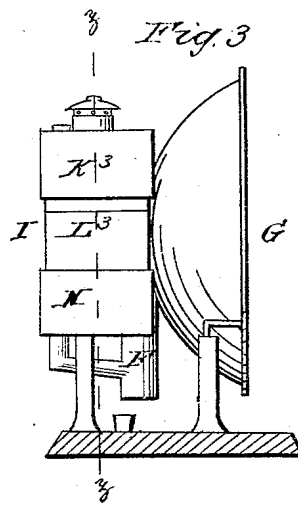
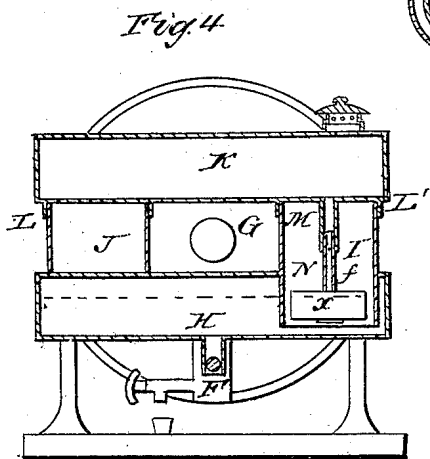
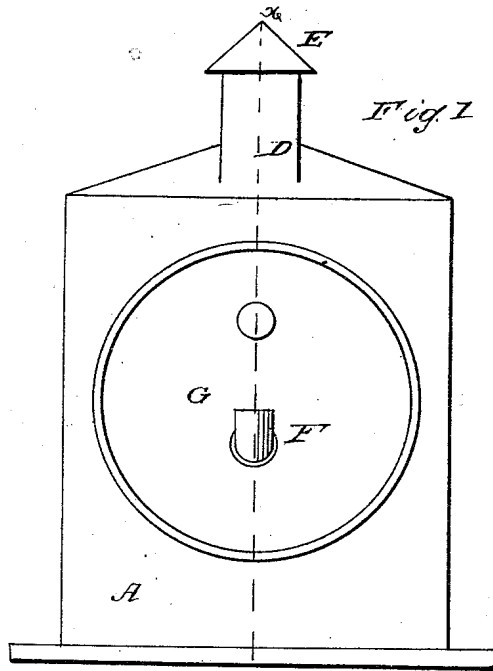
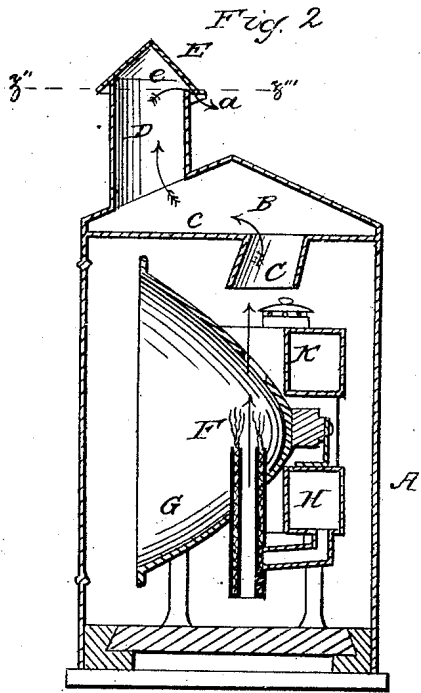


SNOOK & HILL.
 Locomotive Head Light

No. 9,490.

Patented Dec. 21, 1852.



UNITED STATES PATENT OFFICE.

THOS. SNOOK AND S. HILL, OF ROCHESTER, NEW YORK.

LAMP FOR LOCOMOTIVE-ENGINES.

Specification of Letters Patent No. 9,490, dated December 21, 1852.

To all whom it may concern:

Be it known that we, THOMAS SNOOK and STEPHEN HILL, of Rochester, in the county of Monroe and State of New York, have invented a new and useful Improvement in the Locomotive-Lamp called the "Self-Regulating Locomotive-Lamp;" and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which the several parts are represented as follows:

Figure 1 is a front elevation of the lamp and case. Fig. 2 is a vertical section on the line xy , Fig. 1. Fig. 3 is an end elevation of the lamp. Fig. 4 is a vertical section on the line zz' Fig. 3. Fig. 5 is a horizontal section on the line $z''z'''$ Fig. 2.

Similar letters refer to corresponding parts in all the figures.

