Dec. 16, 1941. C. EHRET 2,266,627

STOVE

Filed June 7, 1939 2 Sheets-Sheet 1

Fig. 1

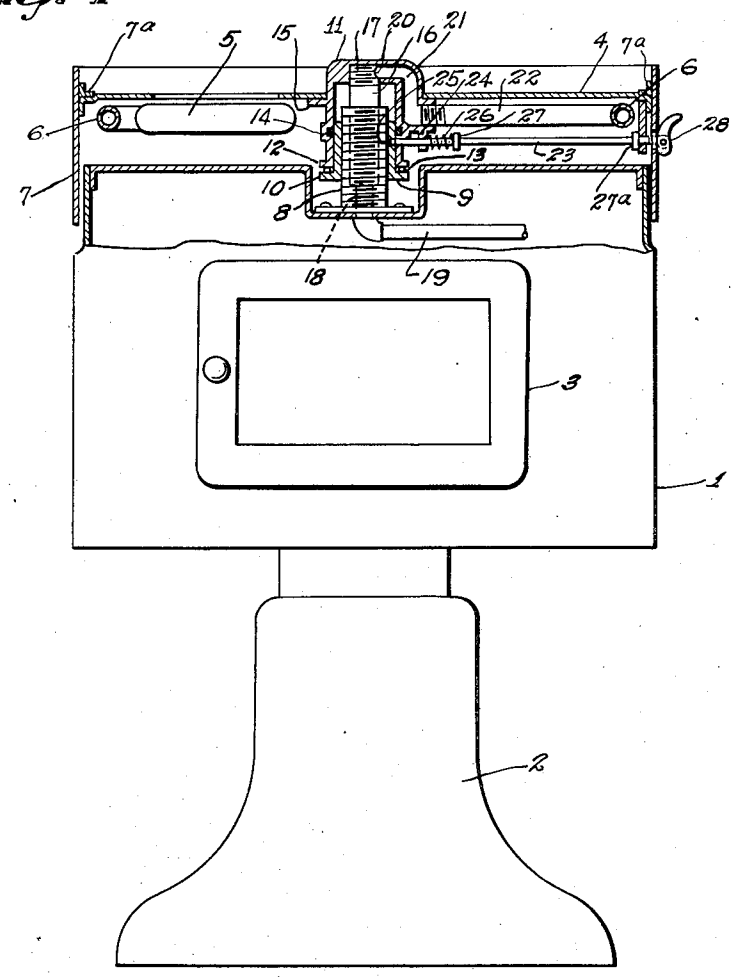
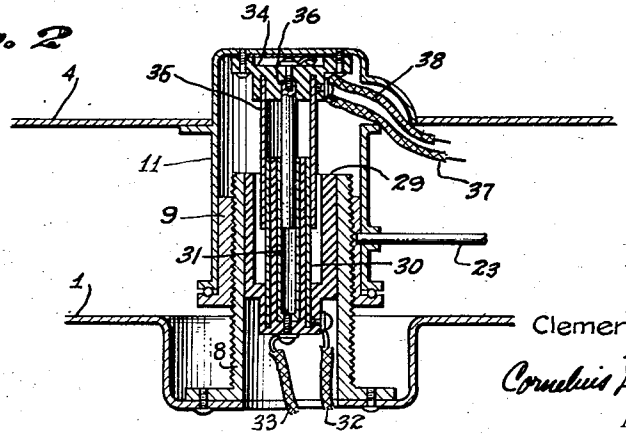


