Dec. 31, 1940. C. EHRET 2,226,925

STOVE

Filed May 17, 1939 3 Sheets-Sheet 1

Fig. 1

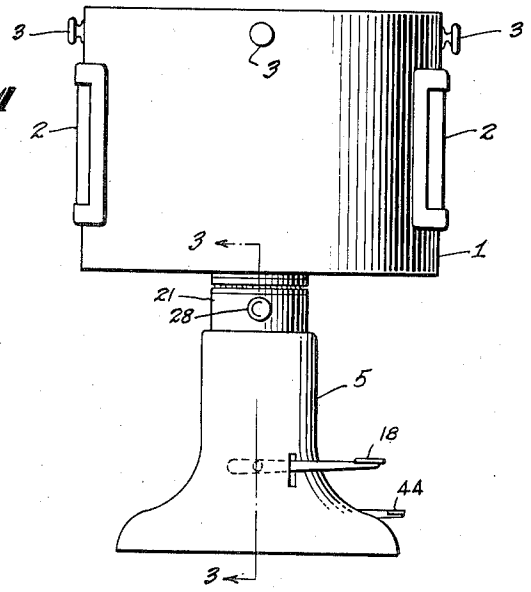


Fig 2

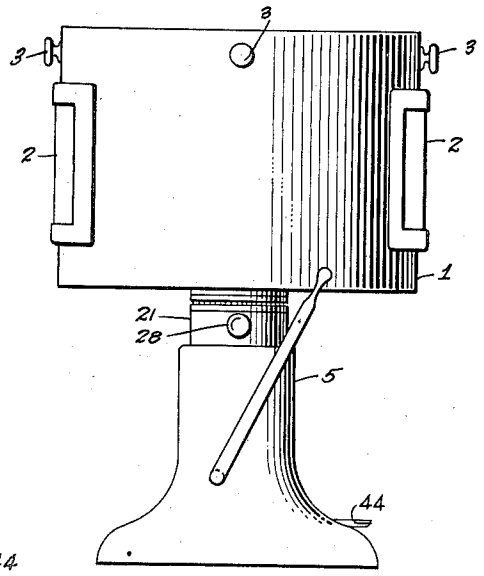
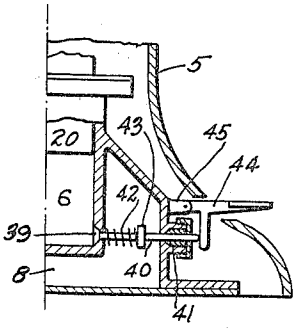


Fig. 5



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Dec. 31, 1940. C. EHRET 2,226,925

