

Nov. 8, 1949

R. H. MEINERS ET AL

2,487,356

OVEN DRAWER CONSTRUCTION

Filed July 10, 1945

2 Sheets-Sheet 1

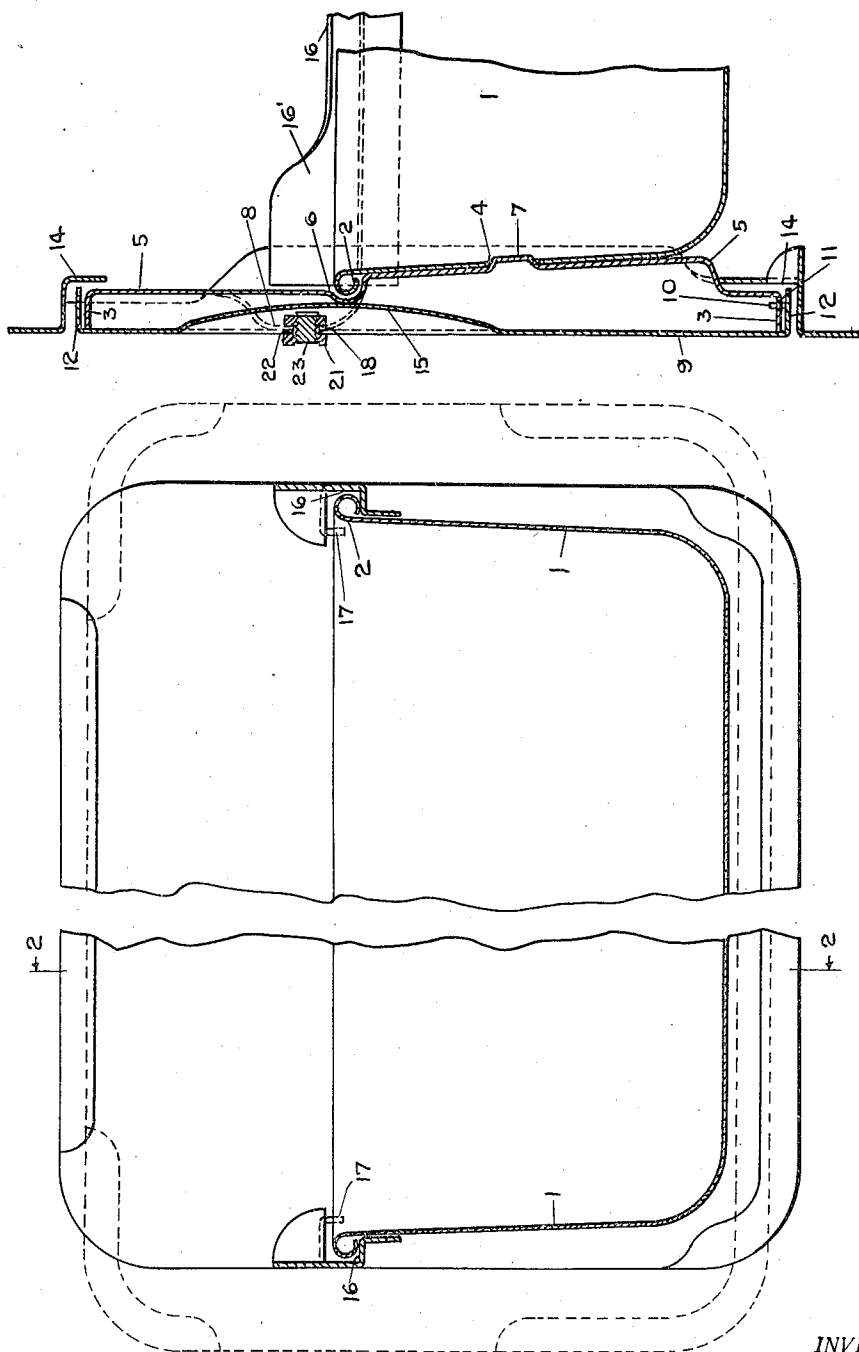


FIG-2

FIG-1

INVENTORS
RICHARD H. MEINERS.
EUGENE A. DUPAS.

