United States Patent

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[15] **3,679,274**

[45] **July 25, 1972**

[54] BROILER DRAWER AND SLIDE

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[22] Filed: **Sept. 25, 1970**

[21] Appl. No.: **75,581**

[52] **U.S. Cl.** ..... **308/3.6**, 312/341 NR

[51] **Int. Cl.** **F16c 21/00**

[58] **Field of Search** ..... 312/341 NR, 346, 347, 345; 308/3.6, 3.8

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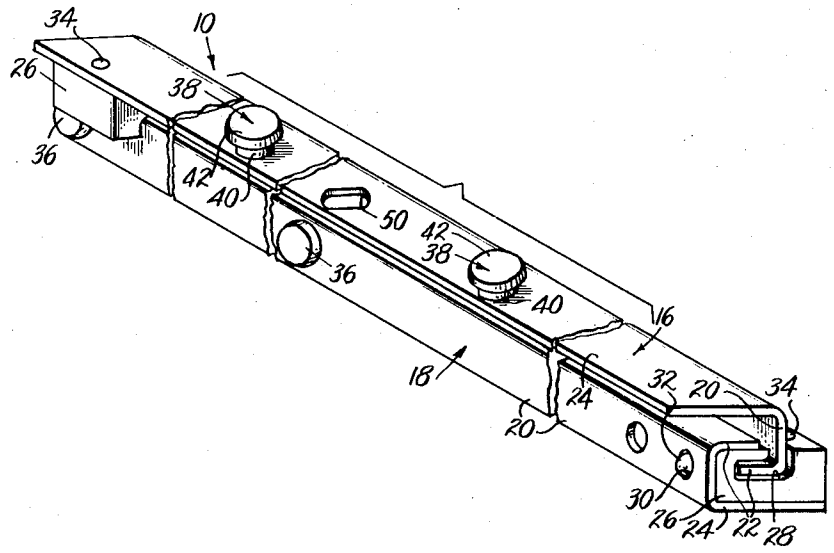
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[57] **ABSTRACT**

A broiler drawer for a cooking range is carried by drawer guides each of which is made of a pair of similar metal channels each having a nylon guide block embracing and slidably guiding portions of the other and preventing metal-to-metal contact between the channels. The broiler drawer is releasably mounted on the movable channel by keyhole slots in its bottom wall engaging headed projections on the movable channel, and selectively releasable means within the broiler drawer normally hold the drawer against release from its guides.

