

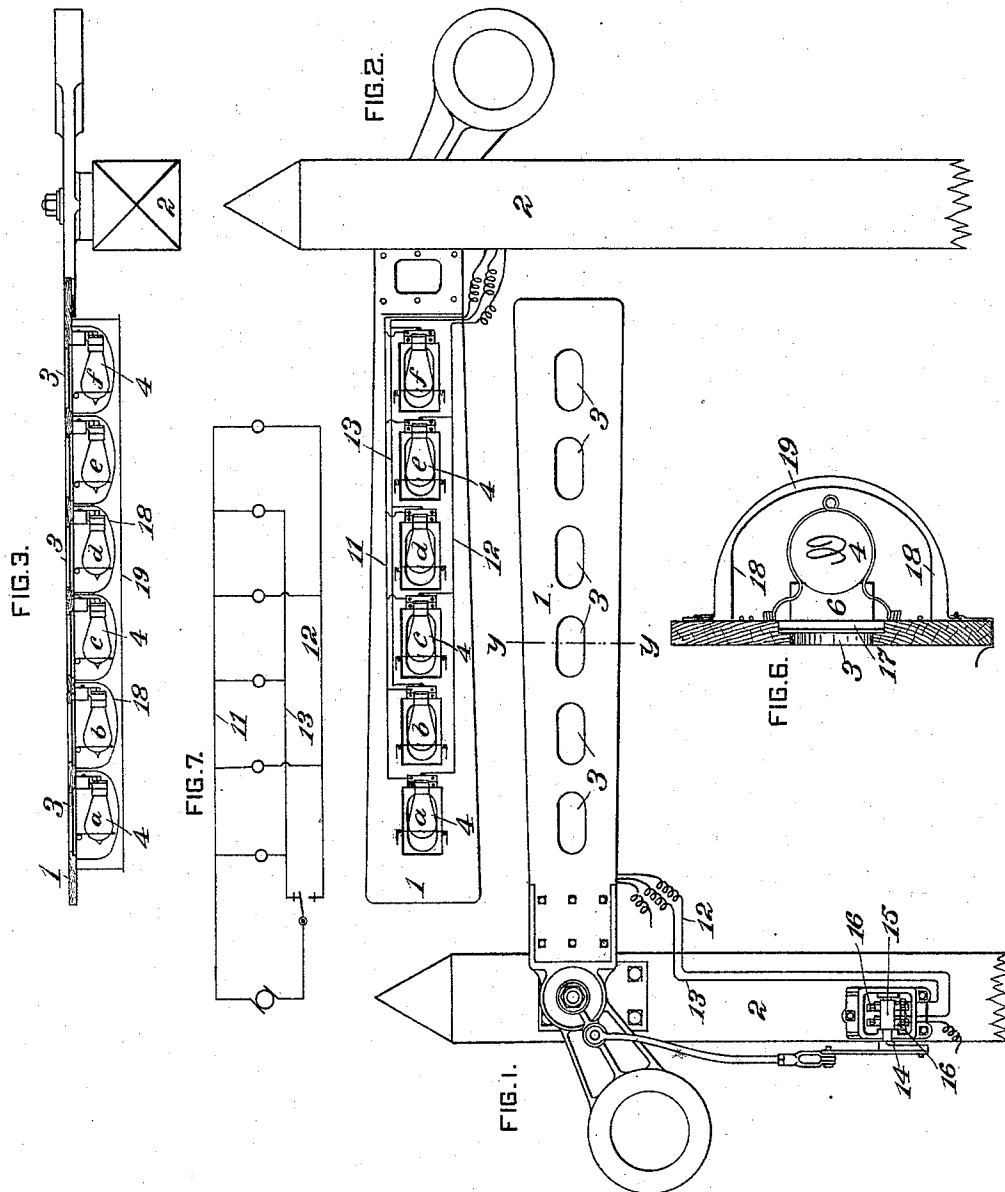
(No Model.)

2 Sheets—Sheet 1.

E. H. GOODMAN.
SIGNAL.

No. 534,826.

Patented Feb. 26, 1895.



WITNESSES:

Chas F. Miller
J. E. Maithew

INVENTOR

Edward H. Goodman

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ATTORNEY

(No Model.)

2 Sheets—Sheet 2.

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SIGNAL.

