Nov. 25, 1952 W. KENNEDY 2,618,936

COMBINATION QUICK FREEZE AND REFRIGERATOR CABINET

Filed Feb. 9, 1949 2 SHEETS—SHEET 1

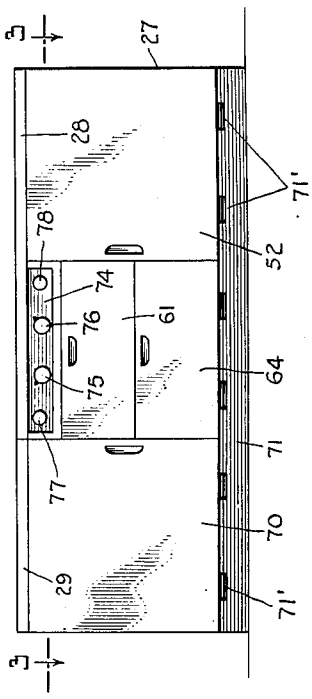


Fig. 2.

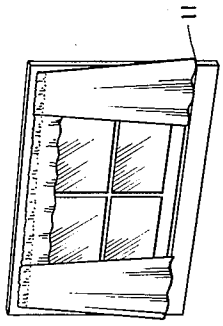


Fig. 1.

INVENTOR
Walter Kennedy
BY
Howard P. Thompson
ATTORNEY

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Fig. 3.

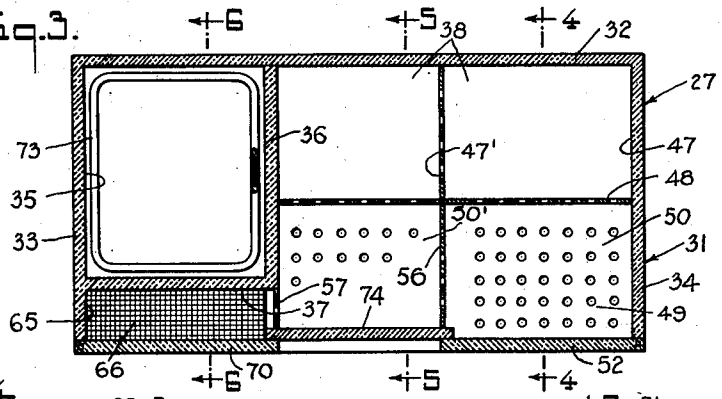


Fig. 4.

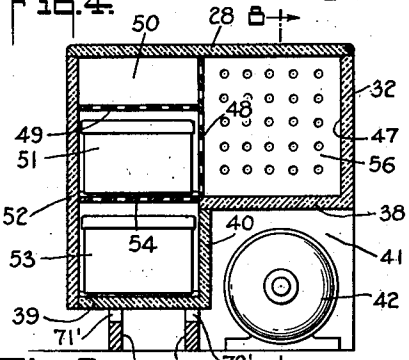


Fig. 5.

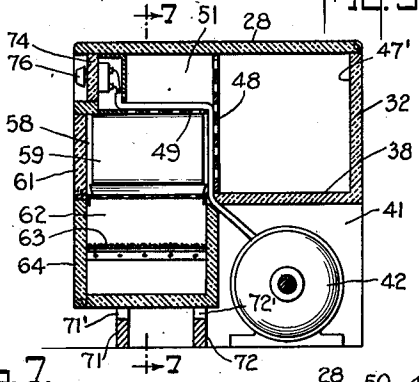


Fig. 6.

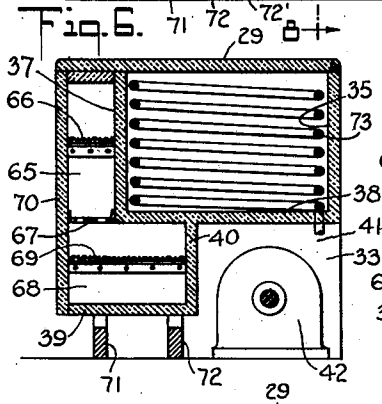


Fig. 7.

