

[54] **ELECTRIC OVEN TOASTER CONSTRUCTION**

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[52] U.S. Cl. **99/447, 99/337, 99/385, 99/391, 99/393, 219/405**

[51] Int. Cl. **A47j 37/04**

[58] Field of Search..... **99/447, 339, 385, 389, 391, 99/393, 401; 126/19, 273, 275; 219/391, 393, 402, 405, 552, 553**

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[57]

ABSTRACT

An electric oven toaster construction wherein two sheet metal side plates are provided with a plurality of slots and apertures for readily mounting upper and lower reflectors, upper and lower heating elements, and a front door of the oven toaster.

11 Claims, 9 Drawing Figures

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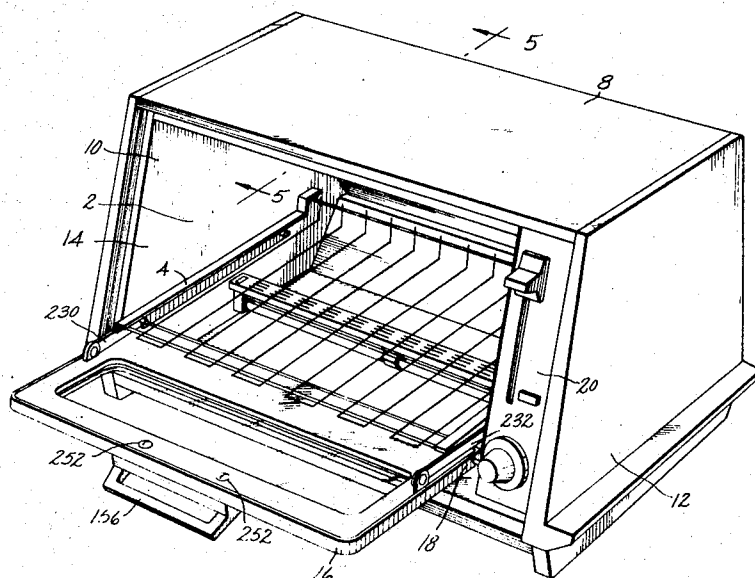


Fig. 1.

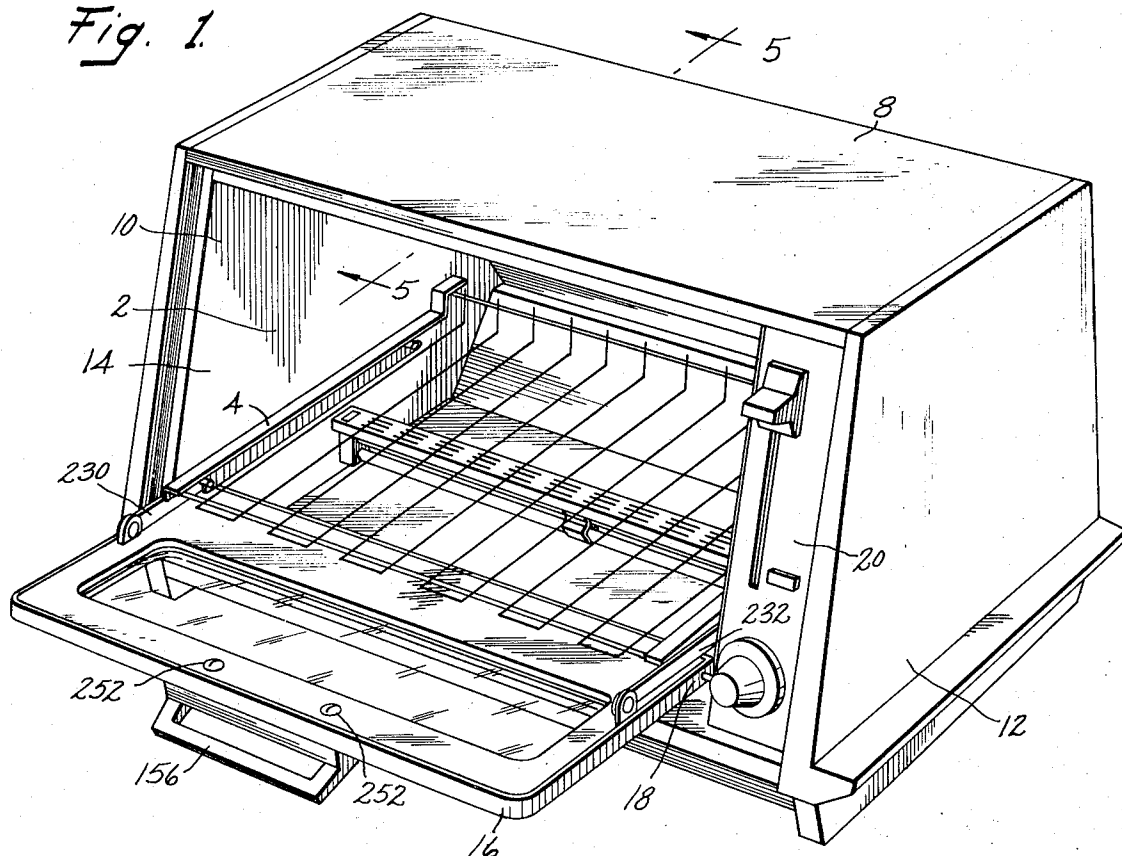


Fig. 2.

