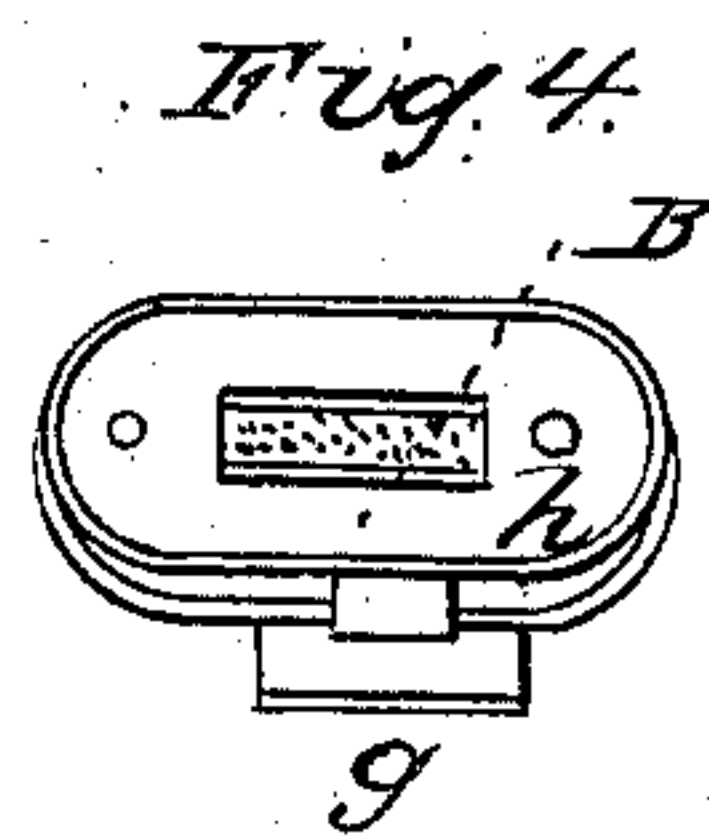
