H. IDEN.

DROP-LIGHT.

No. 177,248. Patented May 9, 1876.

Fig. 1.

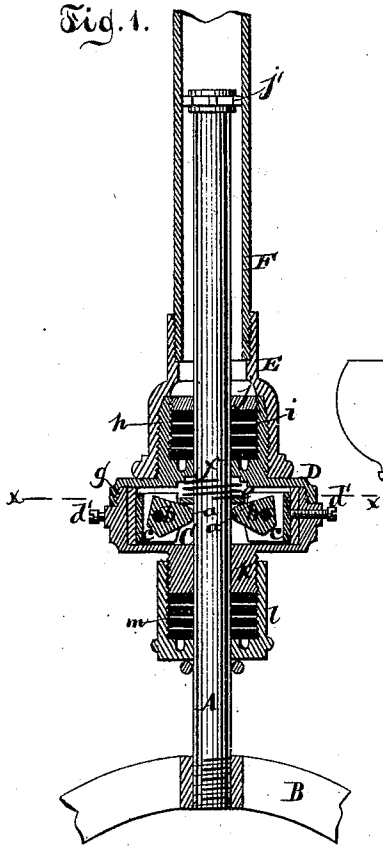


Fig. 4.

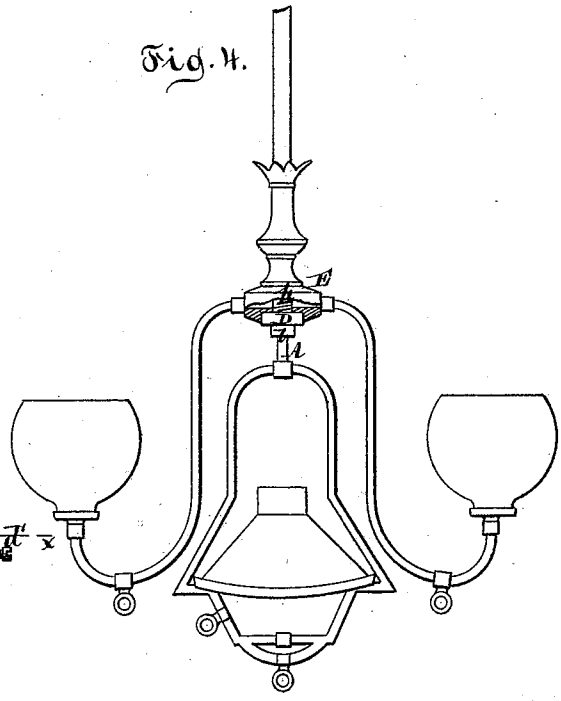


Fig. 2.

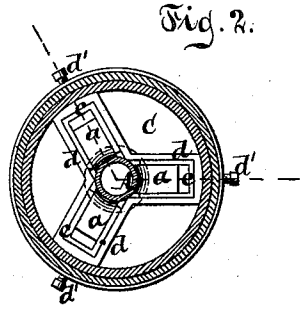
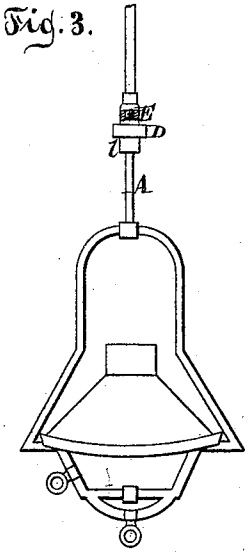


Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

HENRY IDEN, OF NEW YORK, N. Y.

IMPROVEMENT IN DROP-LIGHTS.

Specification forming part of Letters Patent No. **177,248**, dated May 9, 1876; application filed April 12, 1876.

To all whom it may concern:

Be it known that I, HENRY IDEN, of the city, county, and State of New York, have invented a new and useful Improvement in Drop-Lights, which improvement is fully set forth in the accompanying drawings, in which—

Figure 1 represents a longitudinal central section of my improvement. Fig. 2 is a horizontal section in the plane *x x*, Fig. 1. Fig. 3 is a sectional view of a simple drop light constructed according to my invention. Fig. 4 is a similar view of a chandelier containing my drop-light.

