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W. BARO

2,180,190

HEAT SAVER

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Fig. 1.

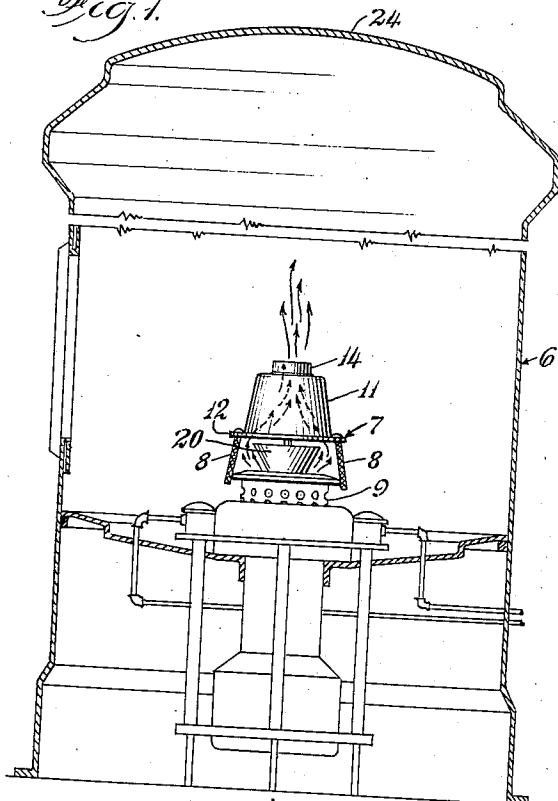


Fig. 4.

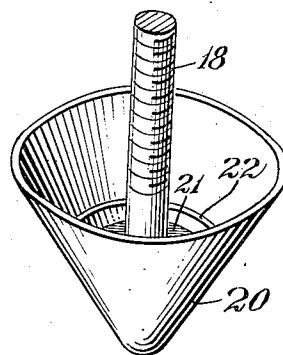


Fig. 3.

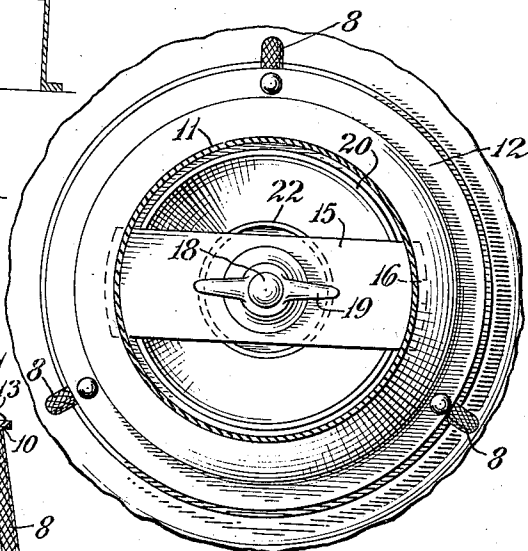
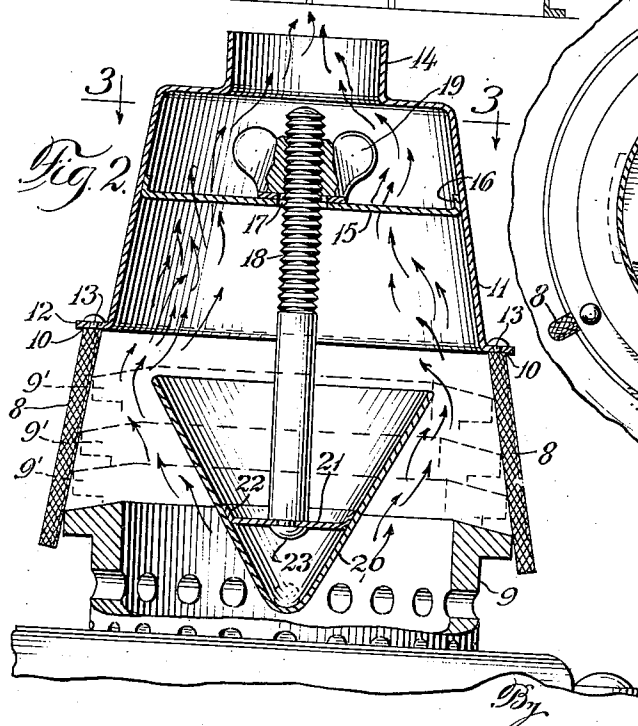


Fig. 2.



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HEAT SAVER

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3 Claims. (Cl. 110—97)

This invention relates to a new and useful improvement in a heat saver in the form of a simple attachment which can be easily installed in oil heaters especially those known as the "pot-type" of burner.

A primary object of the invention is the provision of a device which confines the flame thereby retaining the heat waves so as to produce a maximum of heat efficiency.

Another object of the invention is the provision of a device or attachment which can be easily and speedily secured to a "pot-type" oil burner, without it being essential to drill holes or doing machining of any kind, and without making any alteration to the oil burner as originally manufactured.

Another object of this invention is the provision of a structure which makes for greater heating efficiency, at the same time effecting an economy in fuel consumption.

Another object of the invention at bar is the provision of a simple, durable, practical, useful, and efficient attachment for the purpose described, and which is economical to manufacture.

Other objects will appear hereinafter, from the description and claims of the combination of parts illustrated.

The invention will be best comprehended, by reference to the accompanying drawing, wherein like numerals represent like parts, and in which:

Fig. 1 is a central longitudinal cross-sectional view of an oil burner, with my invention attached, my invention not being sectioned.

Fig. 2 is a longitudinal cross-sectional view of my invention, attached to the pot of an oil burner.