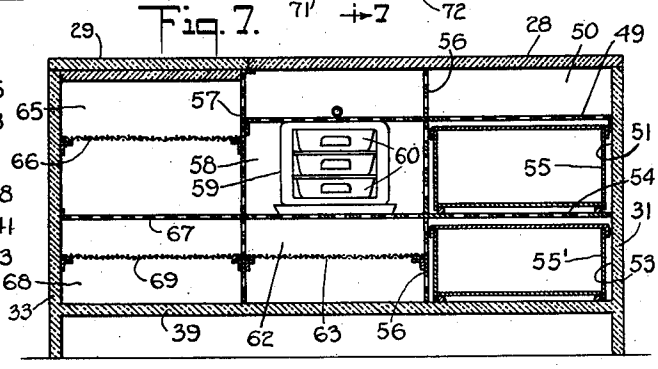
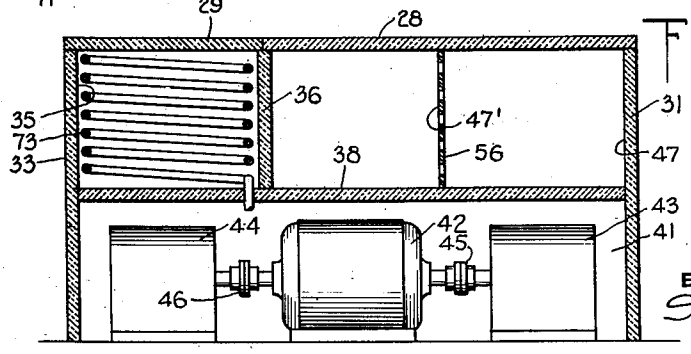


Fig. 8.



INVENTOR
Walter Kennedy
BY
Howard C. Thompson
ATTORNEY

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COMBINATION QUICK FREEZE AND REFRIGERATOR CABINET

Walter Kennedy, Cliffside Park, N. J.

Application February 9, 1949, Serial No. 75,370

6 Claims. (Cl. 62—89)

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This invention deals with a kitchen ensemble, wherein various utility devices of the kitchen, such for example as a sink, gas range, refrigerator and cabinets are all constructed of a standard height and, preferably, of a standard width in order to maintain a single one-surface and level table top forming, in the ensemble arrangement, a continuous work-table, particularly when the respective utility devices are not in use. Still more particularly, the invention deals with the structure of one of such utility devices, namely the refrigerator in providing what I term a "low-boy combination quick-freeze and refrigerator."

The novel features of the invention will be best understood from the following description, when taken together with the accompanying drawing, in which, the separate parts are designated by suitable reference characters in each of the views and, in which:

Fig. 1 is a diagrammatic view of two wall structures of a kitchen showing arrangement of various utility devices and/or cabinets arranged in forming a common or alined table top throughout the respective devices.

Fig. 2 is a face view of one of the devices shown in Fig. 1 on a somewhat enlarged scale.

Fig. 3 is a sectional plan view substantially on the line 3—3 of Fig. 2.

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

Fig. 5 is a section on the line 5—5 of Fig. 3.

Fig. 6 is a section on the line 6—6 of Fig. 3.

Fig. 7 is a section substantially on the line 7—7 of Fig. 5; and

Fig. 8 is a section on the line 8—8 of Fig. 4.

In the layout of kitchens, efforts have been made to unify or create ensembles in what may be termed "kitchen utility cabinets," such as mounted on the floor and these cabinets, in many instances, have been made of such heights as to be substantially in alinement with the height of a kitchen stove. Further, ensembles have been made where a few cabinets have been united with a sink structure, where the drainboards of the sink structure are maintained on a level with or are continuous with the tops of the adjacent cabinets.

