Dec. 1, 1964 A. E. INCLEDON 3,159,156

DISPOSABLE OVEN LINER

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Fig. 1

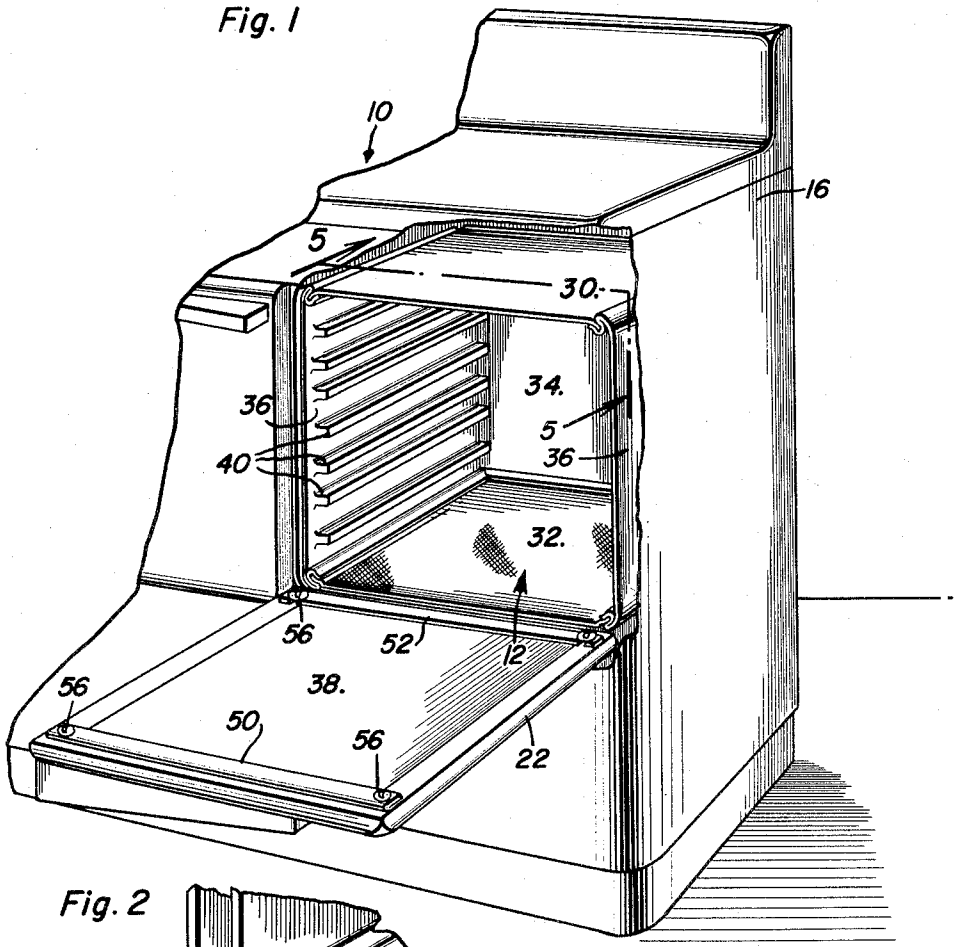
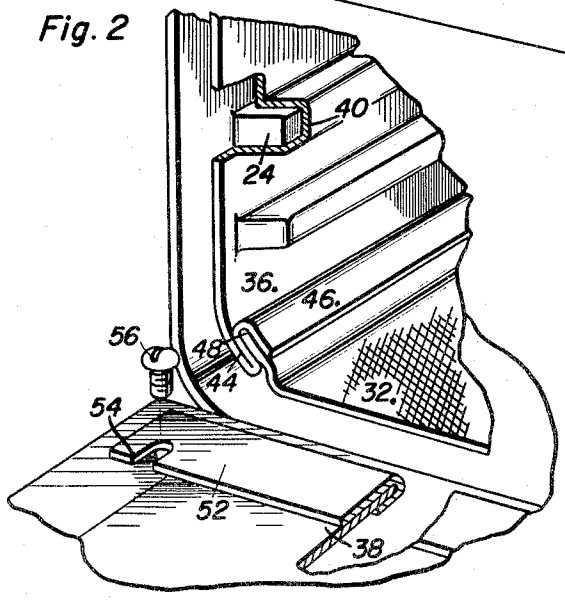