BY

S. J. Cox.
ATTORNEY.

Nov. 8, 1949

R. H. MEINERS ET AL
OVEN DRAWER CONSTRUCTION

2,487,356

Filed July 10, 1945

2 Sheets-Sheet 2

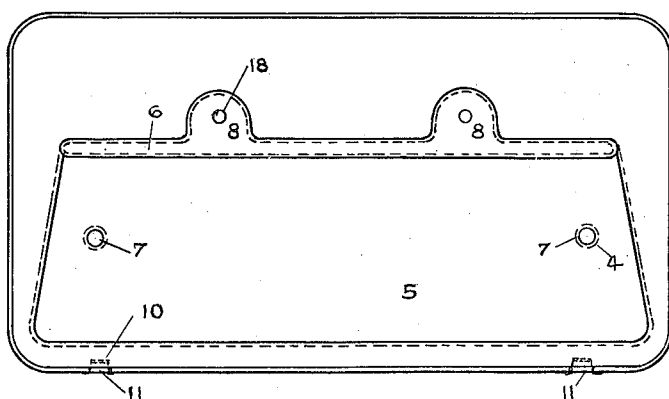


Fig. 3

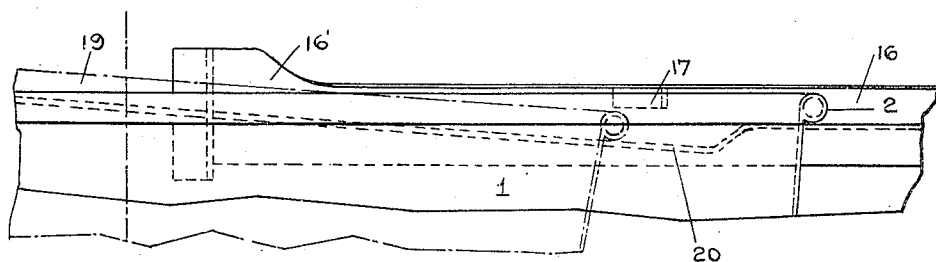


Fig. 4

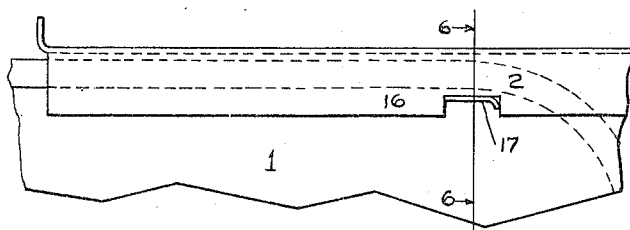


Fig. 5

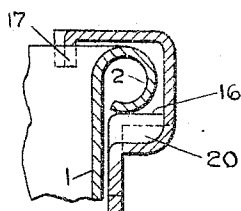


Fig. 6

INVENTORS.
RICHARD H. MEINERS,
EUGENE A. DUPAS.

BY

S. J. Cop.
ATTORNEY

UNITED STATES PATENT OFFICE

2,487,356

OVEN DRAWER CONSTRUCTION

Richard H. Meiners and Eugene A. Dupas, Milwaukee, Wis., assignors to A. J. Lindemann & Hoverson Company, Milwaukee, Wis., a corporation of Wisconsin

Application July 10, 1945, Serial No. 604,240

1 Claim. (Cl. 45-77)

1

The improvements relate to ovens designed to be used for cooking or heating of food and to be heated by electric or gas units, and primarily to ovens of this type of the sliding drawer variety constructed to be drawn out of or slid into the stove frame during various heating and cooking operations. Among their objects are the production of an oven drawer or deep pan of strong, simple and efficient construction which can be made with economy of labor, materials and manufacturing operations and largely of stamped or pressed parts, easily and accurately assembled, and which when so made will be easy to operate, may be quickly and easily removed from the stove and restored thereto without the manipulation of fastenings or other connecting parts.

Other objects and advantages of the improvements will be apparent to those familiar with the manufacture and use of devices of this character from the following description and the accompanying drawings, showing an exemplary embodiment of the improvements, referred to therein.

In the said drawings,

Fig. 1 is a schematic front view of an oven drawer and its mounting;

Fig. 2 is a vertical section substantially on the line 2-2 of Fig. 1;

Fig. 3 is a front view of the plate which is secured to the front of the drawer;

Fig. 4 is an inner side elevation of a top fragment of the drawer partly withdrawn with its supporting rail or track, drawer stop and release;

Fig. 5 is a plan of the parts shown in Fig. 4; and

Fig. 6 is an enlarged vertical cross section substantially on the line 6-6 of Fig. 5, looking in the direction indicated by the arrows, but of the opposite side of the drawer and track.

Referring to the said drawings, 1 is the drawer or pan proper, which consists of a single piece of sheet metal pressed or stamped into an approximately rectangular bowl of depth equal about one-third its length and width but which may have various sizes and shapes. This bowl has its upper edges curled outwardly to form what are substantially tubes 2 at its front, back and sides and extending around its rounded corners, which not only form a protecting selvage but engage with the front plate 5 in longitudinal recesses 6, and on the slide or track 16 to slidably support the drawer in the oven frame, to which the said tracks are secured in horizontal position at either side of the drawer.

