Nov. 4, 1947. H. M. REEVES 2,430,141

CABINET COMPRISING DRAWER SUPPORTING AND GUIDING STRUCTURE

Filed Nov. 20, 1943 2 Sheets-Sheet 1

Fig. 1.

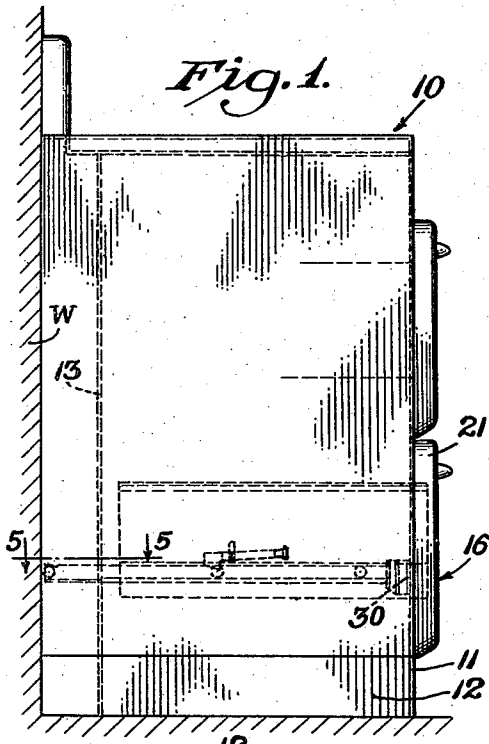


Fig. 2.

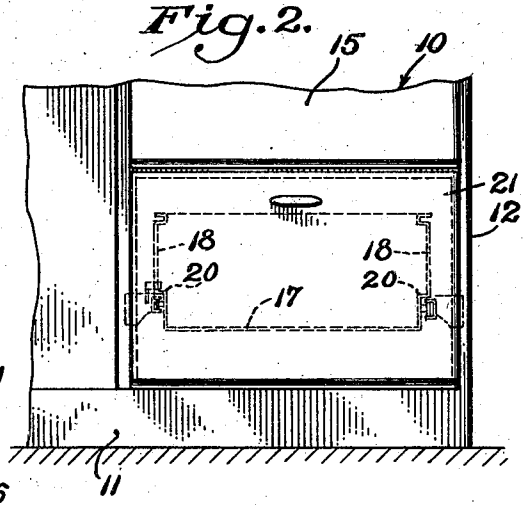


Fig. 4.

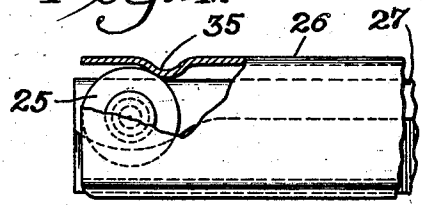


Fig. 3.

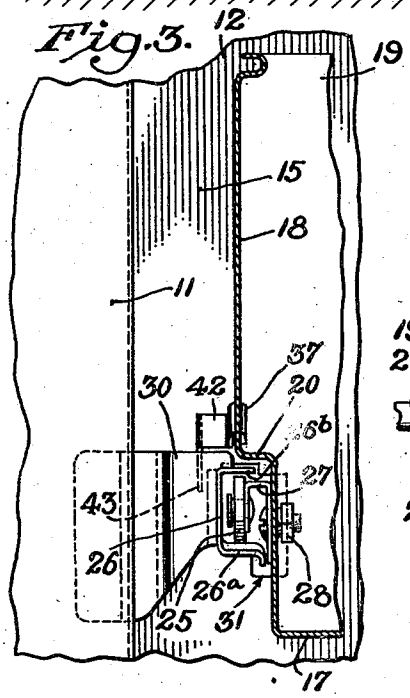
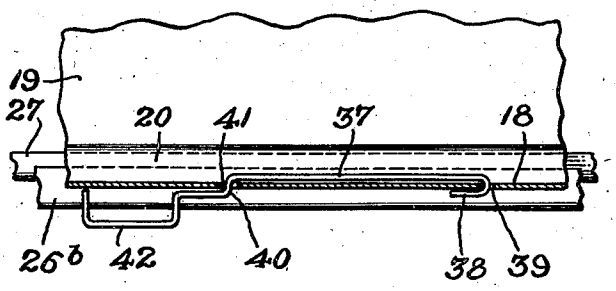


Fig. 5.



