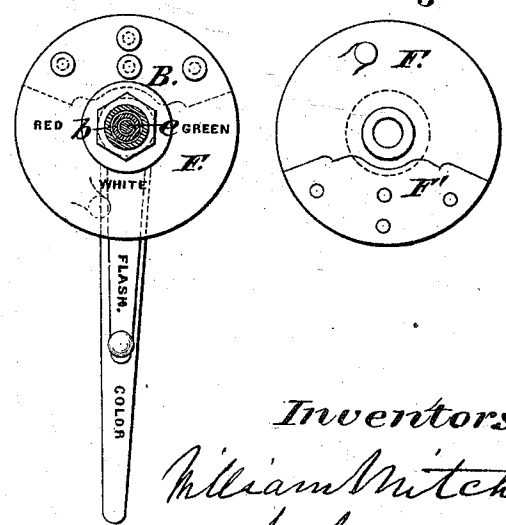
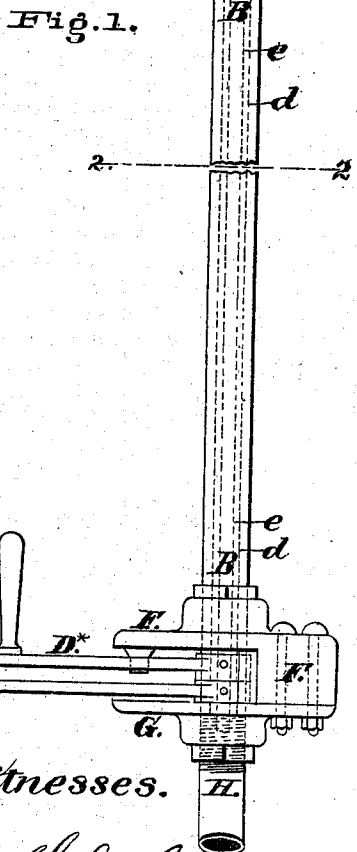
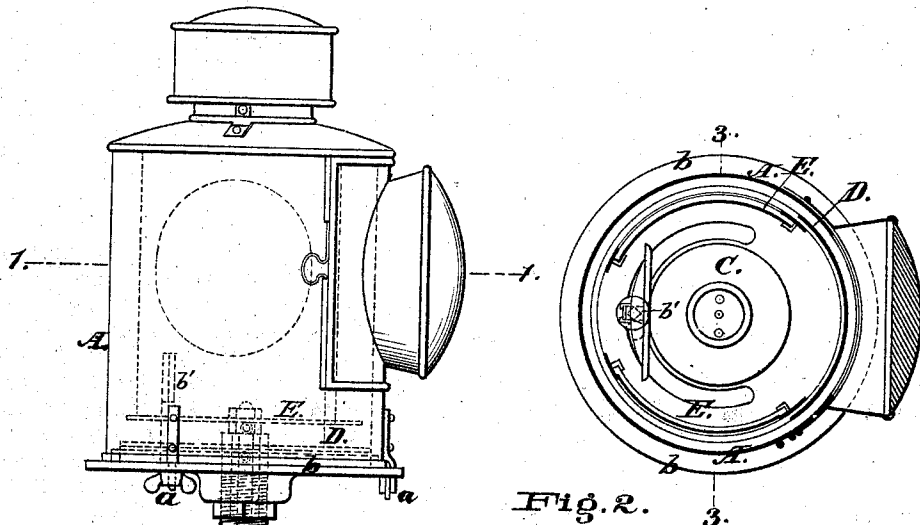


W. MITCHELL & J. J. MAYO.

Flash-Light Signals.

No. 141,010.

Patented July 22, 1873.



Witnesses.
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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN FLASH LIGHT-SIGNALS.

Specification forming part of Letters Patent No. 141,010, dated July 22, 1873; application filed May 24, 1873.

To all whom it may concern:

Be it known that we, WILLIAM MITCHELL, of London, and JOHN JOSEPH MAYO, of Benhilton, Sutton, Surrey county, England, have invented certain Improvements in Signal Apparatus for giving flashes of light of different colors, of which the following is a specification:

This invention has for its object to improve the construction of signal apparatus adapted for giving flashes of light of different colors more especially for signaling with the international code of signals.

Heretofore it has been proposed to construct lanterns with two internal screens, each capable of being revolved by handles either at the sides or top of the lantern. One of these screens has carried glasses, of one or more colors, so that either one or other colored glass can, by turning the screen, be brought behind the lens of the lantern and govern the color of the light. The other screen has been a "dark screen," which could be turned into a position to cut off all passage of light to the lens. According to our invention we mount upon the top of a hollow stem a lantern fitted, as above described, with two internal screens. The bottom of the lantern is at its center attached to the top of the hollow tubular stem, and in order to be able to revolve the screens two concentric tubes or a tube and rod passing up through the stem are employed. One tube is attached at its upper end to the bottom of one of the revolving screens, while the other tube or the rod is attached to the bottom of the other revolving screen; and to the lower end of the tube and of the rod handles are attached, by which they can be turned together with the screens carried by them. The bottom of the tubular stem which carries the lantern is fixed to the center of a disk, which at its circumference is attached to a second disk at a short distance from it.

