(No Model.)

H. JOHNSON.

POT SIGNAL.

No. 602,852. Patented Apr. 26, 1898.

Fig. 1.

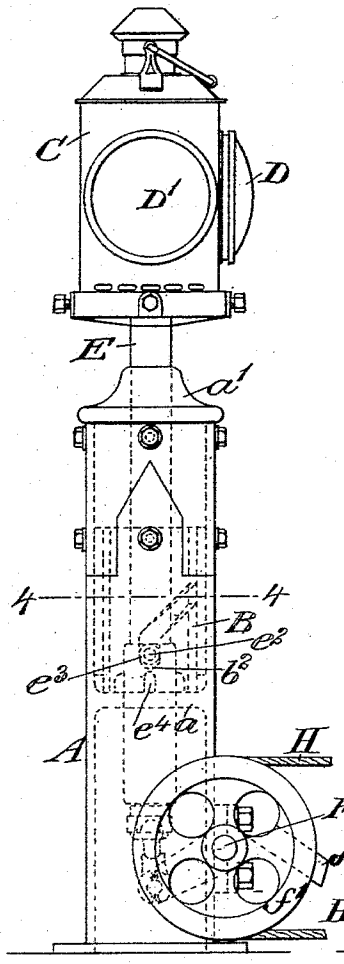


Fig. 2.

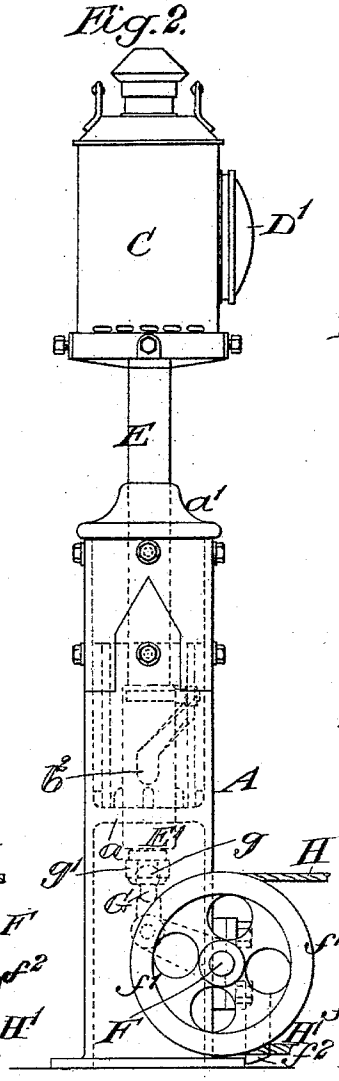


Fig. 3.

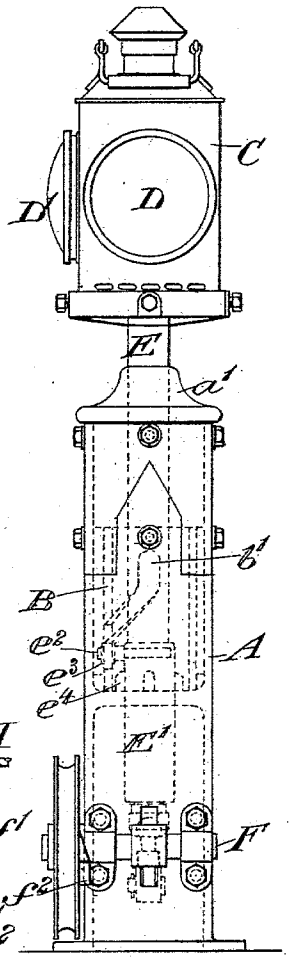


Fig. 4.

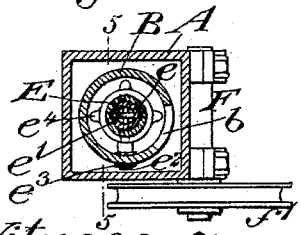
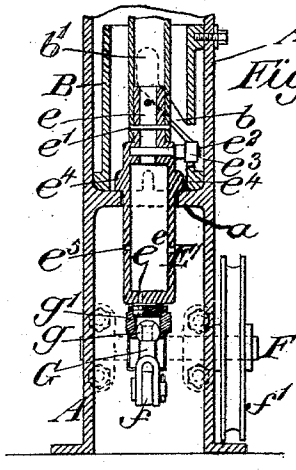


Fig. 5.



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UNITED STATES PATENT OFFICE.

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POT SIGNAL.

SPECIFICATION forming part of Letters Patent No. 602,852, dated April 26, 1898.

Application filed February 25, 1897. Serial No. 624,910. (No model.)

To all whom it may concern:

Be it known that I, HENRY JOHNSON, of Rahway, in the county of Union and State of New Jersey, have invented a new and useful Improvement in Pot Signals, of which the following is a specification.

My invention relates to an improvement in a type of signal commonly known in the art as "pot" signals, in which a lantern-box provided with different-colored lenses is supported upon a standard in such a manner as to be rotated to present at pleasure the different-colored lenses to an approaching train traveling along the track.