The nature of my invention consists in so constructing the connection between the oil reservoir and the oil holder that a uniform supply of oil is provided during the burning of the lamp, which supply is entirely cut off when the lamp is extinguished, the regulator consisting of a float immersed in the oil contained in the oil holder, which float is so connected with a valve as to cause it to open or close, as the float falls or rises.

Another improvement consists in arranging the vertical portion of the chimney (which may be of a zig zag or other form) in the forward part of the lamp case; so as to prevent the downward currents caused by the smoke stack when the engine is in motion, from descending through the chimney and extinguishing the light. By this arrangement the flue is lengthened, the draft consequently increased, and the brilliancy of the light augmented.

In the drawings, (A) represents the lamp case. This case is constructed in the usual manner, except the top, which is made double by the addition of the ceiling (C), thus forming a broad, flat flue (B), into which the vertical portions (C) and (D) enter. The part (C) of the chimney is directly over the glass chimney of the burner (F); and the other portion (D) is in the front part of the dome or roof. The front part (D) of the chimney is covered with a conical cap (E) which is brought down upon the top of the chimney so as to close the whole opening with the exception of one

third of its perimeter at the back, which is left open as seen at (e) for the escape of the smoke. At the ends of the opening (e) are the wings (a, a') between the cap and the face of the chimney. These wings turn the current of air aside when the engine is in motion, and increase the draft of the chimney by the partial vacuum, which is formed in the rear of the pipe (D), into which the smoke rushes.

In the lamp; (F) is an Argand burner made in the usual manner.

(G) is a parabolic reflector, made of metal and galvanized, or coated with silver, and (H) is the ordinary oil holder of the lamp. Inserted in the upper face of the oil holder (H), are the two cylinders (I) and (J), both of which are open at their upper ends, and one of them (I) open at its lower end, thus communicating with the interior of the oil holder (H).

(K) is the reservoir in which the supply of oil is kept, which is fed to the oil holder by the following arrangement. Upon the lower surface of the reservoir (K) are the two cylindrical collars (L, L'), fitting over the upper ends of the two cylinders (I, J) inserted in the top of the oil holder (H). Through the cylinder (I) passes the feeder (M N) which is formed of two tubes; the upper one (M) being attached to the bottom of the reservoir (K), and the lower one (N) fastened to the float (X) immersed in the oil of the holder (H): the exterior diameter of the tube (N) being exactly equal to the bore of the tube (M), in which it works.

In the upper part of the tube (N) is the aperture (f) through which the oil flows while the aperture is below the lower end of the tube (M). The action of this feeder is as follows. The upper end of the tube (M) communicating with the interior of the reservoir (K), the oil passes through it and the aperture (f), into the oil holder (H), in a sufficient quantity to supply the demand of the burner. When the light is extinguished, the demand of the burner is stopped, and the oil rises in the holder (H), carrying with it the float (X) and pushing the tube (N) each moment farther into the tube (M), until the aperture (f) rises above the lower end of the tube (M), when the supply of oil is cut off and the tube (N) ceases to rise. If when the lamp is burning, the flow of oil should be too great, and

the supply exceed the demand of the burner, the float (X) will rise and by its connection with the tube (N) either check, or cut off the stream of oil, as may be required. Thus is kept up a steady flow of oil from the reservoir (K) to the holder (H), adequate to the demand of the burner, which supply is cut off by its own action when the light is extinguished, and a further flow rendered unnecessary. In this respect the lamp is decidedly "self regulating."

The position of the exterior flue (D) of the chimney is not restricted to the forward part of the roof as seen in the drawing, but may be placed in any position forward, or on either side of the prolongation of the burner (F). Sometimes two exterior flues are used; one on each side of the portion (C) of the chimney, both constructed as above described.

What we claim as our invention and desire to secure by Letters Patent is as follows:

1. The construction of a feeder for sup-

plying oil to the holder, by the combination of two tubes, one communicating with the interior of the reservoir, and the other fastened to a float immersed in the oil of the holder, by which the lamp is rendered self feeding, in the manner and for the purposes herein specified.

2. The construction of the chimney with a broad flat flue connecting its vertical portions, the exterior one of which is so constructed as to be forward or on either side of the prolongation of the chimney of the burner, substantially in the manner and for the purposes herein specified.

In testimony whereof we have hereunto signed our names before two subscribing witnesses.

THOS. SNOOK.
STEPHEN HILL.

Witnesses:

E. H. C. GRIFFEN,
H. PRATT.