However, in such structures, sinks have been employed with raised tops and with open-sink basins. Furthermore, gas ranges have included various depths in contrast to the depths standardized in cabinets and, quite often, of different heights and, again, in fitting refrigerators into these assemblages, refrigerators have been of tall construction, towering above the upper surfaces of cabinets or the like, rendering the tops

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of the refrigerators non-usable for surface purposes.

It is the object of my invention to provide a kitchen ensemble, wherein the various utility devices or cabinets, that is to say, the sink, the stove or range, refrigerator and associate cabinets are all constructed of a common height and so-constructed as to provide, at least, when not in use, one continuous surface table top throughout the entire ensemble and, preferably, in such manner as to maintain a common frontage throughout the entire ensemble.

In Fig. 1 of the drawing I have made what may be called a diagrammatic or schematic sketch showing two adjoining walls of a kitchen with at least part of an ensemble arranged along these walls.

To identify the walls, the one wall has a window as at 10 and the other wall, as at 11. Beneath the window 10 is disposed a sink 12, preferably having two movable top covers 13 and 14 and front doors 15 and 16 controlling storage or other compartments beneath the sink structure. No specific disclosure of the sink unit 12 will be made in this application, as it will form the subject matter of a companion application.

At 17 is shown a stove or range unit, preferably disposed beneath the window 11. The stove or range unit has a lift-top 18, including a front depending skirt portion 19, an oven-door 20, and two other doors or compartment closures 21 and 22. Here again the specific structure of the range 17 is the subject of a separate application and, thus, no further detailed description will be herein made.

Between the utility devices 12 and 17 are disposed two cabinets 23 and 24 and a corner filler-section 25. The cabinets and filler-section have upper surfaces which are in alignment with the covers 14 and 18, as will be clearly apparent. To the left of the sink 12 may be disposed other types of cabinets, part of one of which is seen at 26. At 27 is shown a refrigerating unit or device, of what I term the "low-boy combination quick-freeze and refrigerating"-type. The unit 27 has a wide raisable cover 28 and a narrow cover 29 which covers are also of a height common to the top covers 13, 14 and 18 and with the top of an intervening cabinet 30 between the units 17 and 27.

It will be understood that the ensemble, as seen in Fig. 1 of the drawing, is diagrammatic, not only as to the outline showing of the various units or devices, but also as to the arrangement, it being understood that the various units can be

fitted into rooms of different types and kinds and, in some instances, spaces will be provided between the arrangement of units. The present illustration is made only to clearly illustrate the common table top structure of all units which result is carried out in the room, regardless of the positioning of the respective units in the room. The structure of the cabinets, as at 23, 24, 26 and 30, can be of standard types or kinds and with any compartment arrangement desired and, for this reason, no detailed description of these cabinets will be here made as they form no specific part of the present disclosure. It is preferred, however, that the various doors and drawers employed have the recessed-type of handle structure in order to provide a smooth finished frontage or a frontage dispensing with protruding parts. To this end, the controls of the refrigerating unit 27 are disposed within a recessed panel, as later described.

The present application will deal specifically with the construction of the unit 27, which unit is shown in diagrammatic detail in Figs. 2–8 inclusive. In these several figures, no attempt is made to disclose the specific wall structure or detail mechanism of the refrigeration employed, except to the end to make it clear to anyone skilled in the art just how the resulting unitary cabinet can be produced. The unit 27 comprises a large oblong, rectangular cabinet 31 having a long back wall 32 and side walls 33 and 34. The top of the cabinet is open and this open top is closed by the covers 28 and 29, the cover 28 controlling two sets of compartments, whereas the cover 29 controls primarily a freeze compartment 35, in which foods of various types and kinds can be quickly frozen and stored or, after freezing, can be stored in other compartments of the refrigerator, as later described.