5 Claims, 6 Drawing Figures



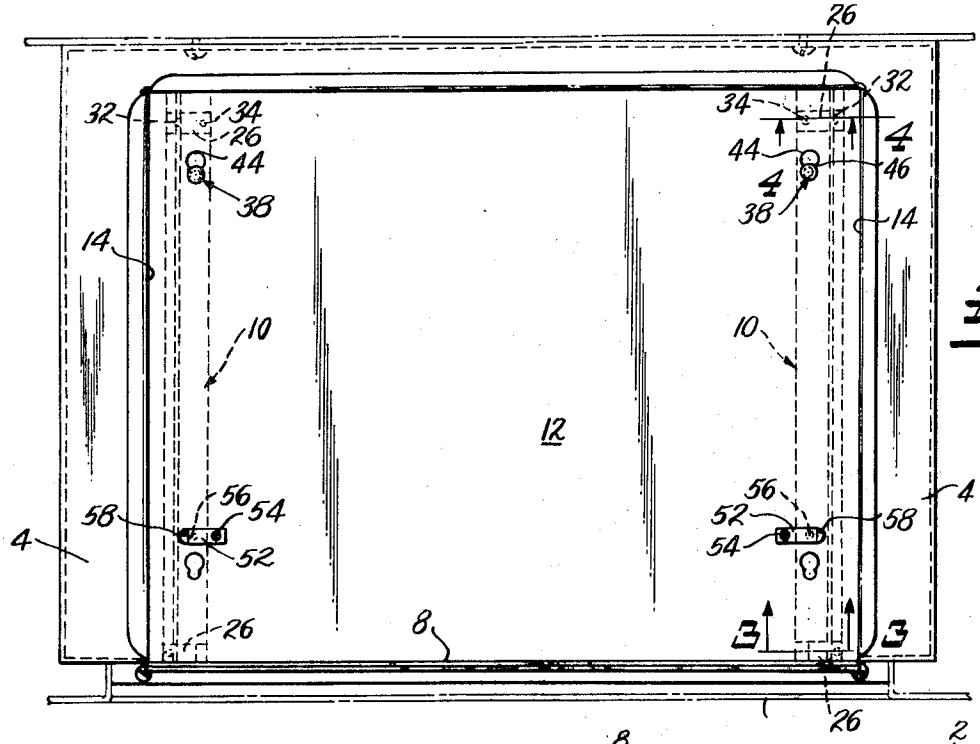


Fig. 1.

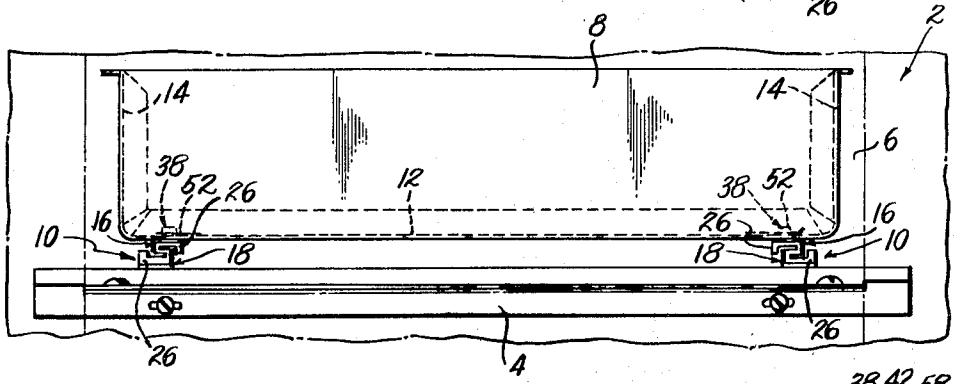


Fig. 2.

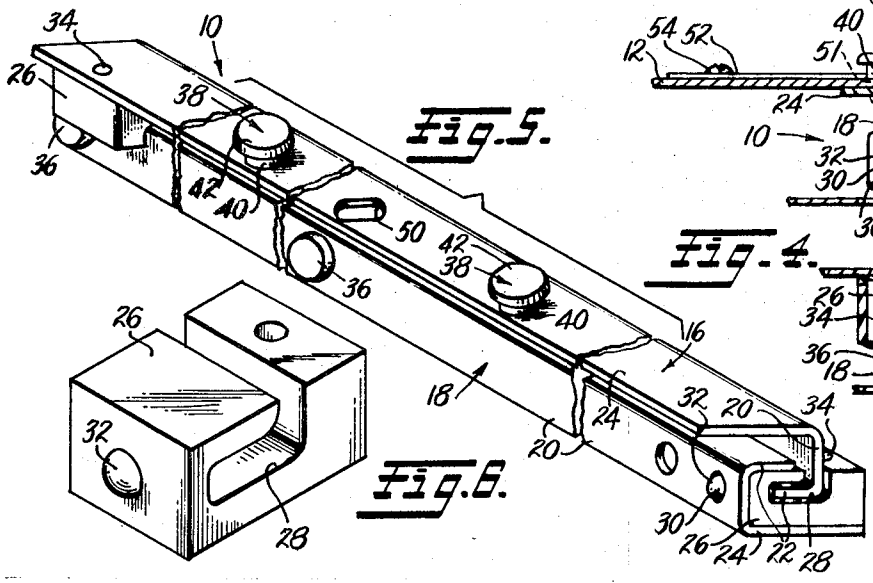


Fig. 5.

Fig. 6.