Fig. 2



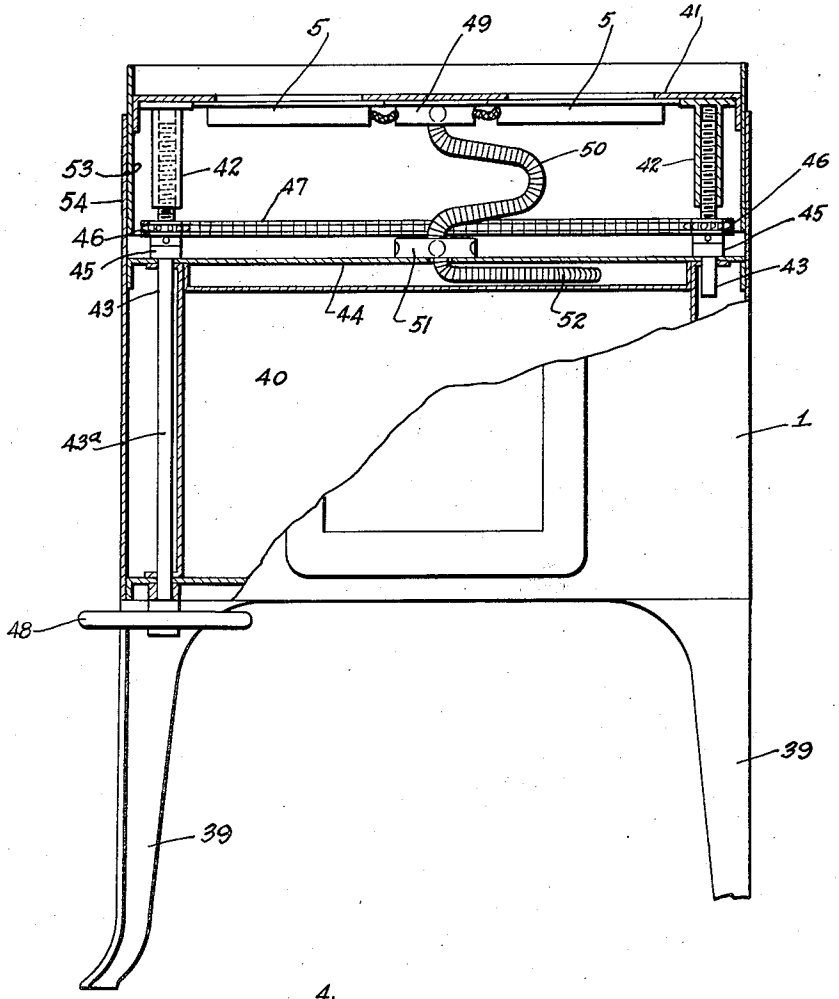
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STOVE

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Fig. 3



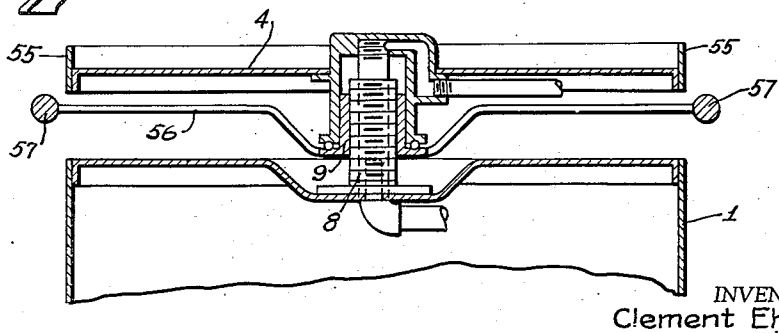


Fig. 4

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UNITED STATES PATENT OFFICE

2,266,627

STOVE

Clement Ehret, White Plains, N. Y.

Application June 7, 1939, Serial No. 277,805

8 Claims. (Cl. 126—39)

This invention relates to stoves and is directed more particularly to a stove having a top which may be both rotatable and vertically adjustable with respect to the stove body on which it is mounted, but the fundamental purpose of the invention is to permit of vertical adjustment of the stove top without necessarily requiring a like adjustment of the associated stove body. The stove body may thus be mounted in stationary position while the top may be regulated to the most convenient elevation for the person who is to carry out cooking operations thereon.

The adjustable stove top of the present invention may be associated with a stove body of any construction. For example, it may be mounted upon the stove body of any of my stove patents heretofore issued, or it may be mounted upon any conventional stove body.

Similarly the stove of the present invention may utilize any desired type of heating medium, such as electricity, gas, oil or other fuels and the surface heating elements which are associated with the adjustable top are preferably mounted on and carried thereby, so as to maintain a definite relationship between the heating elements and the top at all times and irrespective of the adjustment of the top.

The invention provides means for feeding the heating medium uninterruptedly to the burners or heating elements in such a way that the feed of the heating medium or the operation of the heating elements will not be affected by the vertical adjustment of the top or by the rotation of such top in such structures as provide for such rotation.

Features of the invention, other than those adverted to, will be apparent from the hereinafter detailed description and claims, when read in conjunction with the accompanying drawings.

