S. R. WILMOT.

LAMP BURNER.

No. 108,078. Patented Oct. 4, 1870.

Fig. 1.

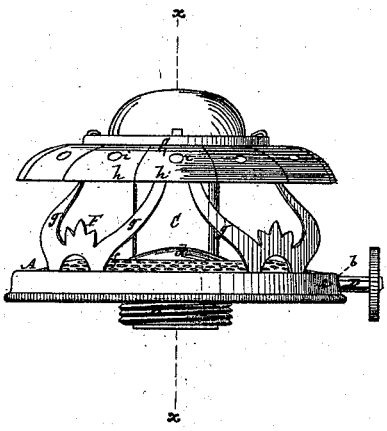

Fig. 2.

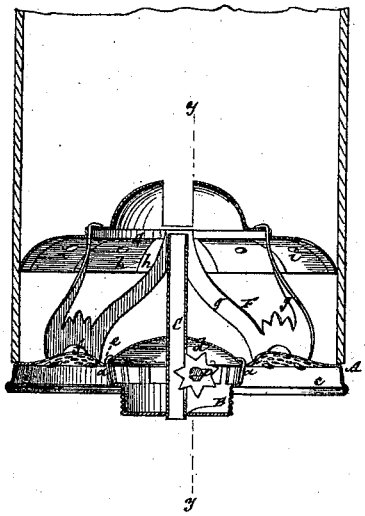

Fig. 3.

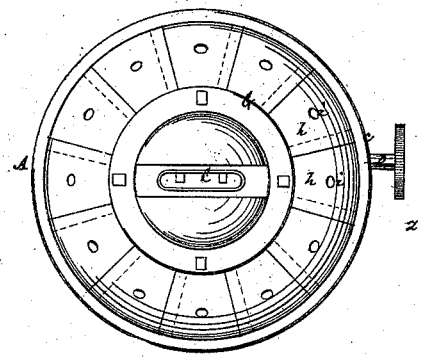

Fig. 4.

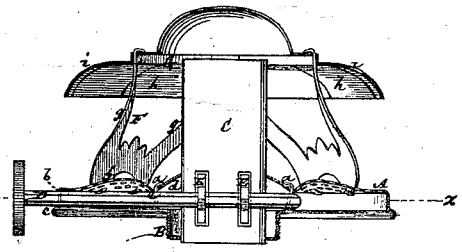

Fig. 7.

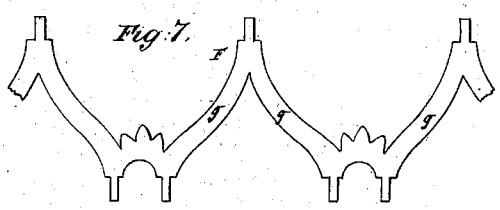

Fig. 6.

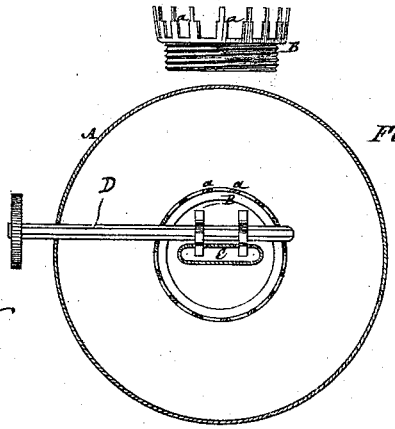

Fig. 5.

Witnesses:

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UNITED STATES PATENT OFFICE.

SAMUEL R. WILMOT, OF BRIDGEPORT, CONNECTICUT.

IMPROVEMENT IN LAMP-BURNERS.

Specification forming part of Letters Patent No. **108,078**, dated October 4, 1870.

To all whom it may concern:

Be it known that I, SAMUEL R. WILMOT, of Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Lamp-Burners, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, and in which—

Figure 1 represents a side view of a lamp-burner constructed in accordance with my invention; Fig. 2, a vertical section of the same, taken as indicated by the line *x x* in Fig. 1, with a chimney, shown only in part, applied thereto; Fig. 3, a plan of said burner; Fig. 4, a vertical section thereof, taken as indicated by the line *y y* in Fig. 2; Fig. 5, a horizontal section through the line *z z* in Fig. 4; Fig. 6, a side view of the screw-bottom, before the same is attached to the case of the burner; and Fig. 7, a view of the railing, in part, before the same is bent and fitted to its place in or on the burner of which it forms a part.

