

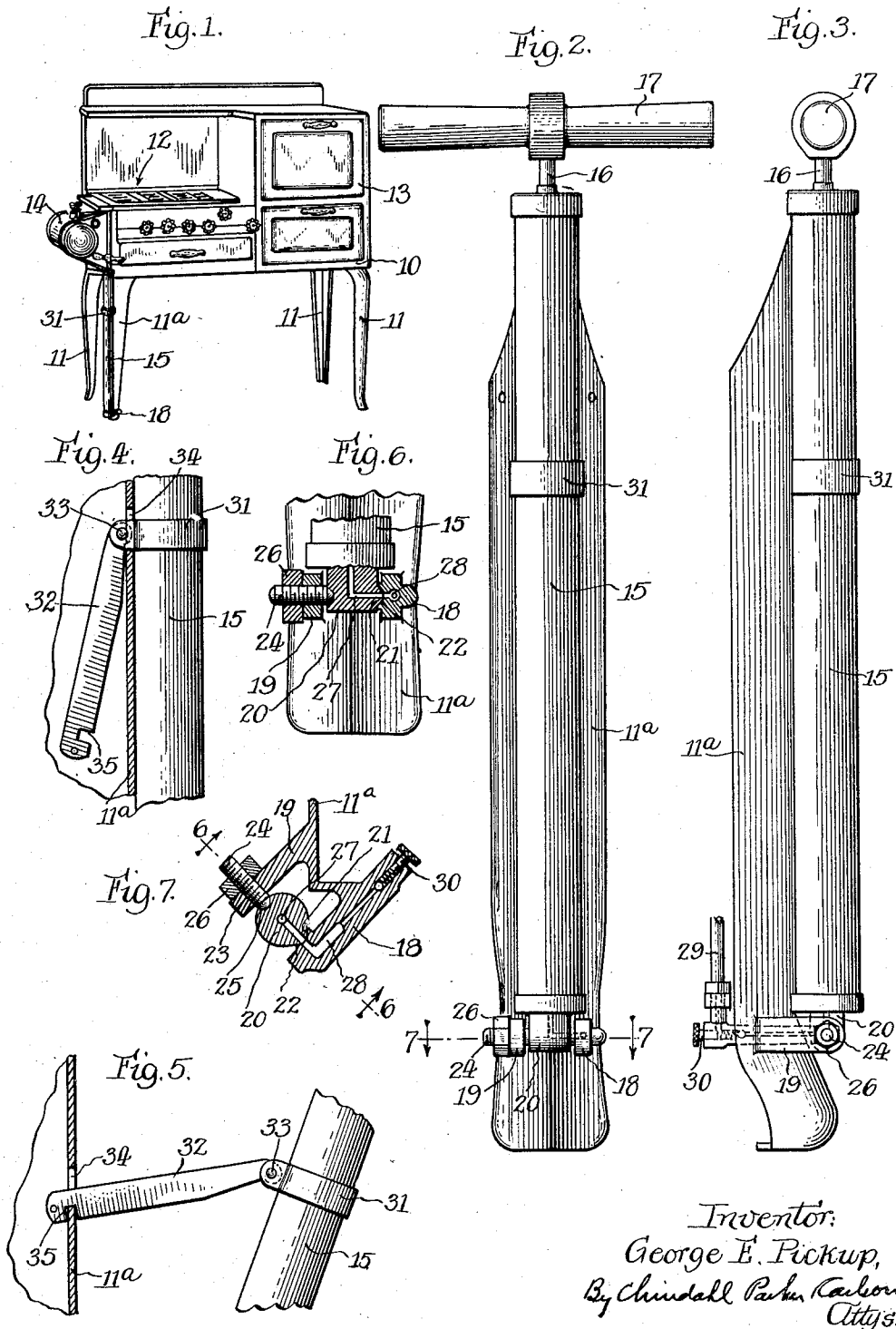
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LIQUID FUEL STOVE

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UNITED STATES PATENT OFFICE

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LIQUID-FUEL STOVE

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The invention relates generally to liquid-fuel stoves and more particularly to stoves of this general character in which liquid fuel is delivered to the burners of the stove under pressure which is created in a supply tank by means of a pump.

It is a general object of this invention to provide a new and improved pump for creating pressure in the liquid-fuel supply tank which pump has a large capacity and is mounted relative to the stove so as to be easily and readily movable from a normal out-of-the-way position to an operative position.

