March 3, 1936. M. H. BRADEN 2,032,909

DEMOUNTABLE OIL BURNER MECHANISM

Filed Feb. 11, 1932

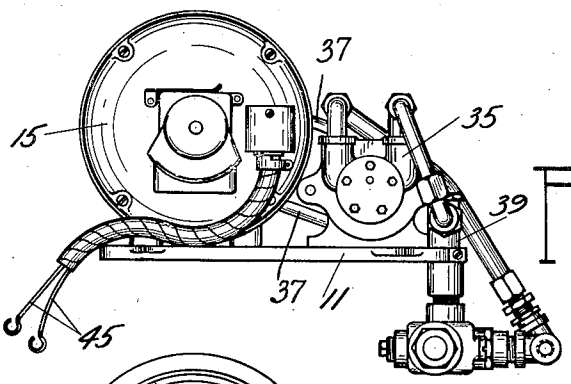


FIG-1

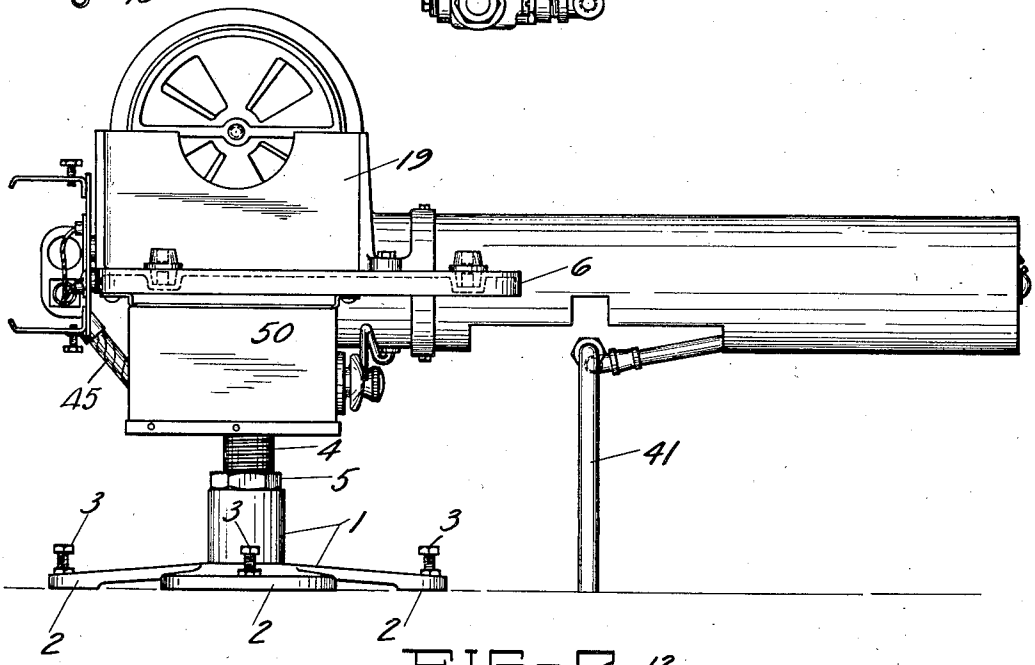


FIG-2

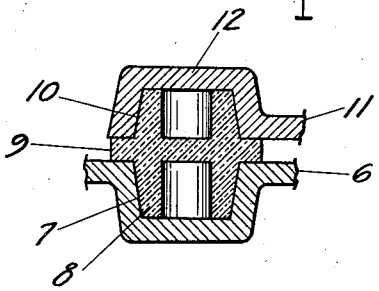


FIG-3

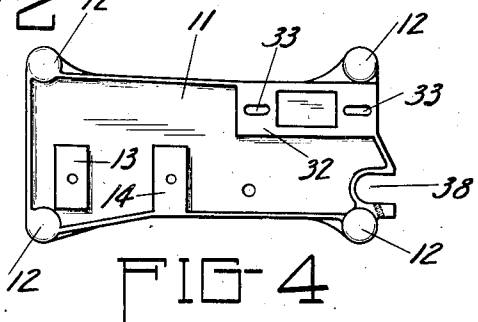


FIG-4

M. H. BRADEN INVENTOR.

BY

Merrill M. Blackburn.

ATTORNEY.

Patented Mar. 3, 1936 2,032,909

UNITED STATES PATENT OFFICE

2,032,909

DEMOUNTABLE OIL BURNER MECHANISM

Marshall H. Braden, Rock Island, Ill., assignor to Oil Burner Builders, Inc., Rock Island, Ill., a corporation of Illinois

Application February 11, 1932, Serial No. 592,282

2 Claims. (Cl. 248—22)

The present invention relates to oil burner units and more especially to heaters of the domestic type, though the invention is not limited thereto and may be applied to larger capacity heaters as will more fully appear hereinafter.

The primary purpose of the present invention is to provide means for reducing to a minimum the transmission of mechanical vibrations from the heater to the house as a whole; and such further objects, advantages and capabilities as will hereafter appear and as are inherent in the construction disclosed herein. My invention further resides in the combination, construction and arrangement of parts illustrated in the accompanying drawing and, while I have shown therein what is now considered the preferred embodiment of this invention, I desire the same to be understood as illustrative only and not to be interpreted in a limiting sense.