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CABINET COMPRISING DRAWER SUPPORTING AND GUIDING STRUCTURE

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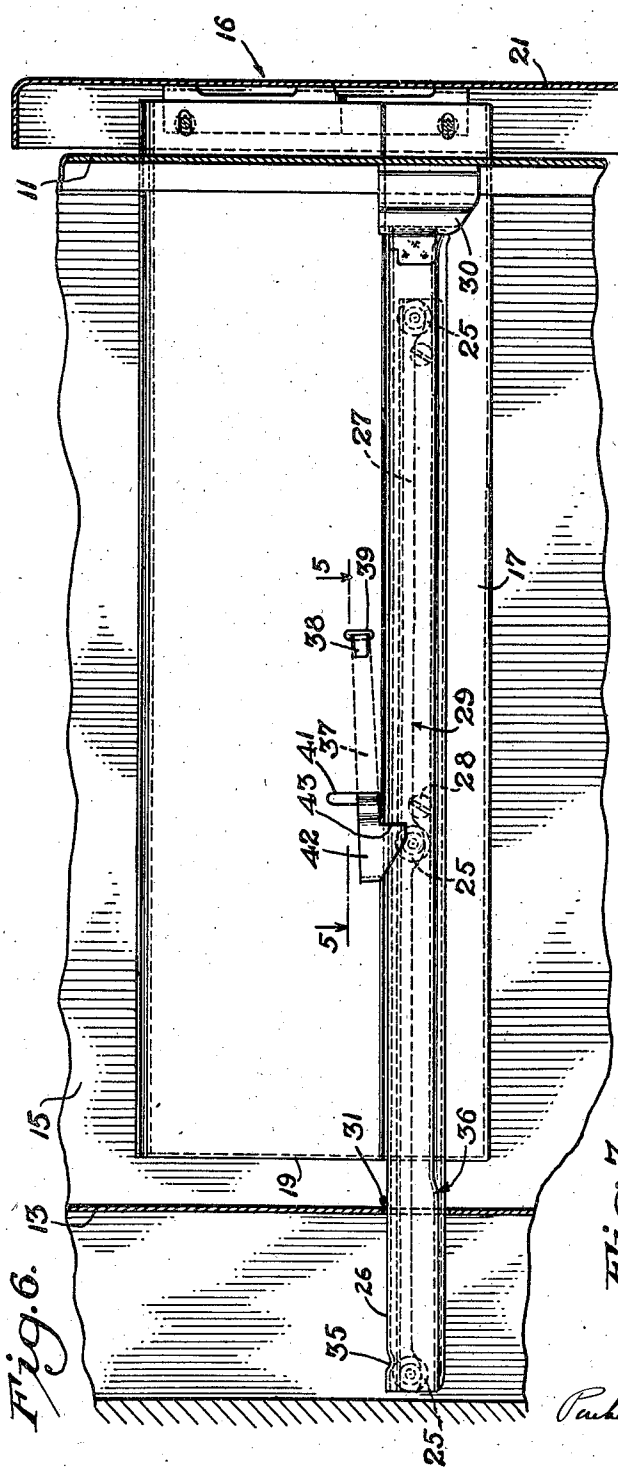


Fig. 6.

