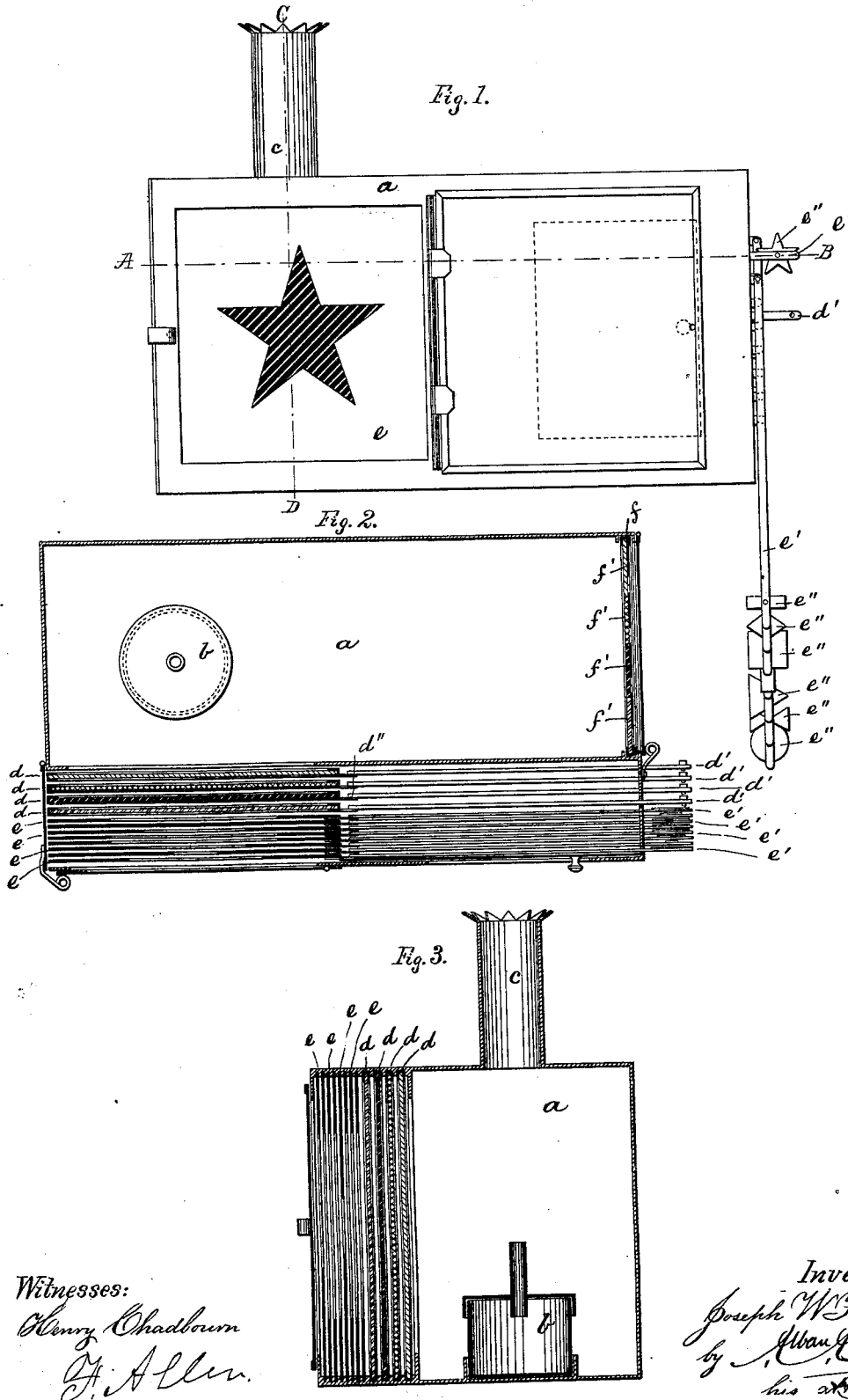


J. W. FOWLE.
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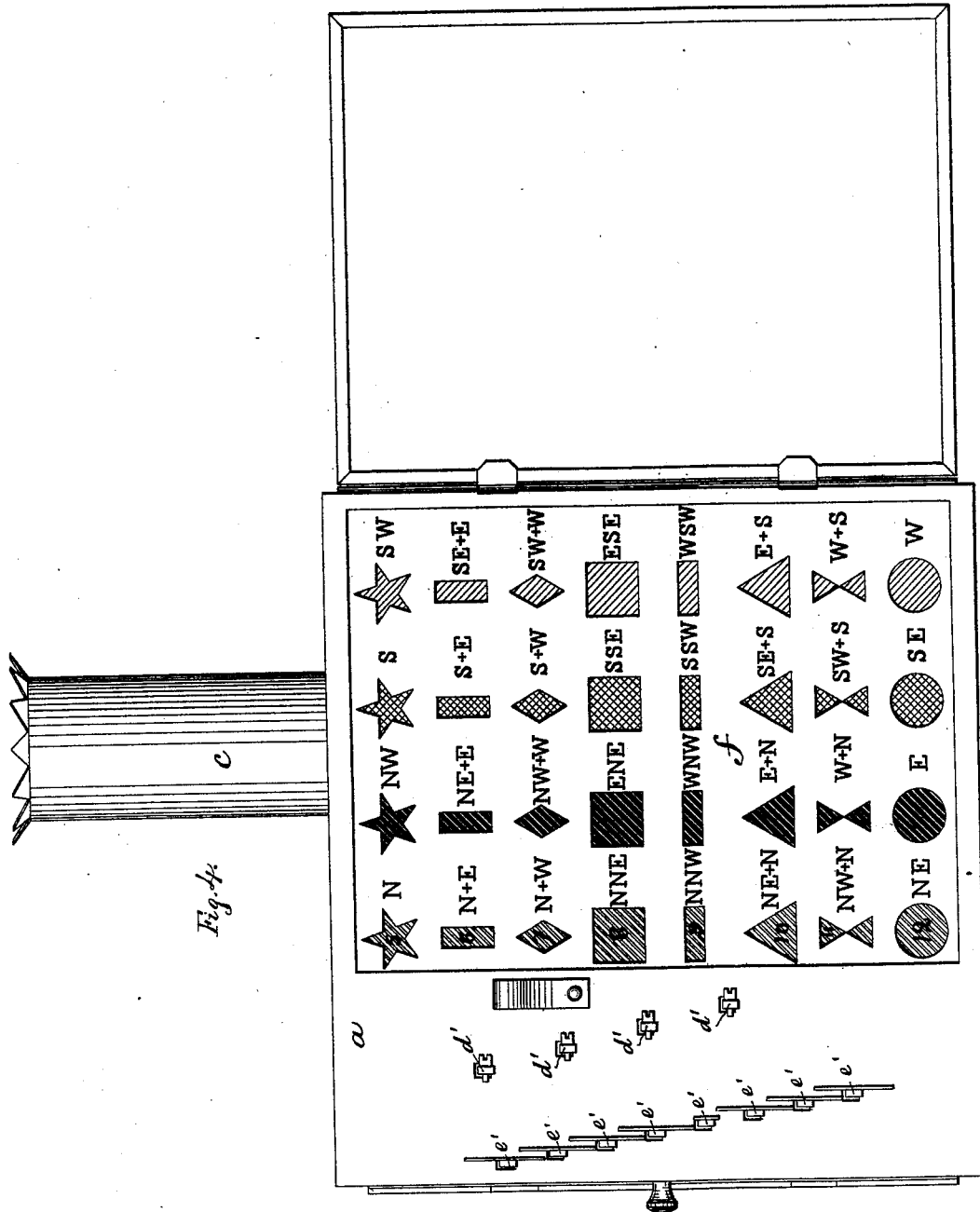


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Fig. 