Fig. 3 is a transversal cross-sectional view of my invention taken on the line 3—3 of Fig. 2.

Fig. 4 is an isometric view of the adjustable control element comprising an essential part of my invention.

In the drawing at Fig. 1 the numeral 6 designates a "pot-type" oil burner, which is the type of burner with which my invention is primarily concerned. The invention is generally designated by the numeral 7.

Referring to Fig. 2 the details of construction are more elaborately illustrated. My invention is constructed of three rods 8 which are preferably made of cold rolled steel and are knurled over their entire length enabling them to grip substantially around the outer diameter of the pot of an oil burner such as shown and num-

bered 9. It will be noted that these rods have a shoulder 10 which permits of their being peened or riveted to member 11. The shoulder 10 is cut at an angle so that when the rods are riveted they extend outwardly at a slight angle enabling them to attach themselves to pots of different diameters, as shown in the drawing by the suggestive dotted drawing 9'.

The member 11 is preferably circular and constructed along conical lines, having at its bottom a flange 12 having holes 13 for securely attaching the members 8. This circular hood 11 has a reduced chimney portion 14 at the top and also a strap of sheet metal 15 attached to its inner space by spot welding the bent portions 16 to the walls of the inside of member 11. This strap 15 has a clearance hole 17 to enable screw member 18 to pass easily therethrough.

The screw member 18 is threaded for approximately one half of its length and is engaged by a wing-nut member 19 for adjustment of the cone shaped member 20. The cone-shaped member 20 is made preferably of sheet steel or any other suitable material and has attached to its inner surface about one-third the distance from its apex a flange member 21 which is spot-welded or otherwise secured to the inner walls of the cone-shaped member 20, heretofore mentioned, by virtue of a bent lip 22, the flange member 21 also being riveted at 23 to the screw member 18.

Figure 4 is an isometric view representing more clearly the assembly of the flange 21, the screw 18 and the cone 20.

In operation the oil burners without my invention seem to diffuse the flame and the incidental heat waves in haphazard fashion, since there is nothing provided to confine the flame nor the aforementioned heat waves and hence considerable of the heat is dissipated; whereas by the use of my invention simply and instantly attached to the pot of an oil burner, the flame is confined to a path thru the deflection of the flame made possible by the cone member 20 and the path-way of the member 11 which has a flue-like construction 14 tending to draw the flame upwardly toward the top of the burner 24 heating the same. The component parts of my invention also become heated, and the added heating provides more radiating surface. This feature, I maintain, is really what I believe conserves the heat waves, and is directly attributable to the incidental conservation of heat. It is also my contention and experiments have shown me that I can operate an oil burner

with my invention attached using a lower burning flames with the result, that more heating efficiency, and a more economical consumption of fuel is effected.

5 It might be well to mention here also that the wing-nut member 19 is used for adjusting the cone-shaped member upwardly or downwardly when at first attaching my invention to an oil burner. The adjustment of the cone permits a more uniform control of the flame and its path within the confines of my invention to enable it to produce the most desirable results.

10 While I have illustrated and described the preferred form of my invention, I do not wish to limit myself to the precise details of structure shown, but desire to avail myself of such variations and modifications as may come within the scope of the appended claims.

15 Having thus described my invention what I claim as new and desire to secure by Letters Patent is:

20 1. A device of the character described adapted for use with an oil burner, comprising a chimney-like member made of sheet metal having a reduced neck portion and a flange portion, and provided with at least three knurled rods extending outwardly from their respective points of attachment to said chimney-like member and adapted to encompass oil burner pots of varied diameters, an inverted cone-shaped member and screw and wing nut members, adjustably securing said cone-shaped member to said chimney-like member, providing relative longitudinal adjustment of said cone-shaped member between the top surface of the pot of an oil burner and the reduced neck portion of the said chimney-like member.

25 2. A device of the character described adapted for use with an oil burner, comprising a chimney-like member made of sheet metal having a reduced neck portion at its top and a flange portion at its bottom, at least three knurled rods each having a reduced shoulder portion at the top, said shoulder portion cut at an angle to the axis of said rods and adapted to encompass oil burner pots of varied diameters, said

rods riveted to the flange portion of said chimney-like member, said chimney-like member also provided with a strap member attached to the inner walls of the base of said chimney-like member and having a clearance hole at its central portion, an inverted cone-shaped member provided with a flange member attached to its inner surface, and screw and wing nut members attached to the flange member of said inverted cone-shaped member and cooperating with the strap member of said chimney-like member in order to provide relative longitudinal adjustment of said cone-shaped member with respect to the top surface of the pot of an oil burner and the reduced neck portion of the said chimney-like member.

30 3. An oil burner comprising a suitable body provided with a fire pot attached to its base and suitable fuel feeding means adapted to feed the fuel to the fire pot of said oil burner, a removably and adjustably attachable heat saver comprising, a chimney-like member made of sheet metal having a reduced neck portion at its top and a flange portion at its bottom, at least three knurled rods each having a reduced shoulder portion at the top, said shoulder portion cut at an angle to the axis of said rods and adapted to encompass oil burner pots of varied diameters, said rods riveted to the flange portion of said chimney-like member, said chimney-like member also provided with a strap member attached to the inner walls of the base of said chimney-like member and having a clearance hole at its central portion, an inverted cone-shaped member provided with a flange member attached to its inner surface, and screw and wing nut members attached to the flange member of said inverted cone-shaped member and cooperating with the strap member of said chimney-like member in order to provide relative longitudinal adjustment of said cone-shaped member with respect to the top surface of the pot of an oil burner and the reduced neck portion of the said chimney-like member substantially as shown and described.

45 WILLIAM BARO.