W. KELLEY.

Signal for Locomotive Head-Lights.

No. 207,284. Patented Aug. 20, 1878.

Fig. 1. Fig. 2.

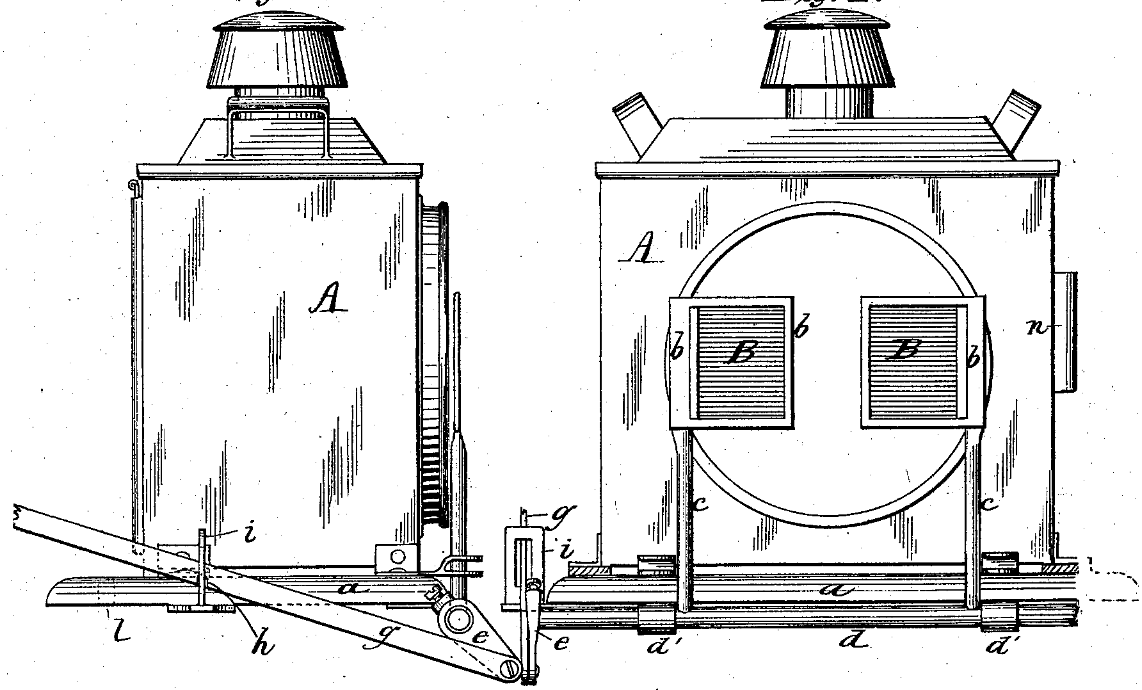
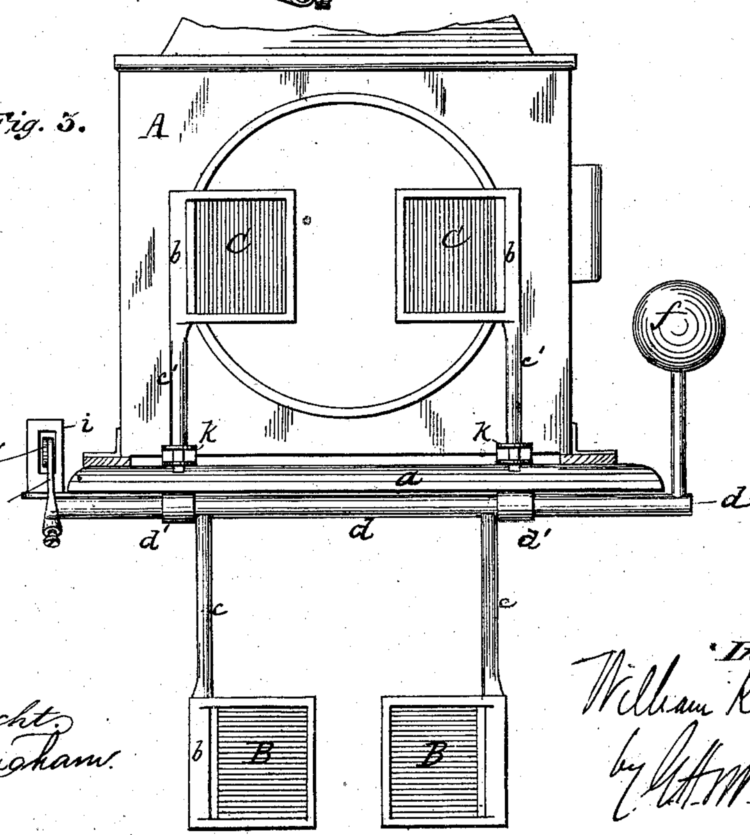