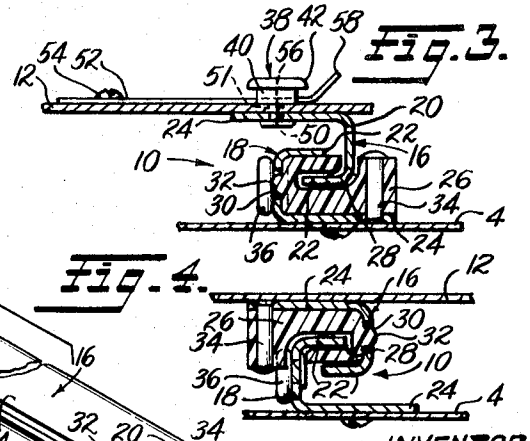


Fig. 3.

Fig. 4.

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BROILER DRAWER AND SLIDE

BACKGROUND OF THE INVENTION

This invention relates to drawer slides and particularly to slides for broiler drawers in cooking ranges.

Cooking ranges are customarily provided with a broiling section wherein a drawer or shelf is slidable outwardly of an oven compartment from a position beneath a broil burner to a position where the contents are accessible from the outside. It is often necessary or desirable to completely remove the drawer or slide from the oven for purpose of cleaning or the like. It has been customary heretofore to provide drawer slides having mutually slidable guide members that by proper manipulation can be separated so that the drawer and its guide member can be removed from a fixed guide member. Such arrangements, however, have not proven fully satisfactory since they require manipulations not easy to master and often present problems in repositioning the broiler drawer in the oven. Furthermore, such prior drawer guides either relied on or made possible metal-to-metal sliding contact between the guide members, each of which was necessarily of different configuration and construction from the other.

SUMMARY OF THE INVENTION

The present invention provides drawer slides for a broiler drawer wherein the relatively movable guide members remain in mated relationship at all times. The relatively movable guide members are of substantially identical construction, thus reducing the costs and are provided with nylon bearing blocks configured to ensure that there will never be metal-to-metal contact between the guide members. A quick release arrangement is provided whereby the broiler drawer itself may be released from its guides for removal by means accessible from inside the broiler drawer and without necessitating unusual manipulation of the guide structure.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a plan view of a portion of a cooking range having the present invention embodied therein;

FIG. 2 is a front elevational view of the structure shown in FIG. 1;

FIG. 3 is an enlarged fragmentary sectional view taken on the line 3—3 of FIG. 1;

FIG. 4 is an enlarged fragmentary sectional view taken on the line 4—4 of FIG. 1;

FIG. 5 is a perspective view of one of the drawer guide assemblies; and

FIG. 6 is a perspective view of one of the low-friction plastic blocks.

DESCRIPTION OF A PREFERRED EMBODIMENT

Numeral 2 indicates generally a portion of a more or less conventional cooking range having a shelf or support structure 4 fixedly mounted therein within an oven compartment 6. A broiler drawer 8 is mounted on suitable drawer guides 10 for sliding movement into and out of the oven compartment 6. Conventionally, the broiling apparatus includes a burner (not shown) within the compartment 6 and over the broiler drawer 8.

The broiler drawer 8 includes a bottom wall 12 and upstanding side walls indicated generally at 14. The bottom wall 12 is releasably secured to one of the guide members of the drawer guides 10 whereas the other member is fixedly secured to the shelf or support 4.

Referring now to FIGS. 3–6, the drawer guides 10 comprise a pair of channel members 16 and 18 which are of substantially identical configuration, each being an elongated metal channel having a web 20, a narrow side wall 22 along one edge of the web 20 and a wider side wall 24 extending from the other edge of the web 20. The channel members 16 and 18 are arranged as shown in FIG. 3 wherein the narrow wall 22 of each extends between and is spaced from the side walls of the other channel member with the free edge of each narrow wall spaced from the web of the other channel member. Within the forward or front end of the lower channel member 18, there is positioned a block 26 of low-friction plastic material, such as nylon. The block is provided with an L-shaped groove 28 therein which has surfaces slidably confronting opposite sides of the short wall 22 of the other channel member and adjacent the free edge of that short wall and also has portions slidably confronting both faces of the web 20 of the upper channel member 16.

