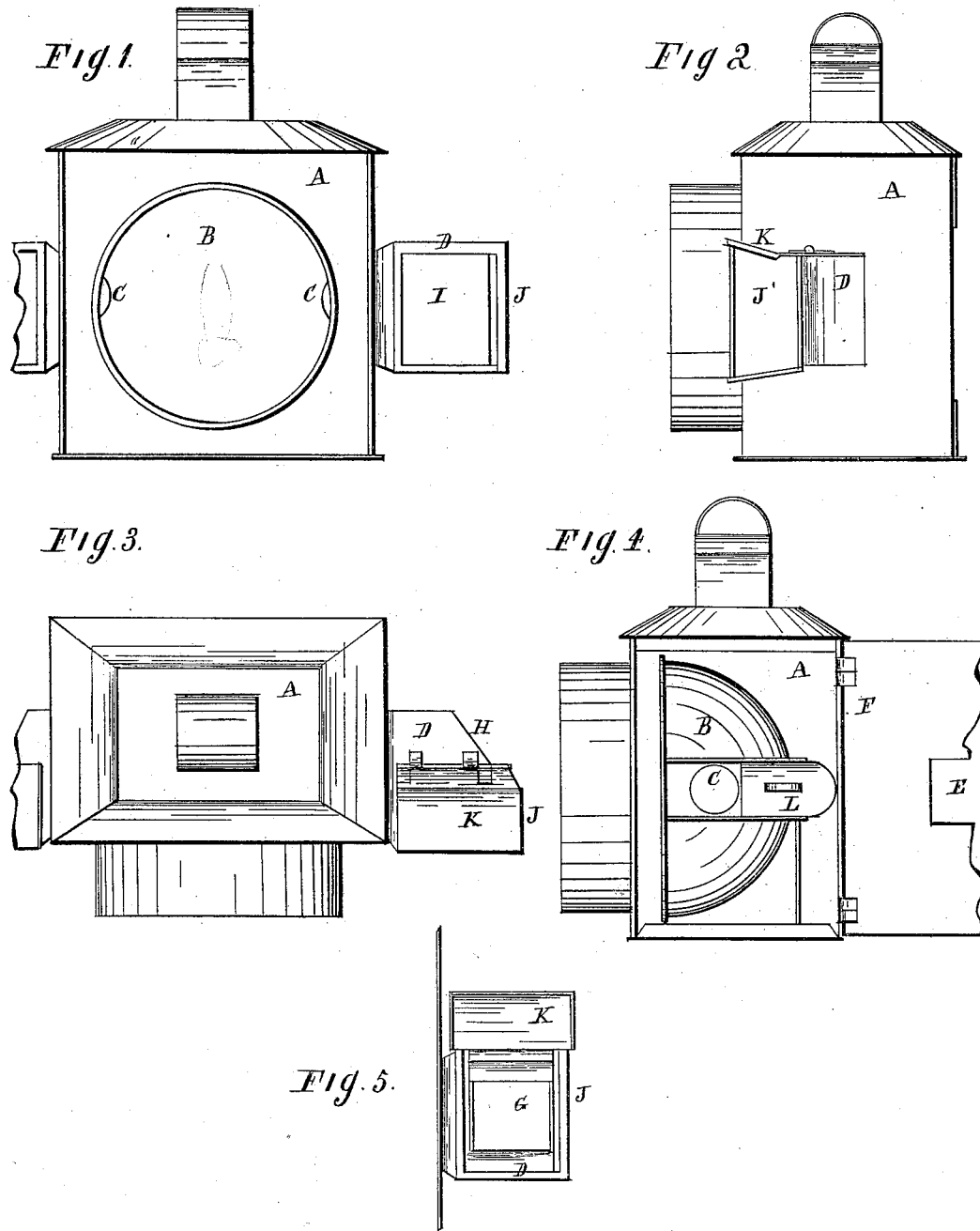


A. DRESSELL, E. H. & J. G. VOTH.
Signal Head-Light.

No. 210,412.

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Witnesses.
J. L. Lyne
E. R. Taylor.

Inventors.
A. Dressell.
E. H. & J. G. Voth.
Per Burridge & Co.
Atty

UNITED STATES PATENT OFFICE.

ANDREW DRESSELL, ERNST H. VOTH, AND JOHN G. VOTH, OF CLEVELAND, OHIO, ASSIGNORS TO DORTHEA DRESSELL AND CHARLES W. VOTH, OF SAME PLACE.

IMPROVEMENT IN SIGNAL HEAD-LIGHTS.

Specification forming part of Letters Patent No. 210,412, dated December 3, 1878; application filed October 28, 1878.

