

No. 723,856.

PATENTED MAR. 31, 1903.

A. FRANTZEN & W. H. RATTENBURY.

SWITCH LIGHT.

APPLICATION FILED MAR. 26, 1902.

NO MODEL.

2 SHEETS—SHEET 1.

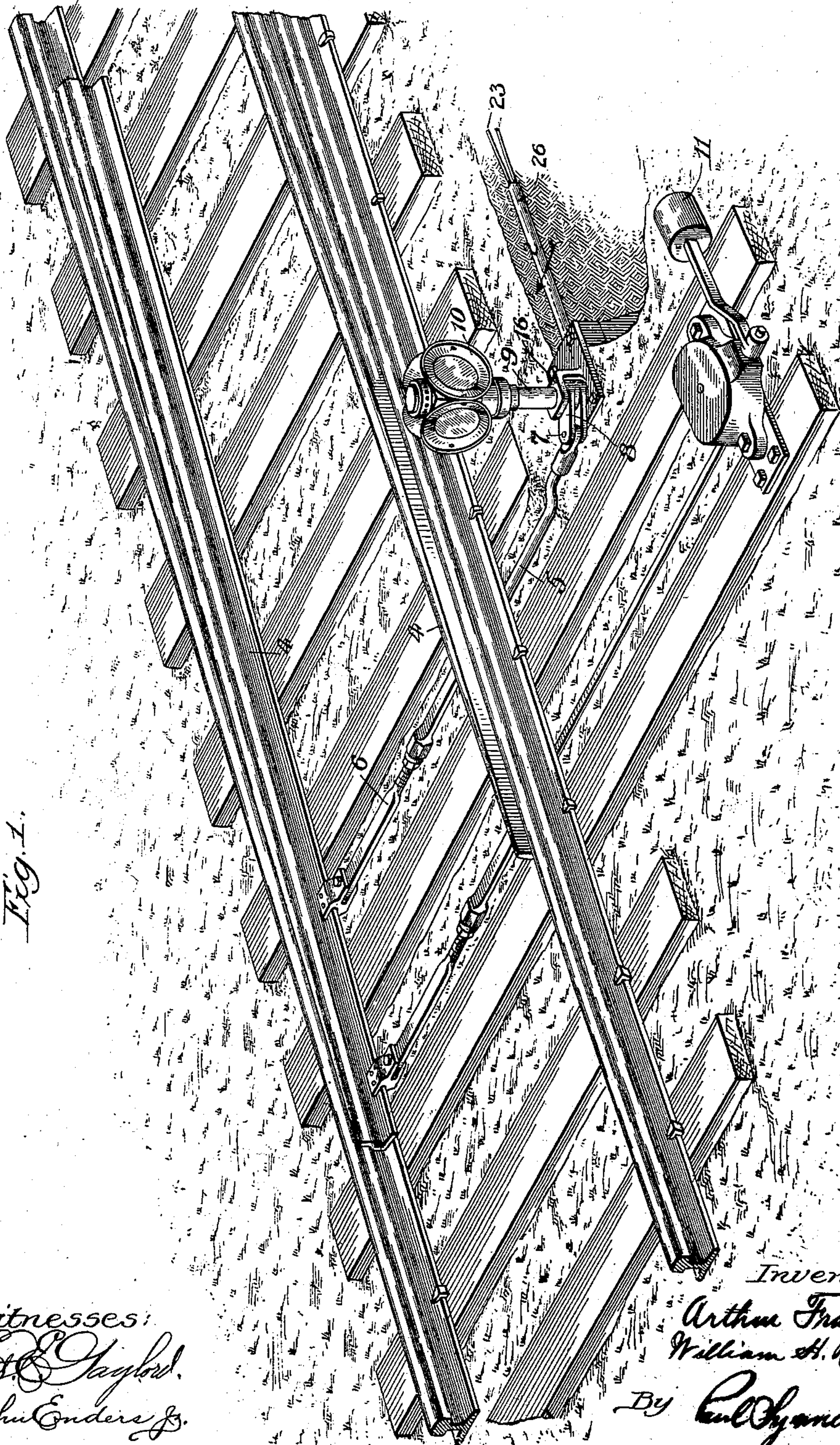


Fig. 1.