In the drawing annexed hereto and forming a part hereof,

Fig. 1 is a side elevation of the operative mechanism of a burner embodying my present invention;

Fig. 2 is a side elevation of the structure on which the mechanism of Fig. 1 is mounted;

Fig. 3 is a fragmentary sectional view to illustrate the means for preventing transmission of vibrations from the operating mechanism to the base;

Fig. 4 is a plan view of the secondary base upon which the movable elements are mounted and secured to be handled as a unit and removed from the main base or attached thereto.

Reference will now be made in greater detail to the annexed drawing for a more complete description of this invention. The supporting base 1 has a plurality of legs 2 through which extend leveling screws 3 by means of which the base may be levelled up when necessary. Into the upright sleeve-like portion of this base extends a screw threaded nipple 4 upon which is mounted a nut 5 whereby the nipple may be locked to the sleeve to hold the superstructure from rotation with relation to the base. Mounted upon and secured to the upper end of the nipple 4 is the main base plate 6 provided with a plurality of sockets 7 in which are mounted resilient supporting members 8 having a flat web 9 extending transversely of the sleeve portion whose exterior surface tapers in both directions away from the part 9. The second tapered end of this resilient support is received within a socket 10 in the under side of the auxiliary supporting plate 11, as shown in detail in Fig. 3. From Fig. 4 it will be seen that a plurality of enlargements 12 provide means within which the sockets 10 may be formed. These resilient supports 8 serve as the sole means for connecting the main and auxiliary bases 6 and 11. It will therefore be seen that vibrations of the operating mechanism cannot be transmitted to the main base 6 because the same will be absorbed in the resilient means.

Reference will now be made more particularly to Fig. 1 showing the auxiliary plate 11 and the operative mechanisms mounted thereon. A pair of bosses, which are referred to as pads, are shown at 13 and 14 in Fig. 4. These have perforations for the reception of bolts whereby the motor 15 may be positioned and held rigidly upon the auxiliary plate 11. A housing 19 is secured to or forms a part of the main base 6 and receives and encases the fan. This housing has a removable top which may be secured in place in any suitable manner.

A boss 32 is formed on the upper side of plate 11 and has a pair of elongated openings 33 therein through which pass bolts by means of which the oil pump 35 is secured to the auxiliary base. Upon the shaft of this oil pump 35 is secured a pulley over which passes a belt 37. If the belt 37 should stretch so as to become unduly loose, the bolts may be loosened somewhat, thus making it possible to slide the pump with relation to the base 11 and cause tightening of the belt.

A slot 38 is formed in the end of plate 11 and permits longitudinal movement of pipe 39 with relation to the plate when adjusting the pump 35 with relation to the motor. This avoids the necessity of loosening several joints and substituting pieces of pipe of different lengths. A slot in the main plate 6 is aligned with the slot 38 and the pipe 39 therefore passes through both of these slots. If it is desired to remove the operating parts from the main base plate for the substitution of another unit, it is only necessary to disconnect the fuel feed line 41, the nozzle connection and the current conducting wires 45 from the binding posts in the switch box at the rear of the machine. Except for the removal of the fan guard and cover, the auxiliary base 11 and the operating parts carried thereby are now ready to be lifted from the main base plate. When the fan guard and cover are removed, the motor 15, plate 11, fan, pump 35 and filter may be lifted bodily from the main base plate 6 and moved forwardly to disengage pipe 39 from the slot in the main plate 6. This burner unit may now be removed and carried to a bench where needed repairs can be made. If the unit must be carried to the shop

or removed elsewhere from the premises, a supply unit may be put in its place, the entire operation requiring but a few minutes. After the needed repairs are made, the unit may be brought back and substituted for the unit which took its place while it was out of service.

The induction coil box **50** is also carried by the main base plate **6** and remains with same when the removable burner mechanism is removed therefrom. Openings in plate **6** and in plate **11** permit the insertion of a bolt whereby these parts may be secured together when the burner is to be shipped as a unit. However, when the machine is installed, this bolt should be removed in order to leave no metallic connection through which vibrations might pass from the auxiliary plate to the main plate, and from this to the piping connected to the oil tank and other metallic structures connected with the burner.

It is of course understood that the specific description of structure set forth above may be departed from without departing from the spirit of my invention as set forth in this specification and the appended claims.

Having now described my invention, I claim:

1. Means for resiliently mounting a machine base on a support, said base and support having oppositely disposed frusto-conical recesses therein, said means comprising a central solid body portion of resilient material having oppositely extending cup-like tapered projections carried by said body portion and adapted to engage respective recesses of the base and the support, the solid body portion adapted to limit vertical movement within a narrow range and the cup-like projections providing for a greater degree of horizontal movement between said base and said support.

2. The combination with two members to be connected, of a full floating mounting or connector therefor comprising a block of elastic material for insertion between said members, said block and members having interengaging seats and projections, one of which is laterally yieldable to compensate for inaccuracy in molding of the cooperating element to be engaged therewith, said block constituting the sole connecting means between said two members, said projections being hollow and tapered to approximately fit the cooperating surfaces of the connected members, the lack of fixed connection between said members rendering it possible to quickly remove the supported member from the supporting member and as quickly substitute another member in its place.

MARSHALL H. BRADEN.