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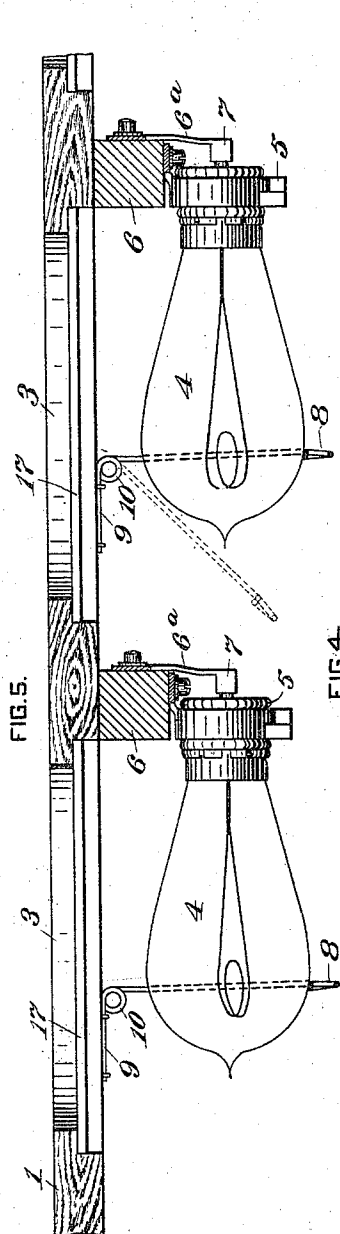


FIG. 5.

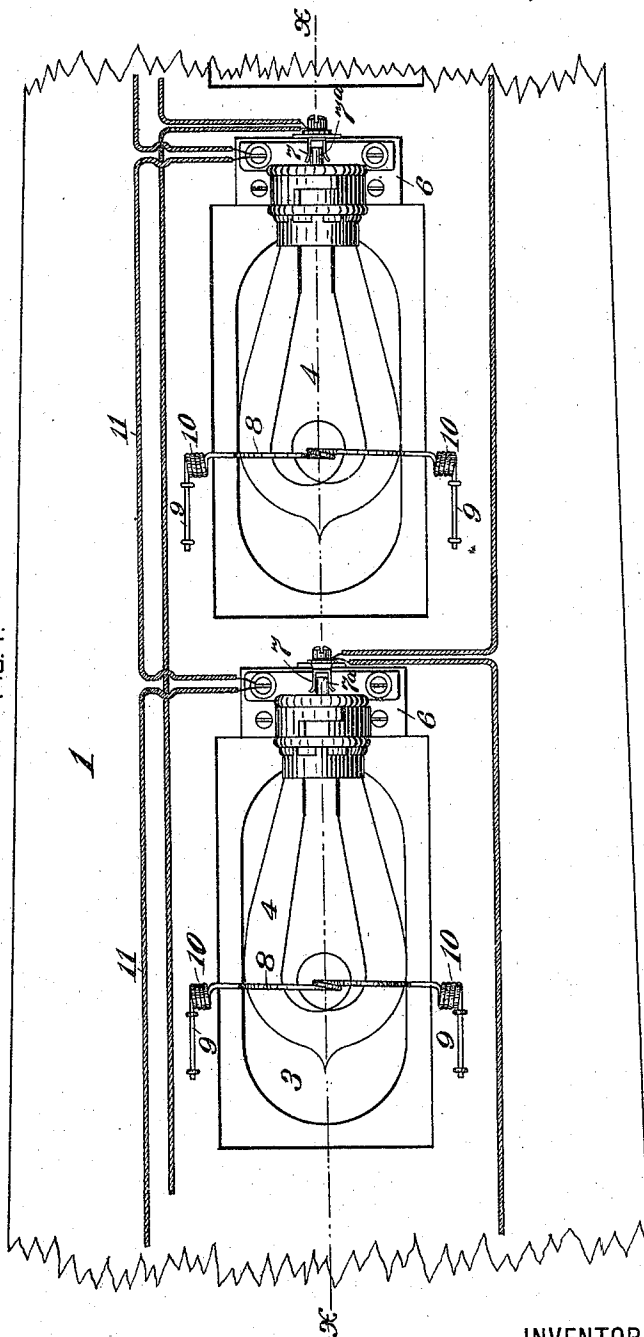


FIG. 4.

WITNESSES:

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UNITED STATES PATENT OFFICE.

EDWARD H. GOODMAN, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR TO THE
UNION SWITCH AND SIGNAL COMPANY, OF SAME PLACE.

SIGNAL.

SPECIFICATION forming part of Letters Patent No. 534,826, dated February 26, 1895.

Application filed October 25, 1894. Serial No. 526,938. (No model.)

To all whom it may concern:

Be it known that I, EDWARD H. GOODMAN, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented or discovered certain new and useful Improvements in Signals, of which improvements the following is a specification.

The invention described herein relates to certain improvements in illuminated semaphore or position signals, and has for its object the arrangement of two lamps or series of lamps or illuminating devices on the blade of the signal, one of the lamps or series of lamps being adapted to be darkened and the other lamp or series illuminated, when the blade is in one position, *e. g.*, at danger, while the second lamp or series is darkened and the first lamp or series is illuminated, when the blade is in another position, *e. g.*, at safety.

To this end the invention consists, in general terms, in the construction and combination, substantially as hereinafter described and claimed.

In the accompanying drawings forming a part of this specification, Figure 1 is a front elevation of my improved signal. Fig. 2 is a rear elevation of the same. Fig. 3 is a top plan view. Fig. 4 is a rear elevation of a portion of the signal blade, on an enlarged scale, the protecting and isolating hoods being removed. Fig. 5 is a sectional view, the plane of section being indicated by the line *x, x*, Fig. 4. Fig. 6 is a transverse section, on an enlarged scale, the plane of section being indicated by line *y, y*, Figs. 1 and 2, and Fig. 7 is a diagrammatic view.