A more specific object of the invention is to provide a pump for creating pressure in a liquid-fuel supply tank which is normally carried in an out-of-the-way position adjacent one of the legs of the stove and may be moved with ease and facility to an operative position in which such pump is supported during the pumping operation.

Other objects and advantages will become apparent from the following description and from the accompanying drawings in which:

Figure 1 is a perspective view of a liquid-fuel pressure stove embodying the invention.

Figs. 2 and 3 are front and side elevations of the pump supported in the normal out-of-the-way position thereof.

Figs. 4 and 5 are fragmentary elevational views of the pump in normal and operative positions respectively, the leg portion being shown therein in section to expose the means for supporting the pressure creating means in operative position.

Figs. 6 and 7 are detail sections taken along the lines 6—6 and 7—7 of Figs. 7 and 2 respectively.

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

I have chosen for the purpose of illustration, to show the invention embodied in a liquid fuel pressure cook stove which comprises generally a frame 10 mounted upon four legs 11, 11^a and supporting a plurality of open-flame burners generally designated as 12 and an oven and broiler compartment 13. A liquid-fuel pressure supply tank 14 of any generally well-known construction is mounted in an appropriate position on the frame of the stove and is shown in this embodiment as being mounted at one end of the frame.

The pump by which pressure is created and forced into the liquid-fuel supply tank 14 comprises an elongated barrel 15 within which a piston (not shown) is adapted to be reciprocated by a piston rod 16. An operating handle 17 preferably of a size to permit it to be grasped by both hands of the operator is secured to the outer end of the piston rod.

The pump 14 is adapted to be mounted in an out-of-the-way position along one leg 11^a of the stove when not in use, and a simple means is provided for pivotally supporting the pump in the inoperative position thereof, which means permits the pump to be swung into an operative position. In the present embodiment the leg 11^a on which the pump is mounted is preferably of cast metal and is provided near the lower end thereof with a pair of spaced outwardly projecting parallel lugs 18 and 19.

As may be seen in Figs. 2 and 6 the lower end of the pump is provided with an axially extending projection in the form of a boss 20 which is of a size to be received loosely between the lugs 18 and 19 on the leg. One side of the boss 20 has a substantially conical or rounded pin 21 (Fig. 7) formed thereon adapted to be received in a recess 22 formed in the adjacent lug 18. A screw threaded aperture 23 is formed in the opposite lug 19 to receive a set screw 24 which engages in an appropriate recess 25 formed axially of the pin 21 in the opposite side of the boss 20. When the pin 21 is positioned in the recess 22 in the lug 18 the set screw 24 may be screwed inwardly to engage the recess 25, in the boss to mount the lower end of the pump

on the stove leg for relative pivotal movement. Preferably a lock nut 26 is provided for maintaining the set screw 24 in position.

The air discharge port from the pump is in the present instance located in the bottom of the pump and connects with a substantially L-shaped passage-way 27 leading through the boss 20. The outer end of the passage-way is preferably positioned substantially upon the axial center of the pin 21 and is adapted to communicate with a second passage-way 28 formed in the flange 18 and extending from the recess 22 rearwardly therethrough. The second passage-way is connected to a tube 29 (Fig. 3) which leads to the liquid-fuel pressure supply tank. If a one way-way valve is not provided in the pump such a valve 30 of suitable construction may be interposed between the second passage-way 28 and the tube 29.

In this manner the pump is pivotally secured to the lower portion of one of the legs of the stove so that the pump can be swung outwardly from a vertical inoperative position. It will be apparent that in this construction a pump having a large air capacity may be employed inasmuch as the barrel may be substantially the length of one of the legs of the stove.

In order that the operator may if he so desires employ both hands in operating the pump, means preferably is provided to hold the pump rigidly in its operative position. This means, as shown in Figs. 4 and 5, comprises a split collar 31 secured about the upper portion of the pump. Between the ends of the split collar an elongated bar 32 is pivoted as at 33 which bar is adapted to be inserted in an appropriately positioned slot 34 in the leg of the stove. The lower edge of the bar near the pivotal point thereof slopes inwardly of the bar toward the pivotal point to permit the bar to swing downwardly along the inner side of the stove leg, as shown in Fig. 4, when the pump is in its inoperative position. A notch 35 is formed in the lower edge of the bar near the outer end thereof which notch engages the lower margin of the slot 34 as the pump is moved from its inoperative to its operative position. This engagement between the bar carried by the pump and the stove leg holds the pump at an operative angle thereto with sufficient rigidity to permit an operator to employ both hands in using the pump.