The accompanying drawings illustrate different practical embodiments of the invention, but the constructions therein shown are to be understood as illustrative, only, and not as defining the limits of the invention.

Figure 1 is a side elevation of a stove embodying the present invention with the upper portion of the stove and top in central section and illustrating the manner in which the feed of fuel may be uninterruptedly accomplished to the burners of a gas or oil stove.

Figure 2 is a fragmental central section of a modified form of construction adapted to employ electricity as the heating medium.

Figure 3 is a view similar to Figure 1, but illustrating a modified form of construction embodying this invention.

Figure 4 is a fragmentary section showing another modified form of the invention.

Referring to the drawings, 1 designates a stove body of any desired construction. It may rest directly upon the floor, may be supported on appropriate legs or may be mounted upon a suitable base indicated at 2. The stove body may have one or more ovens closed by oven doors 3 and these ovens may have appropriate heating elements for supplying heat thereto. These parts of the stove construction may be looked upon as conventional, so far as the present invention is concerned and the invention is not to be understood as limited to any particular construction of stove body or its support other than such stove body be such as to properly support the top for adjustment, as hereinafter more fully described.

By reference first to Figure 1, which shows by way of illustration, a gas stove, 4 designates the stove top which may be in the form of a plate, grid or a combination thereof and on this top is supported a plurality of burners 5 in any appropriate number. These burners are fed from an annular header 6 with suitable valves for controlling the flow of gas from the header to the burners individually. The top 4 may be provided around its periphery with a depending annular skirt or shield 7 which preferably telescopes over the exterior of the body 1, so as to cover and conceal the space between the top 4 and the body 1 as the former is adjusted to the desired elevation.

The skirt 7 may be permanently secured to the top 4 but is preferably detachably suspended thereon on brackets 7a riveted or welded to the skirt and resting in depressed locating seats in the top. With this arrangement the skirt may be lifted off when it is desired to gain access to the space between the top and body for any reason whatsoever.

The means whereby the top may be vertically adjusted with the associated surface heating elements 5 may vary within wide limits. However, in Figure 1, the following adjusting means is shown. Mounted on the top of the body in rigid position centrally thereof is an upstanding hollow threaded post 8 on which is screwed a threaded carrier nut 9 provided at its lower end with an annular flange 10, the upper face of which is formed with a ball race. Telescoping downwardly over this carrier nut is a hollow hub 11 which fits the outer circumference of the car-

rier nut with a close rotatable fit and the lower end of this hub is flanged outwardly at 12 and provided with a ball race. Anti-friction members, such as ball bearings 13, are positioned in the ball races of the flanges 10 and 12 and may, if desired, be housed within an appropriate cage so as to mount the hub for free rotation on the carrier nut.

A packing 14 may be incorporated in the joint between the hub and nut to preclude fuel leakage at this point. The hub 11 has an annular flange 15 intermediate its height and the top 4 rests upon and may be bolted to this flange to secure said top rigidly to the hub 11. Mounted within the hub and positioned coaxially of the top is a short length of pipe 16 which is threaded rigidly into the hub as shown at 17 and projects downwardly into the threaded post 8 and into this pipe projects a pipe 18 which is a part of the fuel supply 19 mounted on the stove body. The pipes 16 and 18 have a close sliding fit and the lower end of the pipe 16 may, if desired, have a packing gland so as to preclude leakage of gas at this point while permitting the pipe 16 to slide up and down with respect to the pipe 18 which is fixed. Fuel fed through the pipe 19 to the pipe 18 is fed into the pipe 16 and passes through an opening 20 in the latter pipe into a cored passage 21 which communicates with a pipe 22 leading to the manifold 6. By virtue of these connections, fuel may be fed to the manifold and to the respective burners and may be controlled by the individual cocks of these burners as stated.

In practice the manifold may if desired be mounted on the exterior of the skirt, but I prefer to mount it interiorly so as to leave the exterior of the skirt unencumbered thereby.

With the top 4 rigidly secured to the hub and supported thereby as described, it will be apparent that the top with its hub may freely rotate on the carrier nut 9 while supported by the anti-friction means 13 to permit of ready access to any particular burner without requiring the operator to reach over one burner to another. This rotation, moreover, may be accomplished without effecting vertical adjustment of the top 4.