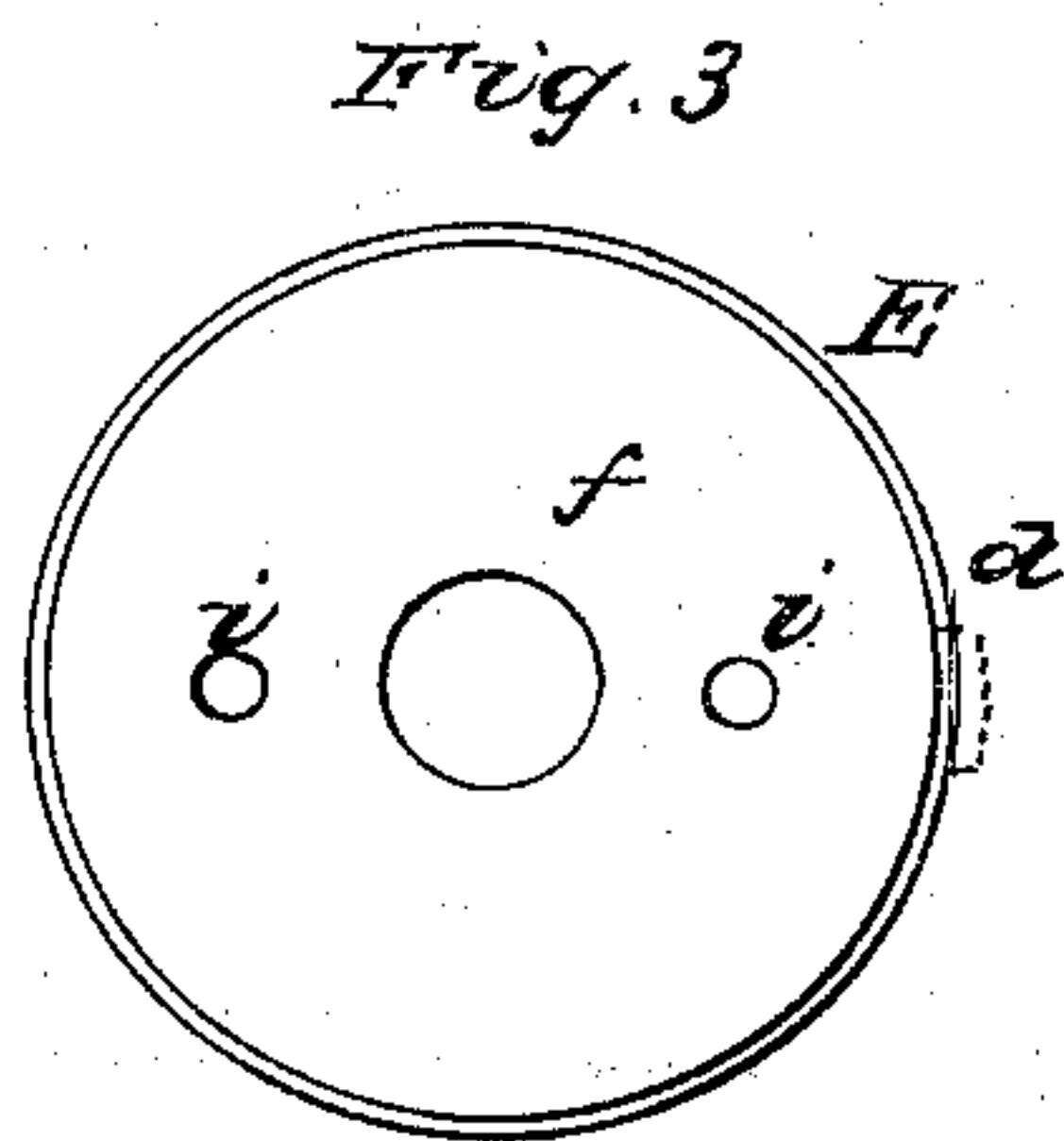
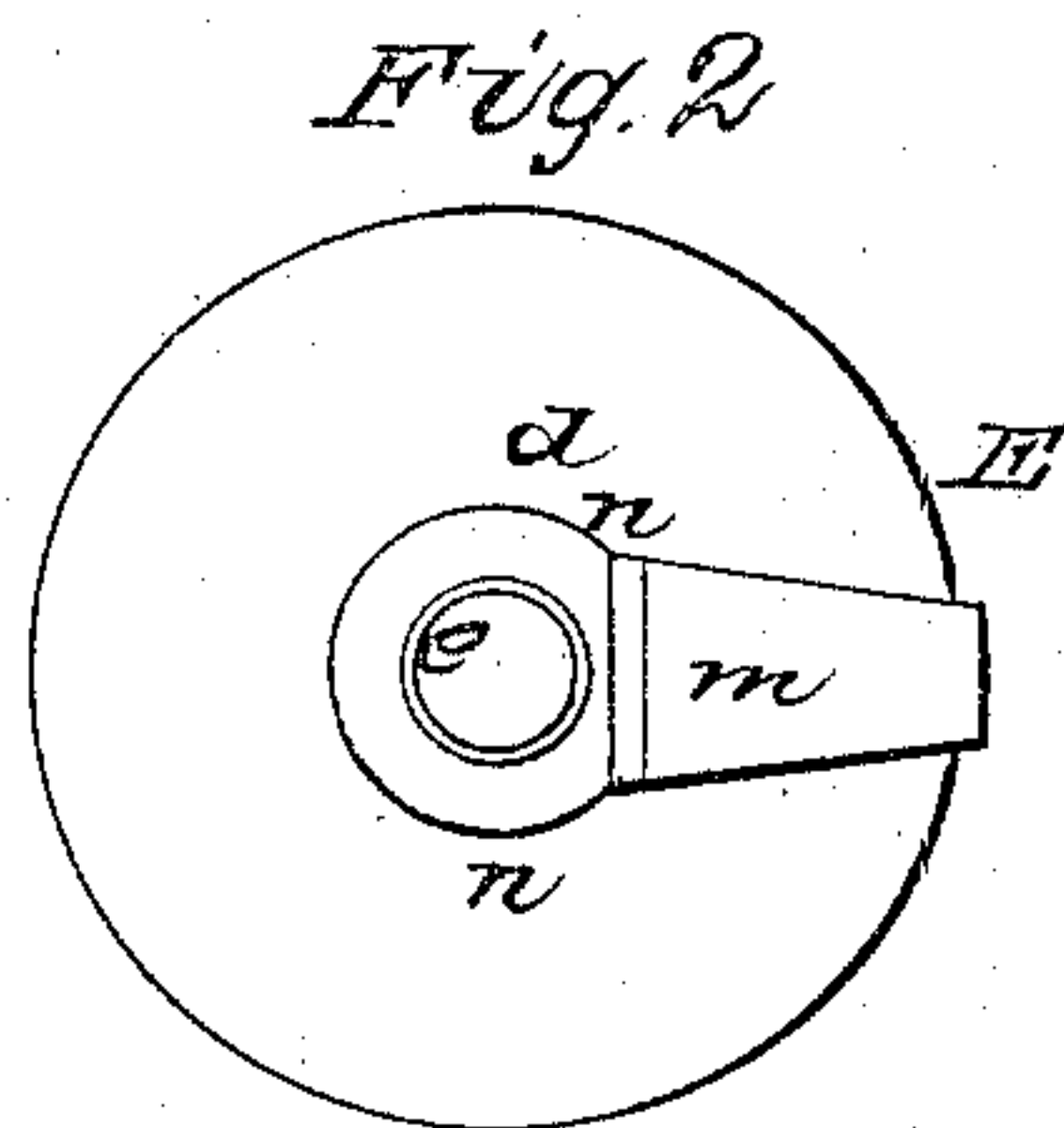