At 36 and 37, note Fig. 3, are partition walls sub-dividing the compartment 35 from the refrigerating space, as a whole, of the refrigerator. This refrigerating space is also confined to limits by a raised bottom wall 38, note Figs. 4, 5 and 6; a bottom wall 39 at the front of the refrigerator and joining the wall 38 in an upstanding or supplemental back wall 40. The wall 38 is continuous into and forms the bottom wall of the freeze storage compartment 35, as will clearly appear from a consideration of Fig. 6 of the drawing.

This wall structure provides, at the lower back portion of the unit 27, a chamber 41, in which is disposed an electric motor 42 for actuating two compressors or other units 43, 44 for operating electrical freezing equipment, as is well-known in the art. Suitable actuated clutch couplings 45 and 46 will be provided between the motor 42 and the compressors 43 and 44 to provide automatic action in maintaining predetermined control and regulated temperatures in the refrigerator chamber or compartments as a whole, or in the freeze compartment 35. No detailed showing of this electrical equipment is made, as it forms no specific part of the present invention and, while a single motor for actuating both freezing apparatus is employed, it will, of course, be apparent that independent motors for each unit can also be utilized.

Starting now at the right side of the unit 27, as viewed from the front, it here will be noted that, at the back of the unit is a deep and relatively wide compartment 47, in which such articles as milk bottles, soft drink bottles and the like can be stored, the compartment 47 being of sufficient depth to freely receive the tallest of bottles of this type and kind as conventionally used, so that, in raising the cover 28, the type of bottle can be chosen and removed from the top of the refrigerator without disturbing any other bottle. At the front of the compartment 47 is an open-work partition 48 and, at 49, is shown a horizontal open-work partition which divides the upper front portion of the unit 27 into a shallow upper compartment 50, exposable through the top of the unit and suitable for the storage of small or low articles of any type or kind, such for example, as cream, butter, eggs, etc., and some types of meat, such as bacon and the like. Below the compartment 50 is another compartment 51 which is controlled by a front door 52. Below the compartment 51 is another lower compartment 53 divided from the compartment 51 by an open-work partition wall 54. The compartment 53 is controlled by the door 52 and this compartment, as well as the compartment 51, may have drawer-like members, as at 55, 55', more clearly seen in Fig. 7 of the drawing.

Considering now Fig. 7 of the drawing, a vertical open-work partition wall 56 forms the boundary of the left side of the several compartments 47, 50, 51 and 53 and this wall also extends to the back wall 32 of the cabinet, as will clearly appear from a consideration of Fig. 3 of the drawing. This wall 56, in combination with the wall 36, and an open-work wall 57, note Figs. 3 and 7, forms, to the left of said first named compartments 47, 50, 51 and 53 another series of compartments, that is to say, a compartment 47', generally similar to the compartment 47 and a compartment 50', generally similar to the compartment 50, the similarity being primarily as to depth but not as to width. These compartments may serve as storages for other or similar products. However, it is preferred that the compartment 47 be used for the storage of frozen foods that are removed from the freeze compartment 35. The compartment 51 can also be used for this purpose, if desired.

At 58 is shown the refrigerating compartment of the refrigerator proper, in which a refrigerating element 59, serviced for example by the compressor 43, is arranged. Within the element 59 may be arranged, in a suitable manner, the ice cube freezing trays, diagrammatically seen at 60 and three of which are indicated in the accompanying drawing. The compartment 58 is controlled by an independent door 61 so that, on any occasion for removing ice cubes, the remainder of the refrigerator is undisturbed. On the other hand, opening of other doors controlling various refrigerator compartments will not disturb conditions within the compartment 58.

Beneath the compartment 58 is a compartment 62 having a shelf 63 therein. The compartment 62 is controlled by a door 64.