The operation of the device is simple. Considering that the pump is in its inoperative position and it is desired to increase the pressure in the pressure supply tank, the operator may by grasping the handle of the pump swing the upper end of the pump away from the leg of the stove until the notch 35 in the bar 32 engages the stove leg. This engagement holds the pump in operative position until the user has created the desired amount

of pressure in the pressure supply tank after which the bar is disengaged from the stove leg and the pump swung inwardly to its original position. In this position the bar swings downwardly by gravity and holds the pump against the stove leg until a positive outward pull moves the pump again to its operative position.

It will be apparent from the foregoing that a simple means has been provided for mounting a pump upon a stove in such manner that the pump may easily be moved from an out-of-the-way inoperative position to a locked operative position.

I claim as my invention:

1. A liquid fuel stove comprising, in combination, a frame, legs supporting said frame, a pressure tank carried by said frame, a pump of substantially the same length as one of said legs for creating pressure in said pressure tank, and means for pivotally securing said pump to one of said legs, said means comprising a pair of outwardly projecting lugs on one of said legs, an axially extending member on the lower end of said pump adapted to be received loosely between said lugs, and means for pivotally securing said member to said lugs.

2. A liquid fuel stove comprising, in combination, a frame, legs supporting said frame, a liquid-fuel pressure tank carried by said frame, a pump of substantially the same length as one of said legs for creating pressure in said pressure tank, means for mounting said pump on one of said legs to permit said pump to be moved from a remote out-of-the-way position to an operative position comprising a pivotal connection between the lower end of said pump and said stove leg, and means for limiting the outward swinging movement of the upper end of the pump.

3. In combination with a liquid-fuel stove having a liquid fuel pressure supply tank, a pump connected to said supply tank for creating pressure therein, means for pivotally securing the lower end of said pump to a lower portion of said stove so that said pump normally extends substantially upwardly along the lower portion of said stove, and means for limiting the outer swinging movement of the upper end of said pump.

4. In combination with a liquid fuel stove having a liquid fuel pressure supply tank, means for supporting said stove, a pump having an elongated barrel connected to said supply tank for creating pressure therein, and means pivotally securing said pump to a part of said supporting means arranged to permit the elongated barrel of said pump to extend along substantially the length of said supporting means.

5. A liquid fuel stove comprising, in combination, a frame, legs for supporting said frame, a liquid-fuel supply and pressure tank, and a pump connected to said supply tank

and pivotally mounted on one of the legs of said stove to permit swinging movement of said pump from an inoperative out-of-the-way position to an operative position.

5 6. A liquid fuel pressure stove comprising, in combination, a frame, legs for supporting said frame, a liquid-fuel supply tank, a pump connected to said supply tank, means pivotally mounting said pump on one of said legs, and means for limiting the swinging movement of said pump.

10 7. A liquid-fuel pressure stove comprising, in combination, a frame, legs for supporting said frame, a liquid-fuel supply tank, a pump connected to said supply tank, means pivotally mounting one end of said pump on one of said legs, and means for limiting the swinging movement of the other end of said pump.

15 8. A liquid-fuel pressure stove comprising, in combination, a frame supporting a liquid fuel pressure system, legs for supporting said frame, a pump for supplying pressure to said system, and means for mounting said pump on one of said legs, said means comprising a pair of outwardly projecting lugs, one of said lugs having a recess in the inner side thereof, a flange projecting axially from the lower end of said pump and adapted to fit between said lugs, a rounded projection on one side of said flange adapted to be received in said recess in said lug, and a set screw extending through the opposite one of said lugs into engagement with said flange substantially on the axial line of said projection on said flange and said recess in the other lug.

20 9. A liquid fuel stove comprising, in combination, a stove frame, legs for supporting said frame, a pump, means for securing said pump to one of the legs comprising a pair of spaced projections on said leg one of which has an air passageway extending there-through opening at one end toward the other of said projections, a part carried by said pump adapted to be received loosely between said projections on said leg, said pump having a discharge passageway therefrom passing through said part and arranged to communicate with the air passageway in said projection, and means providing a pivotal inter-engagement between said projections on the leg and said part of the pump positioned therebetween.

25 In testimony whereof, I have hereunto affixed my signature.

30 GEORGE E. PICKUP.