Fig. 2




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Fig. 3

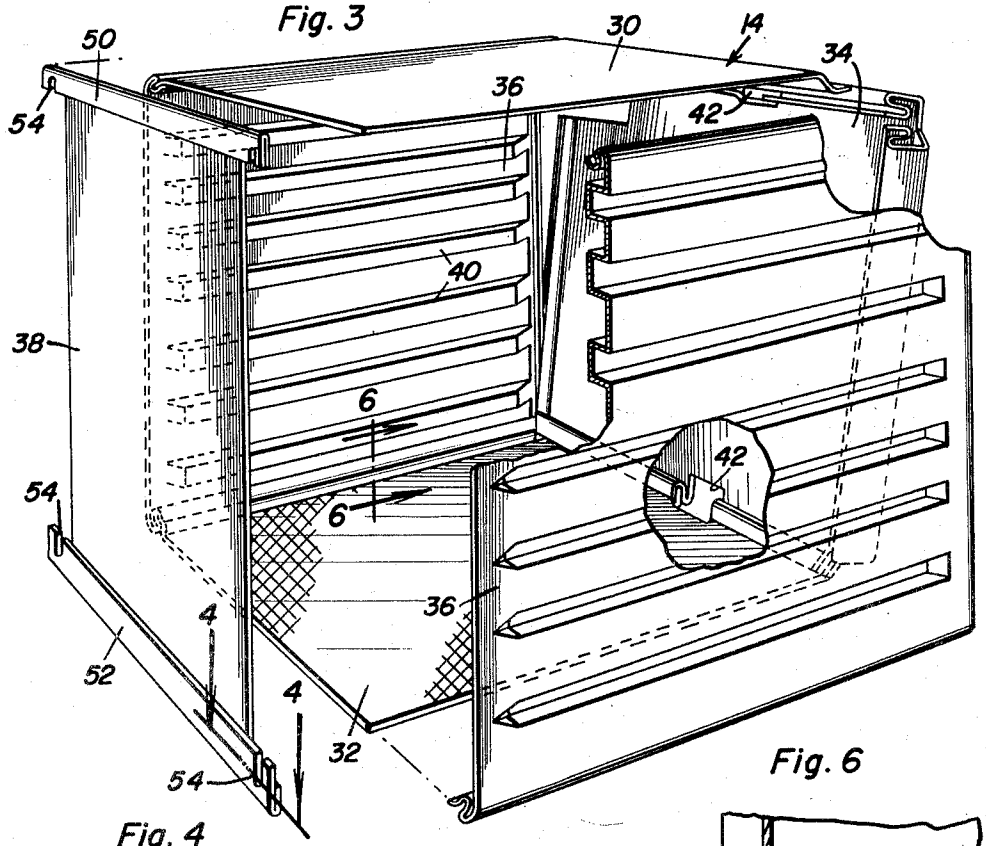



Fig. 4

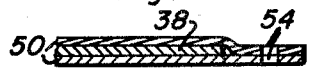



Fig. 5

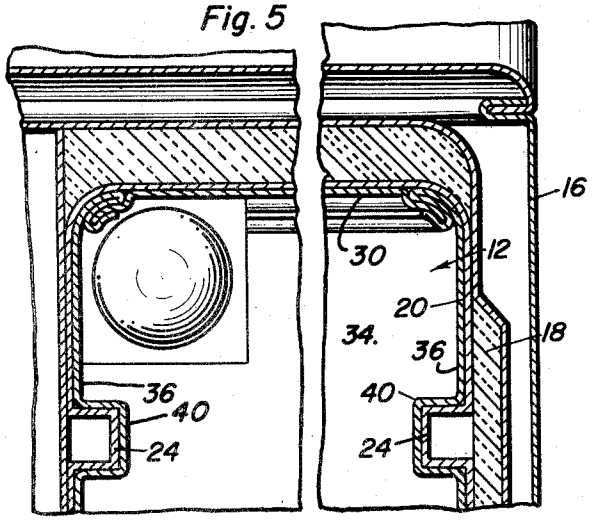
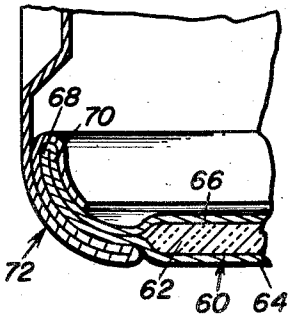



Fig. 6




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3,159,156

# DISPOSABLE OVEN LINER

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1 Claim. (Cl. 126—19)

This invention comprises a novel and useful disposable oven liner and more particularly relates to a grease protecting liner of a relatively inexpensive material easily secured to or removed from the interior surface of an oven for protecting the latter.

In substantially all types of ovens now available to the public the cooking of food therein is attended by the accumulation of grease upon the interior surface of the oven. This not only is unsightly and messy, but also constitutes a potential fire hazard and further decreases the reflective capacity of the usually polished oven interior surfaces thereby decreasing the efficiency of the oven. The correcting of this condition is usually a tedious and time-consuming operation.

It is therefore the primary purpose of this invention to provide a means for satisfactorily overcoming the above-mentioned undesirable condition with a minimum of expense and labor.

More specifically, it is an object of this invention to provide a protective liner for the entire interior surface of an oven which will effectively protect the latter from accumulation of grease and the like, and which may be in turn readily removed and disposed of at no great economic loss and with a minimum of effort when grease has accumulated thereon.

Yet another object of the invention is to provide a disposable inexpensive oven liner which shall be so constructed that it may be compactly stored in individual sheets and may be quickly and easily assembled in the oven to form a unitary protective lining therefor.

A still further and more specific object of the invention is to provide a disposable liner in accordance with the preceding objects whose configuration shall adapt it to fit snugly and perfectly to such irregularities as occur upon the inner surfaces of an oven including the conventional tray supporting ribs on the side walls of the oven, connections for removable electric heating elements and the like.