5.

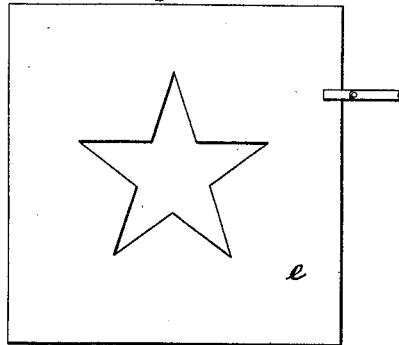


Fig. 6.

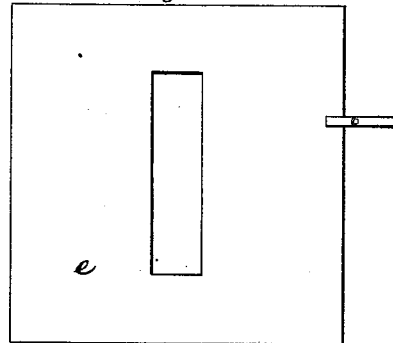


Fig. 7.

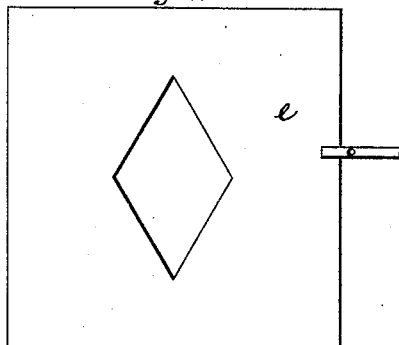


Fig. 8.

