Aug. 4, 1959 L. N. ALBRECHT 2,897,812

DOMESTIC APPLIANCE

Filed Jan. 3, 1955 2 Sheets-Sheet 1

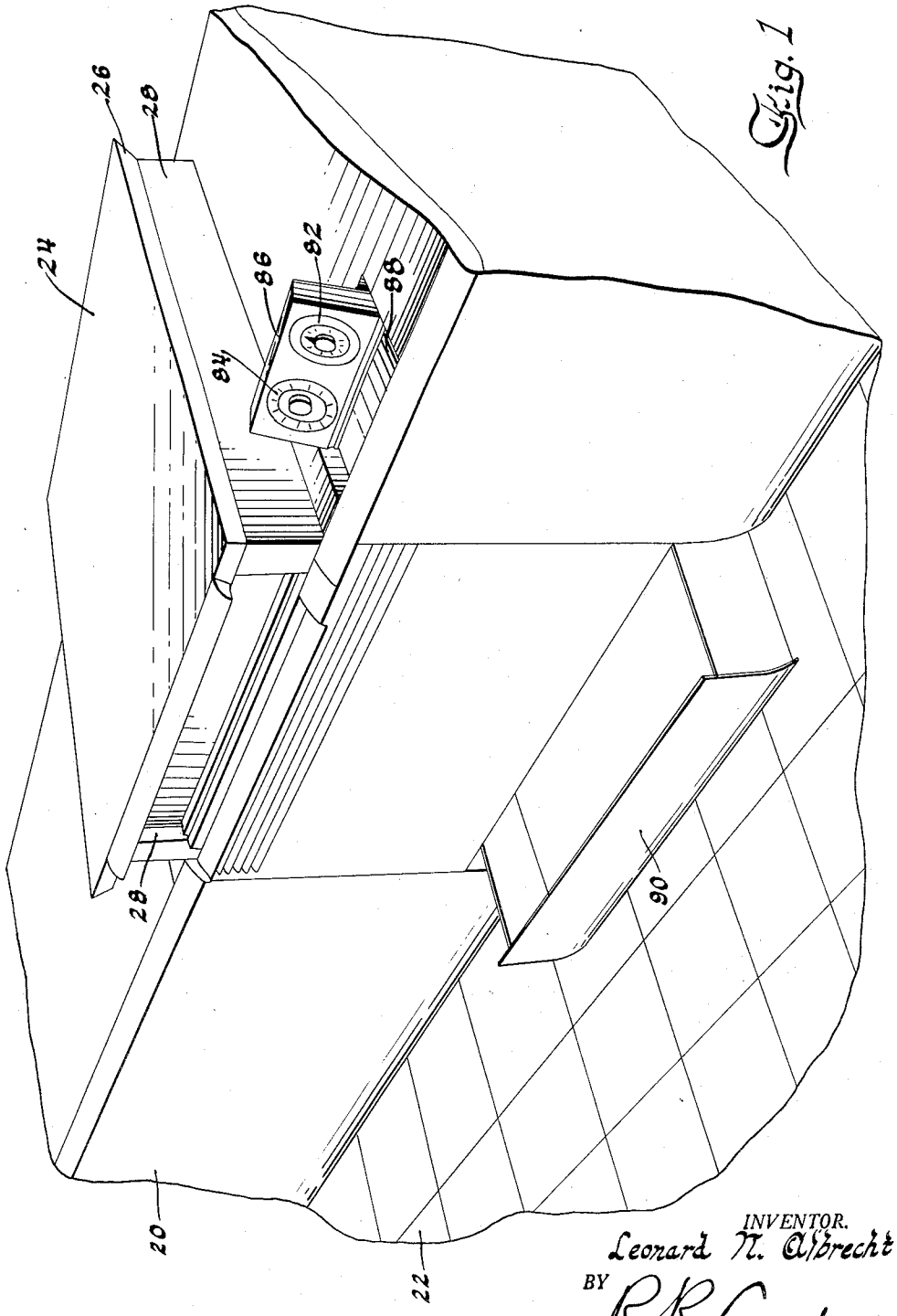

Fig. 1

INVENTOR.
Leonard N. Albrecht
BY
R R Candor
His Attorney

Aug. 4, 1959 L. N. ALBRECHT 2,897,812

DOMESTIC APPLIANCE

Filed Jan. 3, 1955 2 Sheets-Sheet 2

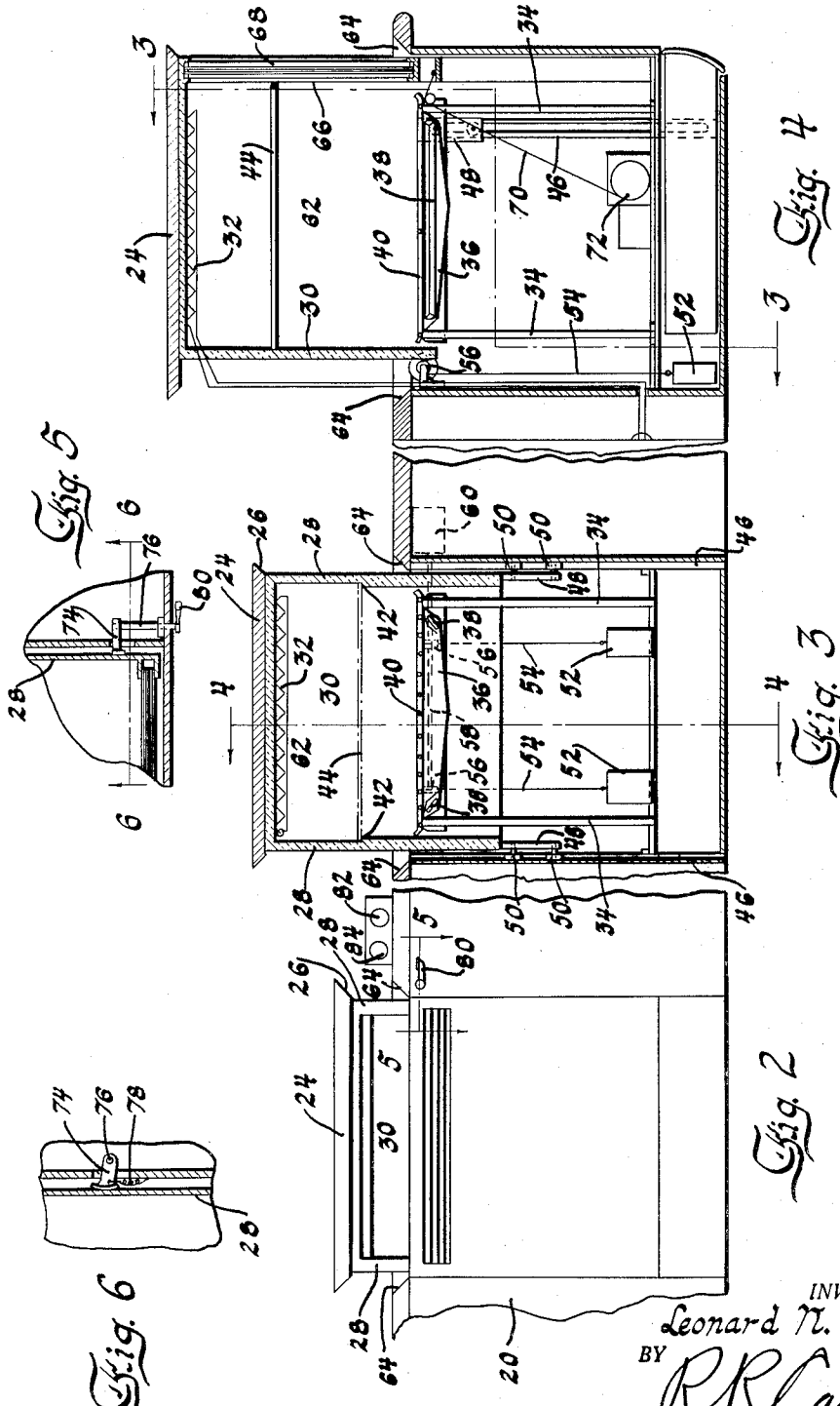

Fig. 4

Fig. 5

Fig. 3

Fig. 2

Fig. 6

INVENTOR.
Leonard N. Albrecht
BY
R R Landon
His Attorney

United States Patent Office 2,897,812 Patented Aug. 4, 1959

2,897,812

DOMESTIC APPLIANCE

Leonard N. Albrecht, Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Application January 3, 1955, Serial No. 479,507

2 Claims. (Cl. 126—19)

This invention relates to a domestic appliance and more particularly to a domestic built in oven arrangement forming a part of the architectural layout of a kitchen.

Ovens have been arranged in kitchens in various ways but most always as a distinctively separate unit arranged in such a way that its space is only useful as an oven.

It is an object of this invention to provide a kitchen with an extensive worktable of which a part may be conveniently used for an oven.

