United States Patent [19]

Nuss

[11] **3,766,700**

[45] **Oct. 23, 1973**

[54] **DECORATIVE TRIM STRIP MOUNTING MEANS**

[75] Inventor: **James J. Nuss**, Louisville, Ky.

[73] Assignee: **General Electric Company**, Louisville, Ky.

[22] Filed: **Mar. 6, 1972**

[21] Appl. No.: **231,902**

[52] **U.S. Cl.** **52/624**, 52/502, 52/619, 52/717

[51] **Int. Cl.** **E04c 2/38**, F24c 15/02

[58] **Field of Search** ..... 52/614, 619, 623, 52/624, 627, 716, 717, 718, 502, 476; 108/25, 26; 126/190, 198; 24/73 B, 73 BC, 73 FT

[56] **References Cited**

UNITED STATES PATENTS

2,880,479	4/1959	Evans et al.	52/716
3,418,780	12/1968	Dalton et al.	52/716 X
1,901,869	3/1933	Duffy	52/716 X
3,294,461	12/1966	Barnard et al.	52/627 X

FOREIGN PATENTS OR APPLICATIONS

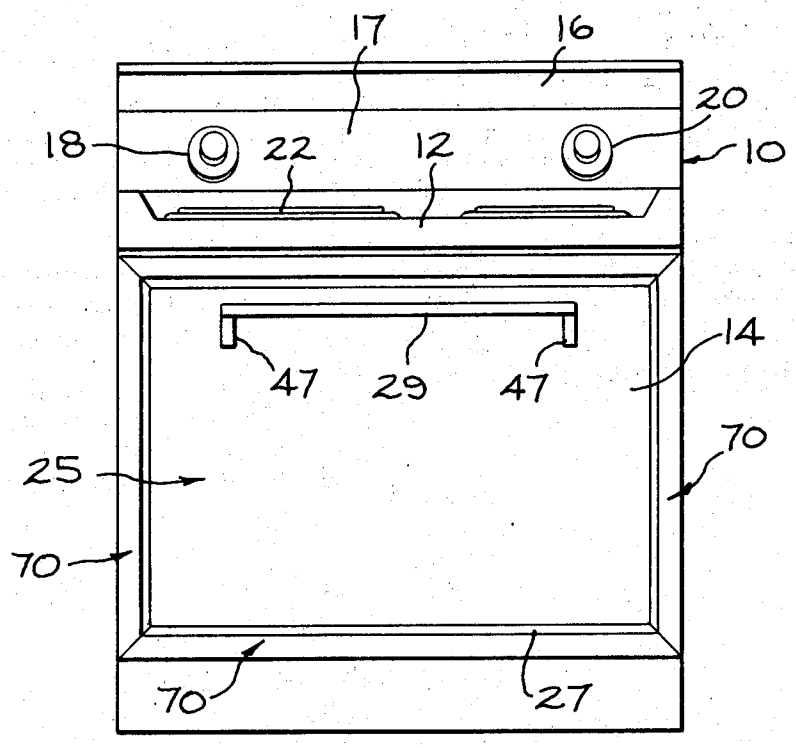
1,075,302	7/1967	Great Britain	52/716

Primary Examiner—Frank L. Abbott
Assistant Examiner—John R. Masterman
Attorney—Richard L. Caslin et al.

[57] **ABSTRACT**

A means for attaching an elongated decorative trim strip to a supporting structure such as the sides of a domestic oven door, a cooktop of a domestic range, or the front panel of a built-in dishwasher. The door is supplied with a plurality of spring clips. The trim strip is of angular configuration and it has folded edges with one edge fitted against a raised ledge of a front panel of the door and the other edge being retained by the spring clips which bear at their opposite ends against the inner side of the raised ledge.