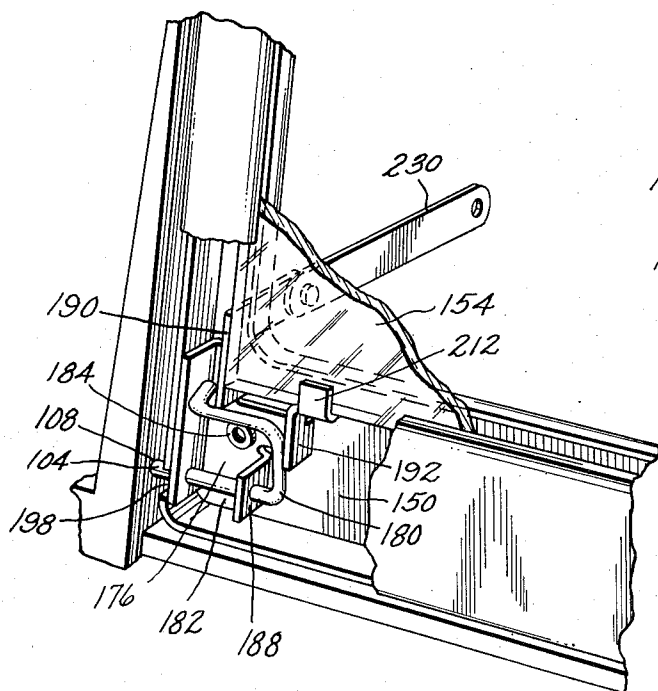
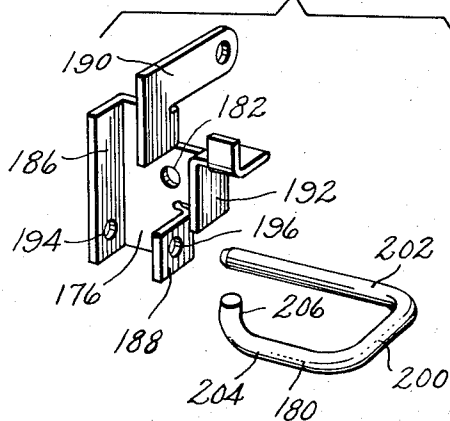
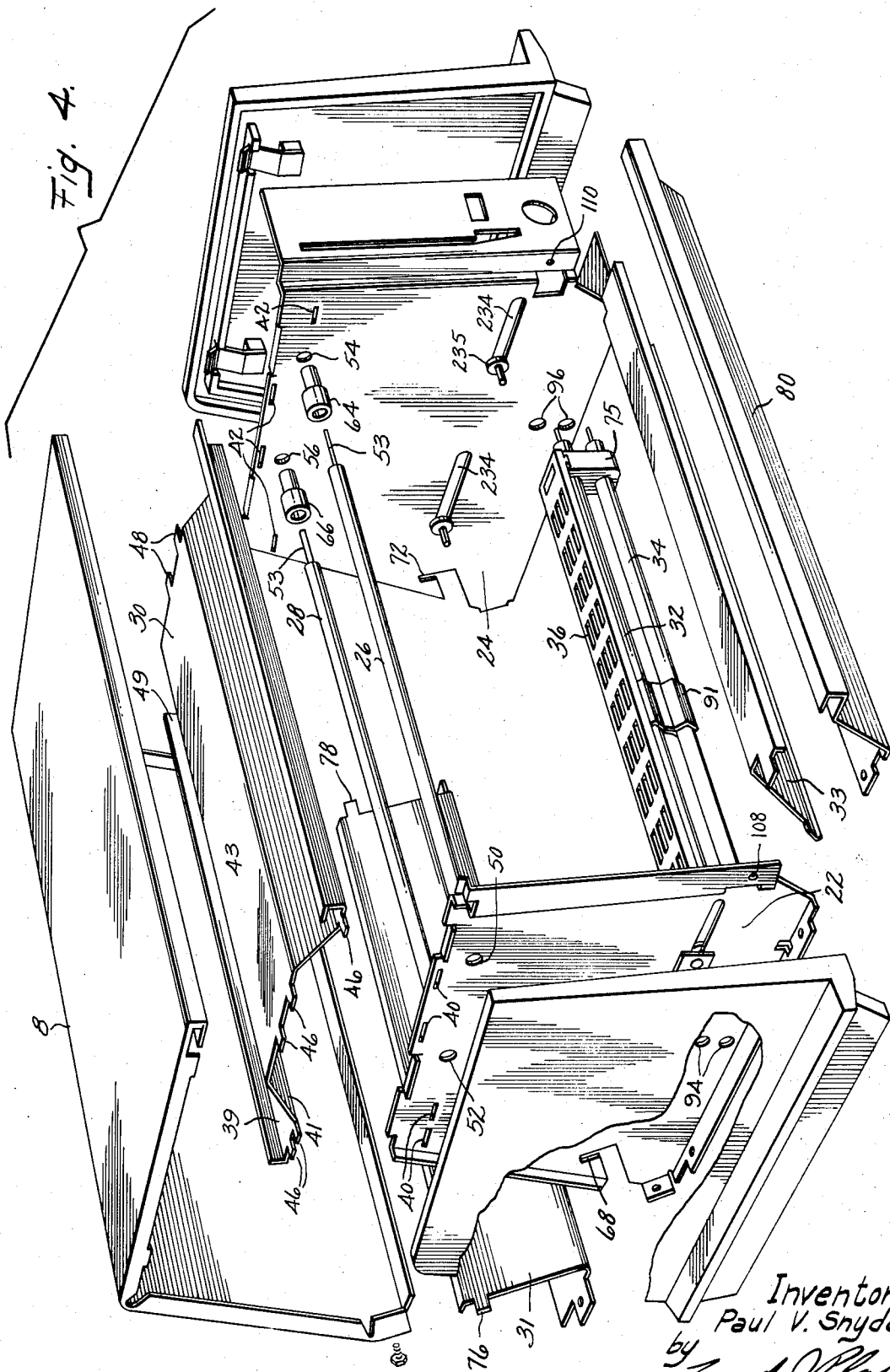


Fig. 3.



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Fig. 5.

