July 30, 1946. P. J. McCULLOUGH 2,404,915

BREAD TOASTER STRUCTURE

Filed Dec. 26, 1942

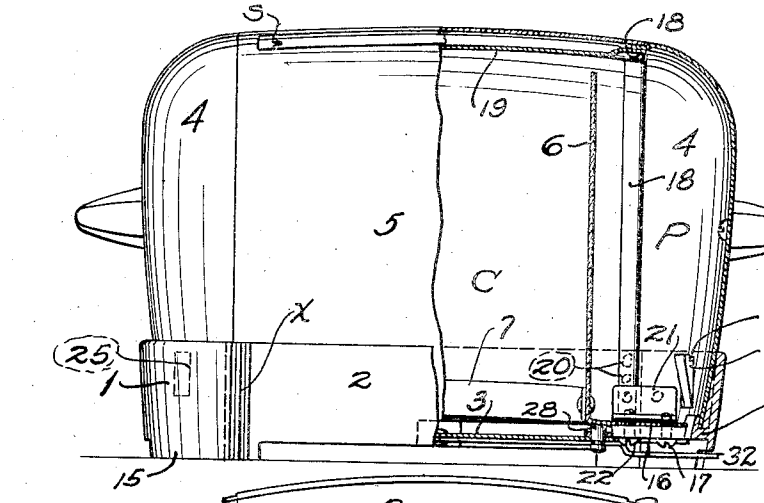


FIG. 1.

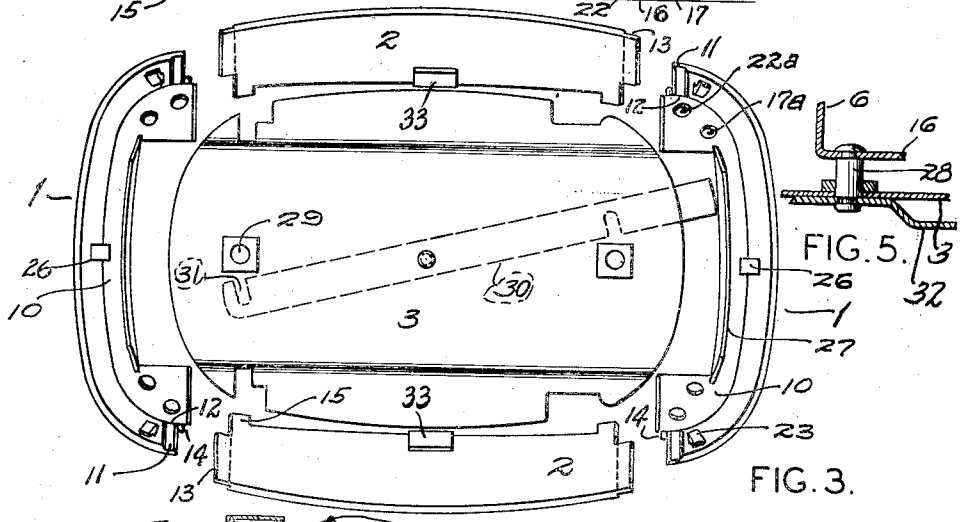


FIG. 5.

FIG. 3.

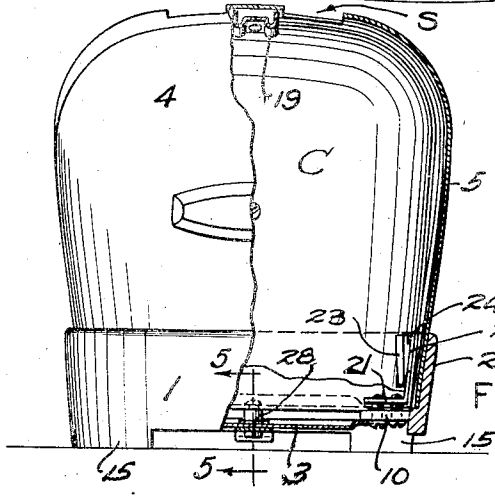


FIG. 2.

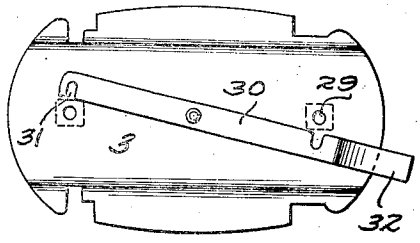


FIG. 4.

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Patented July 30, 1946

2,404,915

UNITED STATES PATENT OFFICE

2,404,915

BREAD TOASTER STRUCTURE

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Application December 26, 1942, Serial No. 470,191

4 Claims. (Cl. 220—4)

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The invention relates to bread toasters of the domestic type utilizing electric current for preparing toast at the table, and the invention consists in novel features of the toaster body described below.

One object of the invention is to simplify the construction of the toaster body by adapting the same to be made of relatively inexpensive parts and with relatively inexpensive equipment, thus reducing the cost of the finished article.

