

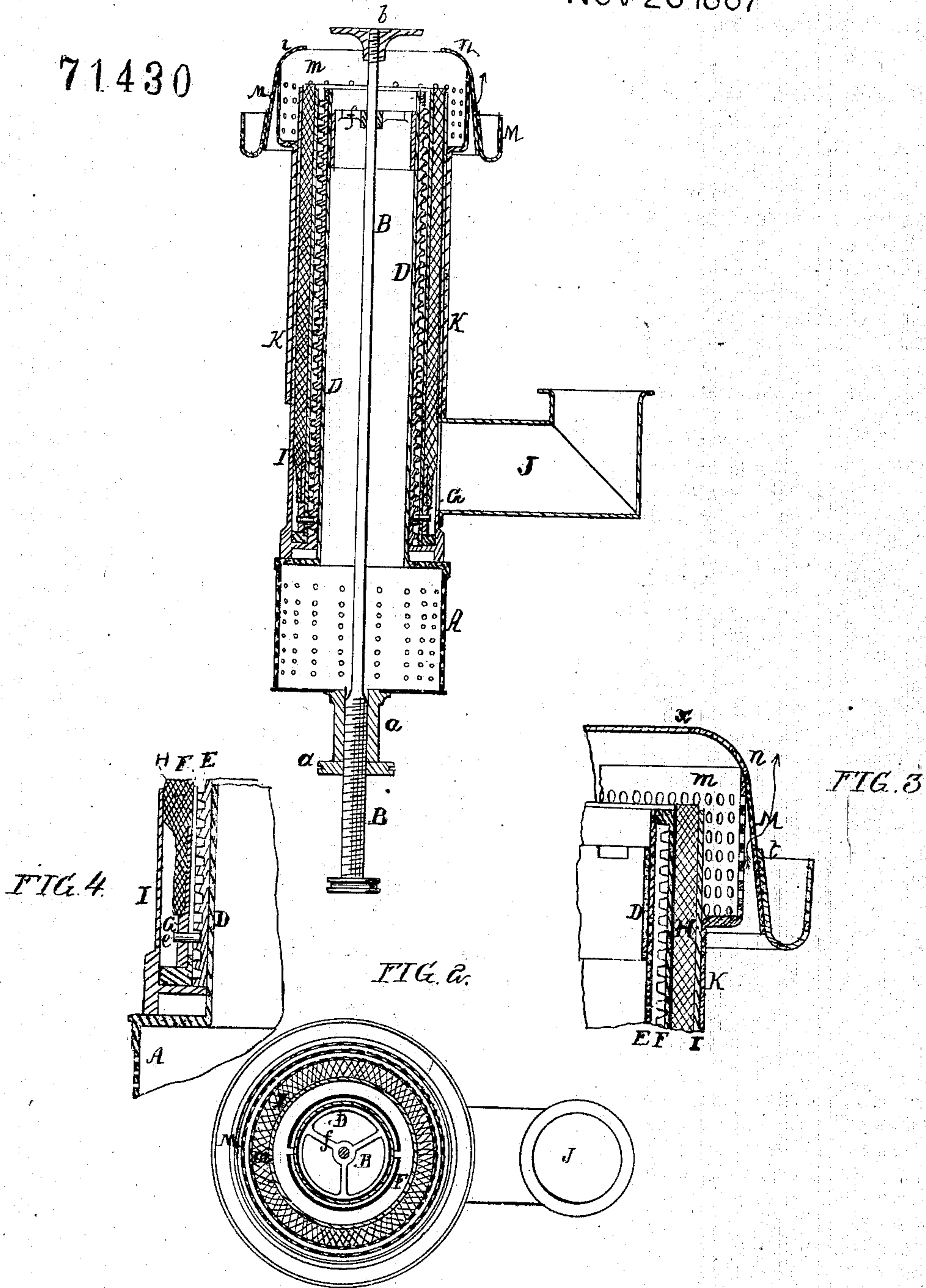
*Lamp Burner for Locomotive Head Lights.*

PATENTED

NOV 26 1867

FIG. 1.