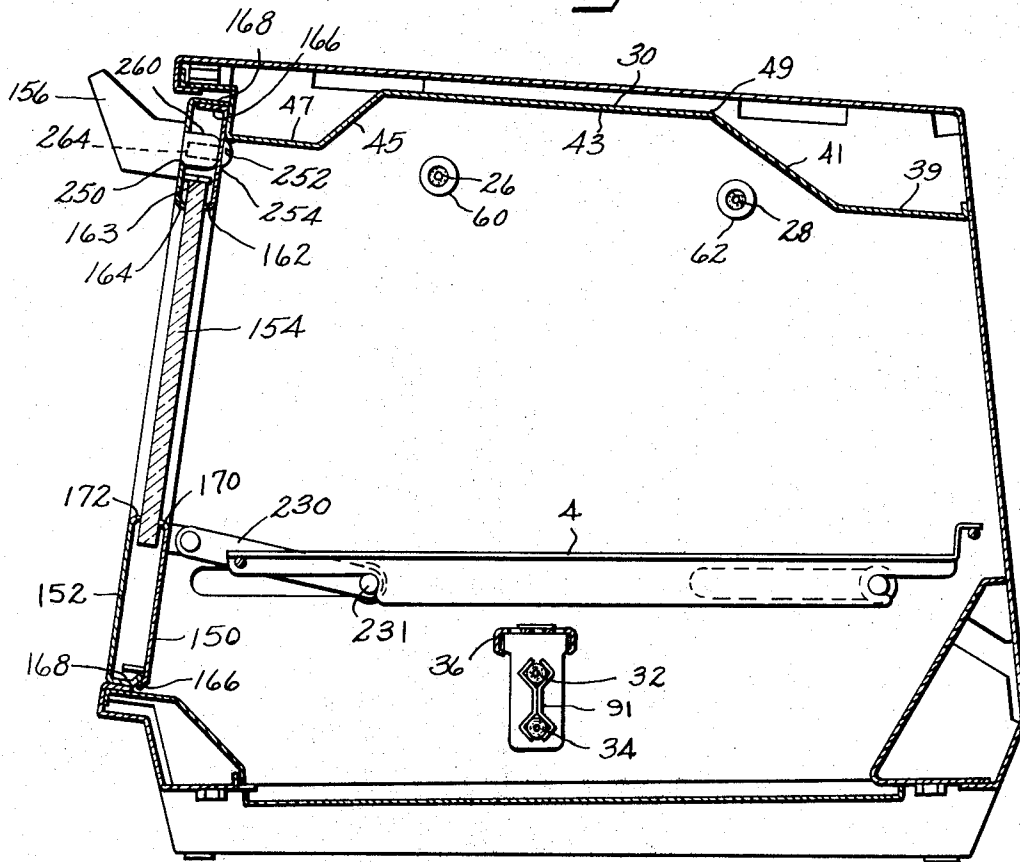


Fig. 7.

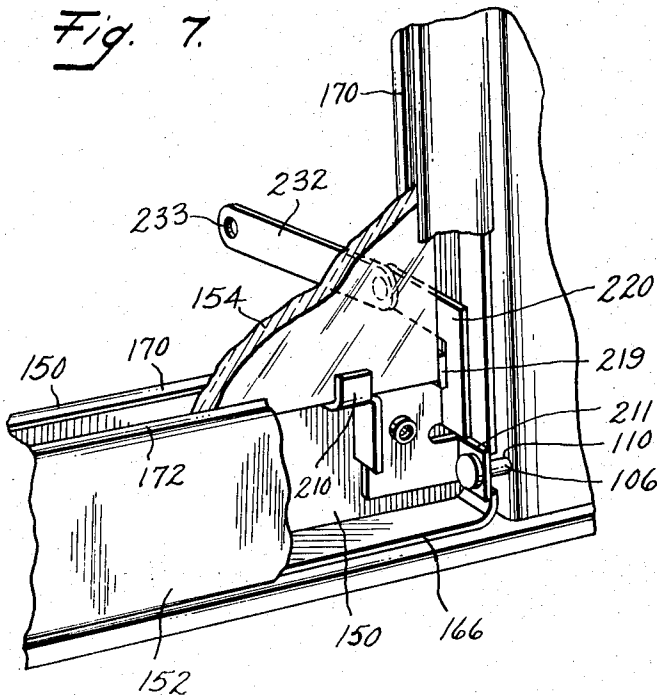
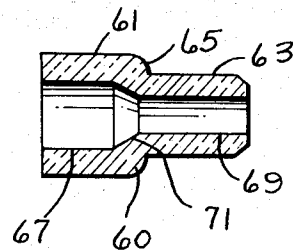


Fig. 8.



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Fig. 6.

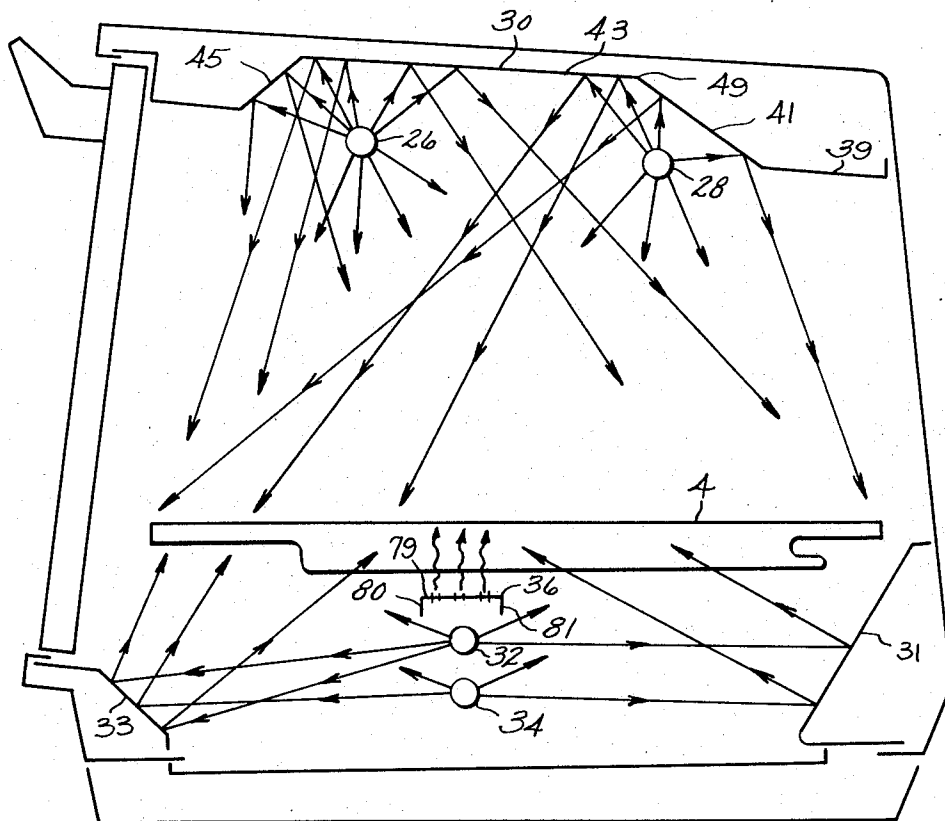
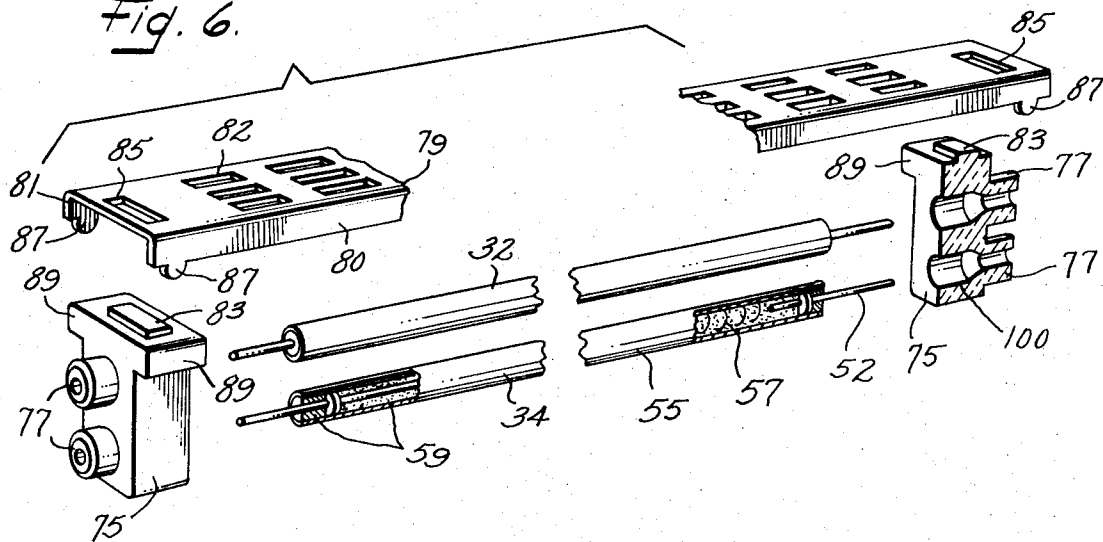