It is another object of this invention to provide an oven which can be contracted or expanded in size according to the maximum dimensions of the food load to be placed therein.

It is another object of this invention to provide an oven which can be raised or lowered in height according to the height of the food load to be placed therein.

These and other objects of the invention are obtained in the forms shown in the drawings in which a worktable for a kitchen is shown. The top of the worktable has a movable section which forms the movable top of an oven compartment. The side and rear walls of the oven compartment are connected to this movable top section. A vertically sliding door is also connected to this structure. The bottom of the oven is stationary and located just beneath the top section when the top is aligned with the remaining portions of the table top cabinet. To use the oven for broiling, the top is raised just high enough to provide a space of little height sufficient to accommodate the relatively thin flat food load which may be cooked in this manner. For baking, the top is raised a greater amount in portion to the height of the food load to be placed therein. For a small food load it may be raised to half the full height while for larger food loads it may be raised to full height.

Further objects and advantages of the present invention will be apparent from the following description, reference being had to the accompanying drawings, wherein a preferred form of the present invention is clearly shown.

In the drawings:

Figure 1 is a perspective view of a table top cabinet for a kitchen embodying one form of an oven constructed according to this invention;

Figure 2 is a front view of the oven section of the cabinet shown in Figure 1;

Figure 3 is a vertical sectional view taken substantially along the lines 3—3 of Figure 4;

Figure 4 is a vertical sectional view along the lines 4—4 of Figure 3;

Figure 5 is a fragmentary horizontal sectional view along the lines 5—5 of Figure 2; and

Figure 6 is a fragmentary vertical sectional view along the lines 6—6 of Figure 5.

Referring now to the drawings and more particularly to Figure 1 there is shown a table top cabinet 20 resting upon the floor 22 of a kitchen. This cabinet has a movable top section 24 which when lowered fits tightly onto the top of the cabinet 20 so that the top surface of the cabinet is plane. The section 24 may have its edges 26 extending outwardly at an angle to form a bevel which will fit tightly the beveled abutting edge portions of the top of the cabinet 20. Fastened to this top section 24 are the side walls 28 and the rear wall 30. These united walls together with the top section 24 are suitably insulated. Just beneath the top section 24 is a broil heater 32 which may also be used to provide a small amount of top heat for baking.

The bottom of the oven is supported by four tall narrow posts 34. This bottom of the oven is stationary and is formed by a rectangular sheet metal pan 36 having a central depressed portion. Each side of this pan 36 is provided with a hairpin shaped sheathed tubular type electric heater 38. Supported above the pan 36 is an oven rack 40. The side walls 28 may be provided with one or more ledges 42 for supporting additional racks 44. These ledges 42 are in the form of plain shoulders to allow the rack 44 to be supported upon the rack 40 in the event that the rack 44 is not removed before the lowering of the top 24.

Built into the cabinet 20 on each side of the oven structure are a set of vertical guide rails 46. The side walls 28 have downwardly extending projections 48 carrying sets of vertically spaced rollers 50 which roll within the guide rails 46 to guide the movable structure upwardly and downwardly. The weight of the movable structure is balanced by two counter weights 52 each connected to the lower end of a cable or chain 54 extending over pulleys or sprockets 56 upon a motor shaft 58 behind the rear wall 30. The other end of each of the cables or chains 54 is fastened to the bottom portion of the rear wall 30 beneath the pulley or sprockets as shown in Figure 4. The shaft 58 may be rotated in either direction by the reversible motor 60 to raise or lower the top section 24 for the purpose of making the interior of the oven compartment 62 whatever size is desired. However since the walls are counter-balanced the top section 24 may also be moved manually to make the oven compartment 62 any size desired. The cabinet is provided with beveled portions 64 around the opening for the top section 24 so as to make a good fit for the beveled projections 26 as shown in Figures 2 and 3 when the top section 24 is lowered the maximum amount.

The front edges of the side walls 28 are provided with suitable guide ways 66 for the vertically slidable front door 68 of the movable portion of the oven structure. Preferably this door is made substantially all of three spaced sheets of glass which are sealed in glass around their edges and have a high vacuum in the spaces between the sheets. This door 68 may be raised and lowered by a cable or chain 70 driven by a suitable reversible electric motor 72 which may be co-ordinated with the raising and lowering of the upper oven structure. This cable or chain 70 extends from the bottom of the door 68 over an adjacent small pulley on the bottom wall 36 to a winding and unwinding drum driven by the reversible electric motor 72 as shown in Fig. 4.