Witnesses:  
*Ed. C. Gaylord.*  
*John Enders Jr.*

Inventors:  
*Arthur Frantzen*  
*William H. Rattenbury*  
By *Eul. Hymanatred*  
Att'y



No. 723,856.

PATENTED MAR. 31, 1903.

A. FRANTZEN & W. H. RATTENBURY.

SWITCH LIGHT.

APPLICATION FILED MAR. 26, 1902.

NO MODEL.

2 SHEETS—SHEET 2.

Fig. 2.

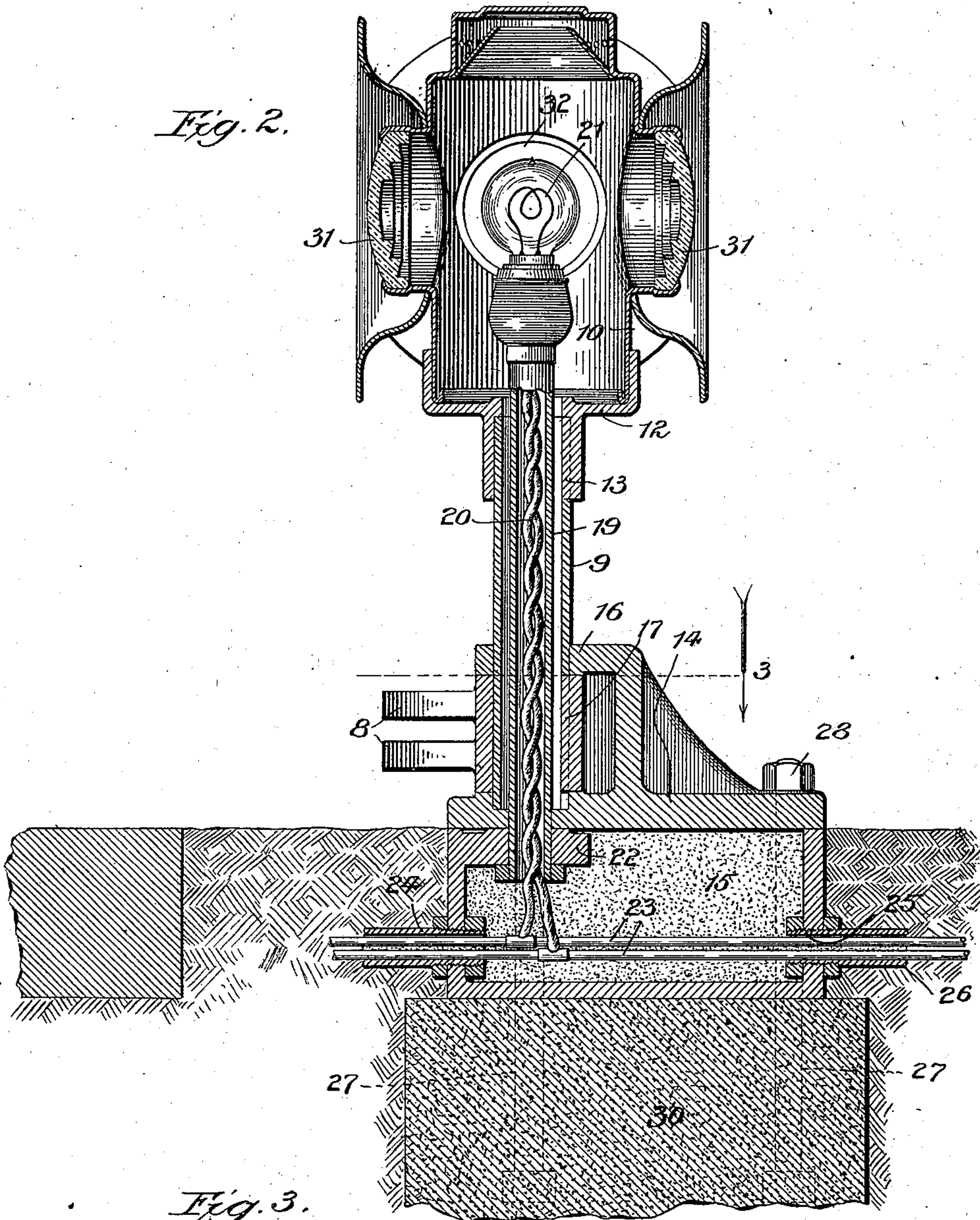
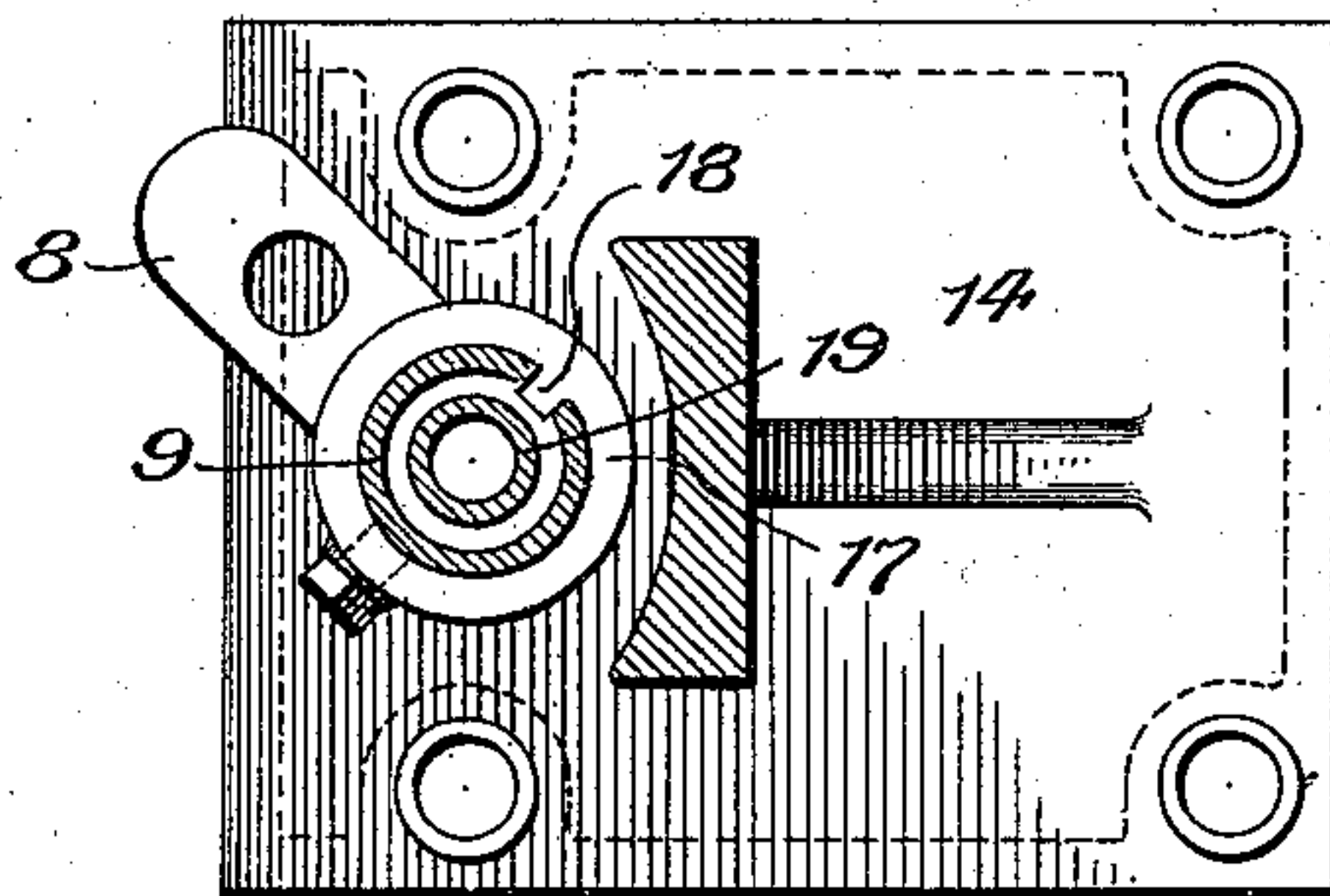


Fig. 3.