To the left of the last named compartments is the partition 57 and forwardly of the freeze compartment 35 is a shallow depth compartment 65, preferably having a shelf 66, the lower end of the compartment 65 having an open-work partition wall 67 and below the wall 67 is a compartment 68 having a shelf 69 therein, the compartment 68 extending to the depth of the wall 40, as clearly seen in Fig. 6 of the drawing, whereas the compartment 65 extends only to the depth of the wall 37. A single door 70 is employed to control the compartments 65 and 68. These latter compartments will provide storage for such products as are not usually or continuously needed in the use of the refrigerator. Extending below the wall 39

and for the full length of the unit is an inwardly set base wall or riser 71, which is in alinement with and corresponds with similar risers at the lower portion of all of the units diagrammatically seen in Fig. 1 of the drawing. This is to provide the usual toe room to provide convenient standing in front of any one of the units in utilizing the flat table tops of such units. A supplemental base wall 72 is provided inwardly of the wall 71 in further support of the refrigerator unit, it being understood that the side walls 31 and 32 extend to the full depth of the walls 71 and 72. The refrigerator structure, as diagrammatically seen in the accompanying drawings, forms an open-compartment 41 whereby, through-proper installation, the unit, as a whole, can be removed from the motor and other mechanism is caring for repairs on the drive mechanism of the unit. If the latter installation is employed, the motors and compressors will be mounted directly upon the supporting surface. In other instances, the same may comprise part of the unit as a whole and the entire unit handled for repair purposes.

Within the freeze compartment 35 will be arranged suitable freezing coils or the like, as diagrammatically seen at 73, for providing the temperature in the freeze compartment 35. Forwardly of the compartment 51' is an inwardly set wall panel 74, rearwardly of which are suitable mechanisms providing the control of the refrigerator operation and, on the panel 74, note Fig. 2, are two temperature regulating knobs 75 and 76, one controlling the temperature of the freeze unit 73 and the other of the refrigerator proper. Also on the panel are disposed two buttons 77 and 78. These buttons are a well known type of push buttons which are employed to control release of catch devices so as to release the covers 28 and 29 to facilitate movement of these covers into raised position. This can be accomplished by well-known type of spring hinges which would normally maintain the covers 28 and 29 in a raised position sufficient to fully expose the various upper compartments of the complete unit.

The covers can be lowered against the action of the spring hinges into their closed and latched positions. By virtue of this construction, the simple pressing of the release button will facilitate movement of either cover 28 or 29 into the raised open position. This construction will be advantageous, particularly in placing articles for storage in the upper compartments.

By using the two covers, the deep freeze compartment will not be disturbed or exposed while the upper compartments of the refrigerator are utilized. It is also preferred that such products will be stored in the upper compartments as will provide the greatest service to the user, particularly in acquiring such commonly used food products as milk, soft drinks, butter, cheese, cream, eggs, bacon and the like; whereas the other compartments will have the independent controls through the respective doors employed and arrangement of the stored products will be such as to make the most used products readily accessible.

It will be apparent that the various shelf structures employed can be of the sliding type so that the product can be moved into the room for insertion or removal from the top of the shelves. The same will be true insofar as the drawered compartments are concerned.

It will appear from a consideration of Figs. 4, 5 and 7 that the riser 71 and base wall 72 have vent openings 71' and 72' for ventilating the chamber or compartment 41.

It will be apparent that, by utilizing suitably vented partition walls, all of the compartments of the refrigerator are exposed for air circulating and the only compartment which is sealed from these several compartments is the freeze compartment 35, the latter being bounded by insulated walls, including the cover wall 29.

In the use of the refrigerating unit, it will be apparent that after setting the control dial 75, 76 to the desired or required temperatures in the freeze compartment 35 and in the remaining compartments, the maintenance of the desired temperatures is automatically accomplished through conventional controls which will operate to actuate either and/or both of the compressors 43 and 44 through the controlled clutches 45 and 46.

It is also preferred that the covers 61 and 64 be in the form of drop covers to provide, beyond the boundaries of the refrigerator, a supporting shelf, upon which articles can be placed; whereas the doors 52 and 70 can be of the conventional swinging type.