Fig. 9.

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ELECTRIC OVEN TOASTER CONSTRUCTION**BACKGROUND OF THE INVENTION**

This invention relates to an electric oven toaster of the type which may be used for toasting bread or cooking a number of different food products such as sandwiches, pastry, frozen pizzas and other instant foods.

Electric oven toasters conventionally include sheet metal frames, side plates, heating elements, reflectors for reflecting heat to the food being cooked and a front door which may be opened to enable the food to be cooked to be inserted within the toaster and removed from the oven toaster at the end of the cooking or toasting cycle. While these electric oven toaster components have been constructed, subassembled and assembled in a number of different ways, it is especially desirable that they be sturdily constructed and securely assembled in an electric oven toaster. It is also desirable to provide an electric oven toaster which may be manufactured at relatively low cost. It is most important therefore to reduce to a minimum the number of parts required, the number of manufacturing operations to be performed on each part and the number of operations required to assemble the parts to each other.

Such electric oven toasters also conventionally include a glass window in the front door of the toaster, and it is also desirable to provide a front door construction for such an electric oven toaster which may be readily removed from the oven toaster and disassembled for replacing the glass window or performing other repairs on the toaster.

Electric oven toasters of the type having a horizontally disposed toasting rack for supporting food to be cooked as varied as thin slices of bread and relatively large TV type dinners present a particular problem in providing just the right amount of heat to evenly toast both sides of bread at the same time, and naturally, when the oven toaster is used as an oven the heat pattern in the toaster should be such as to properly and evenly cook a TV dinner or frozen pizza, for example.

Accordingly, it is a particular object of this invention to provide an arrangement of heat reflectors and heating elements in a relatively large toaster oven which are so arranged that slices of bread may be evenly toasted, and other food products such as pastry, frozen pizzas and TV dinners may be readily cooked.

It is another object of this invention to provide an improved low cost construction for an electric oven toaster having a minimum number of parts which may be easily manufactured and assembled to each other.

It is a still further object of this invention to provide a front door construction for an oven toaster having a minimum number of parts which may be readily assembled to each other and incorporated in an electric oven toaster, and which also may be quickly disassembled from such an electric oven toaster without removing any parts other than parts of the door.

SUMMARY OF THE INVENTION

In accordance with one of the aspects of this invention, two sheet metal side plates are provided with a plurality of slots and apertures for receiving structural, heating and reflecting components of an oven toaster. A uniquely formed generally horizontal upper reflector is provided with a plurality of outwardly extending tabs

for insertion within complementary slots formed in the side plates for connecting the reflector to the side plates. An aperture is provided in each of the side plates for receiving a sheathed electric heating element and a ceramic insulator which is coaxially positioned between the heating element and the edge of the aperture. Apertures are also provided in the front lower portions of each of the side plates for receiving pivot pin hinges of a front door for the electric toaster. With this unique construction it can be appreciated that all of the aforementioned components may be readily be assembled to each other in one operation by simply moving the side plates toward each other to thereby hold the tabs, pivot pin hinges, ceramic insulators and the ends of the sheathed heating element between the side plates.

BRIEF DESCRIPTION OF THE DRAWING

Other objects and attendant advantages of the invention will be apparent from the following description taken in connection with the accompanying drawing in which:

FIG. 1 is a perspective view of an electric oven toaster construction embodying my invention;

FIG. 2 is a fragmentary lower left front perspective view partially broken away to show details of a pivot pin hinge arrangement for the front door of the oven toaster shown in FIG. 1;

FIG. 3 is a perspective view showing the pivot pin hinge and retaining bracket shown in FIG. 2;

FIG. 4 is an exploded front perspective view of the oven toaster shown in FIG. 1;

FIG. 5 is a cross sectional view of the electric oven toaster taken substantially on the plane of 5-5 of FIG. 1;

FIG. 6 is an exploded perspective view of the lower heating element assembly of the toaster oven shown in FIG. 1, the heating elements being broken away to show details of construction and all of the parts being shown in unattached positions.

FIG. 7 is a fragmentary right front perspective view partially broken away to show details of the right pivot hinge arrangement for the front door of the oven toaster shown in FIG. 1;

FIG. 8 is a cross sectional view of one of the insulators for holding one of the upper heating elements of the electric toaster shown in FIG. 4; and

FIG. 9 is a diagrammatic view of FIG. 5 showing the reflection system of the oven toaster.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawing and first particularly to FIG. 1, there is shown an electric oven toaster which includes a toasting and oven chamber 2 in which is mounted a generally horizontal food supporting rack 4 for holding the food to be cooked or the bread to be toasted. The oven toaster includes a generally horizontal top wall 8, generally parallel vertical side walls 10 and 12, and a front opening 14 to provide access to the inside of the toaster oven. A front door 16, pivoted at its lower portion 18, is provided for closing the front opening. As shown in FIG. 1, the door 16 is in its generally horizontal full open position. It can be appreciated that the front wall 20 of the toaster is slanted

slightly so that the front door 16 is in a somewhat rearward vertical position when it is fully closed, the door being tilted slightly so that the top of the door is somewhat to the rear of the lower portion of the door.

With particular reference to FIGS. 4 and 5, the basic components of my unique electric oven toaster may be readily observed. The toaster includes two inner sheet metal side plates 22 and 24, upper sheathed electric heating elements 26 and 28, an upper reflector 30, lower reflectors 31 and 33, lower heating elements 32 and 34, and a lower slotted baffle member 36.

