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2,628,432

DELICATE GOODS DRIER

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Fig. 1

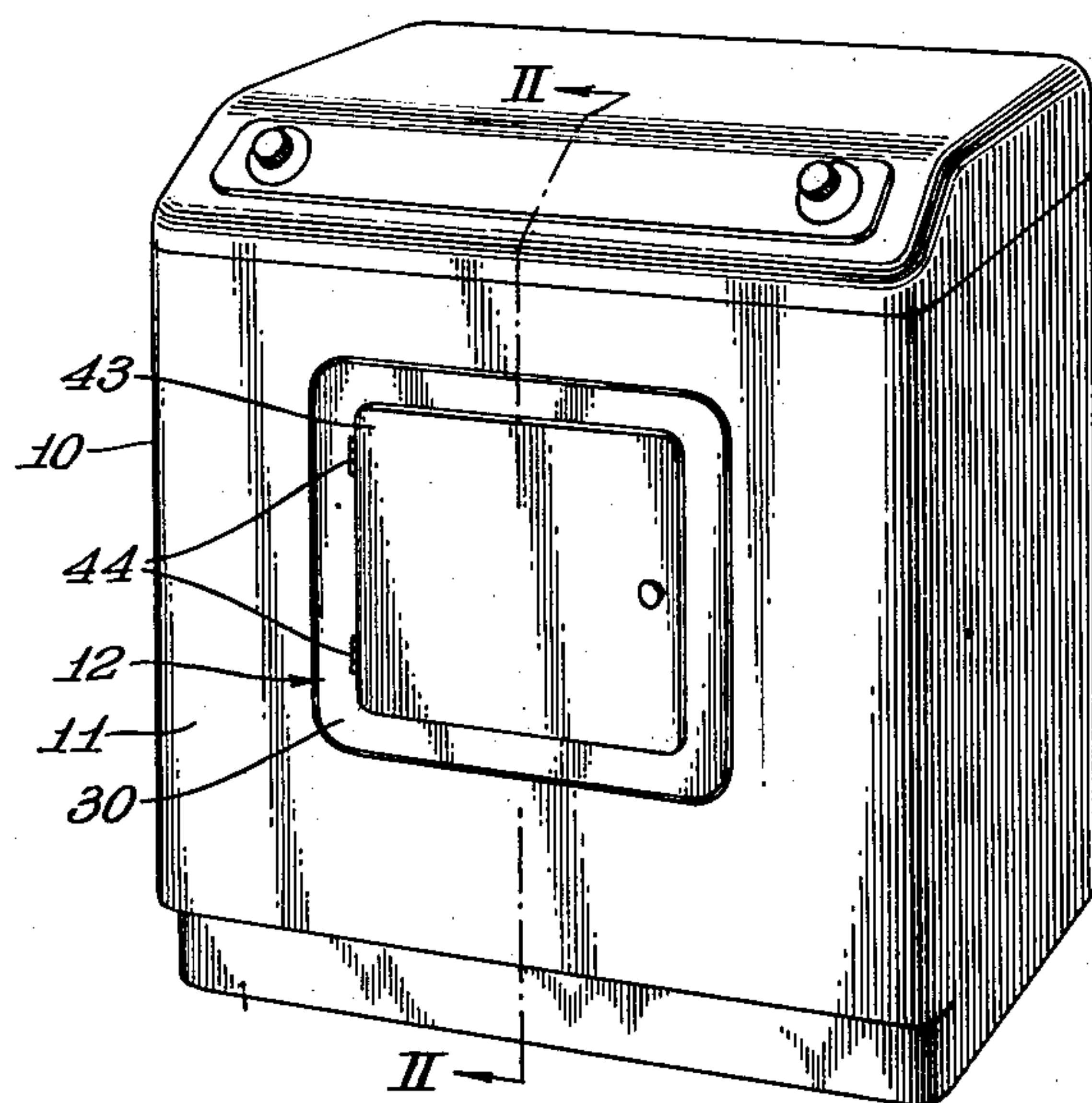


Fig. 2

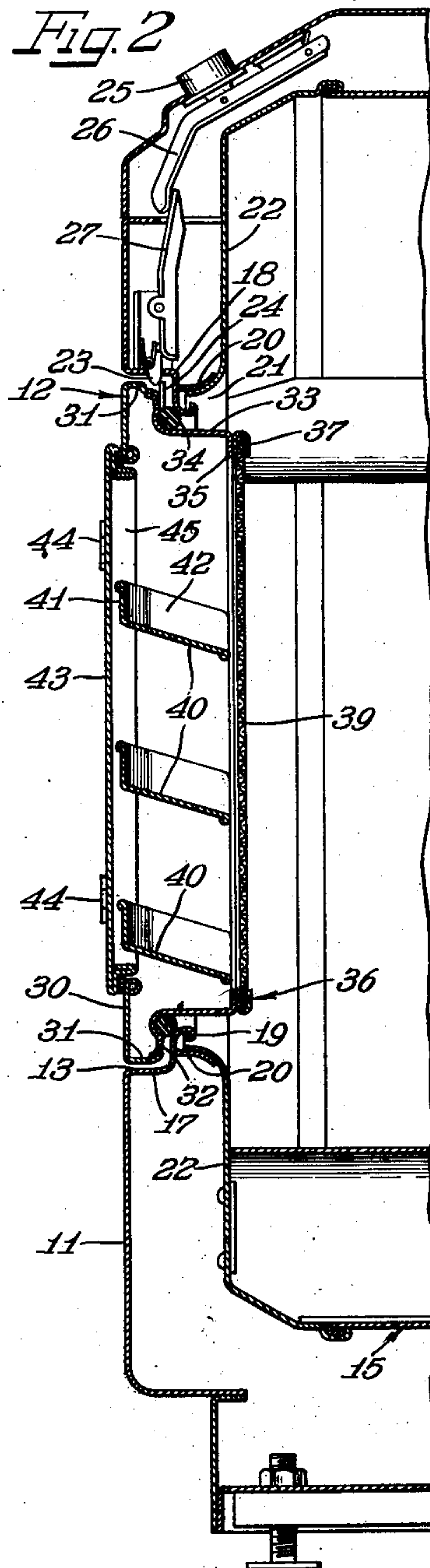
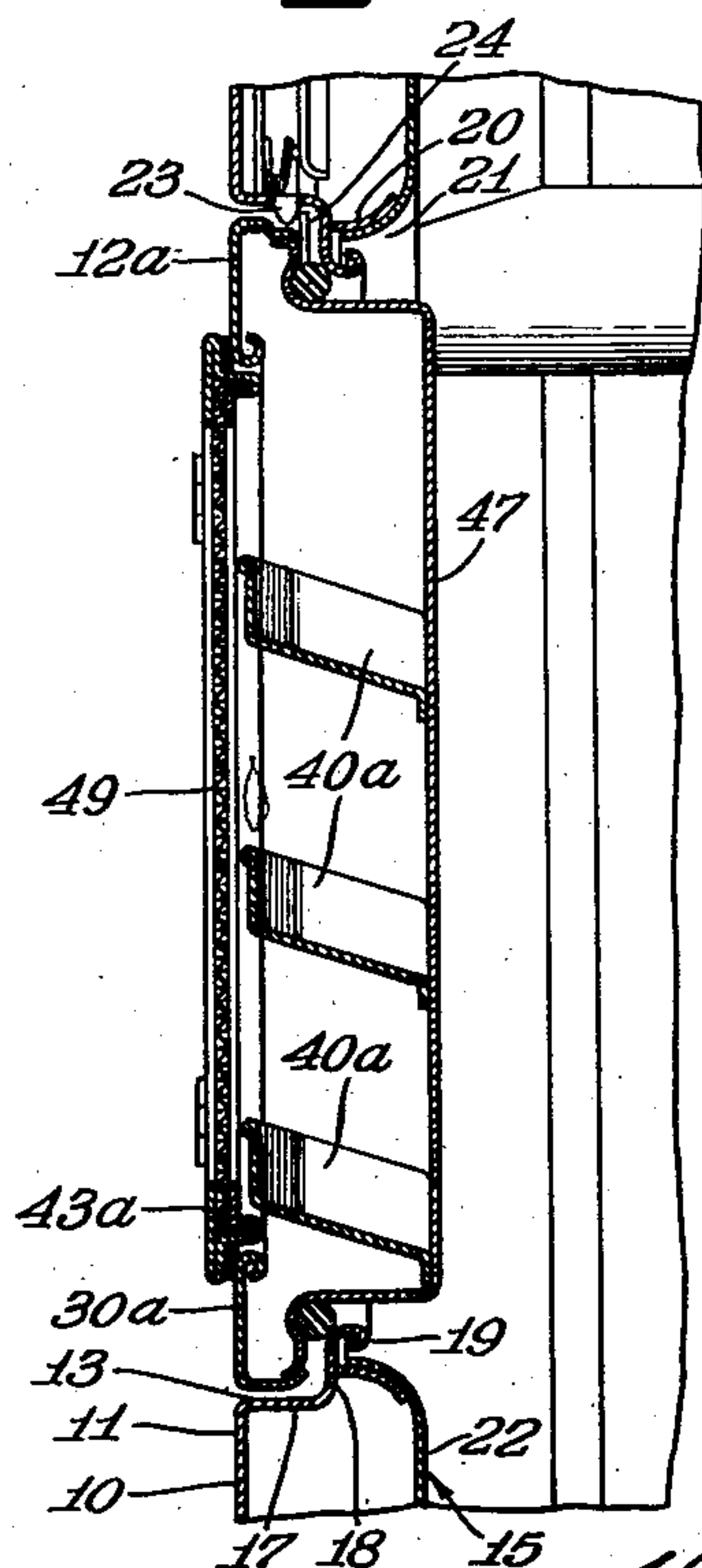


