

No. 631,686.

Patented Aug. 22, 1899.

W. H. I. WELCH.
SIGNAL LANTERN.

(Application filed Jan. 30, 1899.)

(No Model.)

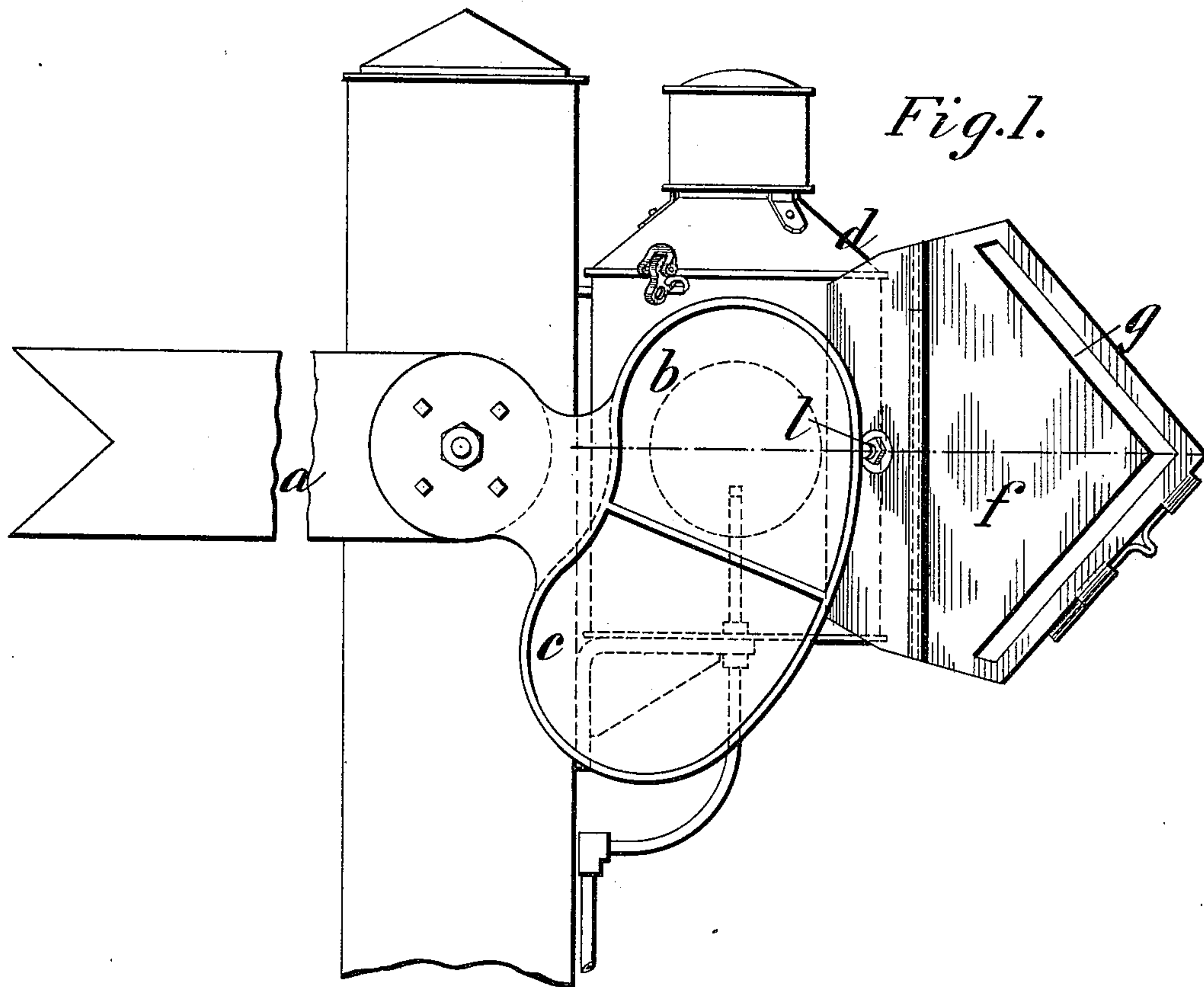
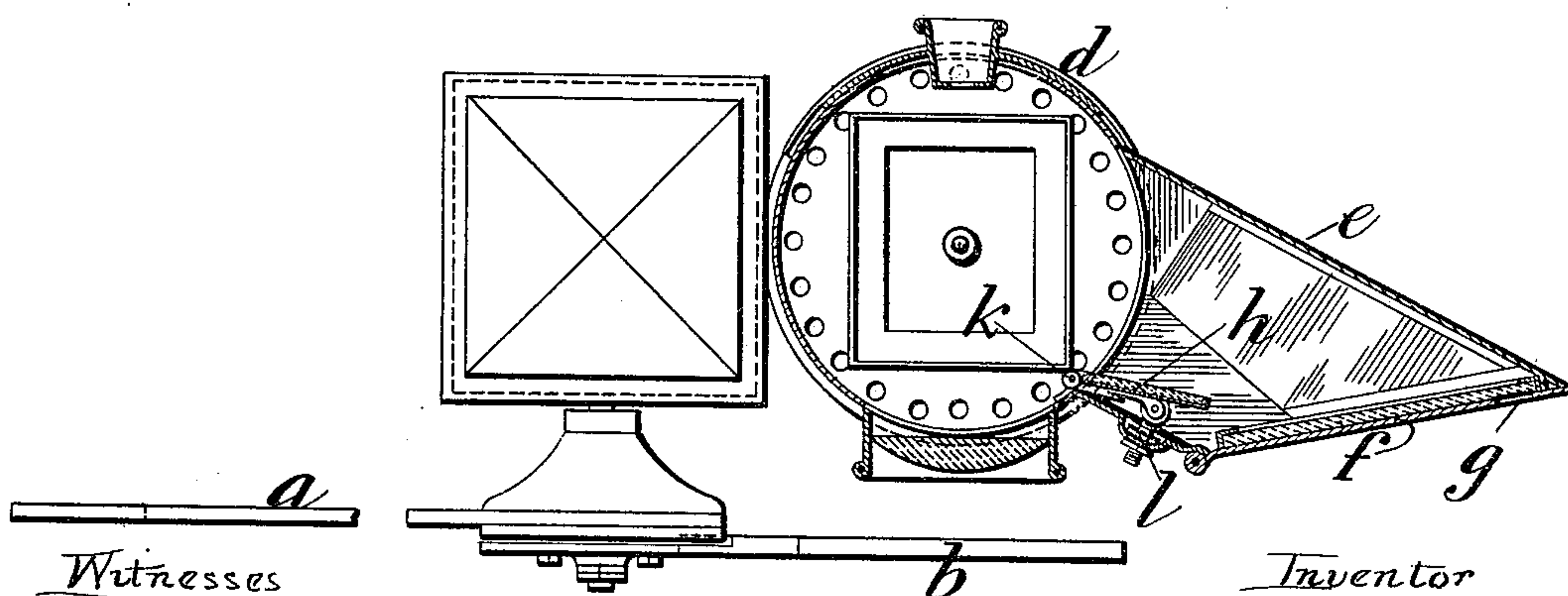


