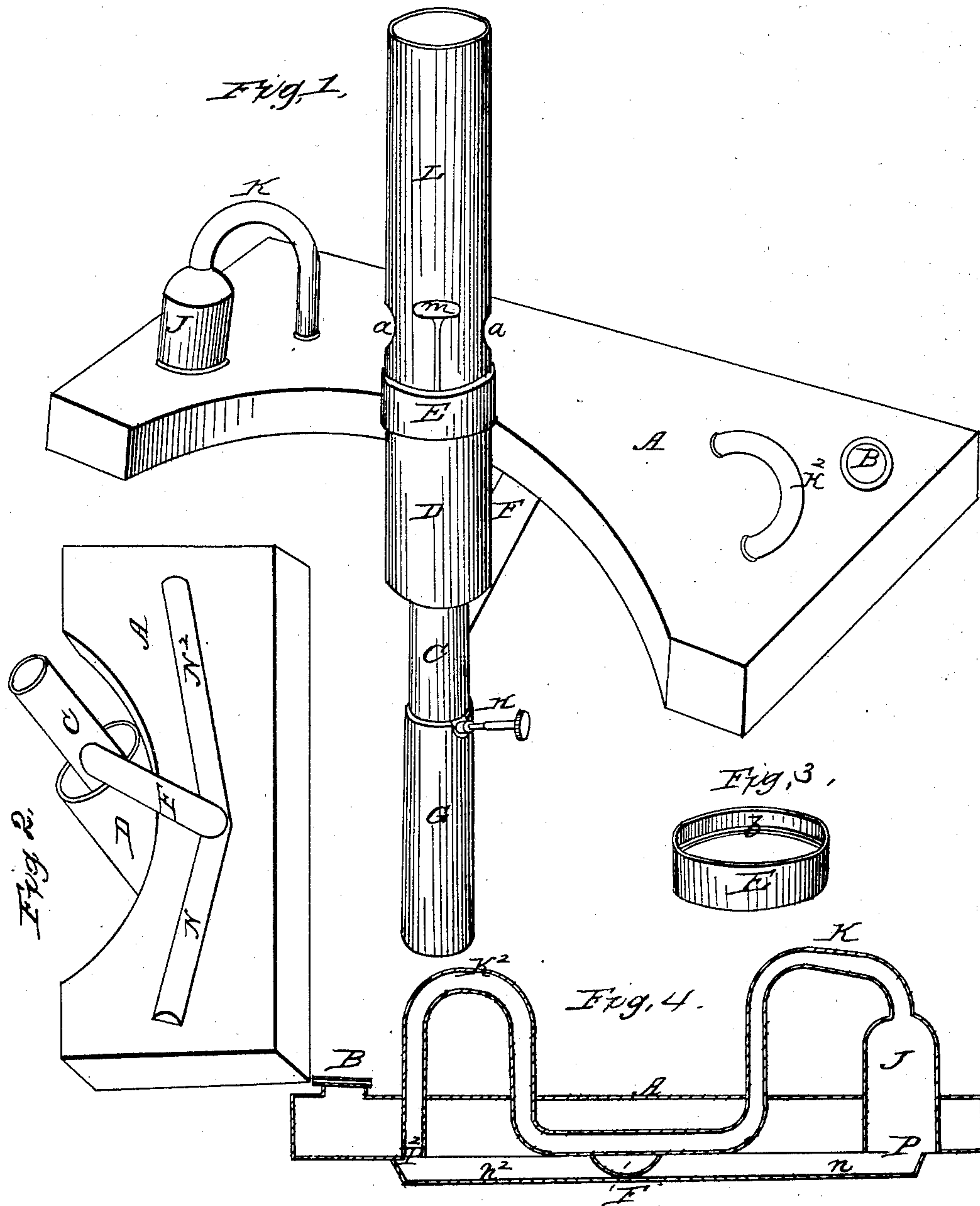


J. STUBER.

Lamp.

No. 28,132.

Patented May 1, 1860.



Witnesses:
Bay St French
W. Mc. Lones

Inventor.
J. Stuber.

UNITED STATES PATENT OFFICE.

JNO. STUBER, OF UTICA, NEW YORK, ASSIGNOR TO JNO. CARTON, OF SAME PLACE.

LAMP.

Specification of Letters Patent No. 28,132, dated May 1, 1860.

To all whom it may concern:

Be it known that I, JOHN STUBER, of Utica, in the county of Oneida and State of New York, have invented a new and Improved Lamp to be used upon the front of railroad locomotives or where a strong, brilliant, and constant light is required; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon.

Figure 1 is a perspective view of the lamp with the chimney and can. Fig. 2 is a perspective view of the underside of the can and of the conducting tubes. Fig. 3 is the cap or chimney holder. Fig. 4 is a sectional view of the can, showing the air chamber and tube and the conducting tubes and openings from the can into them.

Letter A is the can; B the opening for filling the can with oil, closed with a screw; C, the burner or tube inclosing the wick; D, the outer tube; E, the cap or chimney holder; F the conducting tube to the burner; G, an enlargement of the tube C, or burner to make room for the rack and pinion H for raising and lowering the wick; I, the air chamber; K, K² the air tube; L, the glass chimney contracted near the base as seen at (a); M, the button; N N² the tubes on the bottom of the can for conducting the oil from the can through the openings P, P², to the conductor F.

b is the shoulder of E to support the chimney.