In accordance with my invention, the two sheet metal side plates 22 and 24, the upper reflector 30, upper heating elements 26 and 28, lower reflectors 31 and 33, lower heating elements 32 and 34, baffle member 36, and the front door 16 are all connected to each other without the use of separate fastening means. As shown more particularly in FIG. 4, the two sheet metal side plates 22 and 24 are provided with a plurality of slots and apertures for receiving these structural components. Upper slots 40 are formed in the left sheet metal side plate 22, and upper slots 42 are formed in the right sheet metal side plate 24 for receiving connecting tabs 46 and 48, respectively, which are integrally formed on opposite sides of the upper reflector 30. Spaced generally circular apertures 50 and 52 are formed in the left side plate 22 and generally circular apertures 54 and 56 are formed in the right side plate 24 for receiving the upper sheathed heating elements 26 and 28, respectively, along with their ceramic insulators 60, 62, 64 and 66.

It can also be seen that a lower rear slot 68 is formed in the left plate 22, and a lower rear slot 72 is formed in the right plate 24 for receiving tabs 76 and 78 which are integrally formed with the lower rear reflector 31. Apertures 94 and 96 are integrally formed in the side walls 22 and 24, respectfully, for readily receiving the lower sheathed heating elements 32 and 34 along with their ceramic insulators 75 and baffle 36. The front door 16 is provided with hinge pivot pins 104 and 106, and suitable apertures 108 and 110 are integrally formed in the side plates 22 and 24 for receiving the pivot pins. With this unique arrangement of parts, it can be appreciated that all of the aforementioned components may be readily assembled to each other in one operation by simply holding the reflectors, the heating elements, the door and its pivot pins adjacent to the appropriate slots and apertures, then moving the side plates toward each other to thereby insert the tabs, pivot pin hinges and ceramic insulators and the ends of the sheathed heating elements into the appropriate slots and apertures in the side plates 22 and 24, and then holding the side plates in spaced relationship to each other. This may be accomplished by bending or upsetting the tabs formed on the upper reflector and lower reflector, and in addition, a lower front plate 80 may be connected to the side plates 22 and 24 by screws or other securing means in order to hold the side plates in assembled position.

In accordance with my invention, the insulators 60, 62, 64, 66 and 75 are shaped and positioned with respect to the sheathed heating elements and the side plates 22 and 24 that they uniquely support the heating elements 26, 28, 32 and 34 on the side plates and insulate the heating elements from the side plates without

utilizing any separate securing means. The reflectors 30, 31 and 33 and the side plates 22 and 24 form a unitary construction which holds the insulators and heating elements in position.

As shown more particularly in the lower portion of FIG. 6, each of the elongated sheathed heating elements 26, 28, 32 and 34 includes two electrically hot terminal pins 51 and 53 which project from opposite ends of a metal sheath 55 which encircles the heating element 57. In a conventional manner, suitable insulation 59 is positioned between the heating element 57 and the sheath 55 for insulating the heating element and the terminal pins from the metal sheath 55. The insulation 59 is somewhat compacted at the ends of the sheath in order to form a smooth generally curved surface of insulation between the ends of the sheath 55 and the terminal pins 51 and 53.

The four insulators 60, 62, 64 and 66 for the upper heating elements are preferably formed of ceramic material and are generally cylindrical in shape. As shown in FIG. 8, they include an enlarged outer cylindrical wall 61, a smaller outer cylindrical wall 63 for insertion within one of the apertures 50, 52, 54 and 56 formed in the side plates, and a generally curved outer wall 65 connecting the enlarged outer cylindrical wall 61 with the smaller outer cylindrical wall 63. The curved wall 65 is placed in abutting relationship with the inner surface of the side plate in the vicinity of the apertures 50, 52, 54 or 56 into which it is placed. As shown in FIG. 8, each of the generally cylindrical insulators 60, 62, 64 and 66 includes an enlarged inner bore 67 for receiving the outer cylindrical end surface of a sheath 55 of one of the heating elements and a smaller cylindrical bore 69 for receiving the terminal pin 53 of the heating element over which the insulator is placed. A slanted inner wall 71 connects the enlarged bore 67 with the reduced bore 69 and serves as a seat for the end of the sheath 55 and the compacted insulation 59 at the end of the sheath.

As shown more particularly in FIGS. 4 and 6, the lower heating elements 32 and 34 are arranged one above the other, and a pair of uniquely shaped insulators 75 are provided for suitably holding the heating elements 32 and 34 along with their baffle 36. The insulators 75 are shaped in the form of a generally rectangular block and are provided with two reduced cylindrical outer surfaces 77 for reception in one of the pair of enlarged openings 94 or 96 which are formed in the side plates 22 and 24. The ceramic insulators 75 for holding the lower heating elements 32 and 34 have reduced and enlarged inner bores 100 and 102 which are generally similar to the inner bores 67 and 69 of the cylindrical insulators 60, 62, 64 and 66 for receiving the projecting ends of the upper heating elements.

The lower ceramic insulators 75 also support the heating element baffle 36. As shown more particularly in FIG. 6, an upstanding lug 83 is formed on each of the ceramic insulators 75 for receiving complementary slots 85 which are formed in end portions of the baffle 36. With this arrangement, the baffle 36 may be placed on top of the lower insulators with the projecting lug 83 extending through the slots 85, and as shown more particularly in FIG. 6, tabs 87 formed on the downwardly extending walls of the baffle may be crimped over the end of a generally horizontal top wall 89 of the insula-

tors. The lower heating elements 32 and 34 along with their insulators and baffle 36 may be subassembled to each other for insertion as a unit within the apertures 94 and 96 formed in the side plates 22 and 24, respectively. For this purpose, as shown more particularly in FIGS. 4 and 5, a suitable bracket 91 may be utilized for connecting the central portions of the heating elements to each other so that the lower heating element assembly may be readily moved to its appropriate position with respect to the side plates, reflectors and other elements of the toaster.

With this unique arrangement it can be appreciated that the insulators very securely and effectively support the heating elements on the electric toaster oven without the use of any additional connecting devices. Moreover, the integrally formed upwardly extending lug 83 on the lower insulators is provided for supporting and mounting the baffle member 36. Thus, a low cost construction having a minimum number of parts is achieved.

