Sept. 4, 1951 C. R. GRAHAM 2,566,765

RANGE SHELF WITH SELF-LATCHING SAFETY CATCH

Filed Oct. 25, 1948

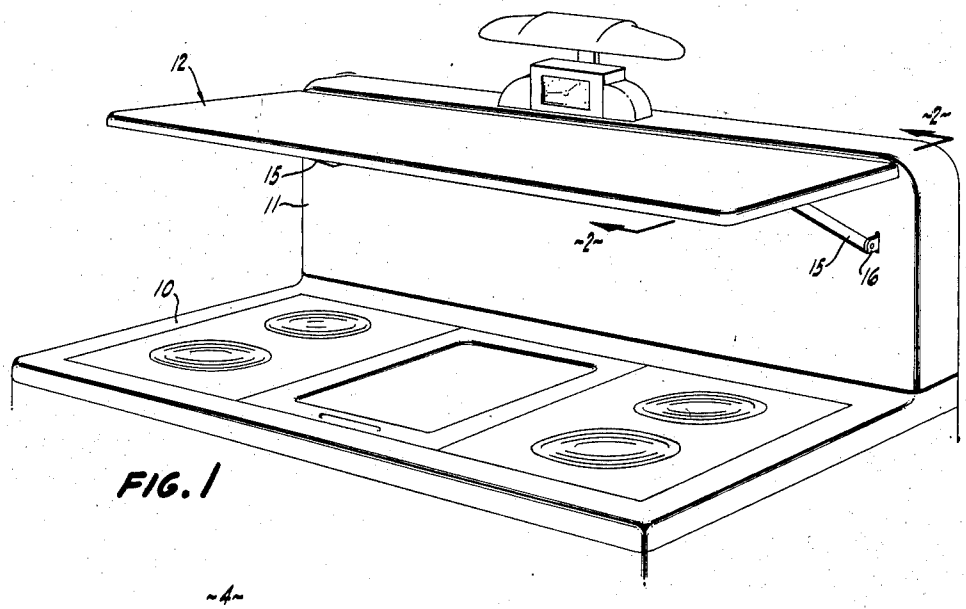


FIG. 1

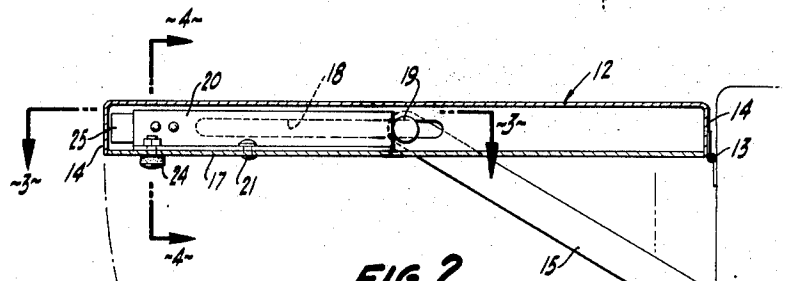


FIG. 2

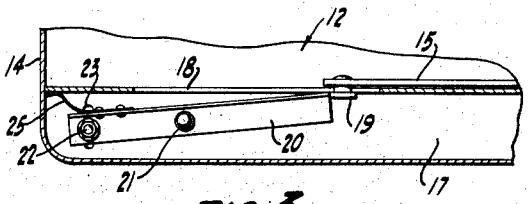


FIG. 3

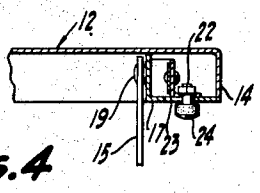
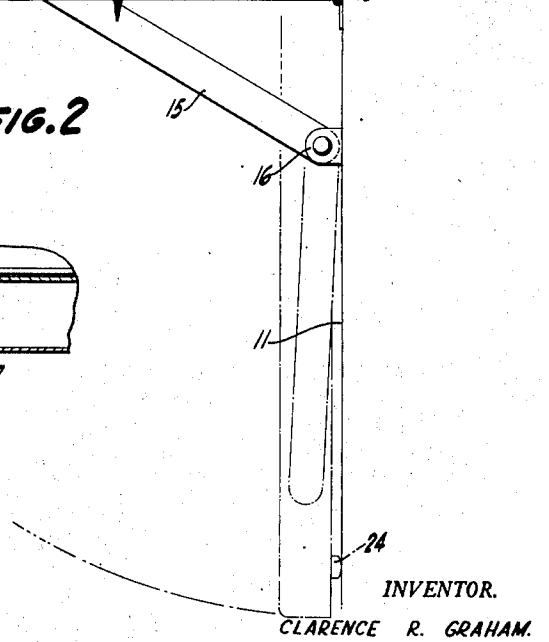