Fig. 3.



Witnesses:

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J. Buckingham

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Fig. 4.

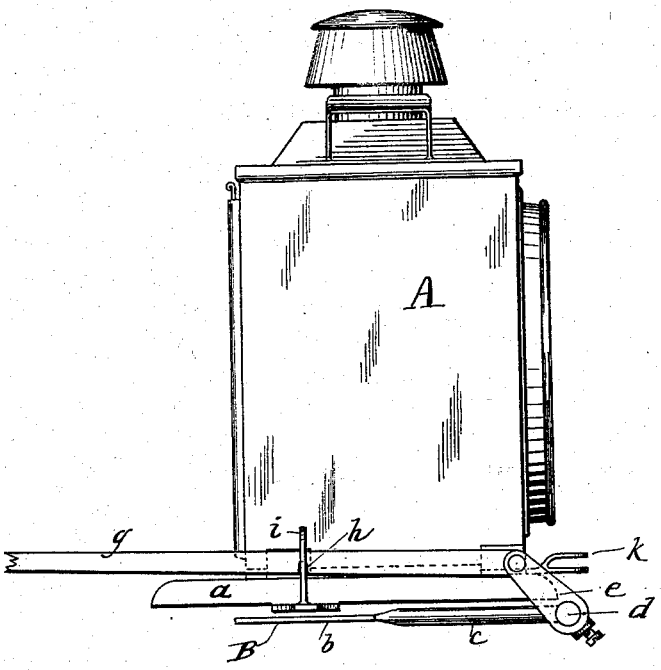

Fig. 5.

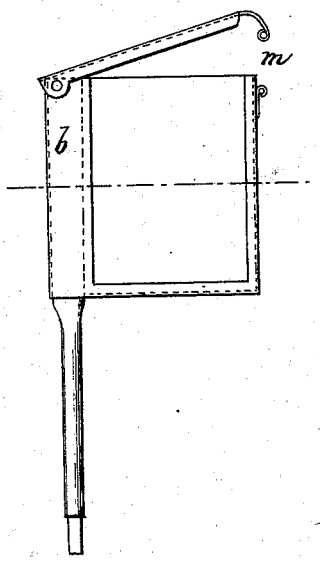

Fig. 6.

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UNITED STATES PATENT OFFICE.

WILLIAM KELLEY, OF BALTIMORE, MARYLAND.

IMPROVEMENT IN SIGNALS FOR LOCOMOTIVE HEAD-LIGHTS.

Specification forming part of Letters Patent No. **207,284**, dated August 20, 1878; application filed April 30, 1878.

To all whom it may concern:

Be it known that I, WILLIAM KELLEY, of the city of Baltimore, in the State of Maryland, have invented certain Improvements in Head-Light Signals for Locomotives, of which the following is a specification, reference being had to the accompanying drawing, and to the letters of reference marked thereon.

My invention relates to a signal which may be exhibited at pleasure in front of the head-light of a locomotive to indicate that the train is followed by another, or as a danger-signal, or for any other purpose.