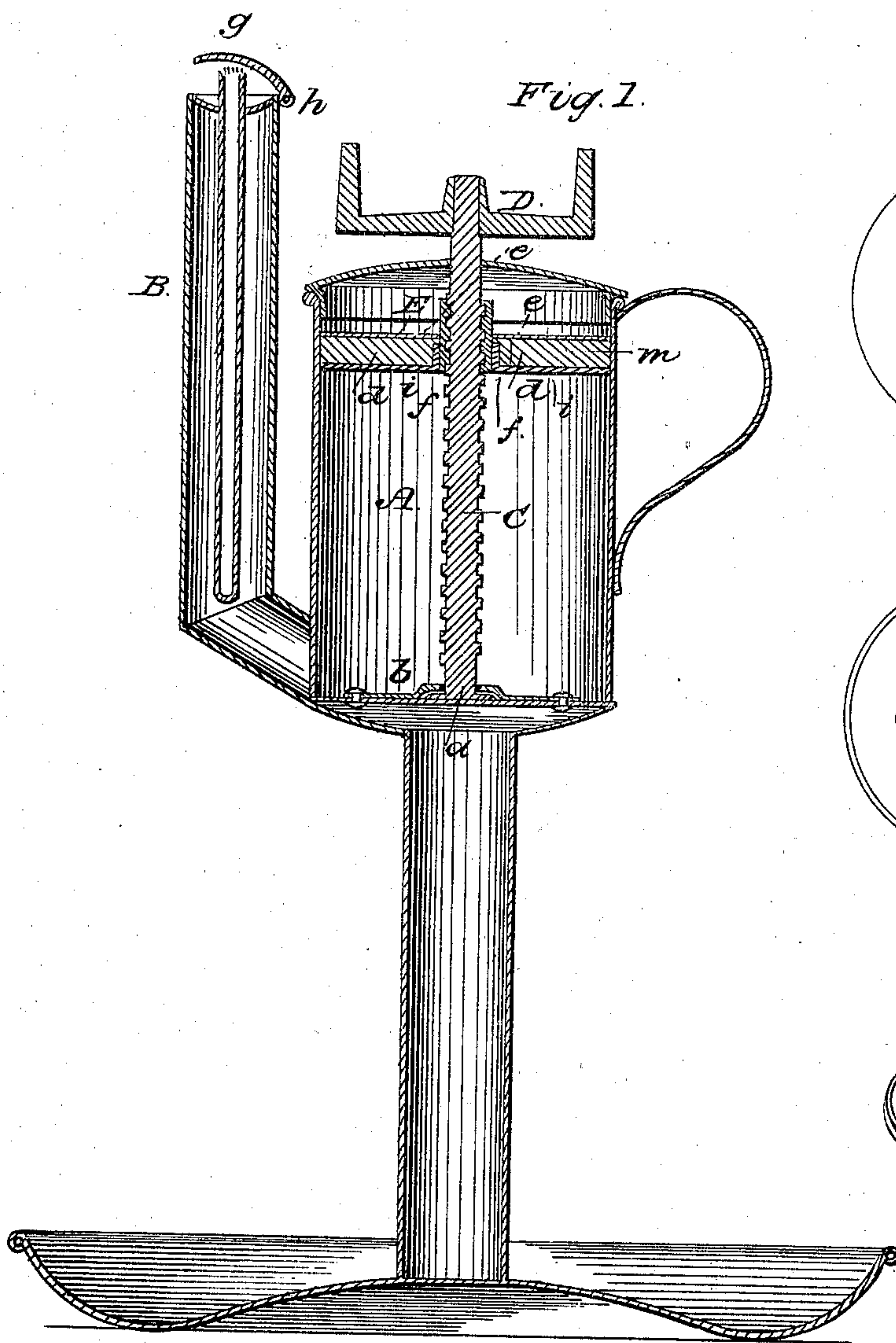