Witnesses:  
Edw. Taylor.  
John Enders, Jr.

Inventors:  
Arthur Frantzen  
William H. Rattenbury  
By Paul Hymenstedt  
Att'y.



# UNITED STATES PATENT OFFICE.

ARTHUR FRANTZEN AND WILLIAM H. RATTENBURY, OF CHICAGO,  
ILLINOIS.

## SWITCH-LIGHT.

SPECIFICATION forming part of Letters Patent No. 723,856, dated March 31, 1903.

Application filed March 26, 1902. Serial No. 100,104. (No model.)

*To all whom it may concern:*

Be it known that we, ARTHUR FRANTZEN and WILLIAM H. RATTENBURY, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Switch-Lights, (Case No. 1,) of which the following, taken in connection with the accompanying drawings, is a specification.

This invention has reference to switch lights or signals, and has for its primary object the provision of an electric switch signal or light comprising, primarily, an upright electrical conduit, an electrical lamp supported by said upright conduit, electric conductors within said conduit, a hood or case surrounding said lamp and supported by a rotative sleeve or tubular post which surrounds said conduit and is constructed to be operated by means connected with some moving part of the switch mechanism—as, for example, the switch-rails or the lever on the switch-stand—to change the signals as required.

A further object of our invention is the provision of mechanism of the type specified in which the upright conduit already referred to is supported by a novel form of conduit-box at the base of the conduit and in combination with which is employed a conduit-box cover affording a rotative seat for the tubular support of the hood which carries the signal-lenses.

A further object of our invention is the provision of an improved form of conduit-box cover constructed so that it may be raised a small distance from the box and then rotated about the upright hood-support or lens-carrying post to expose the interior of the box for examination.

Still another object of our improvement is the provision of mechanism of the type specified in combination with which is employed a conduit-box filled with insulating and waterproofing compound, which when the apparatus is in operative condition effectually protects the contact connections within the conduit-box.

The above, as well as such other objects as may hereinafter appear, we attain by means of a construction which we have illustrated in preferred form in the accompanying drawings, in which—

Figure 1 is a view in perspective, showing a switch provided with one of our improved signal devices. Fig. 2 is a vertical section through the same, and Fig. 3 is a plan section taken on the line 3 of Fig. 2.

Referring now more particularly to Fig. 1, it will be seen that leading from a movable switch-rail 4 is a rod connection 5, which, if preferred, may be an extension of the cross connection 6, which at its outer end is attached by a pin 7 to an arm 8, that is secured against rotative movement relative to an upright tubular supporting-post 9, which carries upon its upper end a hood or lens supporting device 10, which latter, together with the tubular post 9, is intended to be rotatively moved by the movement of the switch.

As a means for throwing the switch we have shown the usual switch-lever 11, adapted to be manipulated by hand; but it is to be understood that this forms no part of our invention, since it is obvious that power devices of one kind or another could be used, if preferred, for operating the switch.

Referring now more particularly to Figs. 2 and 3, it will be seen that the lens-supporting case or hood 10 is carried in a base 12, which is in turn supported by the tube 9 and which is secured against rotation relative to the tube 9 by means of a slot 13. (Indicated by dotted lines in the figure.) The lower end of the tube 9 is rotatively supported within a casting 14, which also serves as the cover to the conduit-box 15, and between the upper arm or projection 16 of the casting 14 and the lower portion thereof there is inserted the lever 8, which surrounds the tube 9 and is arranged with a projection 17, adapted to engage a slot 18 in the tube 9 to prevent rotative movement as between the lever 8 and the tube 9, the slot 18 extending, for convenience, to the bottom of the tube, so that the tube can be drawn out without difficulty.

