May 17, 1938. H. A. SMITH 2,117,579

GRID RETAINING MEANS FOR ELECTRICAL APPLIANCES

Filed June 1, 1937

Fig. 1.

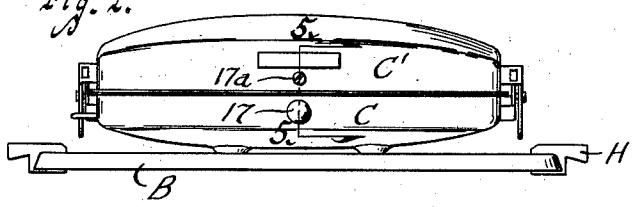


Fig. 2.

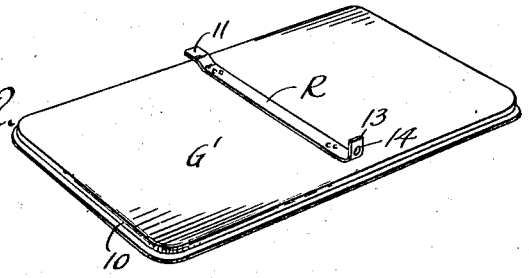


Fig. 3.

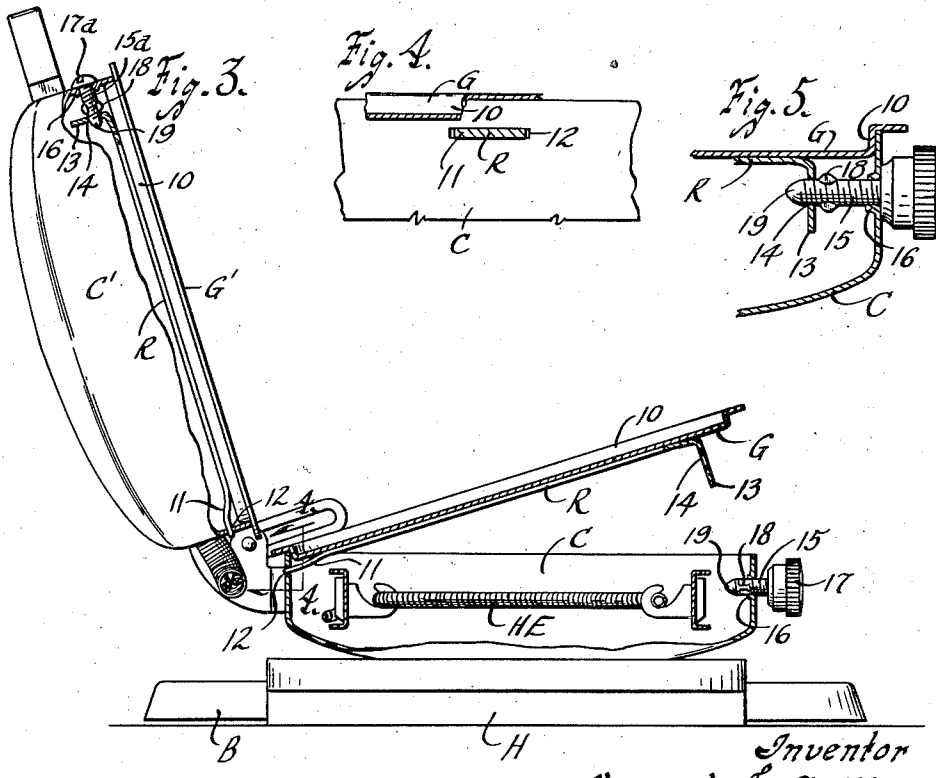


Fig. 4.

Fig. 5.

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GRID RETAINING MEANS FOR ELECTRICAL APPLIANCES

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11 Claims. (Cl. 53—5)

An object of my invention is to provide simple, durable and inexpensive means to retain the grid of an electrical appliance in position relative to the casing of the appliance.

A further object is to provide retainer means which is readily operable by manipulation of a single set screw or similar retaining device.

