

(No Model.)

2 Sheets—Sheet 1.

F. RHIND.
LAMP BURNER.

No. 497,605.

Patented May 16, 1893.

Fig. 1.

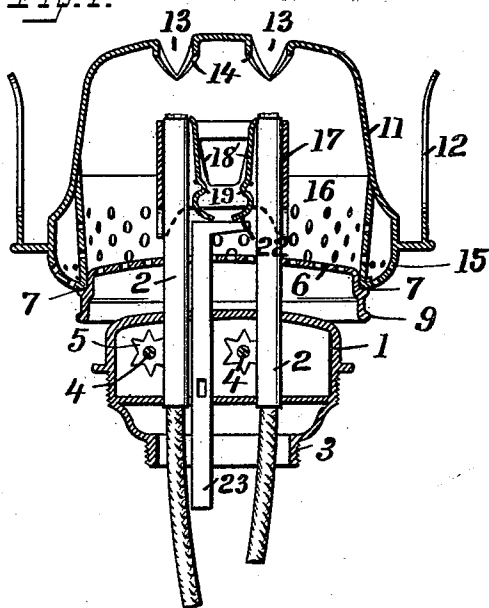


Fig. 2.

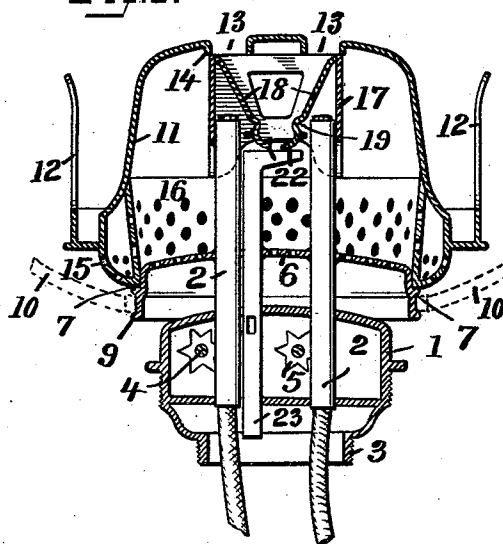


Fig. 3.

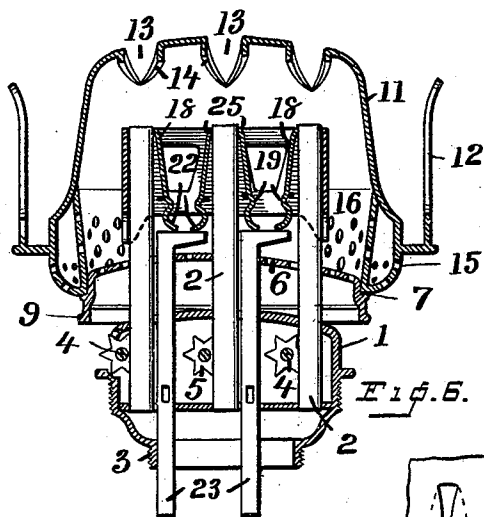


Fig. 4.

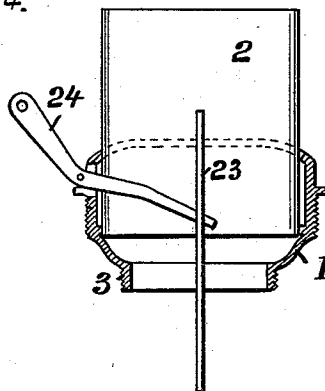
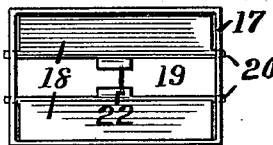
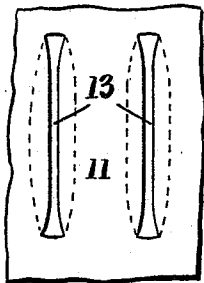


Fig. 5.



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2 Sheets—Sheet 2.