Extending radially beneath the top 4 is a locking rod 23. The outer end of this rod is juxtaposed with an aperture in the skirt while the inner end of the rod passes through a bracket 24 on the hub and projects through an aperture into juxtaposition with the carrier nut and the carrier nut is provided around its periphery at the elevation of the rod 23 with a series of holes 25. A spring 26 interposed between the bracket 24 and a fixed collar 27 normally retracts the inner end of the locking rod from the holes 25 of the carrier nut, so as to permit of free rotation of the top. A second fixed collar 27a limits the outward movement of this rod. However, there is mounted on the skirt, adjacent the outer end of the rod 23, a manually operable cam 28, so constituted that in one position, it will permit the rod 23 to retract and allow the top to turn and in another position will force the rod inwardly, so that its inner end will enter one of the holes 25 of the carrier nut and thus lock the top against rotation with respect to the nut. When thus locked the rotation of the top will effect vertical adjustment thereof to the elevation which will be most convenient to the operator and when the top has been placed in such adjustment the cam 28 may be manually operated to unlock the top for free rotation, so that it can be turned at the will of the operator without effecting any change in such vertical adjustment.

By the means described, it is possible to operate the stove normally with the top free for rotation and when desired vertical adjustment may be accomplished by appropriate manipulation of the cam 28 followed by mere rotation of the top.

The construction of Figure 2 is the same in all respects so far as the stove and top construction is concerned. A threaded post 8 is supported on the stove body 1 in rigid position with the carrier nut 9 threaded thereon as before. The hub 11 carries the top 4 and the locking rod 23 functions as described in the preceding figure. However, instead of providing the telescoping gas or liquid tight connections in Figure 2, appropriate modifications are provided for the feed of electric current. To this end there is mounted firmly within the post 8 an insulating core 29 which carries a rigid upstanding metal sleeve 30 and a rigid upstanding coaxial metal socket 31. Wires 32 and 33 feed electric current to the sleeve 30 and the socket 31 which are insulated from one another by the insulating core 29. In the top of the hollow hub is mounted an insulating fixture 34 carrying a metal sleeve 35 which, telescopes over and makes sliding contact with the metal sleeve 30, while a central rod 36 telescopes with a sliding fit into the socket 31. A wire or cable 37 electrically connects the sleeve 35 to the several heating elements of the top 1, while another wire or cable 38 connects the central rod 36 with such heating elements. With this arrangement all of the heating elements will be fed from the wires 37 and 38 with appropriate switches associated with each heating element to control the feed of current thereto. The rotatable and slidable connections between the sleeves 30 and 35 and between the socket 31 and the rod 36 provides for free rotation of the top 4 and for vertical adjustment of the top with respect to the body 1.

In Figure 3 I have shown a further illustrative modified form of the invention. Here stove body 1 is supported on legs 39 and has therein an oven 40 spaced from the outer wall of the body as is common. The adjustable top 41 is provided on its under side with depending internally threaded tubular posts 42. Any number of these posts may be used but three or four will suffice. Into each of these posts extends a threaded shaft 43 which projects downwardly through the top wall 44 of the stove body into the space laterally of the oven. Each of these shafts carries a fixed collar 45 bearing on the wall 44 to support the weight of the top 41 and a sprocket 46 is also fixed to each shaft. A sprocket chain 47 is carried about all the sprockets and serves to connect the shafts for conjoint rotation. When one of these shafts is turned, all will thus be rotated to vertically adjust the top.

Rotation may be imparted to the shafts 43 in any appropriate way but, as illustrated, one of said shafts is extended downwardly, as at 43a, and carries a hand wheel 48 conveniently located for manual operation.

In this figure the heating elements are indicated at 5 and are connected to a junction box 49 fed from a loop 50 extending from an outlet box 51 on the stove body. The outlet box is fed from a heating medium supply 52. Suitable means such as switches (not shown) are incorporated in the connections of the heating medium supply to control the feed thereof to the heating elements individually.

In the construction of Figure 3 the stop top

is mounted for vertical adjustment without attendant rotation, but, if desired, it may be mounted for rotation also.

It is also to be noted from Figure 3 that the adjustable top is provided with a depending skirt or shield 53 which telescopes into an upstanding shield 54 on the stove body. This allows of considerable adjustment of the top 41 without leaving an unguarded space beneath it. In practice, the guard may be carried by either the top or stove body or both.

