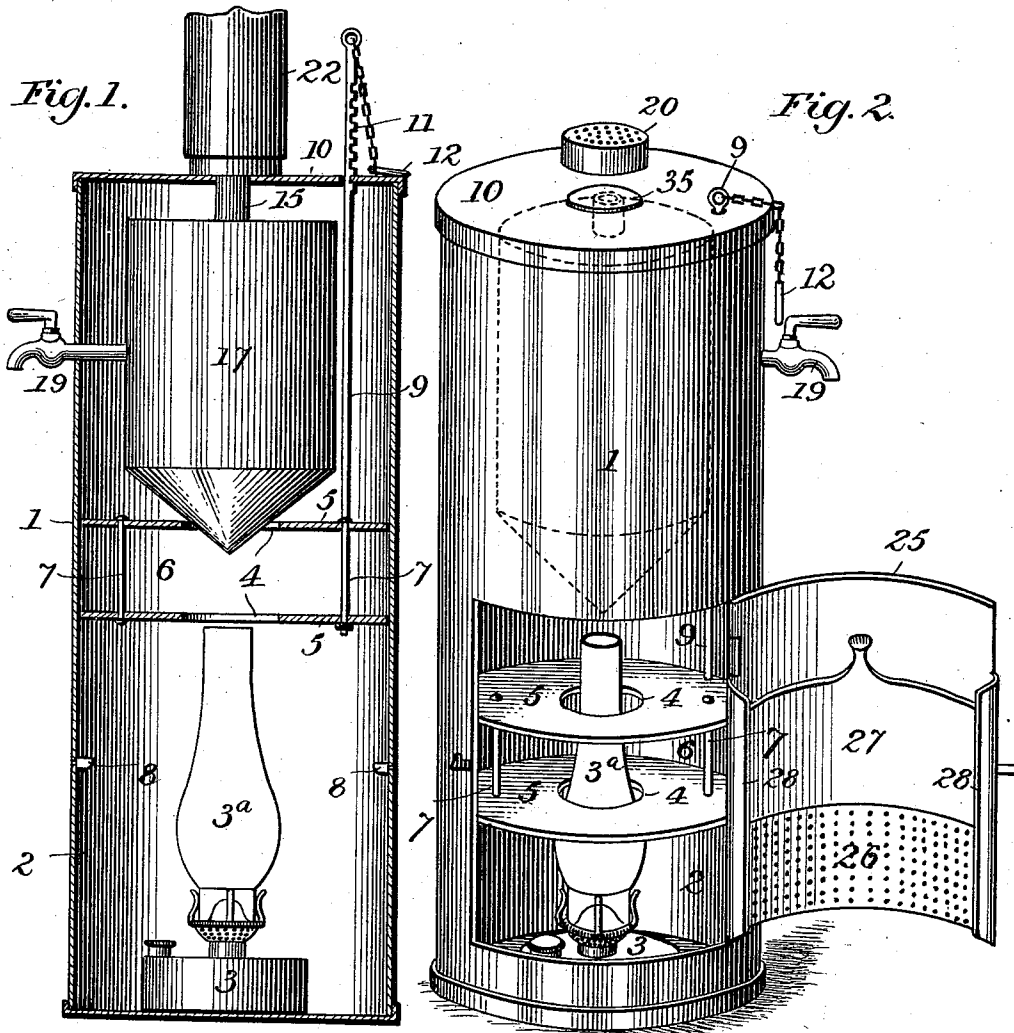


(No Model.)

P. JACOB.
LAMP STOVE.

No. 540,740.

Patented June 11, 1895.



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UNITED STATES PATENT OFFICE.

PETER JACOB, OF WALL, PENNSYLVANIA.

LAMP-STOVE.

SPECIFICATION forming part of Letters Patent No. 540,740, dated June 11, 1895.

Application filed December 20, 1894. Serial No. 532,463. (No model.)

To all whom it may concern:

Be it known that I, PETER JACOB, a citizen of the United States, residing at Wall, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Lamp-Stoves, of which the following is a specification.

This invention relates to certain new and useful improvements in lamp stoves or heaters, and it consists substantially in such features of construction, arrangement, and combinations of parts as will hereinafter be more particularly described.