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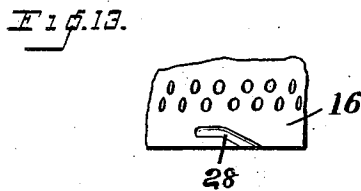
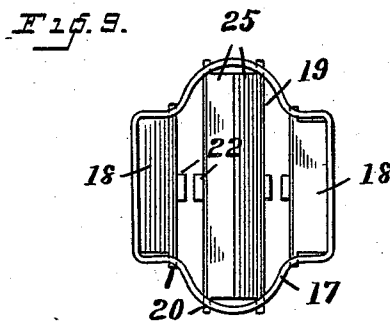
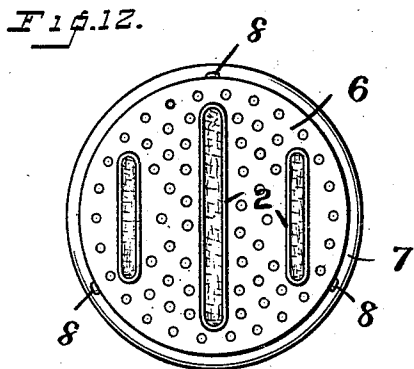
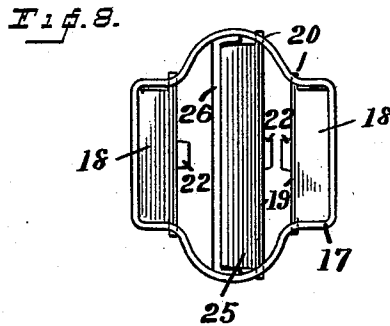
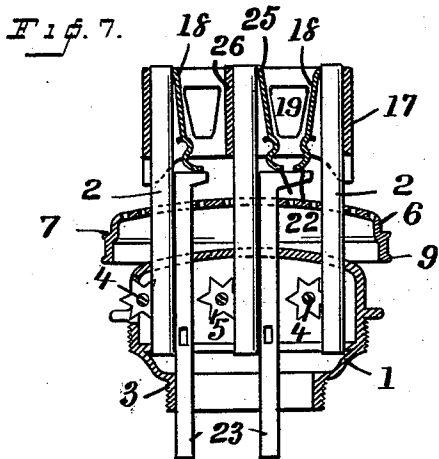
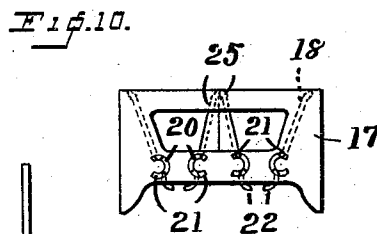
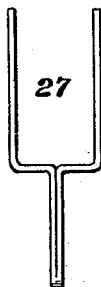


Fig. 11.



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UNITED STATES PATENT OFFICE.

FRANK RHIND, OF MERIDEN, ASSIGNOR TO THE BRIDGEPORT BRASS COMPANY, OF BRIDGEPORT, CONNECTICUT.

LAMP-BURNER.

SPECIFICATION forming part of Letters Patent No. 497,605, dated May 16, 1893.

Application filed April 28, 1892. Serial No. 430,993. (No model.) Patented in Belgium May 16, 1892, No. 99,482.

To all whom it may concern:

Be it known that I, FRANK RHIND, a citizen of the United States, residing at Meriden, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Lamp-Burners, (for which I have received Belgian Letters Patent No. 99,482, dated May 16, 1892); and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to certain novel and useful improvements in lamp burners and has for its objects, first, to provide a burner of novel construction; second, to provide an improved form of extinguisher which shall be readily removable from and replaceable upon the wick tubes; and third, to improve upon the construction of the deflector so that its strength and stiffness will be enhanced, and perfectly smooth edges formed upon the flame slots; and with these ends in view my invention consists and resides in the several constructions and combinations of elements hereinafter to be fully explained and then recited in the claims.