In Figure 4 I have shown another modified form of the invention very similar in many respects to the structure of Figure 1. In Figure 4, the top 4 is provided around its periphery with an upstanding flange 55, but the skirt or guard depending from the adjustable top is omitted to leave open the space between the adjustable top and the stove body 1. The threaded post 8 and the connections for the feed of heating medium are the same as in Figure 1 and the rotatable top 4 is supported on a carrier nut 9, as in Figure 1, but in Figure 4 the carrier nut 9 has radially extending arms or spokes 56 carrying at their outer ends the rim 57 of a hand wheel, so that the carrier nut 9 forms in this construction the hub of an adjusting hand wheel. This renders unnecessary the employment of the locking rod 23 for the vertical adjustment of the top is obtained by grasping and turning the hand wheel 57 which may project to any extent desired, so that it may be conveniently manipulated. There is sufficient friction between the threads of the carrier nut 9 and the threaded post 8, so that this hand wheel will remain stationary when the stove top is rotated in the usual course of cooking and the top may be held stationary if desired when the hand wheel is adjusted.

The structure of Figure 4 is, like the other structures, capable of use with any heating medium.

I am of course aware that other means may be provided for vertically adjusting the top with respect to either gas, oil or electric stoves, but the constructions described are simple, economical and convenient and are believed to be sufficiently illustrative of practical means for accomplishing this purpose. They illustrate the adjustment of the top at the will of the operator while permitting of free rotation of the top when this may be desired in the ordinary routine of cooking.

In such constructions of this invention as provide a rotatable stove top, the top may be turned by grasping it directly or by the switches or valves which control the feed of the heating medium to the heating elements or said top may have heat insulating handles of any appropriate form for this purpose.

The foregoing detailed description sets forth the invention in its preferred practical form, and the invention is to be understood as fully commensurate with the appended claims.

Having thus fully described the invention, what I claim as new and desire to secure by Letters Patent is:

1. A stove comprising a stove body having an oven therein, a stove top, means for supporting the stove top above the stove body for vertical adjustment with respect thereto while the stove body remains stationary, and a shield supported by and vertically movable with the stove top to close the gap between said stove top and the stove body.

2. A stove comprising a stove body, an upstanding threaded post thereon, a carrier nut threaded onto said post, a stove top supported for rotation on said nut while the nut remains stationary, and means for locking the stove top to the nut, whereby rotation of the top will thereupon raise or lower the stove top with respect to the stove body.

3. A stove comprising a stove body, an upstanding threaded post thereon, a carrier nut threaded onto said post, a stove top supported for rotation on said nut while the nut remains stationary, means for locking the stove top to the nut, whereby rotation of the top will thereupon raise or lower the stove top with respect to the stove body, heating elements carried by said stove top, and means, including rotatable and extensible connections, for feeding a heating medium through the threaded post to said heating elements.

4. A stove comprising a stove body having an oven therein, a stove top, means for normally supporting the stove top for simple rotation while the stove body remains stationary, said means including complementarily threaded upright members which remain stationary while the top rotates, and means to lock the top to one of said members, whereby rotation of said top will thereupon vertically adjust the top to different elevations.

5. A stove comprising a stove body having an oven therein, a stove top, means for normally suporting the stove top for simple rotation while the stove body remains stationary, said means including complementarily threaded upright members which remain stationary while the top rotates, and means through which rotation may be imparted to one of said members to adjust the top to different elevations.

6. A stove comprising a stove body having an oven therein, a pair of complementarily threaded members mounted on the stove body, a stove top rotatable on one of said members without imparting rotation to said member, and means for imparting rotation to one of said threaded members with respect to the other threaded member to adjust the top to different elevations.

7. A stove comprising a stove body, an upstanding threaded post mounted on the stove body, a threaded member screwed upon said post, a stove top supported on said threaded member with an interposed anti-friction bearing to permit normal rotation of the stove top without imparting conjoint rotation to the threaded member, and means for temporarily securing the stove top of said threaded member to permit of axial adjustment of the latter with respect to the threaded post when desired.

8. A stove comprising a stove body, an upstanding threaded post thereon, a carrier nut threaded on said post, a stove top supported for rotation on said nut while the nut remains stationary, and a locking member carried by the top and rotatable therewith and adapted to be moved into gripping relation with the nut when desired to lock the nut to the top, whereby rotation of the top will thereupon raise or lower the same with respect to the stove body.

CLEMENT EHRET.