

H. WHITE.

Improvement in Signal Lights.

No. 124,181.

Patented Feb. 27, 1872.

Fig. 1.

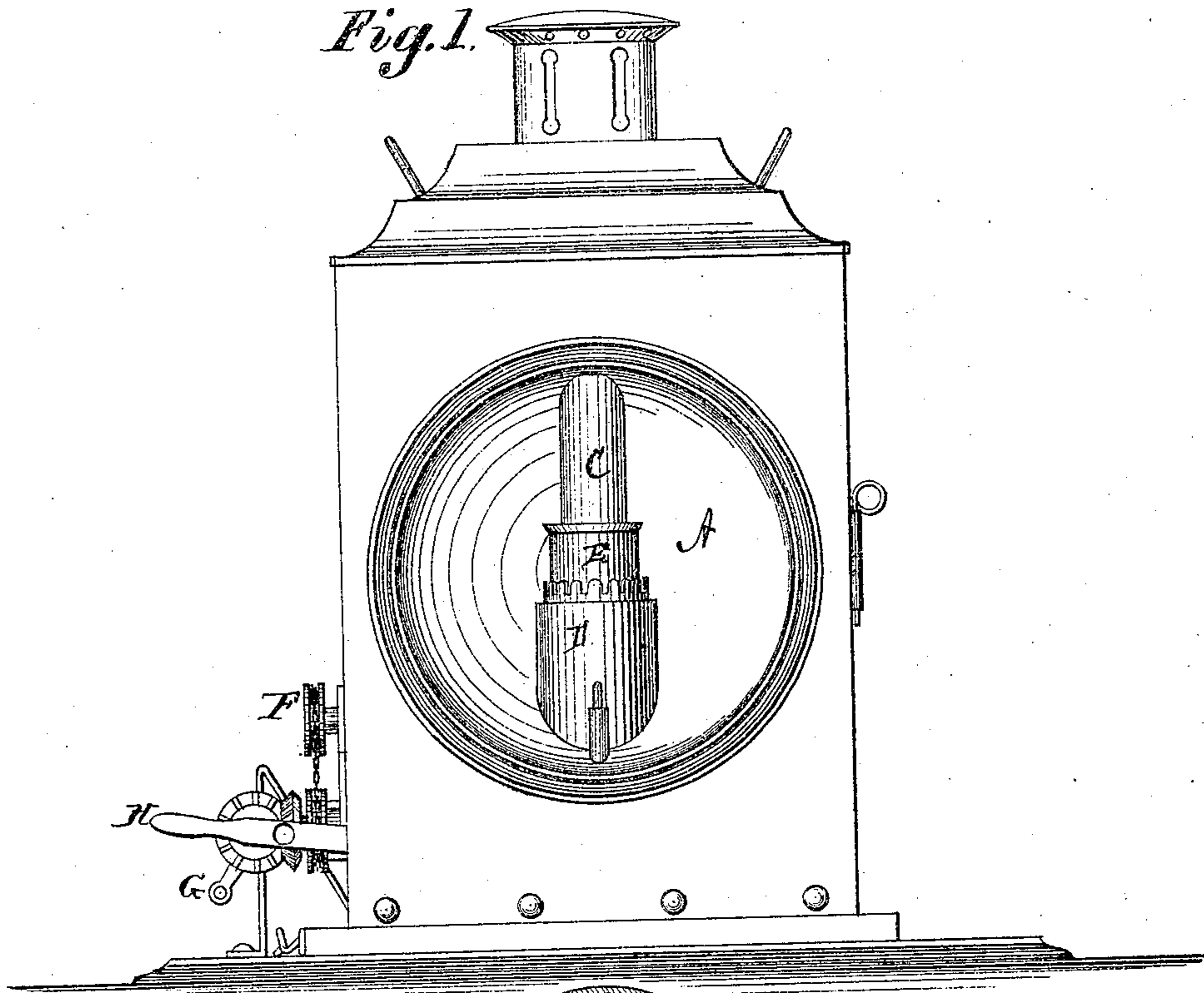
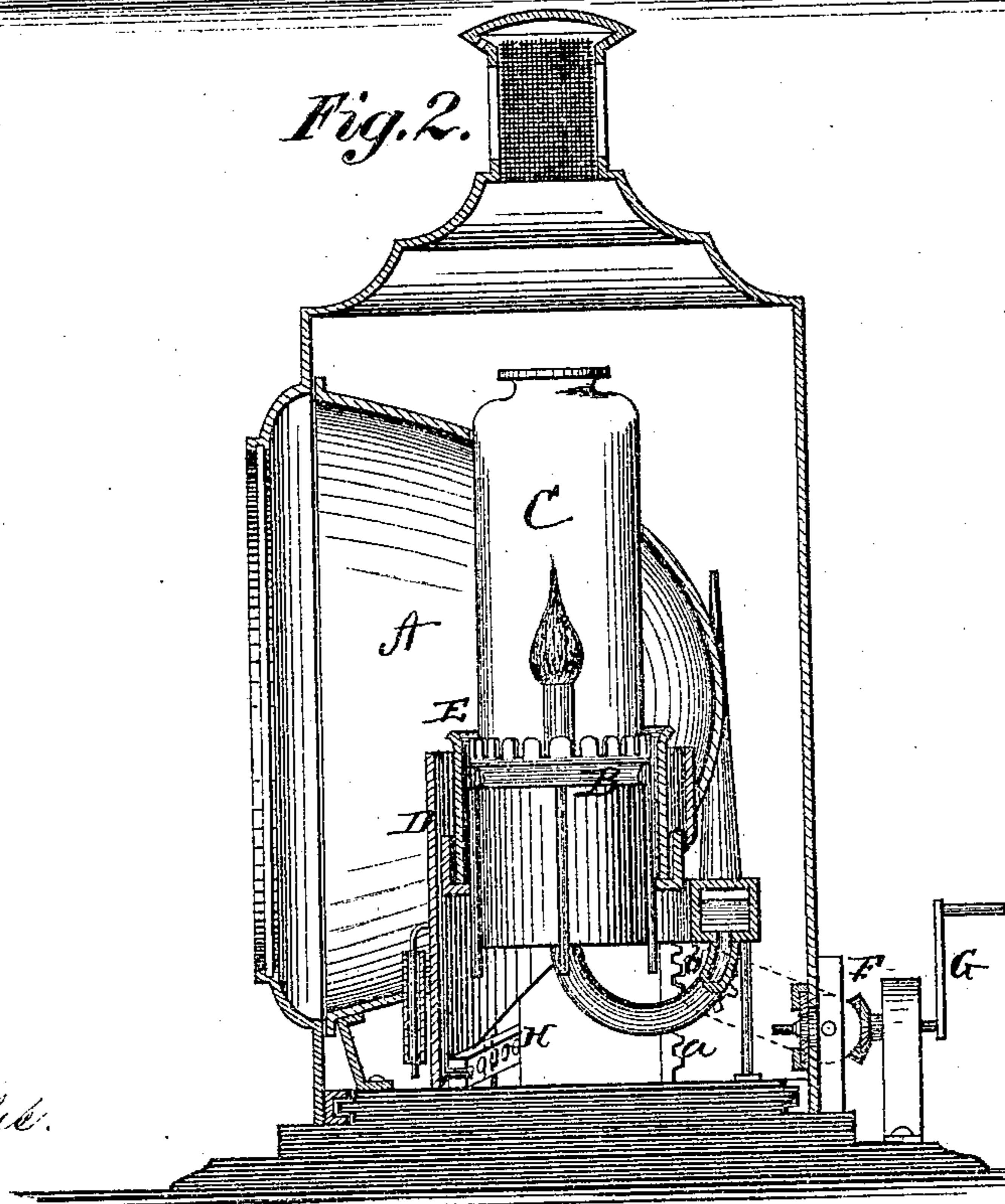


Fig. 2.