7 Claims, 4 Drawing Figures



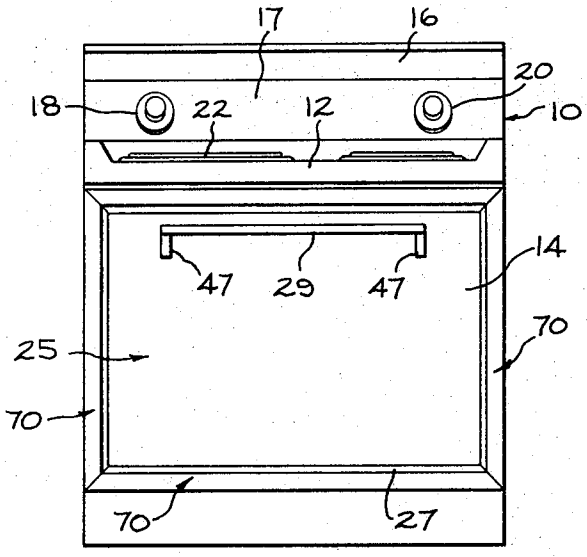


FIG. 1

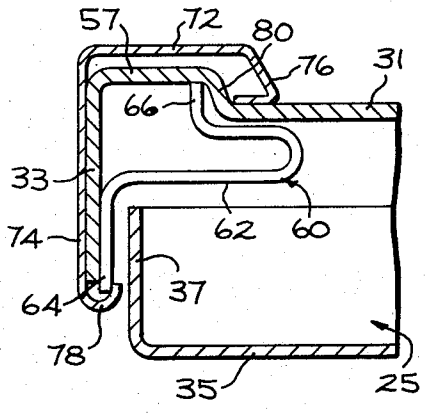


FIG. 3

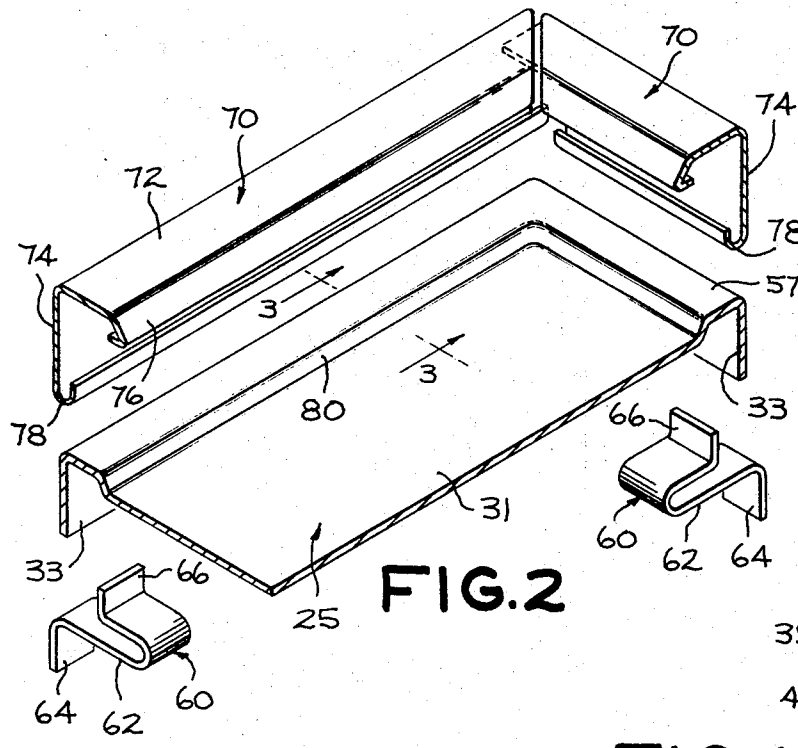


FIG. 2

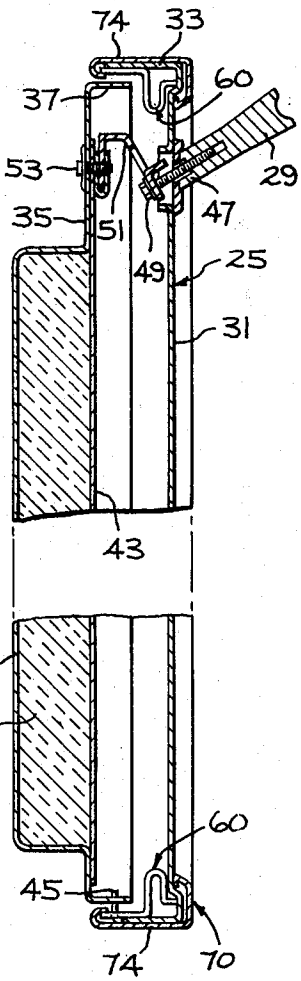


FIG. 4

DECORATIVE TRIM STRIP MOUNTING MEANS

BACKGROUND OF THE INVENTION

In the major appliance industry, and particularly in the domestic range industry, it is conventional to provide a number of different models from the relatively simple and inexpensive models up to the high end of the line models which would have all of the important performance and design features supplied therewith. The models between the low end and the high end of the line would have increasingly more performance and appearance design features from the next lower model. One method employed for improving the appearance design features is by adding decorative trim strips to present a more elegant and finished appearance. Such decorative trim strips are frequently found on the opposing side edges of an oven door or along the two side edges of the cooktop of a range.

Many times in the past, such trim strips were held to the supporting structure by special spring clips which required special mounting holes punched into the supporting structure. Such mounting holes require a separate step in the manufacturing process, and they also require a double inventory of the unperforated design without trim strips and the perforated design for mounting the trim strips. This tends to complicate the parts inventory problem in the factory.

The principle object of the present invention is to provide a mounting means for decorative trim strips on a supporting structure which does not require special mounting slots so that the same supporting structure can be used for either the trimmed or the untrimmed models.

A further object of the present invention is to provide special compressible spring clips for holding a decorative trim strip to a supporting structure.

A still further object of the present invention is to provide a supporting structure with an outer panel having a raised ledge cooperative with a decorative trim strip and compressible spring clips whereby the raised ledge serves to enhance the appearance of an untrimmed panel while also serving as part of the mounting means for the trim strip on a trimmed panel.

SUMMARY OF THE INVENTION