Fig. 3



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DELICATE GOODS DRIER

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5 Claims. (Cl. 34—68)

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This invention relates to improvements in clothes driers and has as its principal objects to provide an improved form of drier construction for rotary drum types of household driers, for drying delicate clothes that would otherwise be injured by the tumbling action of the clothes in the drying drum.

Another object of my invention is to provide an efficient form of stationary drying means incorporated in a rotary drum type of a drier for drying delicate clothes without tumbling, at the same time other clothes are drying by the tumbling action of the drier drum.

Another and more detailed object of my invention is to provide a novel and improved form of drier construction for rotary drum types of household dryers including a drying means fitted in the door for the dryer cabinet, to support the delicate clothes for drying.

Still another object of my invention is to provide a novel and improved form of dryer door for the cabinet of a rotary drum type of household clothes dryer having means incorporated therein for drying delicate clothes.

Still another and more detailed object of my invention is to provide a novel and improved form of dryer door for the cabinet of a household type of clothes dryer having a recess therein with shelves contained in the recess to receive the delicate clothes and having one perforate wall and another imperforate wall, one of which walls has a door therein to afford access to the drying shelves.

These and other objects of my invention will appear from time to time as the following specification proceeds and with reference to the accompanying drawing wherein:

Figure 1 is a perspective view of a household type of rotary clothes drier having a drying means for delicate clothes constructed in accordance with my invention embodied therein;

Figure 2 is an enlarged fragmentary transverse sectional view taken substantially along line II—II of Figure 1; and

Figure 3 is a view somewhat similar to Figure 2 but showing a modified form in which my invention may be embodied.

In the embodiments of my invention illustrated in the drawing, a rotary drum type of clothes drier is shown which may be of a type illustrated and described in application Serial No. 208,707, filed by Peter Eduard Geldhof and Harold E. Morrison on January 31, 1951. The drier, herein shown includes a cabinet 10 having a front wall 11 with a door 12 therein for clos-

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ing a clothes receiving opening 13 in said front wall and affording access to a drier drum 15 rotatably journaled within said cabinet.