Fig. 2.



Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM H. I. WELCH, OF LONDON, ENGLAND.

SIGNAL-LANTERN.

SPECIFICATION forming part of Letters Patent No. 631,686, dated August 22, 1899.

Application filed January 30, 1899. Serial No. 703,882. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HENRY ISAAC WELCH, a citizen of England, residing at No. 68 Coborn road, Bow, London, England, have
5 invented certain new and useful Improvements in Signal-Lanterns, (for which I have made application for patent in Great Britain, No. 15,343, dated July 12, 1898,) of which the following is a specification.

10 Railway semaphore-signals are often distinguished by having their arms specially shaped or marked by numbers or letters.

My invention has for its object to render such distinctions of signals visible at night
15 by a special construction of the lantern employed for indicating "safety" or "danger" by sending light through the colored glasses. For this purpose I construct the lantern as I shall describe, referring to the accompanying
20 drawings.

Figure 1 is an elevation of part of the signal-post, showing the semaphore-arm *a*, the colored glasses *b* and *c* attached thereto, and a lantern *d*, according to my invention. Fig.
25 2 is a sectional plan of the lantern *d*.

I form at the side of the lantern a compartment having an inclined back *e*, preferably colored white, and a front *f* made of silvered glass, this front being parallel or approximately parallel to the semaphore-arm *a*. By
30 scraping off so much of the silvering of *f*, so as to present an angle *g*, the light of the lantern being reflected from the whitened back *e* and passing through this transparent part
35 of the front *f* renders visible at night an angle which, being a mark corresponding to the angle-notch of the semaphore-arm, indicates that the signal is a distant one.

By "distant" signal I mean a signal which

is usually nearly a quarter of a mile from the station or stopping-place to give timely notice to advancing trains. It is so termed as opposed to station-signals.

Instead of or in addition to the angle or a mark of some other distinctive shape there
45 may be a number or letter presented.

In order to increase the amount of light reflected from the inclined back, I provide another mirror *h* in position to reflect rays from the flame onto the back *e*, and in order that
50 this mirror *h* may be set in the best position I hinge it like a door at one edge *k* and provide an adjusting-screw and nut *l*, by which it can be adjusted to the required angle. The silvering or looking-glass material is impor-
55 tant in this connection, as it reflects back light on the white surface of the back *e*, and thereby increases the light displayed through the clear part.

Having thus described the nature of my said
60 invention and the best means I know of carrying the same into practical effect, I claim—

A lantern having an angular extension at the side with reflecting-back and a front of reflecting material with parts removed near
65 the angle of the front and back to form a transparent portion, and an adjustable mirror pivotally mounted within said extension substantially parallel with the back and adjacent to but independent of the front, as and for the
70 purpose specified.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLIAM H. I. WELCH.

Witnesses:

JNO. P. M. MILLARD,
FRED C. HARRIS.