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Witnesses { Wm Albert Steel  
John Parker

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By his Attorney  
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# UNITED STATES PATENT OFFICE

AARON C. VAUGHAN, OF PHILADELPHIA, PENNSYLVANIA.

## IMPROVEMENT IN BURNERS FOR LOCOMOTIVE HEAD-LIGHTS.

Specification forming part of Letters Patent No. 71,430, dated November 26, 1867.

*To all whom it may concern:*

Be it known that I, AARON C. VAUGHAN, of Philadelphia, Pennsylvania, have invented an Improved Burner for Locomotive Head-Lights; and I do hereby declare the following to be a full, clear, and exact description of the same.

My invention consists of certain improvements, fully described hereafter, in lamp-burners for locomotive head-lights; the object of the said improvements being the attainment of a brilliant flame, which can be regulated or extinguished at pleasure without removing the glass chimney.

In order to enable others skilled in the art to make and use my invention, I will now proceed to describe its construction and operation, reference being had to the accompanying drawing, which forms a part of this specification, and in which—

Figure 1 is a vertical section of my improved lamp-burner for locomotive head-lights; Fig. 2, a plan view; and Figs. 3 and 4, parts of Fig. 1, drawn to an enlarged scale.

A is a perforated casing, on the under side of which is a projection, *a*, and into the latter screws a rod, B, which extends upward through the burner, and terminates at the top in a disk or button, *b*, the rod being secured after adjustment by a nut, *a'*.

To the casing A is secured a tube, D, and on the exterior of the latter is fitted a tube, E, having screw-threads on its exterior surface. A third tube, F, is fitted snugly to the tube E, but so as to turn freely thereon, and on this tube F slides a ferrule, G, having screw-threads for receiving the lower end of the tubular wick H, which is confined between the said tube F and an exterior tube, I. Pins *e* project from the ferrule G, and through vertical slots in the tube F, and between the threads of the screw on the tube E. The tubes E and I are connected together at the bottom, so as to form an annular reservoir, for containing the oil or other burning-fluid and the wick, the oil being admitted through the pipe J.

The whole of the tubes D, E, F, and I terminate at the top on the same level, and near the top of the tube D are radial arms *f*, meeting at a central hub, through which passes the rod B, and by which the latter is guided.

Over the tube I fits a detachable tube, *k*, on the top of which is a perforated casing, *m*, the curved dome-like top of which projects

above the top of the above-mentioned tubes, the central opening of this dome being such that its edge *x* shall occupy the position, or about the position, shown in Fig. 3, in respect to the tubes and wick.

An inclined annular shield, M, projects downward from and forms a part of the casing *m*, this shield being turned up at the lower edge, so as to form a recess for the reception of the lower end of the glass chimney.

In the shield M is an annular row of small holes, *t*, through which the air can pass from below in the direction of the arrow, between the flame and the glass chimney, and prevent the former from impinging against the latter.

While the shield M serves to support the chimney, it forms, with the perforated casing *m*, an annular chamber for directing the air to and through the perforations, and at the same time the flickering of the flame by the agitation of the air outside the burner is prevented.

I have found that by this peculiar construction and arrangement of casing *m*, dome-like top *n* of the same, and shield M, in respect to the wick, a most brilliant and steady flame is produced. At the same time both the top of the burner and its stem are so constructed as not to interfere with the reflecting power of the head-light.

It is necessary from time to time to adjust the disk or button *b*, and occasionally to lower it so far that it will extinguish the flame.

Heretofore it has been usual to adjust the disk from above—a somewhat difficult and tedious task, owing to its heat and the necessity of removing the chimney. In my improvement, however, the extension of the rod B through the burner permits the ready adjustment of the disk from below, where neither the heat nor the chimney will interfere with the operation.

I claim as my invention and desire to secure by Letters Patent—

1. The perforated casing *m*, shield M, and intervening space between the two.

2. The openings *t* in the shield M, for the purpose specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

AARON C. VAUGHAN.

Witnesses:

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