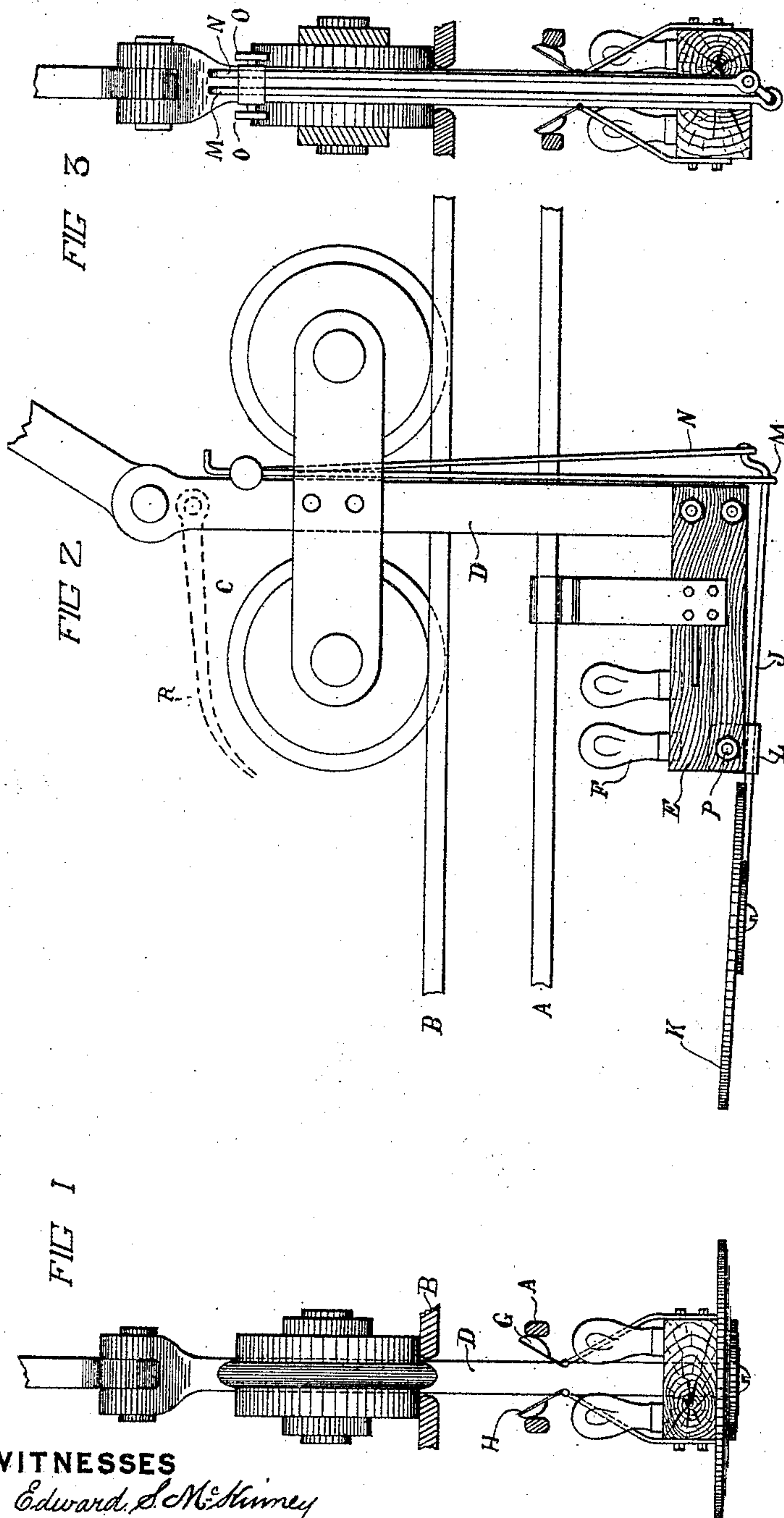


(No. Model.)

J. L. BLACKWELL.
CONDUIT INSPECTOR.

No. 444,687.

Patented Jan. 13, 1891.



WITNESSES

Edward S. McKinney
E. A. Charney

INVENTOR

Josiah L. Blackwell
by Bentley Knight
Att'y

UNITED STATES PATENT OFFICE.

JOSIAH L. BLACKWELL, OF NEW YORK, N. Y.

CONDUIT-INSPECTOR.

SPECIFICATION forming part of Letters Patent No. 444,687, dated January 13, 1891.

Application filed August 9, 1888. Serial No. 282,370. (No model.)