SMITH & STONESIFER.

Lamp.

No. 11,497.

Patented Aug. 8, 1854.



UNITED STATES PATENT OFFICE.

IRA SMITH AND JOHN STONESIFER, OF BOONSBORO, MARYLAND.

LARD-LAMP.

Specification of Letters Patent No. 11,497, dated August 8, 1854.

To all whom it may concern:

Be it known that we, IRA SMITH and JOHN STONESIFER, of Boonsboro, in the county of Washington and State of Maryland, have invented a new and Improved Lard-Lamp; and we do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

Figure 1 being a vertical section through the center of the lamp; Figs. 2 and 3, different views of the piston E detached and hereinafter explained, and Fig. 4 top view of the burner B detached.

Like letters designate corresponding parts in all the figures.

The nature of our invention consists, first, in constructing the piston with a disk *d*, of sole-leather, or other suitable yielding material, which has inserted within a notch of corresponding size and shape in its edge a wedge shaped piece *m*, diminishing in width outward from near its center, as represented; and is provided, if necessary, with slits *n, n*, extending concentrically from the inner corners of said wedge-shaped piece nearly around its center; whereby the piston may be expanded sufficiently to tighten it in the lamp reservoir, when required, by drawing out the wedge-piece a little and then trimming off the projecting portion thereof; the whole being confined between two clamp plates, *e, f*, or their equivalents, and arranged substantially in the manner and for the purpose hereinafter specified; secondly, in the light regulator and extinguisher *g*, arranged and operating substantially as hereinafter described.

The great difficulty to be overcome in burning lard is to keep tight the piston which forces the lard up into the burner, while at the same time the lard may be kept raised and melted in the burner sufficiently to enable it to be freely supplied to the flame by the capillary action of the wick. By our manner of arranging the burner B, outside of the reservoir A, so that it only communicates or comes in contact therewith at the bottom, we are enabled to keep the lard melted and raised in said burner, while that in the reservoir remains congealed. Hence we find it less difficult to make a piston which will not permit the congealed lard to ooze by than it would be if the lard in the reservoir should become liquid. But even in