In the practice of my invention, the signal may be of any desired or suitable form or construction and the blade or indicating portion shifted in any suitable manner. For convenience I have shown my invention applied to a semaphore blade 1, pivotally mounted on a post 2, and designed to be shifted by any suitable form of mechanism. Through the blade is formed a series of openings 3, preferably oblong in shape, so that light escaping there-through will have bar-like appearance, which will be enhanced by contiguous slots or openings. A series of lamps 4, preferably of the incandescent electric type, are arranged on the

rear side of the blade in line with the slots. The supports or sockets 5 for the lamps are preferably secured on blocks 6, projecting from the blade, so that the lamp will be held at such a distance from the blade that all but substantially parallel rays will be cut off and prevented from passing through the slots. When using electric lamps, the sockets form one of the terminals for the light circuit, the other terminals being formed by arms 6^a, provided with clamping fingers 7, to grasp the pin 7^a, which forms one of the terminals of the lamp conductors. Other means for connecting the light circuits with the terminals of the lamp conductors may be employed, such beams varying the construction of lamp.

As the lamps will be subjected to severe jar on account of the sudden movements and stoppages of the signal blade, auxiliary supports for the globes are provided, said supports consisting of a spring clamp 8, grasping the free ends of the globes and provided with arms 9, whereby the clamps are secured to the signal blade. The clamps are connected to their arms by a resilient joint or coupling 10, preferably formed by one or more coils of the wire of which the clamps and arms are formed, thereby permitting of the shifting of the clamps to the position shown in dotted lines in Fig. 5, for the removal and replacement of lamps.

In order that the signal may give the desired indication at night by color as well as position, suitable means are provided whereby a red or other colored light is shown when the signal is at danger, and a white or suitably colored light is shown when the signal is at safety. This change may be effected by making the globes of lamps *a, c* and *e*, forming one series of red or other colored glass, and the globes of lamps *b, d* and *f* of white glass, and by providing suitable means whereby the lamps of the danger series are extinguished or veiled when the signal is at safety and lighting up or unveiling of the safety series, and vice versa when the signal is shifted to danger.

When using electric lamps the change from one color to another with the change of signal can be effected by arranging the danger series of lamps in one circuit and the safety se-

ries in another circuit, and providing a suitable switch controlled by the signal or the signal controlling or operating mechanism for alternately opening and closing said circuits. 5 As shown in the diagram Fig. 7, all of the lamps have one terminal connected to a common wire 11. The other terminals of the danger series are connected to a wire 12, and those of the safety series to a wire 13. As shown in 10 Figs. 1 and 7, the wires 12 and 13 are connected to a switch mechanism 14, operated simultaneously with the signal blade, and constructed to close the circuit of the danger series and open that of the safety series, as the 15 signal is shifted from safety to danger, and vice versa. This switch mechanism may be constructed and operated in any suitable or desired manner, *i. e.*, in the form of a commutator arranged on the pivot pin of the signal, 20 or in the form shown in Fig. 1, consisting of a roller 15, having contact strips thereon and contact springs 16 adapted to bear upon the strips when the roller is rotated and connected to the wires 12 and 13. It is preferred 25 to arrange the lamps in the circuit in multiple arc rather than in series, so that the failure of one of the lamps will not affect the other lamps on the signal.

In lieu of using lamps having colored globes, the slots or openings in the signal blade 30 may be covered with glass, as at 17, those in line with the danger series of lamps with red glass and those of the safety series with white glass, in which case ordinary lamps may be 35 used.

In order to prevent the light from the safety series of lamps from shining through or illu-

minating the colored glass covering of the slots of the danger series, and vice versa, hoods 18 are arranged over the lamps so as to isolate them, as shown in Figs. 3 and 7. These 40 hoods are preferably formed of metal and have their inner concave surfaces polished so as to serve as reflectors projecting the rays of light out through the slots. 45

It is preferred to protect the lamps and parts connected thereto by means of a box-like cap or cover 19, detachably secured to the back of the signal blade, as shown in Figs. 3 50 and 6.

I claim herein as my invention—

1. The combination of a movable signal blade, two series of electric lamps mounted on the movable blade and having different colored globes, said series being arranged in independent circuits, and means operative on a 55 change in position of the signal for closing one circuit and opening the other circuit, substantially as set forth.

2. The combination of a movable signal blade, two series of electric lamps mounted on the movable blade and arranged to display 60 different colored lights said series being arranged in independent circuits and means operative on a change in position of the signal 65 for closing one circuit and opening the other circuit, substantially as set forth.

In testimony whereof I have hereunto set my hand.

EDWARD H. GOODMAN.

Witnesses:

DARWIN S. WOLCOTT,
F. E. GAITHER.