

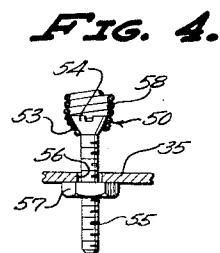
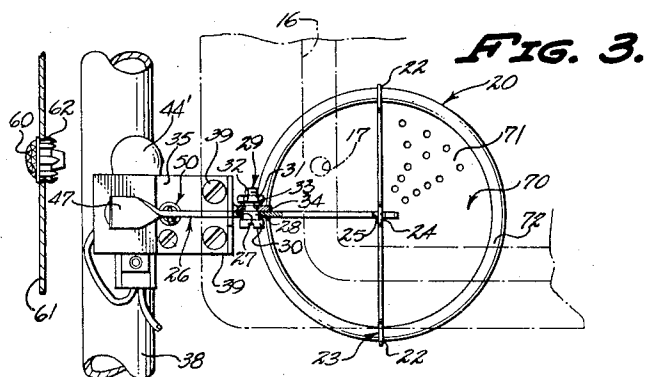
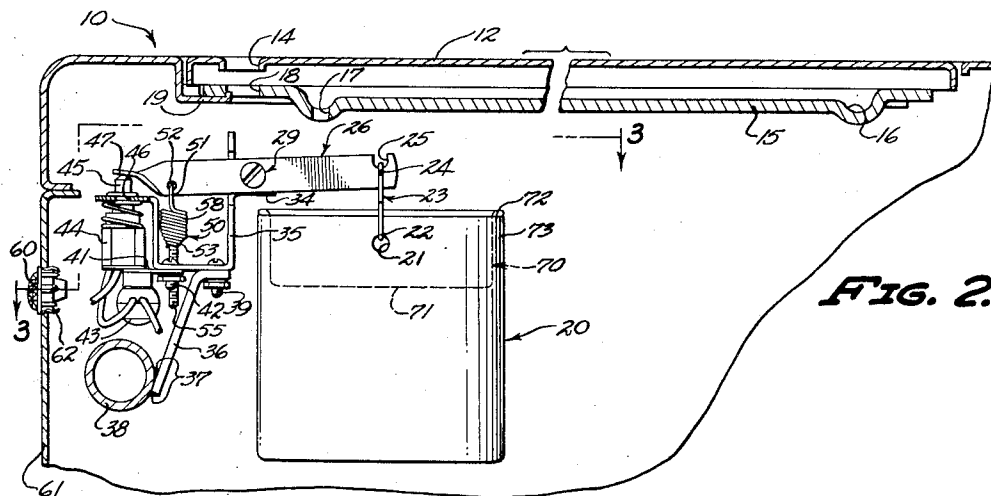
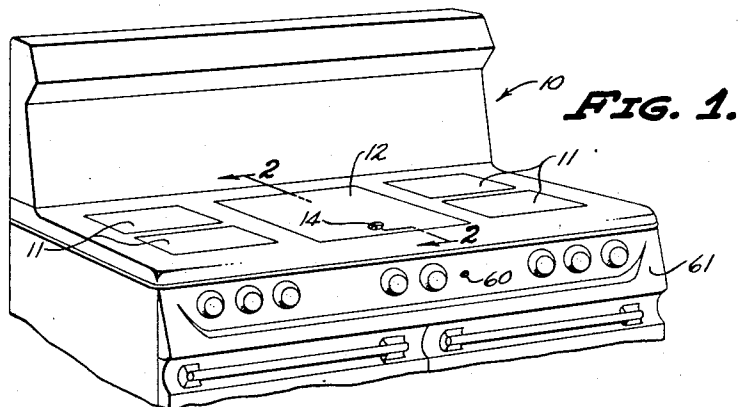
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KITCHEN STOVE WITH GREASE ACCUMULATOR AND INDICATOR

Filed July 26, 1954



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2,879,708

KITCHEN STOVE WITH GREASE ACCUMULATOR AND INDICATOR

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7 Claims. (Cl. 99—342)

The present invention relates to what may be termed a new and improved "automatic grease saver" for kitchen stoves or the like.