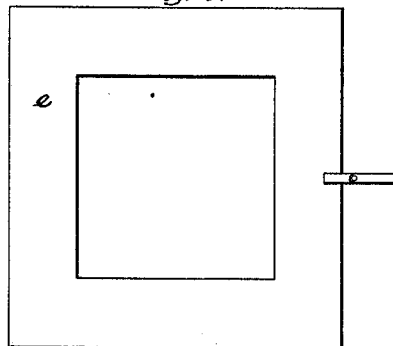


Fig. 9.

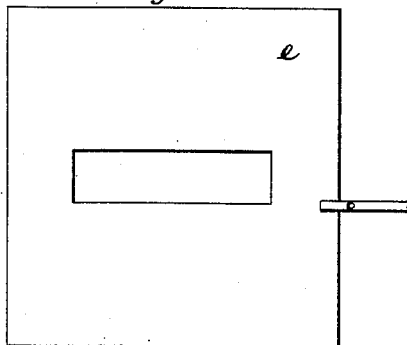


Fig. 10.

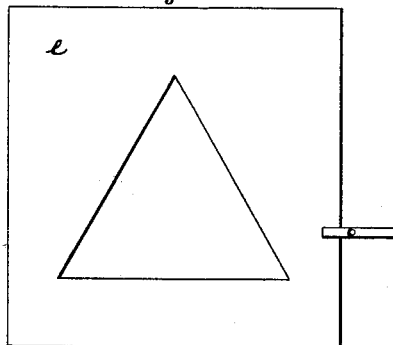


Fig. 11.

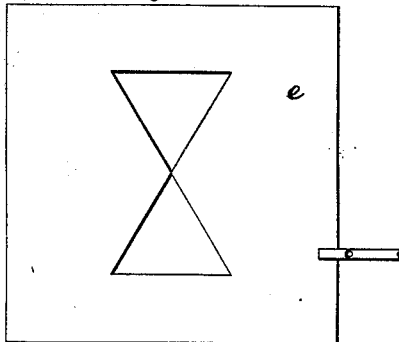
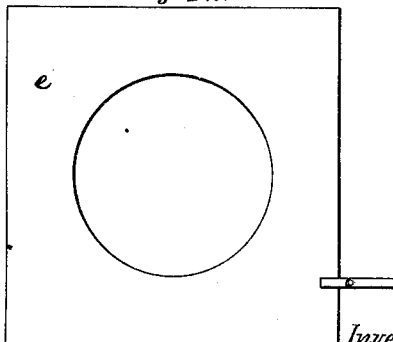


Fig. 12.



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UNITED STATES PATENT OFFICE.

JOSEPH W. FOWLE, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN SHIPS' NIGHT-SIGNALS.

Specification forming part of Letters Patent No. **220,230**, dated October 7, 1879; application filed April 9, 1879.

To all whom it may concern:

Be it known that I, JOSEPH W. FOWLE, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Ships' Night-Signals and Apparatus; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in ships' night-signals and signal apparatus; and it consists of one or more lanterns for each vessel, which lantern is provided with a light of any ordinary kind, and with movable colored glass slides, as well as with movable perforated signal-plates, each one of the latter having a perforation of a peculiar and prominent design and outline, so that its shape may be easily recognized and perceived from other vessels at a safe distance to allow them to change their courses accordingly.

It is, of course, immaterial what colors or marks are used for this purpose in the lanterns; but once agreed upon they should remain permanent and unchangeable among all maritime nations.

The exact number of marks on the perforated slides may also vary without departing from the essence of my invention—as, for sailing-vessels, eight or sixteen changes may be found sufficient, though thirty-two would give the complete number of points of the compass, and this latter number would probably be used on steamers.

Each peculiar colored design as seen on the lantern should correspond with a particular point on the compass. Thus, for instance, if the vessel was sailing due north, it would display a peculiar colored design from its lanterns to indicate to other vessels the direction in which it was sailing or propelled by steam, and such colored design should instantly be changed the moment the course of the ship is altered. Thus, for instance, a red star might be the sign for going north, a red vertical bar for north by east, a red diamond for north by west, a red square for north-

north-east, a horizontal bar for north-north-west, a red triangle for north-east by north, a red double triangle or hour-glass-shaped figure for north-west by north, and a red ball for north-east; and by using blue, yellow, and green glasses in addition to the red, in combination with the aforesaid eight designs, all of the thirty-two points of the compass can be indicated.

In this manner each vessel will distinctly show by design and color in its lantern or lanterns the exact direction in which it is sailing, and other vessels passing by it will know the course the other one is going, and they are thus enabled to take a definite course without liability to collisions or accidents.

If a vessel carries more than one lantern—as, for instance, port, starboard, and head lights—all of them must show the same colored design at the same time, as no difference exists between port and starboard lights with this invention.