To all whom it may concern:

Be it known that I, JOSIAH L. BLACKWELL, a citizen of the United States, residing at New York, in the county of New York, State of New York, have invented certain new and useful Improvements in Conduit-Inspectors, of which the following is a specification.

My invention relates to electric railways in which the supply-conductor is inclosed in a slotted conduit beneath the surface of the roadway; and it consists in an inspecting device for the conduit consisting of an electric lamp adapted to be carried along in the conduit by means of a projection extending through the slot, and to be supplied with current from the main conductor, whereby the whole interior of the conduit may be illuminated, and the inspection of the conductors, the insulators, or any other feature of the conduit may be facilitated.

In the accompanying drawings, forming part of my specification, Figure 1 is a front elevation of my apparatus. Fig. 2 is a side elevation thereof, and Fig. 3 is a back elevation.

In the drawings, A represents a main conductor carried in a slotted conduit B.

C is a small truck adapted to ride on the outside of the conduit and be propelled by hand or in any other suitable manner.

D is a shank of metal extending from the truck down into the conduit. On the lower end of D is a block E of wood or other insulating material. In this block is set a group of incandescent lamps F, their terminals being connected, respectively, to the contact devices G and H, bearing upon the main supply-conductors of the road.

K is a mirror on the end of the rod J, fastened in the loop L beneath block E. The rod J, after passing through loop L, extends through the eye in the lower end of rod M, and is then bent into the short crank, to the end of which rod N is pivoted. These rods M and N extend up through the slot of the conduit and are held by set-screws O, by means of which the height of the rods can be adjusted. As the loop L is pivoted at P, it will be seen that by raising or depressing the rod M the angle at which the mirror stands relative to the axis of P may be adjusted at will, while

the rod N controls the angle of the mirror with relation to the axis of J. By this means the lamps will illuminate the interior of the conduit, and the mirror K can be so adjusted as to throw a complete view of any part of the conduit up to the eye of the observer.

A screen R may be attached to the truck, if desired, to shield the eye from the direct rays of lamp F.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with a mirror, of a supporting-shank adapted to extend through the slot of a conduit containing an electrical supply-conductor, and means for adjusting the position of the mirror relatively to the shank.

2. The combination, with a shank adapted to extend through the slot of a conduit containing an electrical supply-conductor, of an electric lamp supported thereby, and a contact connected to a terminal of said lamp, adapted to bear on the supply-conductor inclosed in the conduit.

3. The combination, with a shank adapted to extend into a conduit containing an electrical supply-conductor, of a mirror carried thereby, a contact adapted to bear upon the supply-conductor also carried by said shank, and an electric lamp connected to said contact.

4. The combination, with a slotted conduit containing an electrical supply-conductor, of a shank adapted to extend through the slot of a conduit, a mirror propelled thereby, with means for illuminating the interior of the conduit.

5. The combination, with a vehicle adapted to travel on the outside of a slotted conduit, of a shank extending therefrom into the conduit, an electric lamp carried by said shank, having its terminals in contact with the supply-conductor in a conduit, and a mirror for reflecting upward the light of said lamp.

6. The combination, with a shank adapted to extend through the slot of a conduit containing an electrical supply-conductor, of a horizontal mirror upon said shank and carried thereby at a point below the said conductor.

7. The combination, with a shank adapted

to extend into the slot of a conduit, of a horizontal mirror within the conduit attached to said shank, and an artificial light placed above said mirror.

5 8. The combination, with a supporting-shank adapted to extend into the slot of a conduit, of a mirror carried thereby, an artificial light above said mirror, and means outside the conduit for adjusting the angle of
10 the mirror.

9. The combination, with a shank adapted to extend into the slot of a conduit, of a horizontal mirror thereon and an adjusting device for the handle of the mirror extending
15 out through the slot of the conduit.

10. The combination, with a shank adapted to extend into the slot of a conduit, of an insulating-block thereon, an electric lamp within

the conduit upon said block, and a contact device for said lamp resting against a supply-conductor in the conduit. 20

11. The combination, in an inspecting device for an electric-railway conduit, of a horizontal mirror supported from without the conduit, a light, and means for illuminating
25 the conduit above said mirror.

12. In an inspecting device for an electric-railway conduit, the combination, with a horizontal mirror propelled from without the conduit by a device extending through the slot,
30 of means for illuminating the conduit above said mirror.

JOSIAH L. BLACKWELL.

Witnesses:

E. M. BENTLEY,
JULIEN M. ELLIOT.