The classic picture of household drudgery involves a woman slavishly working over a hot stove. In order to alleviate much of the routine, unnecessary, hot tiring work in a kitchen, manufacturers in recent years have attempted and succeeded to a large extent in designing new and improved stoves which are comparatively easy to use and which present a neat, clean appearance at virtually all times.

One innovation which has become quite popular within recent years is the incorporation of a griddle within the center portion of a household stove so that this griddle may be used as desired by a housewife, without the necessity of getting out separate cast iron griddle irons or the like. Stoves containing a center griddle as indicated have sold very well. A major cause of the nonuse of these household griddles relates to the fact that grease drains off such griddles at a comparatively high rate when certain foods, such as, for example, bacon, are cooked upon them and no provision of an adequate nature has previously been made to handle such surplus grease. Generally, housewives as a class prefer to save bacon grease, or other grease obtained from a similar source, for use in various cooking operations. No adequate provision for such saving of grease is considered to have been made in the prior art household griddle type of structures.

Many of the prior griddles manufactured with household stoves have merely had a trough, or the like, where grease accumulates or drains into during various cooking operations. More advanced stoves such as are presently found on the market have utilized a small drawer placed beneath a drain opening in a griddle, this drawer usually having a capacity of approximately one-quarter pound of grease. Because no means are provided with either of such constructions for automatically warning a housewife when an overly large amount of grease is accumulated, frequently both of these prior art types of constructions become exceedingly messy. This is particularly the case with small drawers such as are described above, inasmuch as the contents of these drawers are entirely removed from sight during the normal operation of the griddles. Once these drawers become too full, grease obviously flows over the edges of them down into various parts of the stove. These parts are inaccessible, and, therefore, are very difficult to clean. Frequently, accumulations of such grease have been found in stoves which in and of themselves constitute a fire hazard as well as a possible source of a future rancid odor.

It is an object of the present invention to produce a new and improved construction which is designed to overcome many of the foregoing and related disadvantages of prior art constructions such as are described above. More specifically, it is an object of the present invention to produce or to provide what may be termed an "automatic grease saver" which is convenient to use and which is very effective for the purpose intended.

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A more specific object of the invention is to provide an automatic grease saver which comprises or includes a griddle having a drain hole from which grease produced upon said griddle flows into a grease bucket, this bucket being attached to a manifold pipe or other supporting element within the stove in such a manner that it may be readily removed after it becomes full and another bucket can be positioned in its place.

A further object of the instant invention is to produce a structure of the class described in the preceding sentence in which the grease bucket is mounted upon a lever arm in such a manner that, once the grease bucket has become filled with a sufficient quantity of grease, a switch operatively positioned adjacent said arm is actuated so as to turn on a warning light. In effect, such a light tells a housewife that it is time to replace the grease bucket beneath the griddle with an empty grease bucket or to clean the full bucket. In use of the device in question, it is normally desired to have several separate grease buckets so that once a grease bucket has become full it can be placed within a refrigerator or other storage location until such time as the contents thereof are utilized.

A further object of the invention is to utilize a lever arm mounted upon a manifold pipe or other supporting means within a stove for the purpose described, this lever arm being connected to such supporting means by means of an adjustable balance spring so that the motion of the lever arm employed can be controlled so as to open or close the on-off switch disposed adjacent the lever arm when a predetermined quantity of grease is accumulated within the grease bucket employed. Preferably, the quantity of material held by such a grease bucket is adjusted to be about one pound. This capacity has been found to be adequate for most household applications.

Further details of the present inventive concept, as well as further advantages and objects of the invention, will be more fully apparent from the balance of this specification, including the appended claims and the accompanying drawing, in which:

Fig. 1 shows a household stove in which the present invention is employed;

Fig. 2 shows a view taken at the line 2—2 of Fig. 1;

Fig. 3 shows a view taken at the line 3—3 of Fig. 2; and

Fig. 4 shows a partial sectional view of a balance spring employed with the invention.