The present invention, in accordance with one form thereof, relates to a supporting structure and means for mounting a decorative trim strip thereon without having to form holes in the supporting structure. The supporting structure has an outer panel with a peripheral flange and a raised ledge. The elongated decorative trim strip is of angular configuration with inwardly folded re-entrant edges for assembly with the compressible spring means and fitted over the raised ledge and bearing against the side thereof to form a tight fit. Compressible spring means are provided to bear at one end against the interior of the raised ledge and at the other end to engage the adjacent edge of the trim strip.

BRIEF DESCRIPTION OF THE DRAWINGS

This invention will be better understood from the following description taken in conjunction with the accompanying drawings and its scope will be pointed out in the appended claims.

FIG. 1 is a front elevation view of a slide-in range which is adapted to be mounted in a cutout opening in a run of kitchen base cabinets which are not shown.

FIG. 2 is a fragmentary isometric view on an enlarged scale that is exploded to show important details of the oven door at one corner thereof.

FIG. 3 is a fragmentary, transverse cross sectional view on a still larger scale of one side of the oven door to show a decorative trim strip engaged over the raised ledge on the edge of the outer panel and a spring clip holding the trim strip in place.

FIG. 4 is a transverse, cross sectional, elevational view on a reduced scale showing the oven door separated from the oven to depict the details of the fastening means between the inner and outer door panels.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Turning now to a consideration of the drawings, and in particular to the front elevational view of FIG. 1, there is shown, as is conventional in this art, a domestic range 10 that has a horizontal cooktop 12 that would be generally flush or slightly depressed below a kitchen countertop. A baking and broiling oven 14 is located beneath the cooktop and there is a backsplash 16 arranged along the back edge of the cooktop 12 and rising vertically therefrom to support a control panel 17 with two oven controls 18 and 20. The control 18 might be an electric selector switch or a gas valve, and control 20 would be an oven thermostat for controlling the degree of temperature within the oven cooking cavity. Additional control means would have to be included for either the electric surface heating elements or gas surface burners 22.