The can may be of tin or other suitable material, not to exceed, say an inch and a quarter in depth, and of such length and width as will contain oil sufficient to supply the lamp for twelve hours. At one side, on the top, convenient of access, is an opening B, for filling the can, to be closed with a screw or other proper method. On the opposite side or end of the can is an air chamber (I). It extends from near the bottom of the can upward through the top and for about the same height above as below. From the top of this air chamber (I) extends the curved tube K, which passes into the can and through the center part and then passes out of the can at K² and after making another curve it reenters the can again and terminates near the bottom, as seen in Figs. 1 and 4. The air chamber (I) is over the opening (P), leading into the

tube N and the end of the tube K² is over the opening (P²) into the tube N². The object and effect of the air chamber so arranged, with the air tube, is to assist in controlling the motion of the oil in the can and regulating its flow into the lamp.

By the filling of the can with oil, the air in the chamber and air tube is necessarily compressed, and the elastic force of the same is constantly exerted upon the oil in the can, and presses it down as with a weight. When, therefore, the motion of the moving locomotive agitates the oil in the can, the confined and compressed air acts by its elastic force upon the oil and prevents in a great measure its undue agitation and irregularities in its flow to the lamp, and the said air chamber and end of the air tube being respectively over the openings into the conducting tubes, the elastic force of the confined and compressed air, constantly pressing upon the oil at these points thereby aids in keeping a constant and equable flow of oil through the said conducting tubes to the lamp.

The lamp is of any proper material, and of the usual form of lamps of similar construction for burning tubular wicks and having a central tube extending from the bottom through which the air passes up to supply the flame on the inside of the wick. But in this lamp, the tube C, or burner, is enlarged in its lower part, as seen at G, to make space for the rack and pinion H for raising and lowering the wick. This lamp also differs from other of the same description, that instead of being open under or near to the chimney for the ingress of air to supply the lamp on the out side of the wick, it is made close, and the air is made to come in from below. This is done by the use of an additional tube D, placed on the outside of all and at such distance from the burner as to permit a free current of air to ascend between them. On the top of this tube D, is placed the cap or chimney holder E, Figs. 1 and 3. This cap is brass or other metallic ring, made to fit close upon the out side of the top of the tube D. It has a shoulder (b) on the inside which at once serves for sustaining it on D and for supporting the chimney L.

The glass chimney L is of about the usual length and is of uniform size throughout, except that about one tenth of its length it contracts inward to about three quarters of,

its diameter, and it then curves outward to its regular form. It fits closely in the cap E, resting on the shoulder (b) and the inside of D. The inside of the shoulder b
5 and of the chimney L are even and upon one line and present no obstruction to the upward current of air.

The button is of the usual form, and is made to be taken out of the lamp, or raised
10 to any required height above the wick at pleasure, by means of the shank being made long and fitting tightly in its deep socket. When in place it should be, in an ordinary sized locomotive lamp, about three eighths
15 of an inch above the most contracted part of the chimney, and be in diameter about one half the diameter of the contracted part of the chimney.

By means of the shallowness of the can, with the air chamber and tube, and the mode of drawing the oil from the bottom of the can as hereinbefore described, the feed of oil to the lamp is constant at very nearly the same level during the whole time of use, and
25 little or none of the oil is wasted when the lamp is newly filled. This mode of constructing the can almost entirely prevents the "swashing" of the oil in the can through the motion of the engine, or otherwise; and
30 if any such "swashing" does occur, it has no perceptible or injurious effect upon the flow of oil into the lamp, or upon the flame and it thus obviates the necessity of using any of the mechanical or other contrivances by
35 which the oil is sought to be forced up or supplied to the lamp, when by long burning the oil becomes low in the can and also does away with the necessity of watching the lamp and regulating the machinery to keep
40 up a regular flow in such cases.

The structure of the lamp, as herein described, is such as to give the most uniform and the greatest amount of light with a given quantity of oil. No current of cold
45 air is suffered to come in contact with the

flame to reduce it, by reducing its temperature, or to blow the flame about from its proper position in the reflector and thus diminish its illuminating effect. The outer tube with the cap and the chimney effectually
50 exclude all currents of cold air. The air for the outside of the flame, as well as for the center, is caused to rise up in a uniform and even current striking all parts of the flame alike; and both currents are equally
55 heated. And then by means of the button on the inside and the contracted chimney on the outer side, the two columns of heated air are arrested and brought into contact and compressed in the midst of the flame.
60 By the combination of these principles, in the manner and form described, the most perfect combustion is attained; all of the smoke and gases are consumed and the greatest possible effect is given to the lamp
65 and a light of great intensity is obtained, which, unlike others for similar use, is increased in power with the increase of the speed of the engine.

The outer tube which extends below the
70 lower side of the reflector, also serves to protect the reflector from all oil or other matter which might fall from the lamp and dull or injure its burnished surface.

I do not claim the form of the can, or the
75 air chamber or air tube, nor the button, nor the contracted chimney; but

I do claim and desire to secure by Letters Patent:

1. The air chamber I and the air tube K,
80 K² as described or substantially in that form, in combination with a shallow can as herein described.

2. The outer tube (D) in combination with the cap (E) and chimney (L) and
85 button M as herein substantially described.

JOHN STUBER.

Witnesses:

BENJ. F. FRENCH,
M. M. JONES.