In Fig. 1, there is shown a stove 10 having burners 11 and a centrally disposed griddle cover 12 with a finger hole 14 disposed therein so that this cover may be conveniently lifted to expose a griddle 15, this griddle being provided with an edge drain groove 16 sloping towards a grease drain opening 17. The griddle 15 is provided with a finger opening 18 so that it may be lifted from supporting portions 19 of the stove 10, as will be more fully described.

Disposed beneath the drain opening 17 is a grease bucket 20 having near its top side holes 21 within which there are disposed the ends 22 of a bail 23 having a center inverted notch 24 supported by an appropriate notch 25 at one end of a lever arm 26. This lever arm 26 is provided with a central aperture 27 carried upon a limiting shoulder 28 on a bolt 29 having a slotted head 30 bearing against one side of the lever arm 26.

This bolt 29 is held in position within an aperture 33 in a projection 34 of a U-shaped mounting bracket 35 by means of a common nut 31 and a lock washer 32. This bracket 35 is secured to a second bracket 36 by bolts 39; this second bracket 36 is secured to a manifold pipe 38 projecting within the stove 10 by welds 37.

The bracket 35 carries, at a point removed from the projection 34, a small bracket 41 attached to the bracket

35 by means of a bolt 42. This bracket 41 carries adjacent its lower surface a light bulb socket 43 within which there is positioned a small light bulb 44' and adjacent its upper surface an on-off switch 44 having an actuating member 45 projecting up through an aperture 46 in the bracket 35. The actuating member 45 normally bears against a flat terminal extremity 47 of the lever arm 26 removed from the notch 25.

Movement of the lever arm 26 is normally controlled by means of a balance spring 50 having a terminal extremity 51 latched within an opening 52 in the lever arm 26, this balance spring 50 normally being adjusted so as to pull the lever arm 26 down against the actuator 45 holding the switch 44 normally in its "off" position. The center portion of the balance spring 50 consists of a coiled spring 58 having a conical end 53 holding a top 54 of a bolt 55 projecting from the spring 58 through an aperture 56 within the bracket 35 where this bolt is held in a fixed position by means of a nut 57. By merely adjusting this nut 57, it is thus possible to adjust the balance spring 50 so that for any given weight placed within the grease bucket 20, the lever arm 26 may be rotated a sufficient extent to lift its end 47 and release the actuating member 45 to turn on the switch 44, energizing the light bulb 44'. When the light bulb 44' is turned on in this manner, light emitted therefrom projects through a small lens 60 held within the front wall 61 of the stove 10. This lens is preferably positioned by means of suitable spring retaining members 62 of a conventional category.

The operation of the construction shown is essentially exceedingly simple. In use, grease drains from the griddle 15 through the drain groove 16 down through the drain opening 17 into the grease bucket 20. When a sufficient quantity of grease has accumulated within this bucket, the lever arm 26 is rotated about the bolt 29, this bolt acting as a pivot, causing the switch 44 to move to an "on" position, lighting the bulb 44', resulting in light showing through the lens 60. The presence of this light automatically warns a housewife or other user of the stove 10 that the grease bucket 20 should be emptied or replaced before this bucket overflows. This indicator function is exceedingly important and marks a substantial improvement over prior related devices.

Such replacement also is essentially exceedingly simple. The griddle 15 is lifted by means of the finger hole 18 and the bail 23 is lifted from the notch 25 and removed through the space formerly occupied by the griddle 15. At this point, this grease bucket 20 may be either emptied or another grease bucket may be positioned within the stove in its place. If desired, the bail utilized may be snapped from the grease bucket 20 and used with such other bucket.

In order to improve the quality of grease collected within the grease bucket 20 so that this grease may be readily employed a second time, it is preferred to place a strainer 70 having a perforated bottom 71 and an edge shoulder 72 within the top 73 of the grease bucket 20 with the shoulder 72 against this top so that any grease coming into the bucket 20 is filtered while hot as it passes through the perforated bottom 71 into the grease bucket 20. Such hot filtration of grease is exceedingly advantageous inasmuch as the viscosity of hot grease is considerably less than that of cold grease. If desired, various filter media can be substituted for the specific perforated bottom illustrated in the drawings. This is not generally considered necessary. The strainer 70 may be placed within a clean grease bucket 20 during the replacement of grease buckets as described above, if desired.