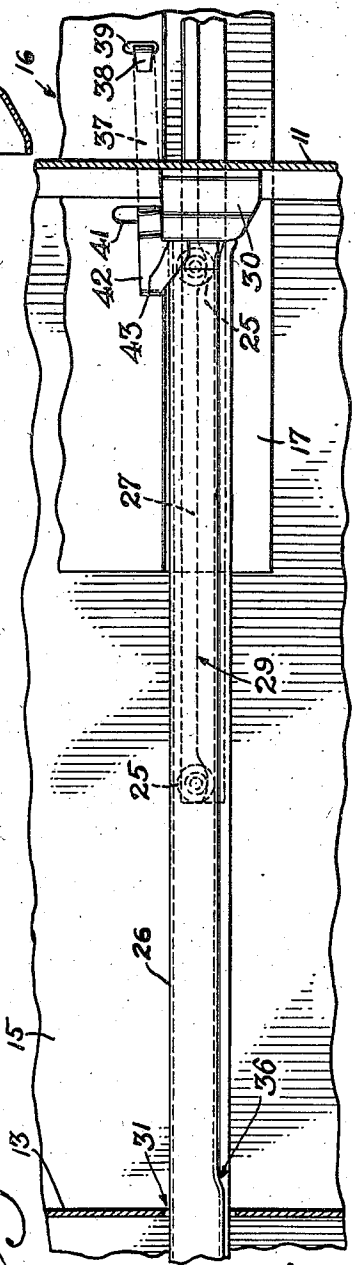


Fig. 7.

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Patented Nov. 4, 1947

2,430,141

UNITED STATES PATENT OFFICE

2,430,141

CABINET COMPRISING DRAWER SUPPORTING AND GUIDING STRUCTURE

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Application November 20, 1943, Serial No. 511,093

2 Claims. (Cl. 45—77)

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The invention relates to stoves or other cabinet structures of the type equipped with slidable drawers and is concerned particularly with improved means for supporting and guiding such drawers.

The primary object of the invention is to provide a drawer supporting and guiding means particularly suitable for use in cook stoves or ranges adapted to positively prevent lifting of the drawer and to support it effectually when withdrawn a substantial distance, without the use of extension slides.

Another object is to provide a drawer supporting and guiding structure embodying simple yet effective detent means for yieldably holding the drawer in closed position.

Still another object is to provide novel stop means for preventing accidental pulling of the drawer from its supporting and guiding structure.

It is also an object of the invention to provide a drawer supporting and guiding structure which is simple and rugged in construction, inexpensive to manufacture yet efficient and reliable in operation.

Other objects and advantages of the invention will become apparent from the following detailed description of the preferred embodiment illustrated in the accompanying drawings in which:

Figure 1 is an end elevational view of a cabinet type stove equipped with a drawer supporting and guiding structure embodying the features of the invention.

Fig. 2 is a fragmentary front elevational view of the stove.

Fig. 3 is a front end view of one of the drawer guides and associated elements.

Fig. 4 is a fragmentary side view of a drawer guide with a part of the guide broken away to show details of the detent means.

Fig. 5 is a sectional view taken in a horizontal plane substantially on the line 5—5 of Fig. 6.

Fig. 6 is a transverse, vertical sectional view through the stove body showing the drawer supporting and guiding structure in side elevation and the drawer in closed position.

Fig. 7 is a view similar to Fig. 6 but showing the drawer in open position.

While the invention is susceptible of various modifications and alternative constructions, I have shown in the drawings and will herein describe in detail the preferred embodiment, but it is to be understood that I do not thereby intend to limit the invention to the specific form disclosed, but intend to cover all modifications and alternative constructions falling within the

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spirit and scope of the invention as expressed in the appended claims.

For purposes of illustration the invention has been shown as applied to a cabinet type gaseous fuel cook stove for which it is particularly suited although it may be used in other cabinet structures if desired. The stove as shown (Fig. 1) comprises a cabinet having a generally rectangular body 10 formed by a rigid frame enclosed by a front wall 11, end walls 12 and a back wall 13. Suitable burners (not shown) are installed in the upper part of the body. In practice, the back wall 13 of the body is spaced a substantial distance from any fixed object such as the wall W of the room in which the stove is installed. The side walls 12 may be terminated either at the back wall 13 of the body or may be extended substantially to the wall W if desired.