Another object is to minimize the number of screws, rivets, or similar fastening means, thus reducing the assembly expense. Also it is desired to eliminate exposed screw heads, rivet heads, etc., thereby improving the appearance of the finished article.

Another object is to form a box-like body with downwardly converging sides and ends without requiring complicated dies or numerous parts.

Another object is to provide the toaster with a readily removable crumb tray which may be detached from the body without inverting the toaster, thereby facilitating the discharge of crumbs or the like from the interior of the toaster body.

These and other detail objects as will appear are attained by the structure illustrated in the accompanying drawing, in which—

Figure 1 is in part a side elevation of and in part a longitudinal vertical median section through the body of a toaster.

Figure 2 is in part an end elevation of and in part a transverse vertical median section through the toaster body.

Figure 3 is an exploded top view of the base-forming and crumb tray-forming parts of the toaster, the upper portions of the base-forming part being tilted outwardly somewhat to better illustrate them.

Figure 4 is a bottom view of the crumb tray-forming part and is drawn to a smaller scale than Figures 1–3.

Figure 5 is a detail vertical section taken on the line 5—5 of Figure 2 and is drawn to an enlarged scale.

For the purposes of the present invention, the body may be considered as involving a substantially oblong frame-like base unit and an open bottom box-like housing unit. The base includes upright end members 1 and upright side members 2. A bottom plate 3 is applied to the base member, as described below, but does not form an essential part thereof. All of these parts are formed separately from each other. The housing unit includes end members 4 and

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a central member 5 formed separately from each other, then assembled and mounted as a unit on the base. The toaster heating elements and timing mechanism (not shown) are carried on a separate mounting unit comprising upright plates 6, having horizontal flanges 16, and tie bars 7 connect plates 6.

Preferably, but not necessarily, frame members 1 and 2 are substantially rigid and may be formed of metal stampings, forgings, castings, or of plastics or other suitable material. Bottom plate 3 may be of metal or plastic or other material, either rigid or non-rigid.

Base end members 1 are curved at their ends to extend longitudinally of the device and are provided with integral horizontal flanges 10. Screws 17, inserted through holes 17a in flanges 16, secure base end members 1 to flanges 16. The inner faces of the ends of member 1 are offset outwardly, forming lips 11, the lower portions of which are spaced from the opposing edges 12 of flanges 10. The outer faces of base side members 2 have their end portions offset inwardly, forming lips 13, which are receivable in the space between elements 11 and 12 and overlap lips 11 as side members 2 are dropped into assembled relation with the end members. The interengagement of elements 11, 12 and 13 resist the relative movement of the parts transversely of the device. Lugs 14 on flanges 10 limit the downward movement of the side members. The exterior surface of the base side and end members adjacent the joint between them may be provided with decorative grooves X to render the joint crevice unnoticeable and to give the base the appearance of having a continuous upright wall. This wall is inclined inwardly and downwardly, as shown. Preferably, the lower edges of members 1 and 2 are shaped to form legs or feet 15.

Housing members 4 and 5 are preferably formed of non-rigid sheet material, although stiffened by their shaping and assembly. The housing central member 5 consists substantially of a rectangular sheet pressed into a slightly concavo-convex contour longitudinally of the body, as shown in Figure 1, and bent to form the curved top and the downwardly and inwardly inclined sides of the housing, as shown in Figure 2. The top wall is slotted at S to receive the bread slices. Each housing end member 4 is dished, as shown in Figure 1, so that its marginal portions extend longitudinally of the housing and are inclined away from each other. Their edge portions are offset inwardly to form a continuous marginal

recess and an attaching flange 18. The edge portions of central member 5 fit into the recesses and are supported by flanges 18. A tie or brace 19 is riveted or welded at its ends to the upper central portion of flanges 18. The lower portions of central member 5 are riveted or spot welded to flanges 18, as indicated at 20. Although the three parts 4, 4 and 5, may consist of thin non-rigid sheets, when they are assembled they form a substantially firm box-like housing with an open bottom. The lower portions of the housing sides and ends are inclined inwardly and downwardly similarly to the base walls and may be telescoped within the base whereupon rivets or welds 20 are hidden behind members 1 and 2.

Angular clips 21 have their upright legs riveted or spot welded to flanges 18, or to adjacent portions of the housing sides or ends, and have their horizontal legs resting on flanges 16 and the housing is secured to the base by screws 22 inserted through holes 22*a* in flanges 10.

To further secure the parts together and avoid play between them, there are provided several lugs 23 on base members 1, each of these lugs being notched downwardly from its upper end, as indicated at 24, and cooperating with the adjacent inner face of member 1 to form an upwardly opening recess. The adjacent portion of each housing end wall is provided with a rectangular slot 25 which receives lug 23 when the base end parts are telescoped, the housing metal forming the upper end of slot 25 being received in the recess and engaged at opposite sides to be held against flexing. Each base end member 1 has a lug 26 and each flange 10 has an upstanding ledge 27 cooperating with lug 26 to engage opposite sides of the lower edge portion of the housing end wall and hold the latter against flexing. Each base side member 2 has a lug 33 to engage the bottom edge of the housing side member to hold the base member against upward movement.