STOVE

Filed May 17, 1939 3 Sheets-Sheet 2

Fig. 3

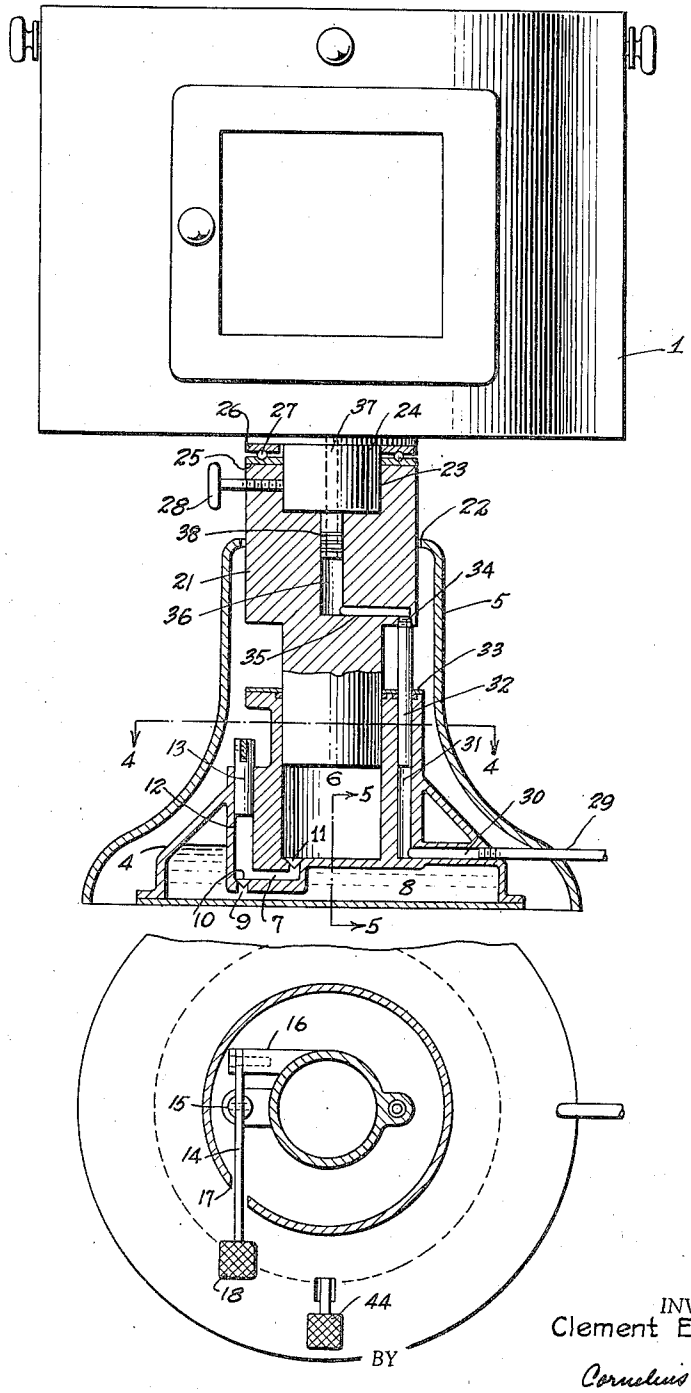


Fig. 4

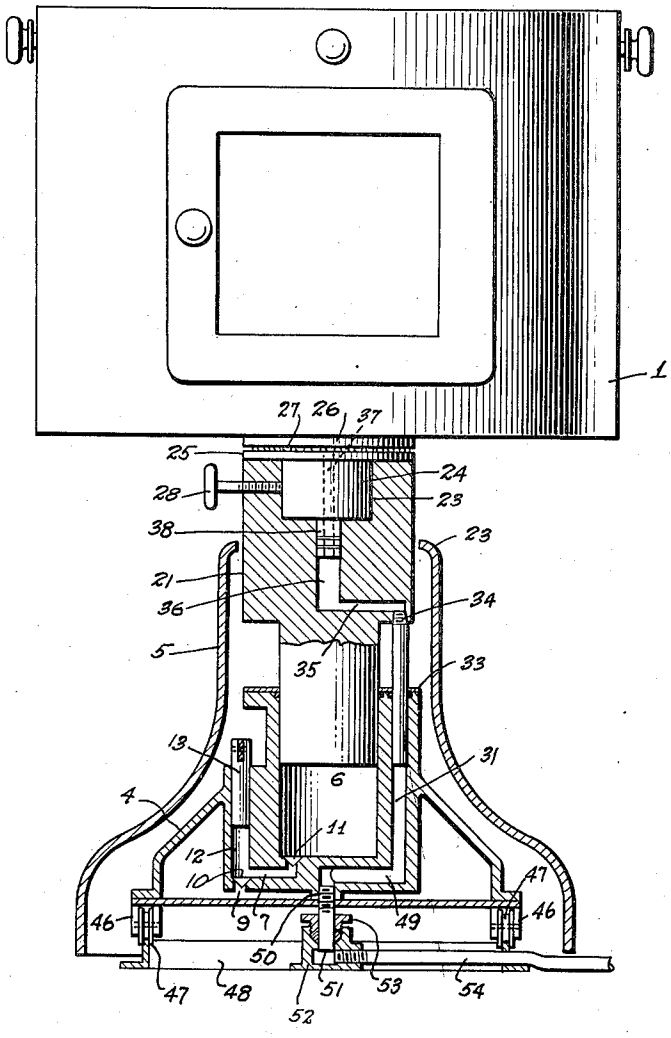
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Fig. 6



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Patented Dec. 31, 1940 2,226,925

UNITED STATES PATENT OFFICE

2,226,925

STOVE

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Application May 17, 1939, Serial No. 274,112

2 Claims. (Cl. 126—39)

This invention relates to stoves and is directed more particularly to a structure wherein a stove body comprising one or more ovens and surface cooking devices is mounted for rotation in vertical adjustment on and with respect to a relatively stationary base adapted to rest on the floor.

In patents which have heretofore issued to me, stoves of this general character have been described and claimed, but, in such prior instances, the stove body is adapted to be raised and lowered with respect to its base by mechanical connections between these parts. According to the present invention, in contradistinction, the changing of elevation of the stove body is adapted to be effected hydraulically, so that with heavy stoves such vertical adjustment may be obtained without the expenditure of appreciable force on the part of the user.

The present invention thus comprises a base provided therein with an upright cylinder in which a piston is mounted for reciprocation and on this piston the stove body is mounted for rotation. This stove body may rotate with the piston or may rotate with respect thereto, but in any event means is preferably provided to lock the stove body against rotation when so desired.