A still further important object of the invention is to provide a liner as set forth in the preceding objects and of such character that it will in no way impair the heat reflective properties of the polished interior surfaces of the oven when placed thereon, and yet may be easily and quickly assembled together in place in the oven with greaseproof interconnecting joints between adjacent edges of the sheet portions of the liner.

And a final important object of the invention to be specifically enumerated herein resides in the provision of a disposable oven liner in accordance with the foregoing objects wherein at least one or more of the individual sheets of the liner may have incorporated therein a thermally insulating material.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIGURE 1 is a perspective view of a portion of a conventional type of oven with the disposable protective liner installed therein but with the electric heating element removed therefrom, parts being broken away and with the oven door being in its open position;

FIGURE 2 is a detail view in perspective of a portion of the side wall, bottom and door of the oven of FIGURE 1 and showing further the details by which portions of the protective covering or liner are applied thereto;

FIGURE 3 is an exploded perspective view, parts being broken away, of the various component sheets which make up the disposable liner of this invention;

FIGURE 4 is a detail view taken in horizontal section substantially upon the plane indicated by the section line 4—4 of FIGURE 3 and showing in particular the application of a reinforcing strip to the door element of the liner;

FIGURE 5 is a vertical transverse sectional view, parts being broken away and taken substantially upon the plane indicated by the section line 5—5 of FIGURE 1 and indicating specifically the manner in which the sides of the liner are interlocked with the top component of the liner; and

FIGURE 6 is a detail view in vertical section through a slightly modified form of a liner construction in which a thermally insulating material is incorporated into one of the sheet components of the liner.