REFLECTION SYSTEM

In accordance with my invention, the upper reflector 30 is provided with a plurality of generally flat heat reflecting surfaces, and the sheathed heating elements 26 and 28 are uniquely arranged and positioned with respect to the heat reflecting surfaces to reflect heat from the heaters downwardly at an essentially uniform intensity over the entire rack area. As shown more particularly in FIGS. 4 and 5, the upper reflector 30 includes a generally flat horizontal portion 39 at the rear of the reflector, a generally flat portion 41 extending forwardly and upwardly at an angle with respect to the generally flat reflector 39, an enlarged generally flat horizontal reflector portion 43 extending forwardly from reflector 41, a generally flat downwardly extending reflector portion 45 which extends forwardly from reflector 43, and a relatively short generally horizontal reflector portion 47 which extends forwardly from the downwardly extending reflector portion 45. The forward and rearward upper heating elements 26 and 28 are uniquely positioned with respect to each other and to the reflecting surfaces of the upper reflector to provide for a uniform reflection of the heat emanating from the heating elements toward the food being cooked on the rack 4 below.

The heating elements and the reflecting surfaces are particularly arranged with respect to each other so that the heat emanating from the heating elements is evenly distributed to the toasting area. Clearly, should such a condition not exist, a slice of bread being toasted would be darker in that area where the heat may be concentrated due to the reflection of both heating elements to the same area. To avoid concentrated reflections to the same area and to provide a very even distribution of the reflected heat, the apex of an angle or the line 49 which is formed by the juncture of the upper horizontal reflecting portion 43 and the upwardly extending rear reflector portion 41 is positioned forwardly of the heating element 28. By this construction, the heat reflected by reflector 41 will appear from the rear of the rack to a forward portion of the rack, and the heat reflected by the upper horizontal reflector 43 will also be directed toward the forward portion of the rack. The heat of heating element 26 reflected by reflector 43 will be

directed from the front of the rack 4 to the rear of the rack with its greatest intensity at the forward portion of the rack. The heat reflected by the reflector 45 extends from the front of the rack to the center portion of the rack. With this arrangement, the reflected heat cooperates with the heat directly radiated from the heating elements to provide an even distribution of heat at the top of the food rack.

In accordance with my invention, the two lower sheathed heating elements 32 and 34 are uniquely arranged with respect to each other and to a uniquely shaped and slotted baffle member 36 to provide just the right distribution of the convection heat currents from the heaters upwardly to the slices of bread being toasted or the food being cooked. As shown more particularly in FIGS. 6 and 9, the heating elements 32 and 34 are generally vertically arranged with respect to each other and the baffle 36 is positioned above the upper heating element 32. The baffle 36 includes a generally horizontal wall 79 and two downwardly extending vertical walls 80 and 81. A plurality of longitudinally arranged slots 82 are formed in the upper horizontal surface 79 of the baffle. With this construction, some convection currents along with some small amount of radiant heat may flow through the slots 82 formed in the upper surface of the baffle.

From the foregoing description and from the reflection lines and convection heat current flow illustrated in FIG. 9, it can be appreciated that the heat pattern in the toaster allows just the right amount of heat to uniformly appear at both sides of the food toasting rack 4 in order to evenly toast slices of bread or evenly cook a TV dinner or other food which may be placed on the food rack. It can be further appreciated that this is achieved with the use of a minimum number of parts which may be readily connected to each other. The radiant heat and the reflected heat from the upper heating elements 26 and 28 is uniformly applied at the food toasting rack 4 by appropriately bending the upper reflector 30 to the shape illustrated in FIGS. 4, 5 and 9. Moreover, the heating elements 26 and 28 are readily positioned at the desired distance and angle from the various reflecting portions of the reflector by simply locating the apertures 50, 52, 54 and 56 at appropriate locations in the sheet metal side plates 22 and 24. Thus, an exceedingly simple, yet effective and reliable heating arrangement has been provided which is suitable for cooking items as large as frozen TV dinners.

FRONT DOOR CONSTRUCTION

My reliable and low cost front door construction for an oven toaster having a minimum number of parts which may be readily assembled to each other, and which may be also quickly disassembled from the oven toaster without removing any parts other than parts of the door, will now be more particularly described.

As shown in FIGS. 2, 3, 5 and 7, the basic components for the front door include an inner sheet metal panel member 150, an outer panel member 152, a glass window 154, a handle 156 and pivot hinge pins 104 and 106. The parts are specifically constructed and arranged so that the glass panel 154 may be removed and replaced without performing any disassembly operations on the toaster itself. As shown, both the inner

panel member 150 and the outer panel member 152 are formed of sheet metal and include enlarged openings 162 and 164, respectively. Raised flanges 166 and 168 are formed along the outer periphery of both of the panel members and raised flanges 170 and 172 are formed along the periphery of the enlarged openings 162 and 164, respectively, of the panel members. With this arrangement, it can be appreciated that the door will have sufficient thickness to receive the glass window 154 and two hinge pin brackets 174 and 176.

As shown more particularly in FIGS. 2, 3 and 7, the hinge pin brackets are uniquely shaped to perform a plurality of functions. The left hinge pin bracket 176 is constructed so that a uniquely formed hinge pin 180 may be readily removed from the bracket and door assembly in order to be able to remove the door components from the toaster oven without disassembling any of the other components of the oven toaster. As shown in FIG. 3, the left bracket 176 includes a generally flat wall portion 182 which may be utilized to securely fix the bracket to the inner panel member 150 by means of a rivet 184 or other suitable securing means. The bracket also includes outwardly extending flange portions 186, 188, 190 and 192. As shown more particularly in FIG. 3, the flange portions 186 and 188 are utilized for forming two bearing apertures 194 and 196 which are arranged in line with a suitable slot 198 which is formed in the outer peripheral flange of the inner panel member in order to receive the hinge pivot pin 180. Raised flange 192 is provided as an abutment portion for engaging a horizontal bottom arm 200 of the generally U-shaped pivot pin 180 to prevent axial slidable movement of the pin 180 out of the apertures 194 and 196 formed in the bracket flanges and aperture 108 formed in the side panel of the toaster oven.

With particular reference to FIG. 3, it can be appreciated that the left hinge pin is generally U-shaped and includes two generally parallel arms 202 and 204, a bottom arm 200 and a short arm 206 arranged generally perpendicular to the plane of the other arms. The arm 206 is slightly smaller than the thickness of the front door in order to suitably confine the hinge pin between the front door panel members without rattling. In accordance with my invention, the left hinge pin 180 is initially assembled within the front door in the position illustrated in FIG. 2, and the completed door is assembled to the side panels 22 and 24 by inserting the end portions of the long arm 202 of the hinge pin into the aperture 108 formed in the side plate 22 of the toaster oven.