As in the aforementioned application Serial No. 208,707, the drum 15 is rotatably driven during the drying operation and a bulkhead (not shown) extends upwardly along the rear wall of the drier drum 15 and has air circulating means associated therewith for circulating the heated air into said drum and withdrawing it therefrom through a perforated rear wall of the cabinet, from which it may be exhausted to the atmosphere through a rear wall of said cabinet. The bulkhead, heating and air circulating means is clearly shown and described in application Serial No. 208,707 mentioned before, so need not herein be shown or described.

The clothes receiving opening 13 in the front wall of the cabinet 10 may be circular and is defined by an inwardly extending annular flange 17, herein as shown as extending toward the drier drum 15. The flange 17 is shown as being bent to extend at right angles toward the center of the drier drum, to form a sealing shoulder 18. The flange is then bent inwardly and curled outwardly to form a smoothly curved lip 19. The inside of the shoulder 18 is slidably engaged by a flexible sealing member 20 extending from an outwardly curved flange 21, defining a clothes receiving opening in a front wall 22 of the drier drum 15, to retain the circulation of air into and out of the drum 15 through its rear perforate wall.

The door 12 may be rectangular and may be hinged to the flange 17 by suitable concealed hinge means (not shown), as in application Serial No. 208,707, so that upon release of a latch 23 engaging a keeper 24 projecting upwardly from the upper inner margins of said door, the door will be free to open. The latch 23 is shown as being operated by a push-button 25 extending through an opening in the forward inclined upper face of the cabinet 10, and operatively connected with the latch 23 by release levers 26 and 27.

The door 12 has a front wall 30, herein shown as being rectangular and having an inwardly extending annular flange 31, to which is secured an annular shouldered end 32 of an annular side wall 33 in a suitable manner, such as, welding. The side wall 33 extends inwardly through the clothes receiving opening 13 within the drier drum 15. A sealing member 34 on the shouldered portion 32 of the door is shown as engaging the inner edge of the inwardly extending flanged por-

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tion 18 of the flange 17, to prevent heated air from escaping through said opening in said cabinet during the drying operation.

The annular side wall 33 of the door is shown as having an inwardly turned inner flanged portion 35, to which is secured a rear wall 36 of the door, herein shown as being perforate. As herein shown, the rear wall 36 includes an annular rim 37, U-shaped in cross-section with the open portion thereof opening inwardly toward the center of rotation of the drum, and having a screen 39 crimped therein.

A plurality of shelves 40, 40, herein shown as being three in number, are mounted within the recessed portion of the door 12 at the outer edges of the flanged portion 35 thereof, as by welding, and afford a means for holding delicate clothes for drying by the heated air circulated through the drier drum 15. While shelves are herein shown it is of course obvious that shelves need not be provided, and that hooks or other clothes holding means may be provided instead.

Each shelf 40 is herein shown as being inclined with respect to the rear wall 39, so moisture from the clothes may drain into the drier drum 15. Each of said shelves is shown as having an outer upwardly extending lip 41 terminating into end lips 42, 42 at opposite edges thereof.

The front wall 30 of the door 12 is shown as having a rectangular opening therein, to afford access to the shelves 40, 40. The opening defined by the inner edge of the front wall 30 is herein shown as being closed by a door 43 hinged to said front wall, as by hinges 44, 44 and held in a closed position by suitable latching means, not herein shown or described since it may be of any well known form and is no part of my present invention.

The door 43 is shown as having an inwardly spaced inturned rib 45 extending inwardly of the opening in the front wall 30 of the door 12. A gasket or sealing member 46 is shown as being spaced outwardly of the rib 45 to engage the opening in the front wall 30 of the door 12, to prevent the escape of air past the door 43 during operation of the drier and thus to retain the circulation of air into and out of the drier drum 15 through the perforate rear wall thereof.

With the form of my invention illustrated in Figure 2, at any time during operation of the drier, delicate clothes such as nylon stockings or the like may be placed on the shelves 40, 40 upon opening of the door 43. Upon closing of the door, the hot air circulating into and out of the drum 15 will pass through the screen 39 in communication with the goods on the shelves 40, 40 and dry the delicate clothes without tumbling, while the clothes within the drier drum 15 are being dried by rotatable movement of said drum and the circulation of heated air therethrough.