It will be appreciated that the principle of this invention may be readily applied to different types of ovens whether of the gas fired or electrically heated type. However, in order to satisfactorily illustrate the manner of applying the principles of this invention to one form of oven there has been illustrated in the drawings a conventional type of electric stove 10 including therein an oven 12 to which the disposable liner indicated generally by the numeral 14 in FIGURE 3 is to be applied.

In accordance with conventional practice, the oven includes the usual metallic casing 16, see also FIGURE 5, having the usual insulating material as at 18 between this outer casing and an internal metal casing 20, the interior of which provides the oven chamber 12. The interior casing 20 consists of the usual top, bottom, side and back walls together with a door 22 hinged in a conventional manner to the stove in which the oven is formed. The interior surfaces of the side, back, top, bottom and door elements of the oven are generally plane surfaces of a highly reflective nature such as a polished surface or the like and they constitute the entire interior surface of the oven. Further, in this conventional stove, the side walls include the usual vertically spaced horizontally extending ribs 24 adapted to receive slidable trays or shelves thereon not shown, and a conventional form of electric heating element, not shown, is detachably connected to a corresponding portion of an electrical circuit extending into the back wall of the oven so that the heating element may be readily inserted into or removed from the oven through the open front of the same by merely plugging in or disconnecting this plug-in connection. Inasmuch as this construction is of conventional design and forms no part of the invention set forth and claimed herein, a further description of the same is deemed to be unnecessary.

The oven liner 14 in accordance with this invention consists of a number of sheets of a fireproof, greaseproof material preferably having a relatively high heat reflecting quality so that when this material is applied to the interior of the oven, the heat reflecting properties and therefore the cooking performance of the oven will be unimpaired.

Although various materials may be employed for this purpose, a very satisfactory material both from the viewpoint of the above desired qualities and also from that of expense and easy attachment and removal of the lining from the oven is a heavy gauge of aluminum foil.

As illustrated in FIGURE 3, the liner 14 includes six sheets, these comprising a top sheet 30 together with a bottom sheet 32, a back sheet 34, a pair of side wall sheets each identified by the numeral 36 and a further sheet 38 for the door of the oven. Each of the sheets is of the same shape and size as that of the associated

wall element of the oven to which it is to be applied so that this sheet will completely cover the inner surface of the corresponding oven wall component.

Considering first the side sheets 36, it will be observed that where the liner is designed for an oven of the type having the previously mentioned tray supporting ribs 24, this sheet will likewise be provided with correspondingly shaped portions 40 which as shown in FIGURE 5 are adapted to snugly embrace these ribs 24. In this manner, the associated sheets for the oven side walls can be readily applied to the latter once the trays, not shown, have been removed from the oven, and by virtue of the complementary shape and size of the portions 40 to the ribs 24 will cling to and firmly embrace the ribs and constitute a convenient anchoring moans for the side wall sheets. In addition, the smooth surface of the portions 40 will permit ready sliding of the oven trays thereon so that this function of the oven will be in no way impaired by the application of this liner thereto.

The back sheet 34 at an appropriate place thereon is provided with a cutaway portion or opening 42 therethrough which is adapted to embrace the attachable electrical connection between the removable heating element and its socket in the back wall of the oven. Actually, the abutment of the back end of the heating element against this socket will clampingly embrace therebetween the perimeter of the opening 42 to thus assist in properly positioning the back wall sheet 34 in place.

As best shown in FIGURE 2, the adjacent edges of adjacent sheets are folded into interlocking engagement with each other to form a grease tight seal and to securely assemble the sheets into a unitary lining. Thus, as in FIGURE 2, the side wall sheet 36 is folded back upon itself as at 44 thus providing a beveled thickness of material at this marginal edge, and then again is bent or folded over upon itself as at 46 to provide a channel or pocket 48 therebetween in which is received the marginal edge of the bottom sheet or adjacent sheet 32. In a similar manner the vertical edges of the back wall sheet 34 and the two side wall sheets 36 are secured together and the top sheet 30 is secured to the two side wall sheets. As will be readily appreciated, the necessary folding of the adjacent edges of the sheets to effect this interlocking engagement can be readily effected as the sheets are individually placed within the oven. Alternatively, one or more of the sheets may have preformed folded portions to facilitate this interlocking engagement and connection of the sheets to each other.