In order that those skilled in the art to which my invention appertains may fully understand its construction and method of operation, I will describe the same in detail, reference being had to the accompanying drawings which form a part of this specification, and in which—

Figure 1, is a vertical section through a lamp burner constructed in accordance with my invention, the extinguisher being shown in its normal position. Fig. 2, is a similar view with the extinguisher raised. Fig. 3, is a similar section, but showing a triplex burner, the parts being in the same position as those shown at Fig. 1. Fig. 4, is a detail section at right angles to the previous figures, showing the lift and its operating lever. Fig. 5, is a detail plan view of the duplex extinguisher removed from the lamp. Fig. 6, shows in plan view a section of metal adapted to form the deflector, the flame slots being cut but not bent. Fig. 7, shows in section a slight modification of the triplex extinguisher. Figs. 8 and 9, show in plan view and detached the

forms of triplex extinguisher shown respectively in Figs. 7 and 3. Fig. 10, is a detail end elevation of Fig. 9. Fig. 11, is a detail plan view of the lifting lever for the triplex extinguisher. Fig. 12, is a detail plan view showing the means of attachment between the top portion of the burner and the air distributor. Fig. 13, shows in detail elevation one of the slots adapted to operate as shown at Fig. 12.

The same numerals denote the same parts in each of the figures.

1 denotes the burner base through which extend the wick tubes 2 and which at its lower end is provided with screw threads 3 for its attachment to the lamp collar. In this base are journaled shafts or spindles 4 upon which are mounted the serrated wick-lifting wheels 5 whose peripheries engage and operate the wicks through slots in the wick tubes.

6 is a perforated distributor in the form of a plate or cap which may be supported above the burner base upon legs or pillars, but which may equally as well, as is shown, be secured upon the wick tubes themselves. This distributor is provided with an annular bead 7 above which, as appears at Fig. 12, are locking studs 8 of any required number. Below the bead 7 and on the extreme edge of the part is a second bead 9, the space between these beads forming a seat for a shade-holder 10, a small portion of which is shown at Fig. 2.

11 is the deflector or flame dome and upon this is supported the annular chimney gallery 12. The flame slots in this dome I prefer to make by cutting openings in the metal of the general shape shown at 13, Fig. 6, and then bending the edges of these openings downward at right angles, as for instance by a force-punch, so that they form depending lips 14, as is particularly shown at Figs. 1 and 3. The presence of these lips insures a flame slot with a perfectly smooth edge and they greatly stiffen the deflector; and it may therefore be made of very thin metal without unnecessarily reducing its rigidity. Below the chimney gallery are formed air inlet perforations 15 and inside the deflector is a circular vertical distributor 16 for the equalization of the draft entering through the holes 15.

17 is a square sleeve or housing shown in

plan view at Fig. 5 and in section at Figs. 1 and 2. This sleeve surrounds the wick tubes and is free to slide vertically thereon and may be removed therefrom entirely by simply lifting it off, thereby permitting the wick tubes and the extinguisher itself to be readily cleaned, or if the extinguisher becomes broken a new one may be substituted in a moment. In this sleeve is journaled a pair of extinguishing wings or blades 18. Each of these blades is provided with longitudinal stiffening ribs 19 and at each end is a bearing 20 whose shape is that of a segment of a circle. These bearings project through and are held in slots 21 formed in the ends of the sleeve, said slots being curved and of the same radius as the bearings, but slightly longer, whereby the blades may have a free swinging movement, but no lateral movement or free sidewise play. Each of the wings is also provided with a curved and downwardly extended tail 22. These tails are quite close together, as shown at Figs. 1 and 2, and immediately beneath them is a lift 23 whose upper face engages both tails and whose shank in its turn is engaged by means of a lever 24 journaled in the burner base, in which last named part the lift 23 has a bearing and is adapted to slide vertically.