The movable colored glasses and the movable perforated plates may be arranged in the form of slides, and be provided with levers or handles by which they may be operated from the outside of the lantern, and each of such levers or handles may be provided with a corresponding mark or design, so as to indicate to the operator or officer in charge what design is showing.

I do not wish, however, to confine myself to sliding colored glasses and sliding perforated plates, as rotary or oscillating or rocking plates may for this purpose be used to equal advantage.

In addition to the aforesaid lantern with its movable colored glasses and movable perforated plates, I provide it with a chart-plate that is provided with colored glasses and perforated plate having compass-point marks made thereon, so as to enable the operator to alter the colored design in the lantern immediately upon command being given according to the course the vessel is put to. Similar charts, showing design colors and compass-points, may, for further security's sake, be located within the captain's and officers' cabins, as well as in the wheel-house.

In using sliding colored glasses and sliding perforated plates, the handles or levers by

which they are respectively operated may project through the end of the lantern or through the top thereof without departing from the spirit of my invention.

On the accompanying drawings, Figure 1 represents a side elevation of my improved lantern. Fig. 2 represents a horizontal section on the line A B, shown in Fig. 1. Fig. 3 represents a vertical section on the line C D, shown also in Fig. 1. Fig. 4 represents an end view of the lantern with its chart and index. Figs. 5, 6, 7, 8, 9, 10, 11, and 12 represent the perforated lantern-plates, as will hereinafter be more fully shown and described.

a is the lantern, with its lamp *b* and chimney *c*, as usual. *d d d d* represent the movable colored glasses, arranged to move in guides within the lantern *a*, as shown. *d' d' d' d'* represent the levers or handles by which the said colored glasses are operated, each of which levers is preferably provided with a joint, *d''*, as shown, so as to enable the levers or handles of such of the glasses not in use for the time being to be swung down at the side of the lantern, as shown in Figs. 1 and 2. *e e e e* represent the movable perforated signal-plates, movable in guides within the lantern *a*, and they are preferably provided with jointed levers *e' e' e' e'*, in a similar manner and for a similar purpose as heretofore described in the description of the colored movable glasses.

The end of each lever *e'* may be provided with a design, *e''*, corresponding to the design on its respective signal-plate, so as to aid the operator in quickly setting any desired signal and replacing it with others as the course of the vessel is altered.

The designs in Figs. 5, 6, 7, 8, 9, 10, 11, and 12, combined with the colored glasses *d d d d*, serve to indicate any desired direction in which the vessel is sailing—as, for instance, Fig. 5, red indicates north; blue, north-west; yellow, south, and green south-west. Fig. 6, red indicates north by east; blue, north-east by east; yellow, south by east, and green south-east by east. Fig. 7, red indicates north by west; blue, north-west by west; yellow, south by west, and green south-west by west. Fig. 8, red indicates north-north-east; blue, east-north-east; yellow, south-south-east, and green east-south-east. Fig. 9, red indicates north-north-

west; blue, west-north-west; yellow, south-south-west, and green west-south-west. Fig. 10, red indicates north-east by north; blue, east by north; yellow, south-east by south, and green east by south. Fig. 11, red indicates north-west by north; blue, west by north; yellow, south-west by south, and green west by south. Fig. 12, red indicates north-east; blue, east; yellow, south-east, and green west.

Said colors and symbols are, of course, only arbitrary, and may be altered, but, after once established by law, treaty, or otherwise between nations, are to be standard and permanently adhered to, without any change whatever.

f in Figs. 2 and 4 represents the chart or index-plate that forms one side of the lantern, as shown. Said index-plate or chart is provided with colored glasses *f' f' f' f'*, corresponding in colors respectively to the colored glasses *d d d d*. The said chart is further provided with perforated designs 5, 6, 7, 8, 9, 10, 11, and 12, corresponding in shape and outlines respectively to the Figs. 5, 6, 7, 8, 9, 10, 11, and 12 heretofore referred to. The said chart is also provided with perforated compass-point letters N, W, S, and E, singly and combined, to indicate and denote the various points of the compass, as shown.

Having thus fully described the nature, construction, and operation of my invention, I wish to secure by Letters Patent and claim—

1. The herein-described lantern *a b c*, with its movable colored glasses *d d d d* and movable perforated signal-plates *e e e e*, as and for the purpose set forth.

2. In combination with the lantern *a b c* and its movable colored glasses *d d d d* and movable perforated signal-plates *e e e e*, the chart *f*, with its colored glasses *f' f' f' f'* and perforated designs 5, 6, 7, 8, 9, 10, 11, and 12 and compass-letters, substantially as set forth and described.

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

JOSEPH W. FOWLE.

Witnesses:

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CHARLOTTE E. THOMPSON.