Within the base is a reservoir for a foot power medium, such as oil, and a valved passage leads from the reservoir to the cylinder. A pump cooperates with this passage in such manner as to feed liquid under pressure from the reservoir to the cylinder for the purpose of lifting the piston and a bleeder valve is provided to permit the escape of liquid from the piston when it is desired to lower the stove body. The pump may be power operated or manually operated, and when manually operated may be actuated by either hand or foot power as will be hereinafter more fully explained.

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 foot control.

Figure 2 is a like view, but showing a hand control.

Figure 3 shows the same stove as illustrated in Figure 1, but with the base and piston portions of the stove in section in the plane of the line 3—3 of Figure 1.

Figure 4 is a section on the line 4—4 of Figure 3.

Figure 5 is a radial vertical fragmental section on the line 5—5 of Figure 3.

Figure 6 is a side elevation partly in central section showing a modified form of the invention wherein the base is mounted for rotation on a circular track as hereinafter described.

In the accompanying drawings, 1 designates a stove body provided therein with one or more ovens having oven doors generally designated as 2 and the top of the stove has usual surface burners or heating elements in any desired number and individually controlled by the handles 3. The heating element or elements within the oven may be conventional.

The stove body 1 is supported on a base 4 mounted within an ornamental shell 5 to which the base may be secured in any desired manner or may be left free from attachment as the purpose of this shell 5 is preferably to cover and conceal the base and its working parts within a sightly casing.

The base 4 may be in the form of one or more castings suitably machined and constituted to serve as a support for the stove body and to properly house the operating mechanism which will presently be described. As shown the base is provided therein with an upright cylinder 6 communicating through a passage 7 with a reservoir 8 in which may be maintained a supply of fluid. The passage 7 has an inlet 9 which communicates with the reservoir 8 and is controlled by a check valve 10 opening into the passage. The other end of the passage leads to the cylinder 6 and has a check valve 11 opening into the cylinder. A pump barrel 12 carries therein a plunger 13 which, when raised, opens the valve 10 to draw fluid from the reservoir 8 into the pump barrel cylinder 12 and which, when lowered, closes the check valve 10 and forces such fluid through the passage 7 and by the check valve 11 into the cylinder 6.

The pump plunger 13 extends to the exterior of the casting and is bifurcated at its upper end for the passage of a lever 14 to which it is secured by a pivot pin 15. The after end of the lever 14 is pivoted to a boss 16 on the casting and said lever extends forwardly through a slot 17 in the shell to the exterior thereof and is there provided with a treadle 18, by means of which the pump plunger 13 may be operated to force fluid from the reservoir into the cylinder 6. In-

stead of utilizing a treadle to actuate the pump plunger, I may extend the fulcrum pivot of the lever 14 through the shell to the exterior thereof and attach thereto a handle 19, as shown in Figure 2, for operating said lever, in which case the lever 14 may be cut off just forwardly of the plunger 13 and need not extend through the shell 5.

Operating within the cylinder 6 is a piston 20 which has a close sliding fit with the wall of the cylinder and may, if desired, be provided with compression rings. This piston 20 extends upwardly and has an enlarged portion 21 which passes through an axial opening 22 in the top of the shell 5 and this enlarged portion supports the stove body 1. As shown, the enlarged portion 21 has a socket 23 in its top and into this socket extends a trunnion 24 attached centrally to the bottom of the stove body. This trunnion is cylindrical so as to provide for rotation of the stove body. On top of the portion 21 is mounted an anti-friction element 25 and a similar anti-friction element 26 is mounted on the stove body and ball bearings 27 are interposed in races between these elements, so as to eliminate undue friction. The stove body may thus be rotated with ease, but is adapted to be locked in any desired position by means of a set screw 28.

The stove of the present invention may utilize any desired type of heating medium. The same may be gaseous, fluid or electric and this invention is thus not limited to any particular type of heating medium. However, for the purpose of present illustration, the structure is shown in Figure 3, as appropriate for use with gas or oil. Such a heating medium requires conduits to feed the same to the heating elements in the stove body and these conduits must be so constituted that the feed of such medium will be uninterrupted by rotation of the stove body. The arrangement shown will permit of this.

By reference to Figure 3, the pipe 29 feeds fuel to a horizontal passage 30 in the base and this passage communicates with a vertical passage 31 in which a pipe 32 is fitted for close sliding movement and may be provided with a packing 33 to preclude leakage. The upper end of this pipe is connected by means of a thread 34 to a horizontal passage 35 which leads to a vertical passage 36, the latter of which is coaxial with the stove and has a smooth bore. Extending downwardly into this passage from the stove body is a fuel feed pipe 37 for the stove body. It fits closely into the passage 36 and may be provided with packing rings 38 to preclude leakage while permitting it to readily rotate within the passage 36. By virtue of the sliding movement between the pipe 32 and the passage 31, the piston 20 is free for vertical movement within the cylinder 6.

