said horizontal web to clear the acutely bent flange thereof; together with horizontally and vertically bent portions extending from said supporting web to the side wall and secured thereto.

9. In the structure set out in claim 7, the front edge of the said fixed shelf being formed of a depending web with a horizontal portion substantially parallel to the upper surface of the shelf and spaced below it and a terminal flange bent acutely with respect to the horizontal web from the rear edge thereof, the upwardly bent portion of the upper web of the guide mem-

ber for the slide constituting an auxiliary support for said fixed shelf extending forwardly into the space between said shelf and the horizontal web of the edge formation, such supporting web having its front edge mitered back from the depending web of the shelf edge to the rear edge of said horizontal web to clear the acutely bent flange thereof.

In testimony whereof we have hereunto set our hands at Chicago, Illinois, this 20th day of May, 1918.

MILTON C. POWELL.
DWIGHT POWELL.