As shown more particularly in FIG. 7, the right hinge pin bracket 174 is generally similar to the left hinge pin bracket; however, should it not be desired to utilize a removable hinge pin, a fixed hinge pin 106 may be suitably riveted to the upwardly extending arm 210 of the right bracket.

Both of the brackets 174 and 176 include generally flat flange portions 210 and 212, respectively, for holding the glass panel 154 between the outer panel and the inner panel. With reference to FIGS. 5, 7 and 2, it can be seen that these flanges cooperate with inturned tab 163 on the outer panel member 152 to restrict vertical up and down movement of the glass panel 154. Upwardly extending flange portions 219 and 190 are in-

tegrally formed with the brackets 174 and 176, respectively, for restricting leftward or rightward movement of the glass panel member 154, as shown in FIGS. 2 and 7. The flange arms 220 and 190 of the brackets 174 and 176 also perform the additional function of pivotally mounting links 232 and 230, respectively, for controlling operation of the door.

With this unique arrangement of parts, it can be appreciated that the door may be readily constructed by simply riveting the hinge pin brackets 174 and 176 to the inner panel of the door, inserting the hinge pin 104 in the position illustrated in FIG. 2, and placing the glass panel 154 between the flanges 219, 190, 210 and 212 of the brackets.

As shown in FIG. 1, in order to present a neat outer appearance, the outer panel 152 is constructed to be slightly larger than the inner panel 150 so that the peripheral flanges 166 of the inner panel are positioned inside of the peripheral flanges 168 of the outer panel 152.

With particular reference to FIGS. 1 and 5, suitable enlarged openings 250 are formed in the outer panel, and suitable screw receiving apertures 254 are formed in the inner panel for receiving inwardly extending bosses 260 which may be integrally formed with the door handle. Thus, the door handle 156 and the inner and outer panel members 150 and 152 may be securely fixed to each other by simply placing the bosses 260 of the door handle through the enlarged apertures 250 of the outer panel, and inserting screws 252 or other suitable securing means through the apertures 254 of the inner panel and into the apertures 264 which may be performed in the door handle bosses 260. Accordingly, the completed door is held together by two screws 252.

Should it be desired to remove the door from the toaster oven, it is merely necessary to open the door as shown in FIG. 1, unscrew the screws 252, fold the inner panel away from the front panel 152, remove the glass plate 154, grasp the upper arm 180 of the left hinge pin and rotate the pin forwardly about the long arm 202 until the bottom arm 200 of the pin is removed behind the abutment 192. Then the left pivot pin may be pulled to the right to slide the long arm 202 out of the apertures 108 of the side plate and the apertures 194 and 196 of the bracket. The links 230 and 232 may then be disconnected from a door operating mechanism 234 by simply moving the ends of the links 230 and 232 inwardly to slide the aperture bearings 231 and 233 of the links off of the operating pins 235 of the door operating mechanism 234. Then the left portion of the inner panel is tilted somewhat forwardly and to the left to slide the fixed pivot pin 106 out of the aperture 110 formed in the right side plate 24. Naturally the reverse procedure may be followed in order to reassemble the front door to the oven toaster.

With this unique arrangement of parts, it can be appreciated that upon initial manufacture the oven door may be completely assembled as a subassembly and then connected to the toaster side plates 22 and 24 at the same time that the heating elements and reflectors are connected to the side plates. It can also be seen that after manufacture of the toaster has been completed, the oven door may be disassembled from the toaster and reassembled to the toaster by simply removing the two screws 252 and separating the door parts without

disturbing the side plates 22 and 24 or other basic components of the electric toaster oven. Thus, an exceedingly simple and unique oven toaster door construction having a minimum number of parts has been achieved.

What I claim is:

1. An electric oven toaster construction comprising:
 - a. two side plates spaced from each other, each of said side plates having a plurality of slots formed in the upper portion thereof, an aperture formed in each of the upper portions of said side plates below said upper slots, an aperture formed in the front lower portions of each of said side plates, and a plurality of slots formed in the lower portions of each of said side plates;
 - b. an upper member having a plurality of outwardly extending tabs positioned within the upper slots of said side plates;
 - c. an upper sheathed electric heating element including an electrical resistance wire having two end portions which project outwardly from opposite ends of a sheath which surrounds the resistance wire;
 - d. a pair of insulators positioned over each of the ends of said upper heating element in coaxial relationship therewith, each of said insulators including an inner shoulder abutting an end of the sheath and a reduced inner bore for permitting an end portion of the heating element to extend therethrough, each of said insulators also including a reduced outer portion for insertion into a respective one of the upper apertures formed in said side plates, and each of said insulators further including an outwardly extending enlarged outer portion of a size larger than the respective side plate aperture in which the insulator is mounted, said enlarged outer portions being positioned against the inside surfaces of said side plates for holding the insulators and the sheathed heating element in assembled positions between the side plates;
 - e. a front door having a pair of pivot pins extending outwardly from the lower portion thereof, each of said pivot pins being inserted within a respective aperture formed at the lower front of each of said side plates for pivotally mounting said door on said toaster oven; and
 - f. a lower member having a plurality of outwardly extending tabs positioned within the lower slots of said side plates whereby all of the parts are effectively held to each other, said sheathed electric heating element being effectively confined and supported between the insulators and the side plates.
2. An electric oven toaster construction comprising:
 - a. two side plates spaced from each other, each of said side plates having a plurality of slots formed in the upper portion thereof, a circular aperture formed in each of the upper portions of said side plates below said upper slots;
 - b. a grill-like food supporting rack supported in a generally horizontal position between said side plates;
 - c. an upper reflector generally horizontally positioned above said food supporting rack, said upper reflector including a generally horizontal short