The piston may be elevated by operating the pump plunger in the manner hereinbefore described. It may be lowered by operating the plunger valve shown in Figure 5 or by any other appropriate mechanism for this purpose.

As illustrated in Figure 5, a valve 39 is positioned below the bottom end of the piston 20 when the latter is in its lowermost position. Said valve 39 has a stem 40 which extends through a tapped hole 41 in the casing. A spring 42 acts against a fixed collar 43 to normally seat the valve 39. A pedal 44 pivoted at 45 overlies the outer end of the valve stem 40 and extends through a slot in the shell 5 into accessible position to be operated by the foot, as shown in Figures 4 and 5. When it is desired to lower the stove body, the pedal 44 may be depressed to unseat the valve 39 and allow the discharge of fluid from the pump cylinder 6 into the reservoir 8. The valve 39 is preferably made small, so that this flow is slow and brings about a gradual lowering of the stove body without shock or jar.

It may be desirable under certain conditions to mount the base of the stove in such manner that it may be bodily rotated. Figure 6 shows a construction wherein this is made possible. As there illustrated the base 4 is provided with a plurality of depending brackets 46, each of which carries a roller or other appropriate anti-friction device 47 and these rollers are adapted to ride upon an annular track 48 supported on the floor or other firm support. The shell 5 is made somewhat deeper than in Figure 3, so as to extend downwardly into proximity with the floor in order to conceal the brackets, rollers and track.

When the base is mounted for rotation the structure must be so constituted as to permit of the heating medium in an uninterrupted manner. This is provided for in Figure 6 by eliminating the pipe 29 and passage 30 and substituting therefor a passage 49 which extends from the lower end of the passage 31 to substantially the vertical axis of the base where it communicates with a chambered boss 50. Into this boss is threaded a short length of tubing 51 which projects into a fitting 52 provided with a packing gland 53. This gland maintains a leak-proof joint while permitting the pipe 51 to rotate therein. The fitting 52 is hollow and is connected to a main fuel feed pipe 54 which may project downwardly through the floor or laterally through an opening in the track and beneath the shell 5 as shown. With this arrangement the heating medium is fed coaxial of the base through the pipe 51 which maintains its relation with the fitting while the base may freely rotate.

The structure shown in Figure 6 may include the trunnion 24 and locking screw 28, if desired, or the piston may be attached rigidly to the stove body 1. It will be understood that aside from the differences to which I have specifically referred in Figure 6, the construction of this figure comprises the other operating parts which have been described in connection with Figures 1–5.

The arrangements which I have described are simple and compact and provide convenient means of control and operation for a stove of this character. The pump barrel 12 is of small diameter as compared to that of the cylinder 6 and consequently the pump plunger may be operated with the expenditure of little force to raise a relatively heavy stove body and the body is raised without shock or jar and in a smooth and even manner. It is lowered in a like way. When in any position of vertical adjustment which may be convenient to the operator the fuel or other heating medium is fed coaxially in a manner to permit of rotation of the stove body without in anywise interfering with the feed of such heating medium. If oil is used it may be efficiently fed through the connections shown in Figures 3 and 6. If electricity is employed, the feed wires may be led to the construction of Figure 3 through the opening in the shell 5 through which the pipe 29 passes and may then pass upwardly through a loop directly into the passage 35 to a commutator in the passage 36 to cooperate with the commutator brushes carried by the lower end of the trunnion 23 and which brushes are connected to the heating elements in multiple. For the feed

of electricity to the construction of Figure 6, the wires may lead to a commutator embodying concentric rings and positioned in the location of the fitting **52** and associated contacts may be carried by the base to bear against these rings at all times with the wires leading from said contact through the passage **49** and thence through the passage **31**, as described in connection with Figure 3.

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

1. A stove body support comprising a base having therein an upright cylinder, a stove body supporting piston operable in said cylinder, a pump for forcing fluid into the cylinder below the piston to elevate the same, means for bleeding the cylinder to lower the piston, said piston having an axial passage in its upper end portion and the base having a non-axial upright passage laterally of the cylinder, an extensible conduit connection between said passages to feed a heating medium through the passage in the base to the passage in the piston.

2. A stove body support comprising a base having therein an upright cylinder, a stove body supporting piston operable in said cylinder, a pump for forcing fluid into the cylinder below the piston to elevate the same, means for bleeding the cylinder to lower the piston, said piston having an axial passage in its upper end portion and the base having a non-axial upright passage laterally of the cylinder, an extensible conduit connection between said passages to feed a heating medium through the passage in the base to the passage in the piston, and anti-friction means on the upper end of the piston to support the stove body thereon for rotation with respect to the piston.

CLEMENT EHRET.