S. C. CATLIN.
Student-Lamp.

No. 208,293. Patented Sept. 24, 1878.

Fig. 1.

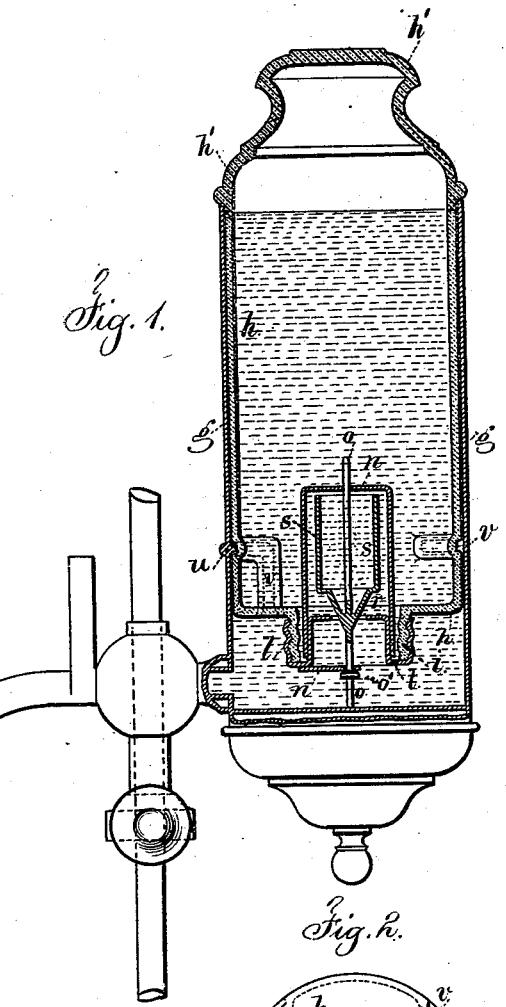


Fig. 3.

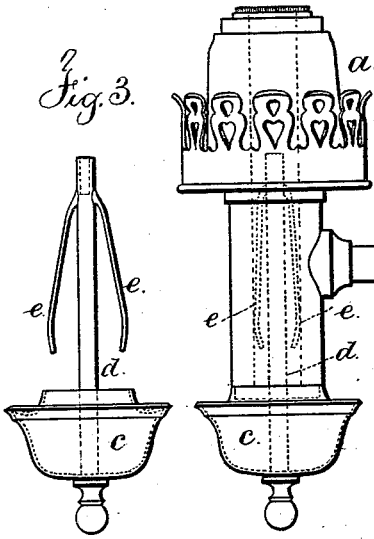


Fig. 2.

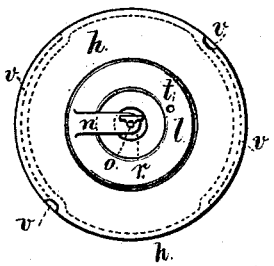
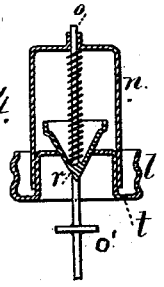


Fig. 4.



Witnesses
Chas. H. Smith
Harold Serrell

Inventor.
Seth C. Catlin.
per Lemuel W. Serrell
attys

UNITED STATES PATENT OFFICE.

SETH C. CATLIN, OF BROOKLYN, NEW YORK, ASSIGNOR TO EMMA F. CATLIN, OF SAME PLACE.

IMPROVEMENT IN STUDENT-LAMPS.

Specification forming part of Letters Patent No. **208,293**, dated September 24, 1878; application filed January 24, 1878.

