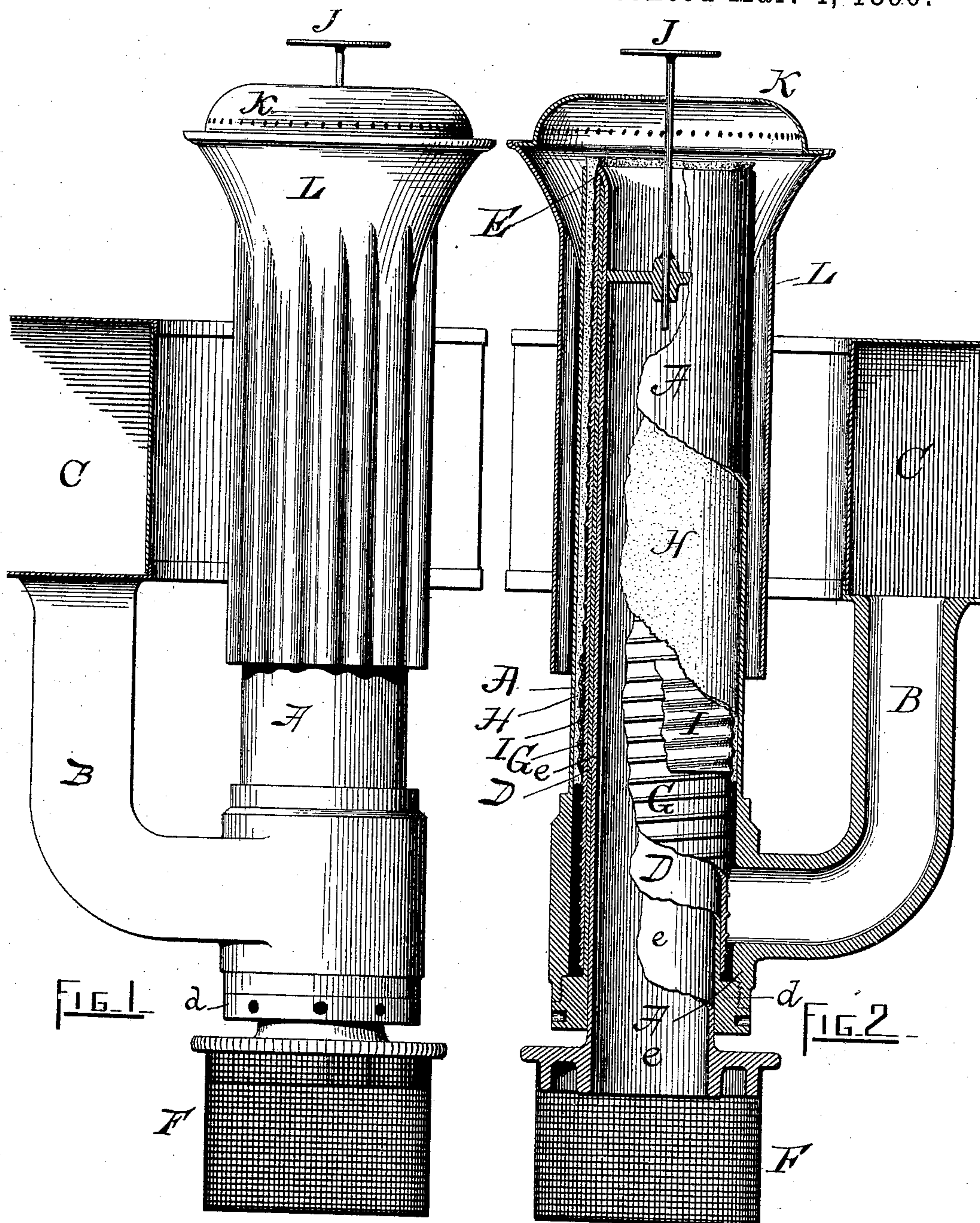


(No Model.)

H. C. CROWLEY.  
LOCOMOTIVE HEAD LIGHT.

No. 422,503.

Patented Mar. 4, 1890.



Witnesses

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# UNITED STATES PATENT OFFICE.

HENRY C. CROWLEY, OF ATLANTA, GEORGIA.

## LOCOMOTIVE HEAD-LIGHT.

SPECIFICATION forming part of Letters Patent No. 422,503, dated March 4, 1890.

Application filed August 17, 1889. Serial No. 321,142. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY C. CROWLEY, a citizen of the United States, and a resident of Atlanta, in the county of Fulton and State of Georgia, have invented certain new and useful Improvements in Locomotive Head-Lights; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form part of this specification.