Within the lens-case-supporting tube 9 there is provided an electric conduit 19, which carries the electric conductors 20, that supply current to the electric lamp 21, which is fixed upon the top of the upright electric conduit 19, the said conduit being supported at its lower end by fixed engagement with a bridge 22, which is formed, preferably, as a



portion of the conduit-box 15, the lower end of the conduit opening into the conduit-box, as shown, so that the conductors can be made to connect with the conductors 23, which enter the conduit-box through the opening 24 and are continued outward through another opening 25 and conduit-tube 26, as shown.

The cover 14 of the conduit-box is secured by the bolts 27, the nuts 28 whereof when unscrewed permit the cover to be raised until free of engagement with the bolts, when it can be swung around about the tube 19 as a center of rotation, so as to be out of the way in inspecting the contents of the conduit-box or in first making up the electric connections, as the case may be.

After the connections are properly made and the parts all mounted in position except the cover 14 the box is filled with some compound, such as is sometimes used for electrical insulation and waterproofing and which is well known in the art, the quantity inserted being sufficient so that when the cover is pressed down in place it will tightly fill the entire box, thus effectively preventing any interference with the contact connections due to the working in of moisture or due to any other interfering cause.

The foundation 30, in which the bolts 27 are anchored, is preferably made of concrete, but can of course be made of other material, and it can be made separate from or integral with one of the ties or other portions of track structure, as circumstances may require.

The lens-support or hood 10 is preferably made of ordinary construction and provided with a plurality of lenses, of which those marked 31 are opposite and those marked 32 are at right angles to the lenses 31, so that when the switch is thrown the rod 5, which moves with it, imparts a movement to the lever 8, and this in turn being keyed or otherwise securely fastened to the tubular supporting-post 9 rotates the same to the extent of the movement of the lever 8, and thus produces rotative movement of the lens-supporting case or hood 10, which is arranged to be just sufficient to bring the proper light into the right position to make the proper signals to be visible along the track. The upright electric conduit 19 remains in fixed position by its rigid support from the bridge 22 of the conduit-box, the hood or lens-support moving rotatively around the conduit and the conduit being tubular and supplied with electric

conductors 20. Neither the conduit nor the conductors nor the lamp on the conduit nor the electric connections in the conduit-box at the base of the upright conduit are interfered with by the rotative movement of the lenses.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In combination, an upright electric conduit, a support carrying signal-lenses, a rotative sleeve or tubular post carrying said signal-lense support, and surrounding said electric conduit, conducting-wires within said conduit, a lamp supported by said upright conduit, supplied with current from said conducting-wires, a conduit-box providing a support for said upright conduit, and for said tubular lens-support, substantially as described.

2. In a switch-light the combination with a tubular lens-support having means connected to the switch for turning the same, of a fixed tubular lamp-support within the lens-supporting tube, an electric lamp thereon and two wires within the same, a conduit-pipe beneath the lamp having electric feed-wires and insulated connections between the feed-wires and the lamp-wires.

3. The combination with a conduit-box and upright post, of a box-cover pivotally engaging said post, and means for securing said cover in position on said box, said means being constructed to permit the cover to be raised a short distance and then rotated about said upright tubular support, substantially as described.

4. The combination with a conduit-box, of an upright conduit fixed in said box, a box-cover, an upright tubular support mounted rotatively in said box-cover, a lamp supported by said upright conduit, a lens-support carried upon said tubular support, and means for imparting rotative movement to said lens-support through said tubular support, from the movement of some portion of the switch, substantially as described.

In testimony whereof we have hereunto set our hands in the presence of two subscribing witnesses.

ARTHUR FRANTZEN.  
WILLIAM H. RATTENBURY.

In presence of—

PAUL SYNNESTVEDT,  
PAUL CARPENTER.