Another object is to provide a retainer in the form of a retainer strip secured to the inner surface of a grid and having one end coacting with a perforation of an electrical appliance casing and the other end cooperating with a set screw or other retaining element whereby both ends of the retainer strip, and thereby the grid, are retained in operative position relative to an appliance casing.

With these and other objects in view, my invention consists in the construction, arrangement and combination of the various parts of the device, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims and illustrated in the accompanying drawing, in which:

Figure 1 is a front elevation of an electrical appliance (a sandwich toaster being illustrated) with which my grid retaining means has been associated.

Figure 2 is a perspective view of the upper grid thereof showing a portion of the grid retaining means secured thereto.

Figure 3 is an enlarged end elevation, partly in section, showing the construction and operation of the grid retaining means.

Figure 4 is an enlarged sectional view on the line 4—4 of Figure 3 illustrating how certain parts of the grid, appliance and grid retaining means cooperate with each other; and

Figure 5 is a sectional view on an enlarged scale taken on the line 5—5 of Figure 1 and illustrating another portion of the grid retaining means.

On the accompanying drawing, I have used the reference character B to indicate a base of an electrical appliance, such as a sandwich toaster. Casings C and C' are mounted on the base B and suitably hinged or otherwise connected to the base in the usual manner. Handles H are provided for supporting the base B when moving it from one place to another, these handle members also serving as feet to support the base B above a table top or the like.

The casings C and C' have open upper and lower sides respectively which are normally closed by grids G and G'. These grids may be flat in character or have beads forming waffle iron patterns, or the like, and if desired several sets of grids of different design may be provided, as my grid retaining means readily adapts itself for the use of interchangeable grids.

The grids G and G' are positioned laterally relative to the casings C and C' by shoulders 10 which just fit within the outline of the casings. My grid retainer means includes a retainer bar or strip R formed of strap iron or the like and fixed to the inner surface of the grid. At one end the retainer is provided with a finger indicated at 11, while at the opposite end a perforated ear 13 is provided. The perforation thereof is indicated at 14.

The end 11 of the retainer R is adapted for entry into a perforation 12 of the casing C or C' as the case may be. A set screw 15 is threaded through a boss 16 of the casing C, or C', and is provided exteriorly of the casing with an operating knob 17 preferably formed of insulating material. The inner end of the set screw 15 is preferably pointed, as indicated at 19, to facilitate entry of the set screw into the perforation 14 of the ear 13.

Lugs 18 are formed on the set screw adjacent the inner end thereof to prevent disengagement of the set screw from the casing when the screw is unscrewed. These lugs limit the unscrewing movement thereof.

As shown in the upper portion of Figure 3, the set screw (here indicated as 15a) may have a slotted head 17a or the like, instead of a knob whereby the grid is removable only by the use of a screw driver or other tool.

The retainer R, being of sheet metal, is somewhat resilient. In Figure 3 the lower grid G is being placed in initial position and the end 11 of its retainer R it will be noted is relatively close to the bottom of the grid. The upper grid G' is in its final position and it will be noted that the end 11 of its retainer R is sprung farther away from the bottom of the grid. This places the end 11 of the retainer under tension which serves to bias one side of the grid to engage the casing. Also the perforation 14 of the ear 13 is closer to the bottom of the grid G than to the bottom of the grid G' whereby the tapered end 19 of the set screw 15 acts to draw the perforation 14 farther away from the bottom of the grid G', thus placing the ear 13 under tension to bias the other side of the grid to engage the casing.

It is thus possible to provide a grid retaining means which in operation necessitates the mere placing of one end of the retainer bar in the perforation 12 and then swinging the grid to posi-

tion on the casing and tightening the set screw. Such a means is readily operable for interchanging grids when a plurality of them is provided. For instance, some grids may be for waffles and others for sandwich toasters and thus the same appliance may be used for both articles.

Some changes may be made in the construction and arrangement of the parts of my device without departing from the real spirit and purpose of my invention, and it is my intention to cover by my claims any modified forms of structure or use of mechanical equivalents which may be reasonably included within their scope.