When the signal apparatus is to be used on board ship the second disk has projecting downward from its center a stem suitable for being dropped into sockets or gimbals, which may be fixed to the ship on either side and at the stem and stern, so that the lantern may be set up in whichever position may at any time be most suitable for signaling from. The handles, which are attached to the inner tube and rod, project out between the disks before mentioned at the lower end of the stem. The tubular stem may be of any desired length so as to elevate the lantern to any desired extent above the man who is to work the handles at its lower end.

By the above-described arrangement a very cheap and simple apparatus is obtained, suitable for signaling by flashes of light of various colors, so that signals may be transmitted at night by the international code either from one ship to another or between a ship and land, in the same manner as day-signals are transmitted by different-colored flags.

The drawings hereunto annexed show a signal apparatus constructed as above described. Figure 1 is a side elevation of the apparatus, and Fig. 2 is a horizontal section of the same taken on the line 1 1, Fig. 1. Fig. 3 is a horizontal section taken on the line 2 2, Fig. 1, and Fig. 4 is an under-side view of the upper disk F.

A is the outer casing of the lantern, fastened by screw-pins and thumb-nuts *a* to a disk, *b*, which is screwed onto the top of the tubular stem B. Standing up from the disk *b* is a pin, *b'*, which is to carry the lamp C with its reflector. Any suitable kind of lamp or illuminating apparatus may be employed. Within the outer casing A are two revolving screens, D and E; one is a dark screen, which can be turned into a position to cut off the passage of light from the lantern, and the other carries a green and also a red glass or

glasses, or other colors might be used. The disks which form the bottoms of the two screens have slots cut through them for the pin *b'* to pass through. These slots are of sufficient length to allow each screen to be turned to the requisite extent. The tubular stem B at its lower end screws into a socket on the disk F. The screen D, which is the dark screen is connected to the top of a tube, *d*, which passes down through the stem B, and has a handle, D^x, attached to it at its lower end. The screen E which carries the colored glasses is similarly connected to a rod or tube, *e*, passing down through the tube *d*, and has a handle, E^x, attached to its lower end. The disk F, as shown by the drawing, has a projection, F^x, upon it, which rests on the lower disk G, and is connected to it by bolts, as shown by the drawing. A rod or tube, H, screws into a socket on the under side of this disk and forms a stem, which may be dropped into sockets or gimbals wherever the lantern is to be set up; or if the lantern is not required to be movable the disk G might be otherwise secured wherever it is desired to set up the lantern.

When signaling by the apparatus above described, any desired number of consecutive flashes, either of a white, red, or green light, may be given. When flashes of white light are to be given the handle E^x is turned into the position shown at Figs. 1 and 3, and flashes of light are given by turning away the dark screen by its handle D^x from behind the lens of the lantern, in which position it is shown in the drawing, and then again turning it back to again shut off the passage of light, and any number of flashes may be thus given. To give flashes of red light the red glass of the screen E is brought behind the lens by turning the handle E^x to the left side until it comes against the stop F', and flashes of light are then given by working the handle D^x, as above explained. If flashes of green light are to be given, the handle E^x is similarly turned in the opposite direction—that is to say, to the right—until it comes against the other side of the stop F'.

To transmit signals by flashes of different-colored light we employ consecutive flashes of light of one or more colors, in the manner shown by the following table, to represent the several signal-letters for the international code which is now in general use. By an arbitrary combination of two, three, or four of these letters, which are represented by flags during the day and by flashes of light at night, as now proposed, universal signals are made by ships at sea, and by signal-stations

on shore, which have the same signification in all languages.

WHITE.		RED.		GREEN.	
Number of flashes.	Signal letters.	Number of flashes.	Signal letters.	Number of flashes.	Signal letters.
1	B	1	J	1	Q
2	C	2	K	2	R
3	D	3	L	3	S
4	F	4	M	4	T
5	G	5	N	5	V
6	H	6	P	6	W

Examples.

Q. 1 flash, green; interval equal to 3 flashes.
H. 6 flashes, white; interval equal to 3 flashes.
M. 4 flashes, red; interval equal to 3 flashes.
F. 4 flashes, white; interval equal to 3 flashes, and then open red light, as directed in the instructions.

Q H M F: "Briton of Southampton."

Owners: Union Steam-Shipping Company.

P. 6 flashes, red; interval equal to 3 flashes.

Q. 1 flash, green; interval equal to 3 flashes.

G. 5 flashes, white; interval equal to 3 flashes, and then open red light, as directed in instructions.

P Q G: "Report me to my owners."

The apparatus hereinbefore described for signaling by flashes of light is applicable not only for signaling by the code or system above described, but also by other codes or systems for transmitting signals by flashes of different-colored light.

Having thus described the nature of our invention, and the manner of performing the same, we would have it understood that what we claim as our improvements in signal apparatus for giving flashes of light of different colors, is—

The lantern A, hollow supporting-post B, disks F and G, screens D and E, tubes *d* and *e*, and levers D^x and E^x, when constructed as shown, and combined to operate substantially as and for the purpose specified.

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