This invention relates to locomotive head-lights, the object being to so improve the burner as to render it more easily operated and cleaned and less liable to accidental injury by overheating, causing it to stick, and, as is sometimes the case in burners as heretofore constructed, to leak, and so spread and ignite the oil as to completely spoil the burner, rendering it inoperative and irreparable. This object is attained in the construction hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 is side elevation of the device, showing a portion of the oil-reservoir and the parts of the burner as seen from one side. Fig. 2 is a longitudinal vertical section partly central to the burner, parts or leaves of the details projecting to show their form and construction more clearly.

In the figures like reference-marks indicate corresponding parts in the several views.

A tube A, open at both ends and screw-threaded internally and preferably strengthened circumferentially at its bottom, is attached or made integrally with the conduit B, extending from the oil-reservoir C, which conduit and reservoir may be of any form and size desired, so long as their capacity is sufficient and they are adaptable to their position when in use. Into the lower end of this tube A is screwed the tube D by means of external screw-threads on its flange *d* corresponding with the screw on the inner side of the tube A, in which position in the construction shown in the accompanying drawings it is adapted to be tightened by means of a spanner-wrench inserted in the holes in the cir-

cumference of the flange *d*. Before being screwed into place, however, the double tube E, made of a plain tube *e*<sup>4</sup>, having means for the attachment of the air-dividing and cleaning screen F, and also means for a convenient hand-hold in revolving the said tube E and the externally-screw-threaded tube G, these two tubes *e* and G being brazed together at their top ends, forming an annular space, into which is inserted the tube D in such a manner that the double tube E may be made to revolve readily on the said tube D as a pivot and to fit closely thereon, in order that no grit or other substance may have easy access to the annular space when filled by the tube D, as stated. It will now be seen at this stage of the construction that there is an outside casing A, having internal connection by conduit B with the reservoir C, and that there is within this casing A an externally-screw-threaded column G, capable of being revolved on the tube D from an external position, which said tube D also acts as a dam to prevent the oil from flowing into the air-flue formed by the tube *e* as part of the double tube E, and thence to the head-light casing or bracket. Now in order that the revolution of this column G may propel the wick H in the desired direction a tube I is screw-threaded internally, the same being preferably done by crimping, in order that the said tube I may engage securely with the wick H, and is screwed onto the said column. Over this tube I is wound the wick, the surface of the said tube being roughened in any suitable manner to make a sufficient frictional contact between it and the wick to prevent the said tube from turning with the column G when the same is revolved, the wick being prevented from revolving by frictional contact with the interior of the casing A, which, being of greater radius than the said tube I, will effectually prevent any revolution of the wick.

The screen F is for the purpose of dividing the current of air, or, more properly speaking, slightly obstructing the upward flow of air, in order that there shall be no strong current, as would be the case were the lower end of the flue entirely clear of obstruction, and it is also for the purpose of preventing the entrance of dust, cinders, &c., which might otherwise en-



ter and interfere with the operation of the burner in some way. This screen is preferably of wire-cloth; but it may be of many different materials without a departure from this invention.

5 A deflector J, of the ordinary form, is secured in the flue by being brazed or otherwise fastened to the interior of the tube *e*, and is so arranged as to stand approximately  
10 five-eighths of an inch above the deflector K, which will now be described. The air-conveyer L and its deflecting crown-piece K are formed as shown—that is, the part L is corrugated in order that it may come into con-  
15 tact with the casing A and at the same time provide for the upward passage of air to the flame, which is deflected thereto by the deflector K. This part K L is made removable, in order to be readily cleaned of any of the  
20 products of combustion which might operate to obstruct the air-passages caused by the corrugations therein. As usual, the crown-piece or deflector K is so formed as to leave a gallery for the lower end of the chimney,  
25 which chimney, as is also the practice, is se-

cured at the top end, obviating the necessity of springs of any character to hold it in place.

This burner can be cheaply constructed for the reason that its parts may be made of brass tubing, which may be of the class known as “draw-tubing” commercially, and which has  
30 no joints which would become unsoldered or otherwise spring open by the heat incidental to the operation of the device.

Having thus described my invention, what I  
35 claim as new, and desire to secure by Letters Patent of the United States, is—

In a locomotive head-light burner, the combination of the tube A, carrying the deflector, the tube D, provided at its lower end with the  
40 flange *d*, threaded into the said tube A in such a manner that when unscrewed the wick and accompanying mechanism may be entirely removed, substantially as shown and described.

In testimony whereof I hereunto affix my  
45 signature in presence of two witnesses.

HENRY C. CROWLEY.

Witnesses:

A. P. WOOD,

B. B. SHEPHERD.