The movable upper oven structure may be held firmly in any desired position by a wedging type latch member 74 mounted upon a shaft 76 and normally pulled into engagement with the wall structure 28 by a spring 78. The wedging type latch member 74 has a friction surface on its outer end adapted to engage the side wall 28. To release the wedging type latch member 74 the outer end of the shaft 76 is provided with a handle 80 in the form of a lever projecting from the front of the table top cabinet 20. This handle 80 may be depressed to move the member 74 away from the side wall 28.

The thermostatic oven manipulating control member **82** and suitable indicating means **84** are mounted upon a second movable top section **86** of the cabinet **20**. This section **86** is hinged so that when it is folded down into the opening **88** of the table top, the thermostatic control **82** and the indicating means **84** are on the bottom side and are thereby concealed. When folded up as shown in Figures 1 and 2, the controls and the manipulating and indicating means **82** and **84** are freely exposed in a convenient position. When the oven is not in use, the section **86** may be folded down flush with the top of the cabinet **20**. Likewise the section **24** may be moved downwardly to a position where it is also flush with the top of the cabinet **20** so that the entire top of the cabinet **20** forms one plane smooth worktable. Beneath the oven portion there may be provided a single bottom drawer **90** extending in front of the counter weights **52** and below the motor **72** between the guide rails **46**. In Figures 1 and 2 the top section **24** is shown in the approximate position for broiling. In Figure 3, the top section is shown in the approximate position for a small roast. In Figure 4 the top section is shown in the approximate position for roasting two different food loads one above the other at the same time. This position may also be used for a food load of exceptional height.

While the form of embodiment of the invention as herein disclosed constitutes a preferred form, it is to be understood that other forms might be adopted, as may come within the scope of the claims which follow.

What is claimed is as follows:

1. A cabinet including a top extending generally horizontally, said top having a movable section forming the top of an oven compartment, said compartment having a normally stationary bottom wall, said compartment also having side and rear walls connected to said movable section extending in telescoping relationship with said bottom wall and continuing below said bottom wall, said side walls being provided with supports for a rack, a bottom oven rack resting upon said bottom wall, said bottom wall having peripheral portions substantially aligned with said supports but offset sufficiently to clear said supports when said supports are lowered beneath said bottom wall, another oven rack located above said bottom rack resting by gravity upon said supports when said supports are above said bottom wall, said another rack resting by gravity on said bottom rack and being lifted off said supports by said bottom rack when said supports are moved below said bottom wall, heating means associated with said bottom wall for heating said compartment, and means for raising said movable section with said side and rear walls in various amounts to enlarge the oven compartment to various sizes.

2. A cabinet including a top extending generally horizontally, said top having a movable section forming the top of an oven compartment, said compartment having a normally stationary bottom wall, said compartment also having side and rear walls connected to said movable section extending in telescoping relationship with said bottom wall and continuing below said bottom wall, said side walls being provided with ledges for supporting a rack, the thickness of the side wall portions below the ledges being substantially equal to the thickness of the side wall portions above the ledges plus the thickness of a ledge, a bottom oven rack resting upon said bottom wall and having its peripheral portion spaced from said side walls below said ledges sufficiently to clear said ledges when said side walls are raised, another oven rack wider than the bottom rack and wide enough to rest by gravity upon said ledges when said ledges are above said bottom wall and resting by gravity upon said bottom rack and being lifted off said ledges by said bottom rack when said ledges are moved below said bottom wall, heating means associated with said bottom wall for heating said compartment, means for raising said movable section with said side and rear walls various amounts to enlarge the oven compartment to various sizes, and door means for closing the front of said compartment.

References Cited in the file of this patent

UNITED STATES PATENTS

470,419	Capek	Mar. 8, 1892
727,097	Cross	May 5, 1903
998,208	Scrote	July 18, 1911
1,225,606	Fogal	May 8, 1917
1,761,019	Marvel	June 3, 1930
2,180,161	Miller	Nov. 14, 1939
2,288,414	Norton et al.	June 30, 1942
2,415,663	Vitek	Feb. 2, 1947
2,447,364	Renshaw	Aug. 17, 1948
2,565,273	Shuler et al.	Aug. 21, 1951
2,570,517	Brock	Oct. 9, 1951
2,589,393	James	Mar. 18, 1952
2,658,985	Maxwell	Nov. 10, 1953
2,790,112	Linde	Apr. 23, 1957
2,795,739	Wood	June 11, 1957
2,808,497	Kesling et al.	Oct. 1, 1957