The sheet which is associated with the oven door 22, as indicated at 38, is preferably provided with a pair of stiffening strips 50 and 52 secured to opposite marginal edges thereof as for example to the top and bottom edges. The strips are identical in construction and are each provided with slots 54 therein for the reception of the fastening screws 56 with which the oven door is usually provided. Thus, the sheet associated with the door element is given the necessary rigidity at its edges to enable it to withstand the jars incident to opening and closing the door.

FIGURE 6 discloses a slightly modified construction in which any one of the sheets indicated generally by the numeral 60 is of a laminated construction. Thus, there is provided a panel 62 of a suitable heat insulating material such as asbestos or the like and which may be either a rigid or a pliable body. Completely enclosing this panel is a metal foil covering consisting of a pair of sheets 64 and 66 which embrace therebetween the heat insulating panel, and whose marginal edges as shown at 68 and 70 respectively are disposed in overlapping overlying engagement. These overlapping edges are adapted to engage in interlocking association with a corresponding



marginal edge indicated generally by the numeral 72 of an adjacent sheet.

The form of sheet shown in FIGURE 6 possesses the advantage that it has a much greater heat insulating capacity than does the single thickness of metal foil alone, and yet may be readily bonded with an adjacent sheet in interlocking engagement through the use of the deformable marginal edge portions as in the preceding arrangement. It is therefore an important feature of the invention to use one or more of the insulated sheets as for example upon the bottom or back of the oven as may be desired.

In any event, it is an essential feature of the invention that the marginal edges of adjacent sheets shall be of a deformable, pliable but non-resilient nature so that they may be readily bent into the necessary interlocking engagement and thus impart sufficient rigidity and cohesiveness to the entire structure to form a unitary lining assembly.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

In combination, a disposable liner and an oven, said oven including top, bottom, side, back and door elements whose combined inner surfaces form the entire oven interior surface, said side elements having inwardly projecting tray supports for slidably supporting oven trays, said liner comprising a plurality of individual self-supporting sheets of fireproof material, there being one sheet for each oven element, each sheet being of a size and shape conforming to the inner surface of one of said elements and substantially covering the latter, the sheets associated with said side walls having deformed portions complementary to the inwardly projecting tray supports for the snug embracing thereof, the edges of the sheets conforming to the top, bottom, side and back elements being of a readily deformable and non-resilient material, adjacent ones of said edges being deformable into sealed interlocking engagement with each other whereby the top, bottom, side and back sheets are secured together into a unitary self-sustaining liner covering the entire top, bottom, side and back surfaces of the oven, the sheet associated with the door element including reinforcing strips of non-deformable material each embracing and rigidifying one of a pair of opposite edges, said reinforcing strips having openings therethrough and releasable fastening means extending through said openings and into said door element.


References Cited in the file of this patent

UNITED STATES PATENTS

| | | |
|---|---|---|
| 889,236 | Janes | June 2, 1908 |
| 1,770,930 | Laffrey | July 22, 1930 |
| 2,039,539 | Klute | May 5, 1936 |
| 2,174,425 | Schlumbohm | Sept. 26, 1939 |
| 2,746,448 | Holmsten | May 22, 1956 |
| 2,841,132 | Philipp | July 1, 1958 |
| 2,882,890 | Shaw | Apr. 21, 1959 |
| 2,912,559 | Kirschke | Nov. 10, 1959 |
| 3,080,979 | Holt et al. | Mar. 12, 1963 |

FOREIGN PATENTS

| | | |
|---|---|---|
| 633,284 | Canada | Dec. 26, 1961 |
| 842,936 | Great Britain | July 27, 1960 |