FIG. 4



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RANGE SHELF WITH SELF-LATCHING SAFETY CATCH

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5 Claims. (Cl. 211—93)

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The present invention relates to stove shelves and more particularly to improvements in the supporting means for a drop shelf such as may be hinged to the vertical rear wall or guard rail of a conventional gas or electric cooking range.

In providing a hinged drop shelf on the back wall of a stove top it is important that the shelf be easily lifted and lowered and that the possibility of accidental release of the supporting means for the shelf be eliminated. Therefore, it is a primary object of this invention to provide a shelf of the type stated having latching means for the support arms of the shelf which will lock automatically when the shelf is raised to horizontal position and then be incapable of release except by manual actuation of a release element located in a guarded position.

Another object of the invention is to provide supports for the shelf which will leave the stove top clear when the shelf is raised and permit the shelf to lie flat against the back wall when lowered.

Still another object is to avoid injury to the back wall through impact of the shelf therewith when released and dropped to vertical position against the wall.

The foregoing objects, as well as further advantages which will become apparent, are attained by the structural embodiment of the invention hereinafter described and illustrated by the accompanying drawing, where,

Figure 1 is a view in perspective of a range top with the drop-shelf including the invention shown in raised position.

Figure 2 is a sectional view, on an enlarged scale, taken on line 2—2 of Figure 1.

Figure 3 is a horizontal section on line 3—3 of Figure 2, and

Figure 4 is a sectional detail view on line 4—4 of Figure 2.

A console type cooking range in connection with which the novel structure comprising the invention is disclosed includes a working top 10 and an upright back wall or vertical support member 11. The drop shelf 12, which is substantially coextensive with the rear wall, is hinged, as at 13 Figure 2, to the upper margin of the back wall and is so hinged as to hang vertically against said wall when in lowered position, as indicated in dotted lines. The shelf 12 is preferably formed with a continuous depending marginal flange 14 to one lower end of which the hinges 13 are connected. At each end the shelf carries slidable supporting arms or props 15 which are pivoted on fixed lugs 16 projecting

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from the surface of back wall 11. The upper ends of the two props are similarly connected to the underside of shelf 12 and as the manner of such connection and the means for locking and releasing the props is identical for both, only one will be specifically described.

The under-shelf connection for prop 15 consists of an angle plate 17, seen in section in Figure 4, which is secured to the end portion and depending flange 14 of the shelf and so proportioned as to locate the horizontal web of plate 17 flush with the lower edge of flange 14 and with the vertical web contacting the shelf bottom thus providing a closed space or housing extending along the end of the shelf. The vertical web of plate 17 is formed with an elongated slot 18 which slidably receives a pin 19 carried by the upper end of prop 15, the end of the pin beyond the slot having a head to ride on the margins of slot 18. Pin 19 is subject to latching engagement with the free end of an angle bar 20 which has one web pivoted intermediate its ends, as at 21, to the horizontal web of angle plate 17 with its other web extending over slot 18. The other or control end of the angle bar 20 has a leaf spring 25 secured to its upright web with the free end of said spring engaging the inner side of angle plate 17 to yieldably force the free end of angle bar 20 into the path of pin 19. Adjacent the spring 25 the control end of angle bar 20 is provided with a bolt or post 22 extending through a short arcuate slot 23 in the horizontal web of angle plate 17 (Figure 4). The end of post 22 beyond slot 23 carries a rubber knob 24 constituting a release trigger adapted for manual engagement to rock bar 20 on its pivot and also to act as a bumper to protect wall 11 from injury when the shelf is dropped to idle position (Figure 2).