Those skilled in the art will realize that the herein described and disclosed invention is capable of wide modifications within the scope of the instant disclosure. Such modifications are to be considered as part of the inventive concept insofar as they are defined by the patent claims.

I claim as my invention:

1. A stove construction which includes: a griddle; means defining a drain hole in said griddle; a bracket attached to said stove; a lever arm pivotally mounted on said bracket beneath said griddle, said lever arm being provided with a notch adjacent to one end thereof; a bucket carried by said notch, said bucket being generally beneath said drain hole in said griddle; spring means normally holding said lever arm in a given position, but permitting rotation thereof; a switch mounted on said bracket adjacent to said lever arm so as to be actuated by movement of said lever arm; a light bulb socket mounted on said bracket; a light bulb positioned in said light bulb socket; means electrically connecting said switch with said light bulb; and a lens positioned on said stove adjacent to said light bulb so as to convey light therefrom.

2. In combination: a stove having a griddle provided with a drain hole; a bracket attached to said stove; a lever arm pivotally mounted on said bracket; a pail carried by said lever arm beneath said drain hole; means, including a spring, for biasing said lever arm in a direction opposite to the direction in which said lever arm is biased by the weight of said pail; and indicator means positioned adjacent said lever arm and actuable by movement thereof in said direction in which said lever arm is biased by the weight of said pail.

3. A combination as defined in claim 2 wherein said spring is a tension spring and including means for adjusting the tension of said spring.

4. In combination: a stove having a griddle provided with a drain hole; a bracket attached to said stove; a lever arm pivotally mounted on said bracket; a pail carried by said lever arm beneath said drain hole; means for biasing said lever arm in a direction opposite to the direction in which said lever arm is biased by the weight of said pail; and indicator means positioned adjacent said lever arm and actuable by movement thereof in said direction in which said lever arm is biased by the weight of said pail, said indicator means including switch means engageable by said lever arm and including a light bulb electrically connected to said switch means.

5. In combination: a kitchen stove provided with a housing having an upper, work surface, said stove including a griddle carried by said work surface, said griddle having a cooking surface and being provided with a drain hole therethrough, said griddle further having a drainage channel adjoining said cooking surface and communicating with said drain hole; a bucket disposed within said housing beneath said drain hole; an indicator carried by said stove within said housing, said indicator including an electric light visible from the exterior of said housing and including a switch in series with said light; and means carried by said stove within said housing and responsive to the amount of material in said bucket for closing said switch to energize said light.

6. In combination: a kitchen stove provided with a housing having an upper, work surface, said stove including a griddle carried by said work surface, said griddle having a cooking surface and being provided with a drain hole therethrough, said griddle further having a drainage channel adjoining said cooking surface and communicating with said drain hole; a bucket disposed within said housing beneath said drain hole; an indicator carried by said stove within said housing, said indicator including an electric light visible from the exterior of said housing and including a switch in series with said light; and movable means carried by said stove within said housing and supporting said bucket beneath said drain hole and responsive to the amount of material within said bucket for closing said switch to energize said light.

7. In combination: a kitchen stove provided with a housing having an upper, work surface, said stove including a griddle carried by said work surface, said griddle having a cooking surface and being provided with a drain

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hole therethrough, said griddle further having a drainage channel adjoining said cooking surface and communicating with said drain hole; a bucket disposed within said housing beneath said drain hole; means carried by said stove within said housing and movable in response to an increase in the weight of material in said bucket for supporting said bucket beneath said drain hole, said movable means including spring means for biasing said bucket upwardly; and indicating means carried by said stove and engageable by said movable means and actuable thereby when the weight of material in said bucket reaches a predetermined value.

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