I claim as my invention:

1. In a grid retaining means for an electrical appliance, the combination of a casing and a grid to close an open side thereof, with means to retain said grid in position relative to said casing comprising a projection from one side of said grid, the opposite side of said grid having a perforation, said casing having an opening to receive said projection and an element threaded in the opposite side of said casing and received in said perforation to prevent disengagement of said opposite side from the casing when said element is screwed inwardly relative to said casing.

2. In a grid retaining means for an electrical appliance, the combination of a casing and a grid to close an open side thereof with means to retain said grid in position relative to said casing comprising a projection from one side of said grid, said casing having an opening to receive said projection, an element threaded in and movable relative to the opposite side of said casing, said grid having an opening to receive the inner end of said element when it is moved inwardly relative to said casing, said element being removed from said opening when it is moved outwardly relative to said casing.

3. In a grid retaining means for an electrical appliance, the combination of a casing and a grid shouldered to fit within and close an open side thereof, with means to retain said grid in position relative to said casing comprising a strap element secured to the inner surface of said grid and extending thereacross, said casing having a perforation to receive one end thereof and an element threaded into the opposite side of said casing and coacting with one end of said strap element when the threaded element is adjusted to one of its positions.

4. In a grid retaining means for an electrical appliance, the combination of a casing and a grid shouldered to fit within and close an open side thereof with means to retain said grid in position relative to said casing comprising a strap element secured to the inner surface of said grid and extending thereacross, said casing having a perforation to receive one end thereof, the other end of said strap element being perforated, said casing opposite the perforation therein having a threaded opening and a set screw threaded therethrough and adapted to enter said perforation of said other end of said strap element.

5. In a device of the class described, the combination of a casing and a grid for closing an open side thereof with means for retaining said grid in position relative to said casing comprising a projection from one side of said grid, said casing being perforated to receive said projection and means opposite said projection to retain the opposite side of said grid in position and said projection in said perforation, said means comprising a set screw carried by said casing independent of said grid and releasably coacting with said grid.

6. In a device of the class described, the combination of a casing and a grid for closing an open side thereof with means for retaining said grid in position relative to said casing comprising a retainer strip secured to the inner surface of said grid and having one end projecting from one side thereof, said casing being perforated to receive said projection and means carried by said casing opposite said projection and coacting with the other end of said retainer strip to retain said opposite end in predetermined position relative to said casing.

7. In a device of the class described, the combination of a casing and a grid for closing an open side thereof with means for retaining said grid in position relative to said casing comprising a retainer strip having one end projecting from one side of said grid, said casing being perforated to receive said projection and means opposite said projection and coacting with the other end of said retainer strip to retain said opposite end in predetermined position relative to said casing, said means comprising a set screw carried by said casing and coacting with said other end of said retainer strip.

8. In a device of the class described, the combination of a casing and a grid for closing an open side thereof with means for retaining said grid in position relative to said casing comprising a projection from one side of said grid, said casing being perforated to receive said projection and means opposite said projection to retain the opposite side of said grid in position and said projection in said perforation, said means comprising a set screw threaded through a wall of said casing and coacting within the casing with the grid and means on said set screw within said casing to prevent unscrewing of said set screw relative to said casing.

9. Grid retaining means for an electrical appliance comprising a retainer strip secured to the inner surface of a grid, the casing of the electrical appliance having an opening to receive one end of said retainer strip and a set screw threaded through said casing and adapted to engage the other end of said retainer strip for retaining the strip and thereby the grid in position relative to the casing.

10. Grid retaining means for an electrical appliance comprising a retainer strip secured to the inner surface of a grid, the casing of the electrical appliance having an opening to receive one end of said retainer strip and a set screw threaded through said casing and adapted to engage the other end of said retainer strip for retaining the strip and thereby the grid in position relative to the casing, said set screw having means within the casing to prevent removal of the set screw relative to the casing.

11. In a device of the class described, the combination of a casing and a grid for closing an open side thereof, with means for retaining said grid in position relative to said casing comprising a retainer bar connected with the inner surface of the grid, said casing being perforated to receive one end thereof and means coacting with the other end thereof and carried by said casing, said means placing said other end of said retainer bar under tension and said first end of said bar, when said grid is in position, being under tension whereby to bias the grid to engage the casing.

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