To all whom it may concern:

Be it known that I, SETH C. CATLIN, of Brooklyn, in the county of Kings and State of New York, have invented an Improvement in Student-Lamps, of which the following is a specification:

In fountain or student lamps difficulty arises in ascertaining when the fountain is full, or when it has become empty or nearly so. I make said fountain of glass, whereby to allow the height of oil to be observed; but to make the fountain agreeable to the eye, and to prevent the oil appearing when the fountain is inverted into the holder, I make the top of such fountain of opalescent or colored glass, which produces a very handsome finish and shields the fountain. I also combine with the valve a diving-bell float, that acts as the oil rises in filling and closes the valve; but the same ceases to be a float when the fountain is inverted to place. The thimble forming the valve-neck is screwed to the glass fountain, and the same is perforated for the escape of air, and the drip-cup of the burner is fastened on by springs to a central standard that passes into the air-tube, and thereby allows the drip-cup to be drawn downward and detached without unscrewing. This facilitates lighting in chandelier-lamps.

In the drawings, Figure 1 is an elevation of the lamp with the fountain in section. Fig. 2 is an inverted plan of the fountain, and Fig. 3 is an elevation of the drip-cup and holder.

The burner *a* is provided with the usual Argand wick and central air-tube; and the drip-cup *c*, instead of being screwed on, is connected to the burner by springs *e*, and is provided with a central standard, *d*, which springs are compressed by being thrust into the air-tube of the Argand burner, and sustain such drip-cup by friction. The drip-cup can be detached for cleaning or lighting by drawing the parts downwardly.

I prefer and use a tubular end to the standard *d*, so as to insert a match or taper to light the lamp as the drip-cup is returned to place.

The tube *f* passes to the metallic reservoir *g*, as usual, and this reservoir receives the glass fountain *h*. I prefer to make this fountain of clear glass within the reservoir *g*, and the upper part, *h'*, opaque, and either white or colored, for the purposes before named.

The glass neck *i* of the fountain *h* is made with a screw-thread, to receive the thimble *l*, that is also made with a thread, and preferably of sheet metal. The opening and valve-seat are in the middle of this thimble. There are guides *n* for the valve-stem *o* at both sides of the valve *r*, and such valve is either operated by a spring, as in Fig. 4, or provided with the diving-bell float *s*, the open end of which is downward as the lamp-fountain is being filled, and hence the confined air causes it and the valve to float and close the inlet-orifice and indicate the proper supply. A vent-hole is made at *t* for the escape of air from the fountain.

When the fountain is inverted the air in the float escapes, and the same ceases to be a float.

There is a groove in the glass of the fountain, as at *v*, and a pin, *u*, in the metal reservoir *g*, forming a bayonet-lock, to hold the fountain in place.

There may be a spring around the stem of the float-valve, (shown in Fig. 1,) to bear or partially bear the weight of the valve.

There is a cross-piece, *o'*, upon the valve-stem *o*, that forms a rest for the spout of the oil-can, and when the valve does not open by gravity when the fountain is inverted such valve is opened by pressure from the spout of the can.

I do not claim an inverted fountain provided with a pin entering a groove or slot in the reservoir, as these have been used; but in my lamp the locking devices are covered up, and do not disfigure the reservoir or holder, and the groove is in a position around the fountain where it is easily made.

I am aware that the fountain of a student-lamp has been made of glass, with a top cover of sheet metal, and with a screw-neck and screw-thimble for the valve.

I claim as my invention—

1. The combination, with the drip-cup in a student-lamp, of a central standard and springs, substantially as set forth.

2. In the student-lamp, a glass fountain the

lower portion of which, within the reservoir, is of transparent glass, and the upper portion of which, outside said reservoir, is of opaque glass, substantially as set forth.

3. The combination, with the fountain, valve, and stem in a student-lamp, of a cross-piece, *o'*, upon the valve-stem, forming a rest for the spout of the filling-can, substantially as set forth.

4. The combination, with the fountain of a student-lamp and the valve thereof, of a diving-bell float acting to close the valve when the fountain is filled, substantially as set forth.

5. The combination, with the Argand air-tube and the drip-cup, of springs connecting the drip-cup removably to the Argand burner, substantially as specified.

6. In a student-lamp, a bayonet-groove in the material of the fountain around the cylindrical portion thereof, and a pin projecting inwardly from the reservoir or holder, substantially as set forth.

Signed by me this 21st day of January, A. D. 1878.

SETH C. CATLIN.

Witnesses:

J. H. McMURRAY,

C. H. JONES.