To all whom it may concern:

Be it known that we, ANDREW DRESSELL, ERNST H. VOTH, and JOHN G. VOTH, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and Improved Head-Light for Locomotives; and we do hereby declare that the following is a full, clear, and complete description thereof, reference being had to the accompanying drawings, making a part of the same.

This invention relates to head-lights for locomotives, and has for its object the attachment to said head-lights of side colored lights for signaling purposes.

The chambers of the signal or side lights are connected respectively and directly to each side of the head-light case, and so arranged in relation to the head-light reflector that the light therefrom passes at once into the chambers through openings in the side of the reflector, and corresponding openings in the said chambers, from which it is reflected by a mirror placed at the back of the chambers. The light thus reflected from the chambers is colored by its passage through stained glass, the color being consistent with the signal, and changeable, as the nature of the signal may require.

The invention is an improvement on a patent for head-lights granted to us April 23, 1878, No. 202,711.

A more full and particular description of the improvement will be found in the following specification, and illustrated by the accompanying drawings, in which—

Figure 1 is a front view of the head-light, having attached thereto the side lights or chambers. Fig. 2 is a side view. Fig. 3 is a plan view; Fig. 4, a side view of the inside of the head-light, and Fig. 5 a detached section.

Like letters of reference refer to like parts in the several views.

The head-light above alluded to is, or may be, constructed similar to those in ordinary use; and mainly consists of a lantern or case, A, reflector B, provided with appropriate openings for the chimney and lamp, said lamp being constructed and arranged in relation to the reflector B in the ordinary way. In each

side of the reflector B is an opening, C, Figs. 1 and 4, for the passage of light into the side chambers, D. Said chambers are connected directly to the sides of the head-light case, as shown in the drawings, so that the light from the reflector B can pass at once into the chambers or side lights, the chambers being in open relation to the body of the head-light by openings made in the sides of the body A thereof. One of said openings is shown at E in the door F, Fig. 4, of the head-light, which door is shown as open, that the opening E and the inside of the head-light may be seen. The opening E relatively corresponds to the opening C of the reflector, so that when the door is closed the two openings will be in close proximity to and opposite each other, thereby allowing the light from the reflector to pass at once into the side chamber or chambers, as above said, without the intervention of tubes or conduits.

The side lights, D, above alluded to, consist of a chamber of the shape shown in the drawings, or a modification thereof. In the back of said chamber is a mirror or reflector, G, Fig. 5, arranged at an angle corresponding to the angle of the side H, Fig. 3, of the chamber, so that the light passing into the chamber will be reflected therefrom through the face I, Fig. 1, causing the light to be thrown forward and seen in front of the engine, as the rays are from the head-lights. Light is also thrown from the side J of the side lights or chamber, said sides being of glass, as seen at J' in Fig. 2, and of the same color as the face-glass, so that the colored light or signal-light may be seen from the sides as well as from the front of the engine. Reflectors or mirrors may be arranged in the side chambers at the bottom, top, or sides, other than the reflector last referred to, for the purpose of causing all the light-rays to be thrown through the colored glasses of the side chambers.

Access is had to the front and side glasses of the chambers, for their removal to be replaced by others of a different color; also, access is had to the inside of the chambers by a door, K, which in Fig. 5 is represented as open.

The light from the reflector B may be shut off from the side chambers by a slide, L, Fig. 4.

In our patent above referred to, the side chambers were attached to the sides of the head-light or lamp by a tube, by which they were extended out from the sides of the main light; also, a tube extended from the reflector B of the head-light to said tube, connecting the side lights or chambers to the main light, and into which tube the one from the reflector telescoped on closing the door of the head-light.

In practice it is found that the tubes are unnecessary; that equally good results are obtained by dispensing with them, and attaching the chambers directly to the sides of the head light case, as above described, thereby permitting the light from the reflector to pass immediately into the chamber, and not through tubes, as set forth in the patent alluded to. The expense, also, of the lamp or head-light is much less, as its construction without the

tubular passages is more simple, convenient, and equally efficient. In the chamber of the side lights may be arranged a mirror or reflector, for reflecting the light through the side windows or glass of the chamber.

What we claim as our invention, and desire to secure by Letters Patent, is—

In locomotive head-lights, the side lights or chambers, D, provided with a reflector, glass face and sides, constructed substantially as described, and connected directly to the sides of the head-light, and in open relation therewith, and to the reflector thereof by openings C and E, respectively, as herein set forth, and for the purposes specified.

ANDREW DRESSELL.
ERNST H. VOTH.
JOHN G. VOTH.

Witnesses:

E. HESSENMUELLER,
J. H. BURRIDGE.