The front of the oven 14 is supplied with an oven door 25 of generally sheet metal construction which is adapted to be hinged adjacent its bottom edge 27 so that it is opened by grasping the upper door handle 29 and pulling the door downwardly and outwardly into a generally horizontal, fully open position for gaining access to the interior of the oven cooking cavity.

A more detailed showing of the oven door 25 is found in FIG. 4. The sheet metal construction of the door includes an outer door panel 31 of flat pan configuration having a peripheral flange 33 extending rearwardly therefrom. There is also an inner door liner 35 that has a peripheral flange 37 extending forwardly therefrom and which is adapted to telescope within the peripheral flange 33 of the outer door panel 31. The inner door liner 35 also has a centrally located embossment 39 of rectangular plug-like configuration which is adapted to fit within the front opening of the oven cooking cavity in a close-fitting relationship. Within this embossment is placed a heavy layer 41 of thermal insulating material such as fibre glass or the like which is held in place by an insulation guard 43 that is fastened on the inside of the inner door panel 35. The lower portion of the peripheral flange 33 of the outer door panel 31 has a series of vertical lanced tabs 45 which are adapted to fit into mating slots (not shown) in the lower portion of the peripheral flange 37 of the inner door liner 35.

As mentioned previously, the upper portion of the outer door panel is provided with a door handle 29 of extended width as is seen in FIG. 1. This handle 29 has two support posts 47 which are spaced apart to constitute the end portions of the handle. Each post of the handle accommodates an interior fastening screw 49 that extends through a suitable opening in the outer door panel 31 and assembles the handle in place. A mounting bracket 51 is also held down by each fasten-

ing screw **49.** This bracket extends rearwardly from the handle connection for cooperation with a second exposed fastening screw **53** that extends first through an opening in the inner door liner **35** and into an opening in the bracket member. Thus, it can be seen that the bottom portion of the inner door liner **35** is held to the outer door panel by the interlocking tabs **45** and mating slots (not shown), while the top portions of these two panels are fastened together by the two pairs of fastening screws **49** and **53** that cooperate with the door handle **29.**

Turning now to a consideration of FIG. **2,** the outer door panel **31** is shown with a raised ledge **57** that is shown extending around the peripheral edge of the front surface of this outer door panel. Such a raised ledge can also be formed by depressing the central portion of the outer panel **31.** Such a raised ledge **57** gives the outer panel **31** more rigidity, and it also tends to frame the door and provide a shadow box appearance which tends to enhance its appearance.

FIG. **3** is a view taken transverse of one edge of the oven door **25** on the line **3—3** of FIG. **2,** but on an enlarged scale. The telescoped relation of the flange **37** of the inner door liner **35** to the flange **33** of the outer door panel **31** is clearly illustrated. Located between the telescoped flanges **33** and **37** is a compressible spring clip **60** of thin spring material of a width of about one-half inch. The clip **60** has a central compressive section **62** of generally transverse, hair-pin configuration and two oppositely directed ends **64** and **66** which are offset from each other and generally parallel to the other. The opposite end **66** of the clip bears against the inner surface of the raised ledge **57** of the outer door panel **31** adjacent the innermost edge of the ledge so as to stabilize the clip and prevent it from slipping out of position or shaking loose during movement. Each side of the door has about three spring clips **60** assembled therewith.

A decorative trim strip **70** is adapted to be fitted to the sides of the outer door panel **31.** This trim strip **70** is of right angular configuration having an outer or front flange **72** and a generally perpendicular side flange **74.** Each trim strip **70** is elongated to extend for substantially the entire side of the door such that there are four trim strips **70** shown in FIG. **1.** It will be understood that a modification of this invention would be to include the trim strip **70** on only the two opposing sides of the oven door **25** rather than on all four sides as shown in FIG. **1.** Each flange **72** and **74** of the trim strip **70** has its free edge folded inwardly at a re-entrant angle, as fold **76** of flange **72,** and fold **78** of flange **74.**

To assemble the trim strip **70** to the outer door panel **31,** the fold **76** of the trim strip is first engaged behind the raised ledge **57,** the trim strip **70** is fitted against the side of the panel and the spring clips **60** are assembled in place, all before the inner door liner **35** is fastened to the outer door panel.