that case, no simple and cheap piston has heretofore been invented, which will remain tight for any great length of time, though fitted accurately at first, nor which is capable of ready and effectual adjustment when once out of order. Our improved piston, however, secures these advantages; since, whenever it wears away and begins to leak, any one can, in two or three minutes, adjust it so that it will be as tight as ever. It is also so cheap and simple in construction that when no longer fit for use, the leather disk can readily be replaced by anyone, and thus render the piston as perfect as when new. It is constructed in the following manner:— A thin metallic plate *e*, of a little less diameter than the interior of the cylindrical reservoir A, is provided with a central tube, or nave, as shown in Fig. 1, which has a screw inside to fit upon the driving screw rod C, and also one on its outside, whereon is to be screwed another plate, *f*, of corresponding size and shape, as represented in the same figure. A disk *d*, of sole-leather, or other suitable yielding and pliant material, is then formed so as to accurately fit the inside of said reservoir. A wedge-shaped notch is cut in one edge of this disk, reaching radially from near the center to the periphery thereof, so that the narrow end shall be at the periphery, as seen in Fig. 2. Into this notch is fitted a wedge-shaped piece *m*, which should be of the same thickness as the disk, and may most conveniently be of the same material. When carefully done, the piece cut out in making the notch will answer for the wedge-piece to fill it. It will generally be desirable, if not necessary, also to slit the disk from the inner angles of said notch concentrically nearly around its center, as shown at *n, n*, Fig. 2, in order to allow it to expand more freely. It is then inserted between the clamp-plates *e, f*, above described, an aperture being cut in its center to receive their naves, and is firmly secured there by screwing said plates together. Two holes *i, i*, in one of the plates, into which two prongs of a small winch may fit, will serve as a suitable means to operate the screws of the clamp-plates. Thus constructed, whenever the piston wears so as to leak, the clamp-plates are loosened, and the wedge-piece *m*, drawn out a little, as shown in Fig. 2, which spreads apart the sides of the notch, and thus expands the disk in proportion to the distance the wedge-piece is

drawn out, which of course should be sufficient to cause the piston to fit tightly in the reservoir. The clamp-plates are then again screwed together and the projecting part of the wedge-piece trimmed off even with the periphery of the disk, as exhibited in Fig. 3. When the wedge-piece *m*, is used up, another, of proper size and form, is to be inserted in its place, and after the disk has thus been expanded so far as to become unfit for use, another can very readily be made and substituted for it, suitable material being almost always at hand. Said piston is operated by turning the driving-screw rod C, by means of a removable handle D, the friction of the piston against the reservoir being sufficient to prevent its turning with said rod. Since the disk of the piston is expanded continually on one side, its center will evidently become more and more though slightly shifted from the original center. This, as well as any deviation from the exact center in the original construction, renders it necessary that the rod C, should have some lateral play to allow said disk to accommodate itself to the position of the reservoir. For this purpose, we secure the rod to the bottom of the lamp, by means of a head *a*, formed upon its lower end, which fits somewhat loosely beneath a socket-plate *b*, riveted to the bottom of the lamp, as shown in Fig. 1.

With our lamp, as above described, we can force the lard up to the flame in a burner of any height above the reservoir, while the lard in said reservoir remains congealed and perfectly safe from overflowing.

Our improved light regulator and extinguisher consists of a small strip or plate of metal *g*, equal in width to that of the wick, (as seen in Fig 4,) and long enough to reach over the wick (as shown in Fig. 1). This is

hinged on a wire, *h*, secured to the burner on one side, and extending, a little distance therefrom, around it far enough to give sufficient lateral play to the plate *g* (as represented in Fig. 4). When the whole breadth of the wick is to be inflamed, the extinguisher is thrown back at the side of the burner; but when a portion only of the wick is to be lighted, it is adjusted laterally and thrown over the wick, so as to expose only so much thereof as it is desired to inflame; or, when the light is to be entirely extinguished, it is moved laterally so that it will cover all of the wick.

Having thus fully described our improved lard lamp, what we claim therein as new and desire to secure by Letters Patent, is—

The improved piston, composed of two adjustable compressing plates *f*, *f*, that embrace between them a disk of leather, or other equivalent material, dissected in the manner herein represented and described; to wit: the said disk having an outwardly tapering independent piece *m*, inserted into a correspondingly shaped recess, so that as the periphery of said piston wears away by use, it may be enlarged by simply loosening its compressing plates, drawing out the said piece *m*, a short distance, and then tightening said plates and trimming off, to the proper curvature, the extremity of the piece *m*, substantially as herein set forth.

The above specification of our new and improved lard lamp, signed by us this eleventh day of May, 1854.

IRA SMITH.
JOHN STONESIFER.

Witnesses:

HENRY HECK,
PETER ORDNER.