Depending from flanges 16 are pins 28. Bottom plate 3 is apertured at 29 to permit the projection of pins 28 through the bottom plate when the latter is applied to the lower faces of flanges 10. A lever 30 is pivoted intermediate its ends to the bottom face of plate 3 and is notched at 31 to receive grooved portions of pins 28. One end of lever 30 is extended through or beneath the adjacent base member 1 to provide a projecting handle 32 by which the lever may be manipulated manually from one position in which it engages pins 28 to another position in which it disengages the same. When the lever and pins are disengaged, plate 3 may be dropped and any crumbs which may have collected thereon may be removed.

Each of the four pieces of the base frame is easily cast or pressed without requiring complicated molds or dies and without requiring substantial machining. Similarly, each of the three parts of the housing is readily pressed out of blank sheets without requiring expensive dies. These eight parts, 1, 1, 2, 2, 3, 4, 4 and 5 are so constructed that they may be produced easily and economically and assembled readily and will cooperate when assembled to constitute a firm, serviceable, neat-appearing body forming a toasting chamber C and compartments P for timing mechanism, switches, etc. (not shown).

By constructing and assembling the housing parts as described, the body may be given the somewhat bulbous contour indicated in the drawing which would be difficult, if not impossible, to provide in a one-piece stamped housing. There is little or no waste or scrap. By constructing and assembling the base parts as described, the latter may be given the generally oblong contour, but with bulged ends and sides corresponding to those of the housing, without machining the parts. The housing and base, when assembled, tend to hold each other rigid and are readily secured by the four screws 22.

Obviously, some of the interengaging elements may be shifted to cooperating parts and details of the structure may be varied without departing from the spirit of the invention, and the exclusive use of such modifications as come within the scope of the claims is contemplated.

What is claimed is:

1. In a body for a toaster of the class described, separately formed, substantially rigid side and end members arranged end to end and having upstanding walls and forming an oblong open frame-like base, the side members being spaced apart opposite to each other and the end members being spaced apart opposite to each other, a housing having upright walls slidable vertically into overlapping relation with the inner faces of said base member walls, means securing the housing to two opposite base members, said two housing-secured base members having lips extending outwardly of the other two base members and holding the latter against movement away from the housing, the base members secured to the housing having elements extending beneath elements on the other base members and holding the latter against movement downwardly relative to the housing and the base members secured thereto, and elements on the housing extending over elements on said other two base members and holding the latter against movement upwardly relative to the housing and the members secured thereto.

2. In a body for a toaster of the class described, at least four elongated narrow strips of molded plastic material each curved transversely of its length and having an upstanding wall, said strips being arranged end to end and forming members of a generally oblong frame-like base, a housing of relatively thin sheet metal forming a box-like structure with substantially continuous top, side, and end walls, the top wall being slotted to receive a slice of bread, the end and side walls of the housing being inclined inwardly and downwardly and being slidable vertically inwardly of the upstanding walls of the base members, a horizontal flange on the inner side of each of two opposite base members, detachable means fastening the housing to said flanges, the ends of the flanged base members secured to the housing having elements overlapping the other base members and holding the latter against movement away from the housing, the end edges of the walls of each of the latter-mentioned base members converging downwardly and the opposing edges of the walls of the flanged base members abutting said downwardly converging edges, whereby all the parts of the base and body are tightly joined, and abutting elements on the housing and said other two base members, said elements cooperating with each other and with said fastening means to hold all the parts interlocked.

3. In a body for a toaster of the class described, a plurality of separately formed elongated and relatively narrow rigid base members each having an upstanding wall, said members being arranged end to end to form an open frame, a housing including upright walls with their lower portions slidable vertically into overlapping relation

with the inner faces of said base member walls, detachable means securing the lower portions of said housing walls directly to alternate base members, elements on the ends of said latter-mentioned base members extending outwardly of the adjacent ends of the remaining base members and holding the latter against movement laterally away from said alternate base members and the housing walls, said remaining base members and the housing having opposing elements facing upwardly and downwardly respectively to hold said remaining base members against movement upwardly of the housing, said remaining base members having portions overlying parts of said alternate base members and being held thereby against movement downwardly relative to the housing.

4. In a body for a toaster of the class described, four separately formed, substantially rigid base members each having an upstanding wall, said members and their walls being arranged end to

end to form sides and ends of an open frame, and a housing comprising side and end walls with their lower portions slidable vertically into overlapping relation with the inner faces of said base member walls, detachable means securing said housing directly to the base end members, elements on the ends of the base end members extending outwardly of adjacent ends of the base side members and holding the latter-mentioned base members against movement laterally away from the housing walls, the side base members and the housing having elements facing upwardly and downwardly respectively and opposing each other to hold the side base members against relative movement upwardly of the housing, the side base members having portions overlying parts of the end base members and being held thereby against vertical movement downwardly relative to the housing.

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