As shown in FIG. 4, the rear end of the upper channel member 16 is provided with an identical anti-friction block therein embracing the short wall 22 of the lower channel member 18. The channel members 16 and 18 are provided with openings 30 in their web portions and the blocks 26 are provided with projections 32 extending into a corresponding opening 30. The outer end of each block 26 is fixed or secured to its associated channel member by means of a rivet 34 or the like. It will thus be seen that the anti-friction blocks 26 slidably guide the channel members 16 and 18 relative to each other and are so configured as to prevent any metal-to-metal contact between those channel members and also prevent removal of one channel member from the other in any direction except longitudinally. After the guide has been assembled to the extent thus far described, one of the channel members, preferably the member 18, is provided with spaced stop members 36 positioned to engage the riveted end of the block 26 on the other channel member to thus limit inward and outward sliding movement of the upper channel member relative to the lower one.

The wider wall of the upper channel member 16 is provided with upstanding projections 38, each comprising a stem portion 40 and an enlarged head 42. The bottom wall 12 of the broiler drawer 8 is provided with a plurality of keyhole slots comprising an enlargement 44 at one end and a narrower portion 46 at the other end. The portion 44 is large enough to receive the enlarged heads 42 whereas the narrow portion 46 will just receive the stems 40 of projections 38. This is a well known feature of keyhole slot arrangements. Thus, the broiler drawer may be removed from its guides by sliding the same forwardly relative to the projections 38 and then lifting the same off the guides, the heads or enlargements 42 passing freely through the enlarged openings 44 of the keyhole slots. By reversely manipulating the drawer it may be replaced on its guides 10.

The drawer bottom 12 and the wall 24 of upper guide member 16 are also provided with further openings, one of which is shown at 50 in FIG. 5 and the other of which is shown at 51 in FIG. 3. When the broiler drawer is in the position shown in FIG. 1 relative to its guides, the described additional openings in the bottom wall 12 and in the side wall 24 are in vertical alignment. Leaf spring fingers 52 are secured at one end, such as by screws 54, to the top surface of the bottom wall 12 of the broiler drawer and extend over the aligned openings just described. A depending pin 56 fixed on each leaf spring finger 52 extends downwardly through the described aligned openings and thus releasably locks the broiler drawer against movement relative to its guides in a direction to release the drawer from its guides. Each of the spring fingers 52 is provided with an upwardly bent finger-engaging portion 58 at its free end by which the spring fingers may be lifted to remove pins 56 from the aligned openings and thus release the broiler drawer 8 for removal from its guides. It is to be noted that such removal may be effected after simply pulling the drawer 8 outwardly whereupon the spring fingers 52 are readily accessible without having to perform any unusual manipulations of the slide members of guides 10.

While a single specific embodiment of the invention has been shown and described, the same is merely illustrative of the principles involved. For example, the invention may be employed for drawers or slides other than broilers in cooking ranges.

I claim:

1. A drawer slide comprising:

a pair of elongated similar metal channel members, each having a web, a narrow side wall at one edge of said web and a wider side wall at the other edge of said web, said channel members being arranged with the narrow side wall of each extending between the side walls of the other and spaced therefrom and from the inner face of the web of the other;

a block of low friction plastic material fixed in one end of one channel member and having portions slidably engaging both faces and the free edge of the narrow side wall of the other member and at least one surface of the web of the other member; and

a similar block of low friction plastic material fixed in the other end of the other member whereby said blocks guide said members for relative longitudinal sliding movement while preventing metal-to-metal contact between said members.

2. A drawer slide as defined in claim 1 wherein said portions of said block define a generally L-shaped slot through said block.

3. A drawer slide as defined in claim 1 including spaced stop means on one of said members on opposite sides of and engageable with the block on the other member to limit relative sliding movement between said members.

4. A drawer slide as defined in claim 1 wherein each of said blocks has an end abutting the web of its elongated member and is provided with an integral projection extending from said end into an opening in said web and means securing the other end of said block to the wider side wall of its elongated member adjacent the outer edge thereof.

5. A drawer slide as defined in claim 1 wherein said wider side walls extend generally horizontally, one above the other, the lower one being secured to a fixed support and the upper one being releasably secured to a drawer.

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