The invention is applicable as either a night or day signal; and consists, first, in combining with the head-light lantern framed colored-glass plates elevated upon standards in a manner enabling them to be placed in front of the head-light; and, secondly, in certain details of construction involved in the carrying out the said first part of my invention.

In the accompanying drawing, Figure 1 is a side view of the invention, showing the signal in its elevated position before the head-light. Fig. 2 is a front view of the same. Fig. 3 is a front view of the lantern, showing the signal removed from the face thereof, and also showing the application to the lantern of a substitute signal. Fig. 4 is a side view of the lantern, showing the signal in its preferred position of rest. Figs. 5 and 6 are views of details of the invention, as hereinafter described.

Similar letters of reference indicate similar parts in all the views.

A is the head-light lantern, the board or base of which is represented by *a*. B B are red-glass plates inclosed in frames *b* and elevated upon standards *c*. The standards *c* are secured to a horizontal rod, *d*, which rests in bearings *d'*, secured to the under part of the board *a*. A crank, *e*, is placed at one end of the rod *d*, and a counterweight-arm, *f*, at the other. A rod, *g*, is pivoted to the crank *e*, and extends back to the cab of the locomotive, in reach of the engineer.

The standards *c* and frames *b* are painted a bright red, and when in place, as shown in Figs. 1 and 2, are readily seen during the day, resembling the red flags now in common use. At night the light from within the lantern is seen through the red-glass plates, the red signals being thereby produced.

When it is desired to remove the red signal from the face of the lantern the notch *h* of the rod *g* is detached from the guide and locking-plate *i* secured to the lantern-board, the rod *g* is drawn back, causing the crank *e* to make a partial revolution, and the signals B are brought, with their standards, under the board *a*, as shown in Fig. 4, the notch being again fitted to the plate *i*. Should there be obstructions in the way, preventing the signals from being carried under the board, or should the construction of the lantern not permit it, they may be allowed to remain in the position shown in Fig. 3.

C C are substitute signals, of red, green, or other colored glass, the standards of which may be inserted in brackets *k* attached to the board *a*. When not in use the substitute signals C are placed behind the lantern, their standards resting in sockets or holes *l* in the board.

The several glass signals are inclosed in a suitable frame-work, *b*, the top of which is hinged, as shown in Fig. 5, whereby, on raising said portion, the glass plate may be removed. A spring locking device, *m*, is placed on the frame-work, whereby the top may be secured in position when holding the glass plate. The side of the frame-work next to the standard constitutes a socket, into which the standard slips, the rivet upon which the top portion of the frame-work is hinged serving to hold the frame and standard together.

The upper portion of the standards is flattened, to allow it to enter the socket of the frame.

At the side of the lantern is a pocket, *n*, in which extra glass plates are kept as a precautionary measure.

By the use of this invention a railroad company is enabled to save a large amount annually in lanterns of different descriptions and in the oil necessary to be used therewith.

I claim as my invention—

1. The combination, with the base-board *a* of the head-light lantern A, of the swinging colored-glass plates B, mounted upon stand-

ards projecting from a shaft supported by said base-board, and operated by mechanism, substantially as described, whereby the said glass plates may be moved under said board and from the face of the lantern, as and for the purpose specified.

2. The combination, with the base-board *a* of the head-light lantern A, of the signal-supporting shaft *d*, bearings *d'*, crank *e*, notched rod *g*, and locking-plate *i*, substantially as described.

3. A glass signal-plate having the frame-work *b*, the upper portion of which is hinged as described, combined with the standard *c*, substantially as specified.

4. The combination of a standard having its upper portion flattened with the frame-work of the signal-plate, provided with a socket and a securing-rivet, substantially as specified.

In testimony whereof I have hereto subscribed my name this 18th day of April, A. D. 1878.

WILLIAM KELLEY.

Witnesses:
GEORGE H. HOWARD,
N. P. CALLAN.