In the form of my invention illustrated in Figure 3, a door 12a for the front wall 11 of the cabinet 10 is shown as having an imperforate inner wall 47 extending within the open clothes receiving end of the drier drum 15 and as having shelves 40a, 40a secured thereto and extending thereacross in vertically spaced relation with respect to each other. The shelves 40a, 40a may be like the shelves 40, 40. A front door 43a for a front wall 30a of the door 12a is provided to afford access to said shelves. Said front door is herein shown as being perforate, having a screen 49 extending across the open portion thereof and suitably secured thereto as by crimping.

With this form of my invention, when the

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nylon stockings or other delicate clothes are placed on the shelves 40a, 40a and the drier drum 15 is rotating to effect drying of the clothes therein, the clothes on said shelves are dried by the heat radiated from the interior of the drier drum, the moisture in the delicate clothes escaping through the screen 49 in the door 43a.

It should here be noted that while I have shown a door 43a as closing the opening in the front wall 30a of the door 12a that a door need not be provided and the recessed portion of the door may be open, if desired.

It should here be noted that the doors 43 or 43a, while shown as being on the outsides of the doors 12 and 12a respectively, may be on the insides of said door as well, and may be perforate or imperforate as required.

It may be seen from the foregoing that a simple and novel arrangement has been provided for drying clothes in a household type of clothes drier without tumbling, during operation of the drier while drying the clothes within the drier drum by tumbling, and that this is attained by providing a recess in a standard drier door with shelves therein for holding the clothes to be dried, and by drying the clothes either by the heated air circulating through the drum and a perforate rear wall of the door, or by radiation of heat against an imperforate rear wall of the door.

It will be understood that various modifications and variations of the present invention may be effected without departing from the spirit and scope of the novel concepts thereof.

I claim as my invention:

1. In a clothes drier, a cabinet, a drier drum rotatably mounted within said cabinet, an opening in a wall of said cabinet confronting an open end of said drier drum, a door closing said opening, said door having a wall spaced inwardly of the inner margins of the front wall of said cabinet and with the margins of said door defining a recess for receiving clothes for drying, vent means for venting said recess, and shelf means in said recess for holding delicate clothes for drying by the heat generated within said cabinet.

2. In a clothes drier, a cabinet having a front wall, a drier drum rotatably mounted therein and having a front wall having a clothes receiving opening therein confronting the front wall of said cabinet, a door in said front wall of said cabinet affording access to the interior of said drum, said door being hollow and having two spaced walls, one of which is perforate, a delicate clothes holding receptacle spaced between said walls, and a door in one of said walls affording access to said clothes holding receptacle.

3. In a clothes drier, a cabinet having a front wall, a drier drum rotatably mounted within said cabinet and having a front wall having a clothes receiving opening therein confronting the front wall of said cabinet, a door in said front wall of said cabinet affording access to the interior of said drum, said door being hollow and having two spaced walls, one of which is perforate and is disposed within the margins of said drum, and the other of which has a door hinged thereon and affording access to the space between said walls, and clothes holding receptacle means within the hollow interior of said first mentioned door.

4. In a clothes drier, a cabinet having a front wall, a drier drum rotatably mounted therein and having a front wall having a clothes receiving opening therein confronting the front wall of said cabinet, a door in said front wall of said cabinet affording access to the interior of said

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drum, said door being hollow and having two spaced walls, a door in the outermost of said walls affording access to the hollow interior of said first mentioned door, a clothes holding receptacle within the hollow interior of said first mentioned door, and said second mentioned door being perforate, to allow the release of moisture from said second door, during drying.

5. In a clothes drier, a cabinet, a clothes containing drum rotatably mounted within said cabinet for tumbling and drying clothes contained therein, said drum having an end wall having a clothes receiving opening therein, and said cabinet having an opening therein confronting said clothes receiving opening, a door closing said opening in said cabinet and affording access to said drum and having an inner wall spaced inwardly of the front wall of said cabinet

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and with the margins of said door defining a clothes receiving recess, and delicate clothes holding members within said recess for supporting delicate clothes for drying without tumbling.

HAROLD E. MORRISON.

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The following references are of record in the file of this patent:

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