With the foregoing construction, it will be clear that pin 19 of prop 15 will slide in slot 18 as the shelf is raised and lowered. As the shelf is raised to horizontal position pin 19 will pass beyond the end of angle bar 20 which will yield against pressure of spring 25 to let the end of the pin by and be snapped back to engage the pin and prevent its return movement thus locking the prop to retain the shelf in raised position. To lower the shelf, knob 24 is moved laterally by hand against pressure of spring 25 to swing the free end of angle bar 20 away from pin 19 and permit its travel along slot 18 as the shelf swings down on its hinges. It will be noted that locking of the shelf in horizontal position is automatic and that release can be effected only by manual

operation of the latches at both ends of the shelf simultaneously. As the actuating knobs 24 are in out of the way location at the underside of the shelf corners, accidental movement of the knobs is practically impossible. As the props 15 have pivots at elevated points on the back wall 11 they present no obstruction to the work space of the range top and are confined within the space defined by the flange 14 when the shelf is down.

The preferred construction and arrangement of parts above described is obviously capable of modification and variation as to details without departure from the invention as defined in the following claims.

What is claimed is:

1. A shelf assembly comprising a drop shelf hinged to a vertical support member, said shelf being formed with a circumferential depending marginal flange, an angle plate secured to the underside of the shelf at each end thereof and cooperating with the depending flange to form a housing, said angle plates each having an upright web and a horizontal web and being formed with an extended longitudinal slot in the upright web and with a short transverse slot in the horizontal web located adjacent the outer shelf corner, shelf props pivoted at one end on the support member and having the other ends provided with guide pins engaged in the longitudinal slots of said angle plates, spring pressed latch mechanisms within the housings formed by said plates operative to engage the ends of said pins atuomatically when the shelf is raised to horizontal position, and manually operable release means for the latch mechanism depending through said transverse slots and provided with heads of yieldable material for contact with the support member when the shelf is dropped thereagainst.

2. A shelf assembly comprising a drop shelf hinged to a vertical support member, said shelf being formed with a circumferential depending marginal flange, an angle plate, having a horizontal portion and a vertical flange of the same depth as said marginal flange, secured to the underside of the shelf at each end thereof, said flanges of said plates being formed with extended longitudinal slots, shelf props pivoted at one end on the support member and having the other ends provided with guide pins engaged in the slots, spring pressed latch mechanism mounted on the angle plates operative to engage said pins automatically when the shelf is raised to horizontal position, and release means carried by the latch mechanisms comprising knobs extending through slots formed in the horizontal portions of said angle plates.

3. A shelf assembly comprising a drop shelf hinged to a vertical support member, shelf supporting means pivotally connected to the support member and slidably connected to the underside of the shelf, a spring pressed latching lever pivotally mounted on the underside of the shelf for horizontal swinging movement and automatically operative to swing one end thereof into engagement with said supporting means to lock said means against movement when the shelf is raised to horizontal position, and manually operable means for yieldingly urging said lever end out of engagement with said supporting means comprising a knob carried by the other end of said lever in depending relation thereto.

4. A shelf assembly comprising a drop shelf hinged to a vertical support member, and shelf supporting means between the shelf and support member comprising a plate secured to the underside of the shelf, said plate having a horizontal portion and having a vertical portion, said vertical portion being formed with an elongated longitudinal slot, a prop pivoted at one end on the support member and having its other end lying on one side of said vertical portion and provided with a headed pin slidable in said slot, a spring pressed latch bar pivoted intermediate its ends on the horizontal portion of said plate to swing to and from the other side of the vertical portion of the plate and having one end positioned to engage said headed pin to lock the prop when the shelf is raised to horizontal position, and a knob on the other end of the latch bar extending through a slot formed in the horizontal portion of the plate for manually swinging the bar to release the prop.

5. A shelf assembly comprising a drop shelf, a vertically disposed support member, a fixed hinge connecting said support member and said shelf whereby said shelf may swing from a vertical position adjacent the support member to a horizontal position, a prop having one end thereof pivotally connected to the support member and having a headed pin at its other end, said pin being positioned for sliding movement within a slot formed in a member carried on the underside of said shelf, a lever pivotally mounted on said slotted member, spring means urging an end of said lever into engagement with said slotted member in the path of movement of said headed pin, said lever being adapted to be yieldingly moved past said pin to allow movement of said pin past said lever when the shelf is raised to a horizontal position and being adapted to prevent return movement of said pin within said slot, and a knob carried at the other end of said lever and extending through a second slot in said slotted member for yieldingly swinging said lever to allow return movement of said pin within said slot.

CLARENCE R. GRAHAM.

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