A great many forms of lamp stoves or heaters have been heretofore devised for the purpose of the boiling of water, as well as the heating of apartments by the employment of a lamp situated or located within a casing or outer shell, in the upper portion of the latter of which the vessel for containing the water has been placed. Some of the former devices referred to have proven more or less successful for the purposes for which they were intended, but generally speaking, such forms are usually expensive to manufacture as well as being of a somewhat complicated nature. With other forms wherein simplicity of construction was the object they have in a great many instances proven entirely ineffective in carrying out the purposes expected to be derived from them. In still further instances of former construction, certain disadvantages have existed both in the construction of the stove as well as with the operation thereof in practice. The object of the present invention is to provide a lamp stove wherein the lamp is capable of ready insertion and removal from the chamber of the stove at the bottom thereof, and also to provide means for preventing displacement of the lamp chimney either while the lamp is in use within the stove or during the time of shipment or transportation of the stove.

A still further object of the invention is to provide for the warming of the incoming air which supports combustion, so that there will not be that tendency to the cooling of the within contained boiler which would be the case if the incoming air was permitted to pass directly around the sides of the boiler in a fresh or cool condition.

The invention has such other objects in

view as will hereinafter more fully appear when taken in connection with the accompanying drawings, in which—

Figure 1 represents a vertical central sectional view, in part elevation, of a lamp-stove embodying the several features of my improvements, the warming and deflecting plates for the incoming air being shown in an elevated or raised position; and Fig. 2 represents a perspective view of my improved lamp-stove, wherein the warming and deflecting plates are shown in their lowered or operative position, the boiler being shown in dotted lines and the door of the lamp-chamber being shown in an open position.

In carrying my invention into effect, I provide an outer shell or casing 1 of any suitable metal, and of any preferred or desired height or dimensions. The said outer casing or shell is formed with a suitable bottom chamber 2 in which the lamp 3 is placed for the purpose of heating the stove, such lamp being of any ordinary well known construction, and being also capable of removal from the chamber whenever it is desired to replenish its reservoir or insert a new wick, or in fact for whatever purpose desired. The said lamp is provided with a chimney 3^a which is preferably made of thin asbestos, but which of course could be made of glass or any other suitable material. Said chimney extends up for about one-half the height of the stove, and passes through central openings, 4, 4, formed in the warming and deflecting plates 5, 5, such openings being large enough to permit a sufficient flow of air to pass upwardly and around the boiler. In some instances, I might only use a single warming and deflecting plate 5, but preferably in order to retard the passage of the incoming air, I employ two of such plates separated a sufficient distance apart to leave a chamber 6, between them, and the two being joined together by suitable rods 7, 7, the number of which may vary accordingly as may be required. The said warming and deflecting plates are supported in their lowered position within the stove by means of lugs 8 projecting inwardly from the sides of the stove, and upon which the lower one of said plates rests. Connecting with the uppermost plate 5 is a vertical rod 9 which extends upwardly within the space between the boiler and casing and

projects through the top or cover 10 of said casing. For a suitable distance from its upper end the said vertical rod 9 is serrated or notched at 11, and these notches are engaged by the edge of the opening in the top through which said rod passes, whenever the rod is lifted by its handle 12 in order to elevate the warming and deflecting plates to the position shown in Fig. 1, and thus will said plates be held in such position, and the lamp can then be readily removed from the bottom chamber of the stove.

The top or lid 10 of the stove has a central opening through which passes a short tube 15, the upper end of which tube is secured in said central opening either by a screw thread, or else the tube may be brazed or soldered to the lid or cover in any suitable manner. The lower end of said tube 15 is similarly fastened or secured in the top of the boiler 17, which, as will be seen, is cone-shaped at the bottom so as to deflect the products of combustion around the sides of the boiler to obtain the greatest amount of heat therefrom as well as a better circulation. Said top or lid 10 of the stove is removable, and it will thus be seen that whenever the same is lifted from the stove, the boiler will be lifted therewith and thus removed, it being of course first necessary that the cock or faucet 19 projecting from the boiler through the stove be unfastened or disconnected; also in the said top or lid is a suitable opening (not shown) covered over by a cap 20 having in the upper surface thereof a number or series of perforations. This cap receives the lower end of the pipe or flue 22 up through which the products of combustion pass, and through which also all unpleasant odors are conducted away from the interior of the stove.