Witnesses
Jas. A. Ellis.
H. White

Inventor
H. White.
Per.
J. Alexander
Atty.

UNITED STATES PATENT OFFICE.

HARTSHORN WHITE, OF PHILLIPSBURG, NEW JERSEY.

IMPROVEMENT IN SIGNAL-LIGHTS.

Specification forming part of Letters Patent No. 124,181, dated February 27, 1872.

SPECIFICATION.

To all whom it may concern:

Be it known that I, H. WHITE, of Phillipsburg, in the county of Warren and State of New Jersey, have invented certain new and useful Improvements in Head-Lights for Locomotives; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon which form a part of this specification.

The nature of my invention consists in combining with a no-colored chimney of a head-signal or calcium light, a movable exterior colored chimney; and also in combining with said no-colored and colored chimneys a movable exterior metallic or opaque chimney, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation referring to the annexed drawing, in which—

Figure 1 is a front view of a locomotive head-light or reflector and lamp, and Fig. 2 is a vertical section of Fig. 1 taken on the line *x x*.

A represents the reflector of a locomotive head-light, and B represents the base or support of the usual no-colored chimney C. In all head-lights the lamp is placed in the back part of the reflector, so that the rays of light from the flame will strike on nearly every part of its polished surface. The focus is such that a flood of light is thus thrown upon the railroad object. E represents a colored chimney or tube, so arranged upon the outside of the no-colored chimney that it can be lowered below the flame or raised to surround the same, the object being in the latter case to color the rays of the head-lamp before they come in contact with the reflector, and thus display a bright but colored light when danger is to be signaled.

On some railroads red lights are used to indicate danger; others use green; and still others use blue; hence the color is not material,

as any desired color may be used; and I may use more than one of said colored tubes or chimneys of different colors, as sometimes one color is used to denote danger while another denotes caution. I also use an independent movable metallic or opaque chimney or ring, D, whereby the reflector may be entirely eclipsed by simply raising the same so as to surround the flame, it having the same motion as the colored chimney. This metallic chimney or ring is to be used at night when two or more trains are moving south or east and should meet with a train moving north or west, (as the course of the road may be,) the head-light rays on the locomotive moving north or west will cover and destroy all signal-lights on rear of train No. 1 moving south or east, from view of the engineer of train No. 2 moving in the same direction, and renders the head-light of engine (train moving north or west) a positive nuisance; but by moving the independent movable metallic chimney the engineer can partially or totally eclipse his head-lamp so that the opposing engineer can have full view.

It is also, when not in use, of great advantage and benefit, in that it stands immediately around the colored chimney to shield the same from the rays of light being reflected upon it, which would partially destroy the strength or power of the rays of the head-light. The metallic or opaque chimney may also be used as a signal, and should in all cases be silver-plated or burnished. The arrangement of the colored and metallic chimneys may be used in the same manner on stationary signal-lights and on calcium-lights for artificial purposes. The movable chimneys may be operated in various ways. In the present case a rack, *a*, and pinion *b* is actuated by means of gearing F and crank G. A connecting-rod should extend back to the "cab," so as to be always within reach of the engineer, who will operate the chimneys when necessary. The metallic or opaque chimney D may be operated by a similar device, or by a lever, H, as shown in the drawing. The means for operating the movable chimneys are, however, immaterial, only so that they can be raised and lowered at the will of the engineer.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The within-described locomotive head-light, consisting of the usual reflector A, opaque shield D, and colored ring E, when said shield and ring are connected with suitable mechanism, so as to render them capable of operation, as and for the purpose set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

HARTSHORN WHITE.

Witnesses:

JOHN S. BACH,
STEPHAN WAGNER.