Similar letters indicate corresponding parts.

This invention relates to that class of drop-lights in which a sliding tube is used, which moves in the pipe conveying gas to the burner of the drop-light, and also to the burners of a chandelier with which said drop-light may be connected.

My present improvement consists in the combination, with the sliding tube, of hinged dogs, which are secured in sliding frames, and subjected to the action of a spring, so that said dogs can be readily adjusted to allow the tube being moved upward with ease, while considerable force is required to move the same down. With the sliding tube I have combined a double packing, one above and the other below the hinged dogs, so as to retain the tube securely in its central position, and to prevent effectually any escape of gas.

In the drawing, the letter A designates the sliding tube, to the bottom end of which is attached the drop-light B, as shown in Figs. 3 and 4. This pipe extends through a chamber, C, which contains three, more or less, dogs, *a*, which swing on pivots *b*, said pivots having their bearings in frames *c*, which slide in radial guideways *d*, formed in the chamber C, (see Fig. 2,) each of said frames being exposed to a set-screw, *d'*, so that the dogs can be readily adjusted in the required position. On the tops of said dogs is placed a washer, *e*, which is depressed by a spring, *f*, so that the front edges of the dogs are held in close contact with the sliding tube. Instead of using a common spring, *f*, for all the dogs, however, each of the dogs may be subjected to the action of its own spring, such independent springs being secured in the frames *c*. The chamber C is provided with a cap, D, which is connected to the same by a screw-thread, *g*, and by screwing this cap down the spring *f* is compressed and the dogs *a* are retained in the required position.

By referring to Fig. 1 it will be seen that when the tube A is moved upward, the clamping-surfaces of the dogs are thrown back and the tube can be easily moved in this direction; but, in order to move the tube A down, considerable power is required to overcome the friction between the clamping-surfaces of the dogs and the tube, said clamping-surfaces being in that case caused to hug the tube closely.

From the top of the cap D rises a nipple, *h*, which is bored out to form a stuffing-box, *i*, and provided with an internal and with an external screw-thread. A screw-ring, *j*, which engages with the internal screw-thread of the nipple *h*, serves to compress the packing contained in the stuffing-box, so as to produce a gas-tight joint.

The external screw-thread of the nipple *h* engages with a head, E, which forms the connection between the chamber C and the gas-supply pipe F, and the upper end of the sliding tube A is provided with a notched centering-ring, *j'*, which fits the bore of the pipe F, and serves to steady said sliding tube.

The head E may be made in the form shown in Figs. 1 and 3, or it may be made in the form shown in Fig. 4, in which last-named case it is provided with two or more arms, each carrying a burner.

From the lower surface of the chamber C projects a nipple, *k*, which engages with a screw-cap, *l*, forming a stuffing-box, *m*, whereby a gas-tight joint is formed below the chamber C, as well as above; and furthermore the sliding tube is securely retained in a central position, so that when the dogs *a* have once been adjusted in the proper position, my drop-light can be used for a long time without allowing any gas to leak out or requiring any repairs.

I am aware that it is not new to provide a friction-clamp for drop-lights for chandeliers, the said clamp consisting of a curved plate spring, having a dog pivoted in each end

thereof, which bears upon a polygonal sliding pipe; and such I disclaim.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination, in a drop-light, of a closed chamber, C, hinged dogs *a* secured in sliding frames *c*, one or more springs, *f*, acting on said dogs, and a tube, A, which extends through the closed chamber, the whole being constructed and operating substantially as shown and described.

2. The combination, with the sliding tube A, chamber C, and dogs *a*, of two stuffing-boxes, *i m*, one above and the other below said chamber, substantially as and for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 10th day of April, 1876.

HENRY IDEN. [L. S.]

Witnesses:
W. HAUFF,
E. F. KASTENHUBER.