A practical embodiment of my invention is represented in the accompanying drawings, in which—

Figure 1 is a view of the signal in side elevation as it appears when presenting the danger-signal lens to an approaching train, which may be considered the normal position. Fig. 2 is a similar view showing the signal thrown in a direction to present a different lens to the approaching train—for example, the safety-signal. Fig. 3 is a view of the signal-support in front elevation or in a plane at right angle to the position shown in Figs. 1 and 2. Fig. 4 is a transverse section through the line 4 4 of Fig. 1, and Fig. 5 is a vertical section in the plane of line 5 5 of Fig. 4.

The supporting-stand preferably consists of a hollow tube A, of iron or other suitable metal, provided intermediate of its ends with a diaphragm *a* and surmounted by a cap-piece *a'*, through which the standard for supporting the signal-head is permitted a vertically-reciprocating movement. Within the hollow support A there is fixed a hollow cylinder or section of a cylinder B, having in its curved surface a winding slot *b*, terminating at its upper and lower ends in straight portions b' b^2, parallel with the axis of the cylinder B. The winding portion *b* of the slot extends in the present instance one-quarter of the distance around the periphery of the cylinder B for the purpose of imparting to the signal-head a quarter-turn.

The signal-head comprises a box C for containing a lantern and lenses (denoted by D D') facing in directions at an angle of ninety degrees with respect to one another, the former, D, representing in the present instance the danger and the latter, D', the safety color.

The box C, with its lenses D D', is supported upon a standard or shaft E, which extends downwardly through the cap-plate *a'* to a point within the fixed cylinder B, where it has fixed thereto a foot-section E'. The shaft E and its foot-section E' are preferably both formed hollow, and the foot-section E' is fixed to the lower end of the shaft E by means of a reduced upper end *e*, adapted to extend within the lower open end of the shaft E and secured in position either by means of cross-pins *e'* or any other well-known or suitable fastening. The foot-section E' has fixed to it and projecting from its side a spindle e^2, on which is journaled an antifriction-roller e^3, adapted to loosely fit within and follow the winding slot *b* in the fixed cylinder B as the shaft E with the signal-head thereon is raised and lowered.

The foot-section E' is further provided with laterally-extended lugs e^4 at intervals thereon, adapted to rest upon the diaphragm *a* of the support A when the signal is in its normal position, while the lower portion of the foot-section E' extends downwardly through the diaphragm *a* and is swiveled at its lower end to the rear end of an operating-arm *f*, carried by the signal-operating shaft F.

The swivel connection between the foot-section E' and the arm *f* is formed by means of an extensible link G, pivotally secured at its lower end to the free end of the arm *f* and at its upper end provided with a ball-head *g*, held within a socket-piece *g'*, screwed onto the lower end of the foot-piece E'.

For the purpose of keeping the parts well lubricated the foot-piece E' is provided with an oil-hole e^5 in its side and another, e^6, at its lower end, which permits the oil received within the section E' to pass downwardly within the socket-piece *g'* to lubricate the swivel-joint.

The shaft F is journaled in suitable bearings fixed to the side of the pedestal A and carries a grooved operating-wheel *f'* for the reception of the signal-operating cords H H'. The wheel *f'* has located thereon a stop-arm f^2, which is intended to come in contact with the base of the pedestal A to arrest the rotary

movement of the wheel and hence the lifting of the signal-head, and thereby taking the shock which might otherwise be taken by the shaft E or by the roller e^3 in the winding groove.

In operation when the operating-cord H is drawn in a direction to rotate the wheel f' from left to right the arm f will lift the shaft E and the signal-head thereon, and as the said shaft is lifted it will be rotated a quarter-turn by the engagement of the roller e^3 in the winding groove b, so that when the wheel f' is brought to a stop by the arm f^2 the lens D' will have been brought into the position previously occupied by the lens D to give a different signal to an approaching train. When it is desired to return the signal to normal, with the lens D toward the approaching train, the operating-cord may be slackened, and the signal will return to its normal position under the influence of gravity, or it may be assisted by the pull upon the operating-cord H'.

If the cord H should chance to break, the signal would promptly return to "danger" and whether in the position of "safety" or "danger," any contracting of the operating-cord by change in temperature will not affect the position of the signal, nor will it produce undue strain upon the parts, since the shaft E will be permitted to move vertically in the straight extensions b' b^2 of the slot without imparting any rotary movement to the signal-head. This vertically-reciprocating movement provided for at the ends of the winding groove is ample to prevent the signal from becoming unintentionally displaced by the changes in temperature, and the arrangement as a whole is simple, durable, and effective, the mechanism for turning the standard E being well housed against injury or obstruction.

The signal-head has the further advantage of being presented in a different position vertically when set at "safety" from that which it occupies when set at "danger."

What I claim is—

1. In a signal, a vertically-movable shaft, a signal-operating shaft having an arm connected at its free end to the vertically-movable shaft, an operating-wheel carried by the signal-operating shaft for actuating the arm to raise and lower the vertically-movable shaft and a stop-arm carried by the said wheel for determining the limit of the upward movement of the vertically-movable shaft and protecting the same from shocks, substantially as set forth.

2. The combination with the vertically-movable shaft and the means for elevating it, of a cylindrical shell fixed to the shaft-support and provided with a winding groove having a straight portion at its lower end and a laterally-projecting pin carried by the shaft in position to enter the groove to rotate the shaft, substantially as set forth.

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