Within the boiler, I may either place water to be heated, or I may place therein any suitable substance for retaining heat, such for instance as sand, and then by continued burning of the lamp beneath, both the boiler and casing will give off large amounts of heat by radiation.

The door 25 which closes the lamp chamber is provided with a number or series of perforations 26 for the ingress of air, and this door may if desired be provided with a suitable slide 27 arranged on the inside and working in suitable guides 28, the said slide when lowered covering the perforations completely to shut off the air, or when raised to permit the air to flow or pass in. By this slide it will be seen that the amount of air fed to the lamp can be regulated at will by simply raising or lowering the slide to the desired height or degree. The guides for said slide are of sufficient elasticity to hold the same to whatever position it may be adjusted.

From the above it will be seen that the boiler is surrounded all around and both at its top and bottom with an uninterrupted space or chamber through which the products of combustion pass upwardly, and in this way

every inch of surface of said boiler is subjected to heat.

It is evident from the above description that I am not limited to the precise details of construction herein shown, since immaterial changes therein could be resorted to without departing from the spirit or scope of my invention. As an instance thereof, the lower end of the boiler need not be in the shape of an inverted cone, but could be flat; and still further, the devices which I have shown for raising and lowering the warming and deflecting plates could be altered in several immaterial particulars.

It will be observed that when the lamp has been properly placed within the stove and the plates 5, 5, lowered down into position, by lighting the lamp, and then closing the door of the stove, the heating up of the latter will begin. At first, the operation will be slow to some extent, but in a very short time the whole interior of the shell or casing will become heated, as well also as the outer sides of the boiler, and as a consequence the contents of the boiler are also heated. If the incoming air through the perforations of the door was allowed to pass in and directly upon the sides of the boiler the tendency would then be for the air to partially counteract the heating effect of the products of combustion even though the combustion was of course, supported by the air. Therefore, in order that the air may be slightly warmed before it reaches the sides of the boiler, I employ the warming and deflecting plates hereinbefore referred to, which plates while not receiving as much heat from an asbestos chimney as they would receive from a glass chimney, are still heated to a certain extent both by radiation, as well as conductivity by contact with the sides of the casing or shell. The effect of this is to warm the incoming air in the manner explained, and as will be obvious. By having two of these plates 5, 5, the incoming air will first strike the under side of the lowermost plate and be deflected or spread throughout the lamp chamber, then it will pass up through the central opening 4 of said plate, and be again deflected by the uppermost plate in the same manner, and then it will pass up through the central opening of this latter plate and circulate through the chambers surrounding the boiler. Thus, it will be seen that the air which supports combustion is not only warmed slightly when it first enters the stove, but the progress thereof is retarded in such manner and to such an extent as to derive the most beneficial results therefrom.

In order to close the upper open end of the tube 15 during the operation of heating water or at other times, I provide a suitable lid or cover 35, which may either be in the form of a flat lid or else and preferably so, it is formed as of the ordinary urns which are frequently employed to surmount the top of stoves for the purposes of ornamentation.

It will be understood of course that the short tube 15, is the filling tube by which water or other substances are poured into the boiler, and as the water is heated it may be drawn off from time to time through the cock or faucet hereinbefore referred to and shown. It will also be understood that instead of making my improved stoves and deflecting plates round in shape, I could make them square, hexagonal, or of any other preferred shape.

Without limiting myself to the precise details herein shown and described, I claim—

1. A stove or heater comprising an outer shell, a vessel supported within the shell, a lamp, warming plates having central openings for the passage of air and through which the lamp chimney projects, and means for raising and lowering said plates, substantially as shown and for the purpose described.

2. A lamp stove comprising an outer shell or casing, a boiler supported therein with a continuous intervening space between the two, a lamp located beneath the boiler, vertically movable warming and deflecting plates provided with central openings surrounding the chimney of the lamp and supported by lugs projecting from the casing, air inlets, and means for raising or elevating said warming and deflecting plates to enable the lamp to be removed, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

PETER JACOB.

Witnesses:

GEORGE S. BRANT,
JOHN LUCHSINGER.