Having fully described by invention, what I claim as new and desire to secure by Letters Patent is:

1. A refrigerating unit of the character described, comprising a low relatively wide cabinet structure, having a flat top over the entire upper portion thereof, said cabinet structure having a deep storage compartment in the upper portion thereof, substantially the entire area of said compartment being accessible through the top of said cabinet for storage of products, a hinged cover controlling the top of said compartment, the front of the cabinet having at least one door controlling admission to other storage compartments of said cabinet, a freeze compartment at one side of the first compartment and insulated from all compartments of the cabinet, substantially the entire area of said freeze compartment opening through the top of the cabinet, a cover controlling said last named opening, and said covers forming the top of the unit.

2. A refrigerating unit of the character described, comprising a low relatively wide cabinet structure, having a flat top over the entire upper portion thereof, said cabinet structure having a deep storage compartment in the upper portion thereof, substantially the entire area of said compartment being accessible through the top of said cabinet for storage of products, a hinged cover controlling the top of said compartment, the front of the cabinet having at least one door controlling admission to other storage compartments of said cabinet, a freeze compartment at one side of the first compartment and insulated from all compartments of the cabinet, substantially the entire area of said freeze compartment opening through the top of the cabinet, a cover controlling said last named opening, said covers forming the top of the unit, said first compartments and the freeze compartment having independent means of refrigeration, and independent controls on the front wall of the cabinet for controlling said independent refrigeration means.

3. A refrigerating unit of the character described, comprising a cabinet of materially greater length than height, means comprising a plurality of vertical and horizontal openwork partitions for dividing the cabinet into a plurality of upper and lower storing compartments, substantially the entire area of said upper compartments being accessible through the top of the cabinet, at least one of said upper compartments being sufficiently deep to support bottled products in upright position,

hinged flat top covers forming the top of the cabinet, said covers controlling access to said upper compartments, at least one lower compartment opening through the front of the cabinet, and a door controlling said lower compartment.

4. A refrigerating unit of the character described, comprising a cabinet of materially greater length than height, means comprising a plurality of vertical and horizontal openwork partitions for dividing the cabinet into a plurality of upper and lower storing compartments, substantially the entire area of said upper compartments being accessible through the top of the cabinet, at least one of said upper compartments being sufficiently deep to support bottled products in upright position, hinged flat top covers forming the top of the cabinet, said covers controlling access to said upper compartments, at least one lower compartment opening through the front of the cabinet, a door controlling said lower compartment, another of said upper compartments comprising a freeze compartment insulated from the other compartments of the cabinet, and one of said first named covers controlling said freeze compartment.

5. A refrigerating unit of the character described, comprising a cabinet of materially greater length than height, means comprising a plurality of vertical and horizontal openwork partitions for dividing the cabinet into a plurality of upper and lower storing compartments, substantially the entire area of said upper compartments being accessible through the top of the cabinet, at least one of said upper compartments being sufficiently deep to support bottled products in upright position, hinged flat top covers forming the top of the cabinet, said covers controlling access to said upper compartments, the lower compartments being spaced longitudinally of the cabinet, and a plurality of doors at the front of the cabinet controlling said lower compartments.

6. A refrigerating unit of the character described, comprising a cabinet of materially greater length than height, means comprising a plurality of vertical and horizontal openwork

partitions for dividing the cabinet into a plurality of upper and lower storing compartments, substantially the entire area of said upper compartments being accessible through the top of the cabinet, at least one of said upper compartments being sufficiently deep to support bottled products in upright position, hinged flat top covers forming the top of the cabinet, said covers controlling access to said upper compartments, at least one lower compartment opening through the front of the cabinet, a door controlling said lower compartment, another of said upper compartments comprising a freeze compartment insulated from the other compartments of the cabinet, one of said first named covers controlling said freeze compartment, said first compartments and freeze compartment having independent means of refrigeration, independent controls on the front wall of the cabinet for controlling said independent refrigeration means, the refrigeration means for the first named compartments being arranged in a compartment accessible through the front of the cabinet, and an independent door controlling said last named compartment.

WALTER KENNEDY.

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