- rear surface, a rear reflecting surface extending forwardly and upwardly from said generally horizontal rear surface, a central generally horizontal surface extending forwardly from said upwardly extending rear surface, a downwardly extending front reflecting surface extending downwardly from said generally horizontal central surface, and a short generally horizontal surface extending forwardly from the downwardly extending front surface, a tab extending outwardly from each of the side surfaces of said generally horizontal short rear surfaces, and a pair of tabs extending outwardly from the central generally horizontal surface, said tabs being positioned within the upper slots of said side plates;
- d. an upper sheathed electric heating element having two ends, said heating element being positioned below said rear reflecting surface which extends forwardly and upwardly from said generally horizontal short rear surface and behind the central surface so that said rear reflecting surface reflects heat forwardly to the forward portion of said grill-like food supporting rack; and
 - e. a pair of insulators positioned over each of the ends of said upper electric heating element in coaxial relationship therewith, each of said insulators being inserted into a respective one of the upper circular apertures formed in said side plates.
3. An electric oven toaster construction comprising:
 - a. two side plates spaced from each other, each of said side plates having a plurality of slots formed in the upper portions thereof, a circular aperture formed in each of the upper portion of said side plates below said upper slots, a pair of apertures formed in each of the lower portions of said side plates, and an aperture formed in the front lower portions of said side plates;
 - b. an upper reflector having a plurality of outwardly extending tabs positioned within the upper slots of said side plates;
 - c. an upper sheathed electric heating element having two ends;
 - d. a first pair of insulators positioned over each of the ends of said upper electric heating element in coaxial relationship therewith, each of said insulators being inserted into a respective one of the upper circular apertures formed in said side plates;
 - e. a pair of lower sheathed electric heating elements;
 - f. a second pair of insulators, each of said second pair of insulators having a pair of spaced apertures for receiving one of the ends of said pair of heating elements, each of said second pair of insulators being inserted within one of the pairs of apertures formed in the lower portion of said side plates; and
 - g. a front door having a pair of pivot pins extending outwardly from the lower portion thereof, each of said pivot pins being inserted within a respective aperture formed at the lower front of each of said side plates for pivotally mounting said door on said toaster oven.
4. An electric oven toaster as defined in claim 3 wherein an apertured baffle is positioned above said lower heating elements for deflecting the heat radiating from said heating elements, said baffle having two ends, and tabs formed at each of the ends of the baffle for connecting the baffle to said second pair of insulators.

5. An electric oven toaster construction comprising:
 - a. a grill-like food supporting rack supported in a generally horizontal position within the electric oven toaster;
 - b. an upper reflector generally horizontally positioned above said food supporting rack, said upper reflector including a generally horizontal short rear surface, a rear reflecting surface extending forwardly and upwardly from said generally horizontal rear surface, a central generally horizontal surface extending forwardly from said upwardly extending rear surface, a downwardly extending front reflecting surface extending downwardly from said generally horizontal central surface, and a short generally horizontal surface extending forwardly from the downwardly extending front surface; and
 - c. an upper sheathed electric heating element positioned closely adjacent to the upwardly extending rear reflecting surface, said first upper heating element being positioned rearwardly of the juncture line between the upwardly extending rear reflecting surface and the central reflecting surface so that the heat from said sheathed heating element reflected by both the upwardly extending rear reflecting surface and the central reflecting surface will be reflected toward the front of the food supporting rack.
6. An electric oven toaster construction as defined in claim 5 wherein:
 - a. an upper front heating element is positioned closely adjacent to the forward portion of said central horizontal reflecting surface, said upper front heating element being positioned rearwardly of the juncture line between the upper central horizontal reflecting surface and the downwardly extending forward reflecting surface for directing the heat emanating from the upper front heating element generally rearwardly toward the bread rack, the heat reflected from the forward upper heating element by the central reflecting surface being directed from the front of the rack to the rear of the rack with its greatest intensity at the forward portion of the rack and the heat reflected by the forward downwardly extending reflecting surface being directed from the front of the rack to the center portion of the rack.
7. An electric oven toaster construction comprising:
 - a. two side plates spaced from each other, each of said side plates having a plurality of slots formed in the upper portion thereof, a pair of apertures formed in each of the lower portions of said side plates;
 - b. an upper reflector having a plurality of outwardly extending tabs positioned within the upper slots of said side plates;
 - c. a pair of lower sheathed electric heating elements;
 - d. a pair of insulators, each of said insulators having a pair of spaced apertures for receiving one of the ends of said pair of heating elements, each of said pair of insulators being inserted within one of the pairs of apertures formed in the lower portion of said side plates; and

- e. a baffle positioned above said pair of lower heating elements for deflecting the heat radiating from said heating elements, said baffle being connected to said insulators for securely holding the baffle within said oven toaster.
8. An electric oven toaster as defined in claim 7 wherein each of said insulators is formed of ceramic material and includes an upwardly extending projecting lug, and complementary slots are formed in the side portions of said baffle so that the baffle may be placed on top of the insulators with the projecting lugs extending through the slots formed in the baffle for connecting the baffle to the insulators.
9. An electric oven toaster construction comprising:
 - a. two side plates spaced from each other, each of said side plates having an aperture formed in the front lower portions thereof;
 - b. an electric heating element positioned between said side plates;
 - c. an upper reflector positioned between said side plates above said heating element;
 - d. a front door pivotally mounted between said side plates, said front door including an inner panel and an outer panel, securing means for holding said inner panel and outer panel in assembled position with respect to each other, two pivot pin hinges mounted on the lower portion of said door between said inner and outer panels, each of said pivot pin hinges being inserted within one of the apertures formed in the front lower portions of said side plates, and an abutment positioned between said panels for preventing axial movement of one of said pins when the panels are in assembled position but permitting axial movement of said pin out of its aperture in one of the side plates when the panels are separated with respect to each other to thereby permit complete removal of the door from the toaster without disassembling the side plates and other toaster components.
10. An electric oven toaster construction as defined in claim 9 wherein a bracket is fixed to the inner panel of the door and an outwardly extending flange on the bracket is provided as the abutment for holding the removable pivot pin.
11. An electric oven toaster construction as defined in claim 9 wherein said removable pivot pin is U-shaped with one of the arms of the U being longer than the other arm of the U, the end of the longer arm of the U being inserted within the aperture in the side plate, and wherein said abutment engages the generally horizontal bottom arm of said U-shaped pivot pin for securely holding the long arm portion of said "U" shaped pivot pin in the aperture when the inner and outer panels of the door are held in assembled position with respect to each other while permitting rotation of said U-shaped pivot pin about its long arm portion for removing the bottom arm of the pin from behind the abutment to thereby permit quick removal of the U-shaped pivot pin when the inner and outer panels of the door are separated from each other.

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UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 3,693,538 Dated September 26, 1972

Inventor(s) PAUL V. SNYDER

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

On first page of patent - inventor's name spelled incorrectly -

SYNDER SHOULD READ -- SNYDER.

Signed and sealed this 20th day of February 1973.

(SEAL)
Attest:

EDWARD M. FLETCHER, JR.
Attesting Officer

ROBERT GOTTSCHALK
Commissioner of Patents

140

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