The exemplary stove is formed with a plurality of compartments opening in the front wall 11 of the body, one compartment 15 serving to accommodate a sliding drawer 16. As herein shown, the drawer 16 is in the form of a generally rectangular open topped box or tray having a flat bottom 17, upright sides 18 and back 19 of sheet metal. In the particular tray illustrated, the sides 18 are of stepped form, the upper portion of the side being offset laterally with respect to the lower part as indicated at 20. A panel 21 suitably attached to the sides 18 of the drawer serves to close the front end of the same.

The drawer 16 is supported and guided for in and out sliding movement in the compartment 15 by a plurality of rollers 25 mounted in pairs on opposite sides of the drawer and adapted to coact with suitable horizontal guides 26 extending longitudinally of the compartments adjacent the sides of the drawer.

In accordance with the invention, the guides 26 comprise channel members supported in the stove body and facing inwardly of the drawer compartment to receive the rollers 25 between their vertically spaced side flanges 26*a* and 26*b*. The flanges 26*a* and 26*b* confine the rollers against any vertical movements except a small amount required for clearance purposes.

To facilitate manufacture and assembly of the supporting and guiding structure, the rollers 25 are journaled on the outer flanges of elongated channel-shaped brackets 27 adapted to be rigidly secured to the sides 18 of the drawer as by stove bolts 28 coacting with the inner flanges of the brackets. The outer flanges of the brackets may be cut away intermediate the rollers as indicated

at 29 to provide convenient access to the bolts 28.

In accordance with the present invention one pair of drawer supporting rollers 25 is located a substantial distance back of the inner or rear end of the wall 19 of the drawer 16. To this end the brackets 27 are extended rearwardly of the drawer to provide the necessary support for such rollers. The other roller pairs, of which two are provided in the exemplary structure, are suitably spaced apart longitudinally of the drawer to support the same in closed position as shown in Fig. 6. As the rollers are confined between the flanges 26a and 26b of the guide members, lifting of the drawer is effectually prevented.

When the drawer is pulled out to the open position shown in Fig. 7, the weight is shifted to the rollers journaled on the portion of the drawer still within the compartment 15, in this instance the intermediate pair of rollers 25. The rollers of the rear pair accordingly engage the upper flanges 26b of their associated guides 26 to sustain the drawer in a horizontal position. Moreover, as both pairs of rollers are confined between the guide flanges lifting of the drawer is prevented.

The location of the rear pair of rollers a substantial distance back of the inner end of the drawer and the consequent wide spacing of such rollers from the intermediate pair of rollers materially reduces the strain imposed upon the guides 26. Lighter weight and less expensive materials may therefore be used in the construction of the guides and associated parts without affecting the ability of the structure to perform its intended function for long periods wihout attention or adjustment.

To permit the use of the improved roller arrangement on a drawer of substantially the same length as the compartment 15, the guides 26 are dimensioned longitudinally so as to extend the full length of the compartment 15 and to project through the back wall 13 of the body to accommodate the rear pair of rollers 25. In the particular stove cabinet illustrated the guides are extended to a point closely adjacent the wall W. As this space between the back wall 13 of the body and the wall W is always available when customary installation practices are followed, no structural modifications of the stove or special installation practices are required.

The extension of the guides 26 through the back wall 13 of the body also contributes to reduced manufacturing costs and simplification of assembly since it is only necessary to provide a supporting bracket 30 for the forward end of each guide. Support for the rear ends of the guides is provided by the back wall 13 of the body which is formed with suitable apertures 31 adapted to receive the guides and to provide clearance for the roller supporting brackets 27. The brackets 30, as herein shown, comprise simple sheet metal stampings adapted to be spot welded or otherwise rigidly secured to the front wall 11 of the body.