While the present invention is shown as applied to the sides of an oven door, it will be understood by those skilled in this art that the same invention might be applied to the side edges of a cooktop **12** wherein, as shown in FIG. **3,** the outer door panel **31** might be represented by the cooktop **12** and the inner door liner **35** of FIG. **3** might constitute the spill guard located beneath the cooktop, and the raised ledge **57** could constitute the side edge of the cooktop **12** rather than the side edge of the door **25.**

Modifications of this invention will occur to those skilled in this art, therefore, it is to be understood that this invention is not limited to the particular embodiments disclosed, but that it is intended to cover all modifications which are within the true spirit and scope of this invention as claimed.

What is claimed as new and desired to be secured by Letters Patent of the United States is:

1. A door construction of sheet panels which are fastened together to form a hollow structure, the outermost panel being of flat pan shape with rearwardly turned side flanges and a narrow raised ledge on at least two of the opposite sides of the front face of the outermost panel, and an elongated decorative trim strip of angular configuration for assembly to each of at least two of the opposite sides of the door, each trim strip being formed with a re-entrant inward fold at the opposite sides thereof, and compressible spring means for holding the trim strip in place, one fold of the trim strip being hooked against the side of the said raised ledge and the other fold being held by the compressible spring means having one end bearing against the interior of the raised ledge and the other end slipped into the adjacent fold of the trim strip.

2. A door construction as recited in claim **1** wherein the said compressible spring means comprises a series of spring clips, each clip having a central compressible section and offset end portions which are oppositely directed.

3. A door construction having an outer door panel and an inner door liner, the inner door liner having a forwardly turned peripheral flange, while the outer door panel has a rearwardly turned peripheral flange telescoped over the inner door liner flange, and fastening means joining the outer panel with the inner liner; the invention comprising means for attaching an elongated, decorative trim strip to each of at least two of the opposite sides of the door, the front face of the outer door panel having a raised ledge on at least two of the opposite sides thereof, the said elongated trim strip being of angular configuration with a front face overlying the raised ledge and a side face overlying the adjacent peripheral flange of the outer door panel, the front face having an inwardly folded edge that is locked against the side of the raised ledge, while the side face has an inwardly folded edge that is held by a series of spring clips, where each spring clip has a compressible center section and an innermost end braced against the innermost side of the raised ledge and an outermost end engaged with the folded edge of the side face of the trim strip.

4. A door construction as recited in claim **3** wherein each spring clip has a compressible section of generally transverse hair-pin configuration and each of its ends is offset from the other and generally parallel therewith.

5. A supporting structure having an outer panel with a peripheral flange, an inner panel with a wall telescoped with respect to the said peripheral flange, and fastening means joining the outer panel with the inner panel, the front face of the outer panel having a raised ledge on at least two of the opposite sides thereof, and compressible spring means located between the above telescoped surfaces and bearing at one end against the interior of the raised ledge and at the other end protruding beyond the edge of the peripheral flange, and an elongated decorative trim strip of angular configura-

tion for assembly to each of at least two of the opposite sides of the outer panel, each trim strip being formed with a re-entrant inward fold at the opposite sides thereof, one fold being hooked over the protruding end of the compressible spring means and the other fold bearing against the side of the said raised ledge to form a tight fit.

6. A supporting structure as recited in claim **5** wherein the said compressible spring means comprises a series of spring clips, each clip having a central compressible section and offset end portions which are oppositely directed.

7. A supporting structure as defined in claim **5** wherein said compressible spring means comprises a plurality of spring clips, each clip having a central compressible section of generally transverse, hair-pin configuration, and each end is offset from the other and generally parallel to the other.

* * * * *