Similar letters of reference indicate corresponding parts.

This invention consists, first, in a novel construction of the railing which supports the deflector from sheet metal, whereby great strength and stability are obtained, and stock and labor are saved in its construction.

It consists, secondly, in the construction and arrangement of the slits provided in the edges of the deflector, to allow its contraction and expansion to fit chimneys of different sizes, in such manner that their edges lap each other and keep the said slits closed under the various degrees of expansion or contraction to which the deflector is subject.

Referring to the accompanying drawings, A represents the base of the burner, and B the screw-bottom, which latter is made with a series of points or prongs, *a*, (see Fig. 6,) for attachment of it to the base, as shown in Figs. 2 and 4. These points or projections *a a* are not promiscuously arranged, but are so spaced relatively to each other and to the wick-tube C or are in such number and of such depth and width that bearings free from objectionable shake or play between opposite pairs of said points are formed by them for the ratchet-wire D, in proper relation to the wick-tube C, which latter may be variously disposed across the axial line of the burner without interfering with some one of the spaces between the points serving to thus accommodate the ratchet-wire. This construction admits of the closest possible arrangement of the base of the burner to the oil, inasmuch as there is not or need not be any greater space between the base and screw-bottom than is due to the thickness of the sheet metal out of which the latter is composed and the diameter or thickness of the ratchet-wire. Furthermore, to give a positive or close and outer bearing for the ratchet-wire, for the purpose of securing truth, steadiness, or certainty of action, I cause said wire to pass through a perforation, *b*, in the annular rim *c*, which serves to stiffen the base. The axial profile of the base A is formed with reference to the close proximity of the screw-bottom B, and to the specified fit or arrangement of the ratchet-wire D, by forming it with a central dome, *d*, to accommodate the ratchets E E, an annular depression, *e*, to receive the points or prongs *a a*, by which the screw-bottom is secured to the base, and an annular swell, *f*, outside of such depression to stiffen the base. The railing F, which supports the deflector G and connects it with the base A, is cut or stamped out of sheet metal in such form as to combine lightness with strength, and to reduce waste or loss of metal in the production, out of the same sheet, of a series of rails, the same being composed of an annular series of legs, *g g*, arranged so that they meet top and bottom, forming, as it were, a succession or annular series of figures, resembling in general contour the letter **V**, and whereby when bent and fitted to their places in the deflector and base they are made to diagonally brace each other, as well as to similarly support the entire structure or burner. The deflector G, which is of a radially-slitted construction, to provide for its expansion or contraction and fit of different-sized chimneys, is made with its slit portions or elastic wings *h h* to overlap on their one edge and underlap on their opposite edge, each other in succession, as shown by full and dotted lines in Fig. 3. Said edges are here shown straight, but they may be more or less curved, so as to present either convex or concave overlapping lines; but, whatever the courses of the slits by which the elastic wings are formed, it is important that each wing should overlap on its one edge the wing immediately in front of

it, and underlap on its opposite edge the wing immediately in rear of it, whereby while every provision is made for the expansion or contraction of the deflector to suit different-sized chimneys a close or approximately close surface is or may be obtained for the deflector, however much it may be expanded or contracted, which is not the case where the slits in the deflector leave gaps or open spaces between the adjacent edges of the elastic wings, as under such a construction the expansion and contraction of the deflector, as effected by the fit over it of different-sized chimneys, materially varies the open character of said deflector, causing a widely disproportionate quantity of air to pass through it, to the great detriment or irregularity of the light, and only when the deflector is so contracted that the wings composing it meet at their edges is the deflector made to present a close surface, said deflector then having its elasticity, so far as further contraction is concerned, destroyed. Under my improved construction these objections are avoided, and when it is desired to pass air through the deflector in a certain or fixed ratio, regardless of the expansion or contraction of the deflector, the same may be done by means of perforations *i i*, made in the bodies of the wings, between their overlapping and underlapping surfaces.

What is here claimed, and desired to be secured by Letters Patent, is—

1. The railing F, composed of an annular series of legs, *g g*, constructed substantially as herein described, to diagonally brace each other and the entire structure or burner.

2. The deflector G, provided with a series of elastic wings, *h*, arranged to lap one another at their opposite edges, substantially as specified.

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Witnesses:

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