The extinguisher for the triplex burner is similar to that for the duplex in all essential particulars, but I make it in two ways. As shown at Figs. 3 and 9, the sleeve has journaled therein wings 18 which operate upon the outside wicks, and another pair of co-operating wings 25 similar in all respects to the wings 18 and adapted to operate upon the central wick tube. As a variation upon this I sometimes use only one central wing 25, arranging it to operate against the edge of a cross brace or bar 26 in the same manner as the wings 18 operate against the edges of the sleeve. This is shown at Figs. 7 and 8. In the triplex burner I use two lifters 23 whose operation is in no wise changed, and I actuate these by means of a bifurcated lever 27 shown in detail at Fig. 11. In fastening the removable part of the burner, namely the deflector and its attached parts, upon the distributor 6, I use in connection with the studs 8 shown at Fig. 12, a novel form of locking slot 28. The lower end of this slot is oblique and when it comes in contact with the stud and the movable part is rotated slightly it rides downward upon the stud until the latter enters the horizontal portion of the slot which constitutes its upper end.

In the operation of my invention when the lift 23 is raised by means of the lever it carries upward with it the sleeve 17 and the parts thereunto attached until the top of the sleeve comes in contact with the under side of the deflector, thereby limiting its upward movement. The continued pressure of the lifter upon the wings then rocks them upon their bearings, throwing them outward against

the sides of the sleeve, as appears at Fig. 2, thereby extinguishing the lights from both wicks. Upon the release of the lever 24 the lifter and the frame fall back by gravity from the position shown at Fig. 2 to that shown at Fig. 1, the wings being swung backward to their normal position by their sliding contact with the surfaces of the wick tubes. The operation of the triplex extinguisher is precisely the same, and it is capable of immediate removal for purposes of cleaning, repair and the like. By mounting the distributor cap above and clear of the burner base I find that the air circulation about the tubes is very perfect and keeps said tubes cool, which is decidedly advantageous.

It will be observed that I do not make use of any spring or similar device for the movement of the wings, this being accomplished by the upward movement of the lifter, and this is one of the important features of my invention inasmuch as the parts will all return by gravity to their original positions when the lever 24 is released. Furthermore it will be observed that there is no connection between any of the parts forming the extinguisher and the lifter so that the sleeve and all the pieces connected therewith may be at any time removed. When the flame dome with its attached parts is lifted and the extinguisher removed the top of the distributor cap is exposed and may be cleaned with great facility, as may also the wick tubes, and the top of the burner base is also easily accessible, so that there remains absolutely no crevice or pocket in which dirt may accumulate.

I claim—

1. The combination with the burner base and the wick tubes therein, of the perforated distributor cap supported around the tubes and above the burner base, leaving an open free space between them, the deflector, a seat for said deflector formed around the distributor cap, a seat for a shade holder formed on the distributor cap below the deflector seat and a locking device for holding the deflector in place upon the distributor.

2. In a lamp, the burner base having mounted therein a wick tube, in combination with the distributor cap supported around the wick tubes, and provided with the beads 7 and 9 whereby is formed a seat for the burner and an annular seat for the shade holder, the deflector provided with a chimney gallery and adapted to seat upon the bead 7, the whole arranged and adapted to operate substantially as described.

3. The combination with two or more wick tubes, of a surrounding sleeve having free vertical movement upon said wick tubes, and removable therefrom, a pair of wings journaled in the ends of said sleeve and provided with downwardly and inwardly projecting tails, and a lifter provided with an outwardly extended operating lever and arranged be-

neath and engaging said tails, but entirely disconnected therefrom, the whole arranged substantially as described.

4. The combination with the vertically movable sleeve adapted to surround the wick tubes and provided at its ends with segmental slots, of the wings having segmental journals at their ends and engaging said slots, substantially as and for the purpose set forth.

5. The combination with the wick tubes of

the sleeve, the hinged extinguisher wings, the lifters arranged beneath said wings and the bifurcated lever for actuating the lifters, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK RHIND.

Witnesses:

S. H. HUBBARD,

M. C. HINCHCLIFFE.