The front plate 5 is connected with the front of the drawer or pan by having a longitudinal recess 6 which receives the tubular front edge of

2

the latter and a pair of bosses 7 fitting into apertures 4 of the drawer to position and hold these parts, and by spot welding between them, by which they are firmly united. This front plate extends above and below the drawer and has its edges 3 turned outwardly in a plane normal to the body thereof to overlap the inwardly turned edges 12 of the front panel 9 covering it. The front plate of the drawer also has a pair of horizontally spaced protuberances 8 at its upper part extending outwardly to contact with the inner surface of the panel 9 and having apertures 18 at their apexes aligned with similar apertures 22 and receiving a bolt 23 passed therethrough and through the handle bases 24, so that all three parts are united and secured in position by the said bolts. A shallow recess 15 in the front of the panel 9 is located between the bolts 23 and protuberances 8, and it will be understood that the handle spans this shallow recess, so that it can be grasped for the purpose of sliding the drawer in and out without necessitating any considerable projection of the handle beyond the panel and without making it necessary for the fingers of the operator to come in contact with the portion of the panel beneath the handle. The drawer front 5 and outer panel 9 are further connected and secured together in position by the lugs 10 extending through and fitting into the slots 11, on the flanges 12 and 3 respectively, and by the telescoping relation of the said two flanges. This unitary construction of the drawer front 5 and panel 9 forms a door for the said drawer, and by abutting at its edges the front frame 14 of the stove acts as a stop limiting the inward movement of the drawer and defining its closed position.

The side tracks 16 are located on either side of the drawer frame and are so spaced that one of the tubular curled side edges 2 of the drawer 1 slides on each, and it will be seen that these tubes being substantially annular present only a minimum frictional contact surface with the adjacent surfaces of the track, so that the drawer will slide freely and easily thereon, and without danger of binding or jamming therein. This action also is assisted by the spring action of the tubes which being a little less than a closed cylinder will permit of a certain resiliency and yielding action therein. In cross section, the tracks 16 have the form of a hook enclosing the tubular edges 2 of the drawer on three sides (see Figs. 1 and 6). About midway of the length of each track, however, there is a depending portion 17 which forms a stop for the drawer (Figs. 4 and 5) by coming

3

in contact with its inner edge, and thus checks its outward movement. Beneath this stop 17, however, there is a depressed portion 20 of the bottom or supporting surface of the track with inclined sides, the rearward side having a much sharper incline than the forward side of the depression. This has the effect of widening vertically the space of the track in which the coiled edge of the drawer works, and permits the operator by lifting the forward end of the drawer to pass its rear end around the stop 17 and remove the drawer. To install the drawer in the first instance or restore it after removal the opposite of this movement is performed, and so long as the forward edge of the drawer is not raised while the rear edge is close to the stop, it will be held securely against removal by the said stop.

We are aware that sliding oven drawers have been used for many years and are shown in prior patents, but so far as we know they are all open to objections which the present improvements have finally overcome. Utilizing these improvements, the parts of the drawer are made by stamping and pressing most of them or otherwise forming them on sheet metal forming machines, including the drawer, drawer front, panel and slides, with the greatest accuracy, and assembled with a minimum of manual work. When the parts are assembled they operate and coast freely and with the use of only such a degree of strength and skill as the frailest and least skilled operators can supply, and stand up indefinitely even under careless handling. Certain changes in the details of construction may be made, however, without departing from the scope of the invention. Thus the flattened portions 16' of the tracks at their forward ends may be extended farther back and the stop may be carried by the drawer instead of the track. Other or additional means for securing the plate and panel together may also be employed.

What we claim is:

In a device of the character described, a drawer proper comprising bottom and upright front, back and sides and having an open top the upper edges of the sides being substantially horizontal and

4

parallel and in the same plane throughout at least a major portion of their length, outwardly curled portions at said upper edges formed into substantially tubular members in proximity to the upper part of said sides, tracks mounted on either side of but free, separate and apart from the drawer and said members and parallel with said members and extending beneath them upon which said drawer is supported and slides to inward and outward positions, said tracks each having portions extending over said members, and a stop fixed to and extending from each portion into the path of the back of said drawer, said tracks having downwardly depressed portions including gradually inclined approaches to their lowest part on which the back of said drawer slides past said stop when the drawer is manually moved from normal position the forward inclined approaches being longer and inclined at a lesser angle to the horizontal than the rear approaches and forming gradual inclines extending from the lowest parts to a point near the front of said tracks.

RICHARD H. MEINERS.
EUGENE A. DUPAS.

REFERENCES CITED

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

UNITED STATES PATENTS

Number	Name	Date
803,102	Harris	Oct. 31, 1905
893,187	Montague	July 14, 1908
1,136,071	Weiss	Apr. 20, 1915
1,352,002	Jones	Sept. 7, 1920
1,353,452	Chipperfield	Sept. 21, 1920
1,755,384	Becker	Apr. 22, 1930
1,889,218	Reedy	Nov. 29, 1932
1,982,504	Elliott	Nov. 27, 1934
2,021,065	Hurlburt	Nov. 12, 1935
Re. 21,080	De Boer	May 16, 1939
2,223,071	Koch	Nov. 26, 1940
2,241,053	Brightman	May 6, 1941
2,300,026	Visser	Oct. 27, 1942
2,306,802	Harbison	Dec. 29, 1942
2,318,363	Boddy	May 4, 1943