Advantage is taken of the relative yielding of the projecting end portions of the guides 26 and roller supporting brackets 27 to provide detent means of a simple yet effective character for yieldably holding the drawer 16 in the closed position. As will be seen by reference to Fig. 4, a boss 35 is pressed into the upper flange 26b of each guide 26 at a point just forwardly of the location of the axis of the rear rollers 25 when the drawer is in the closed position. In the rearward movement of the drawer a slight relative vertical shifting of the guides 26 and supporting brackets 27 permits the rollers 25 to pass under the bosses 35. After the passage of the rollers, the bosses are again interposed in the paths of the rollers and act to resist forward movement of the drawer. However, a relatively slight pulling force exerted on the drawer is effective to release the rollers from engagement with the bosses. To accommodate the relative transverse movements of the rollers and the guides, the lower flanges of the latter are pressed downwardly as indicated at 36 to provide the necessary clearance.

Simple, inexpensive yet effective stop means is provided for preventing accidental pulling of the drawer from the supporting and guiding structure. The stop means as shown in Figs. 5 and 6 comprises an elongated arm 37 having a reversely bent tongue 38 at one end adapted to engage in a slot 39 of the side wall 18 of the drawer to support the arm adjacent the inner surface of the wall for pivotal movement in a vertical plane. Intermediate its ends, the arm is offset laterally as at 40, to project through an elongated slot 41 in the side 18 of the drawer. The projecting end of the arm is bent to form a generally U-shaped head 42 presenting a vertically disposed forwardly facing shoulder 43 for engagement with a fixed stop, in this instance, the guide supporting bracket 30, as the drawer is pulled toward the open position. As shown in Fig. 6, the shoulder 43 is located slightly ahead of the intermediate rollers 15 and is therefore effective to prevent such rollers from leaving the guides.

When the drawer is to be removed from the compartment 15 the stop member swings about the pivot provided by the tongue 38 to withdraw the shoulder 43 from engaging relation with the bracket 30. Since the arm portion 37 of the stop is located within the drawer, it is readily accessible for that purpose.

It will be apparent from the foregoing that the invention provides a drawer supporting and guiding structure of novel and advantageous form which positively prevents lifting of the drawer in either open or closed positions and which effectually sustains the drawer in a horizontal plane when pulled out a substantial distance from its compartment. The strains imposed upon the supporting and guiding structure are reduced to a minimum thus permitting the use of light weight material in its construction. Moreover, the supporting and guiding structure includes novel detent means for yieldably holding the drawer in the closed position. The invention also provides simple and effective stop means for preventing accidental pulling of the drawer from its supports and guides.

I claim as my invention:

1. A drawer supporting and guiding structure comprising, in combination, an elongated horizontally disposed guide channel, supports for said channel, the rearmost of said supports being spaced substantially from the rear end of the channel to leave such end free, inwardly projecting abutment means on one flange of the channel adjacent its free end, an elongated bracket adapted to be secured to a drawer with its rear end projecting rearwardly of and free of the drawer, a plurality of rollers mounted on and spaced apart longitudinally of said bracket for cooperation with the flanges of said channel in supporting and guiding the drawer, one of said rollers being located adjacent the free end of the bracket for cooperation with said abutment means to releasably hold the drawer in closed

position, the free ends of said channel and said bracket being flexible to permit said one roller to pass over said abutment means in the opening and closing of the drawer.

2. In a cabinet structure, a body having front, rear and side walls, a drawer compartment opening in the front wall of said body, a drawer in said compartment, rollers mounted in pairs on opposite sides of said drawer, guide means for said drawer comprising a pair of elongated channel members arranged on opposite sides of said compartment and positioned to receive said rollers, means on the inner ends of said members projecting inwardly thereof to engage with one pair of rollers for releasably holding the drawer in closed position, brackets supporting the outer ends of said members on the body, and other means supporting said members on the body at points spaced inwardly from the ends of the members, the end portions of said members containing said projecting means, and being free and capable of yielding in a direction effective to permit said rollers to pass said projecting means in the opening movement of the drawer.

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