

(No Model.)

C. W. WEISS.  
ELECTRICAL REGISTERING APPARATUS.

No. 321,069.

Patented June 30, 1885.

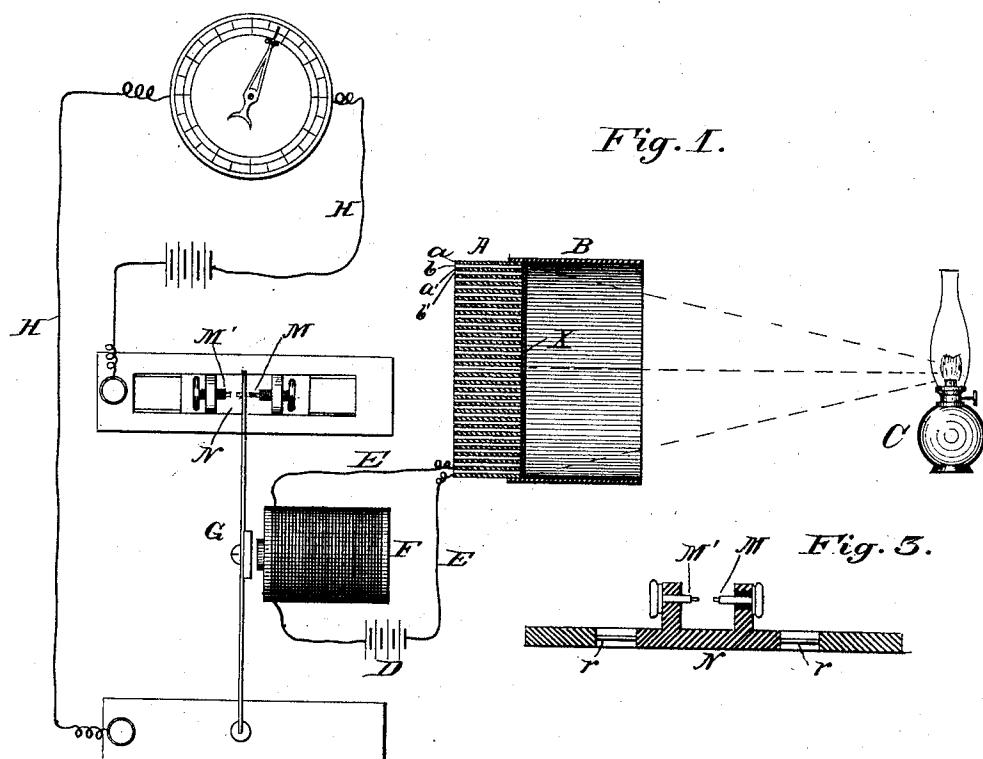


Fig. 1.

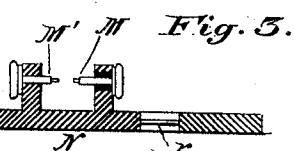
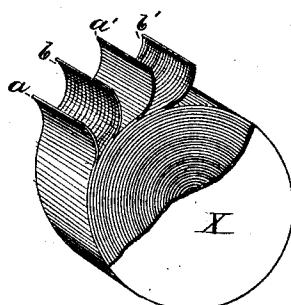


Fig. 2.



Witnesses.

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# UNITED STATES PATENT OFFICE.

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## ELECTRICAL REGISTERING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 321,069, dated June 30, 1885.

Application filed March 17, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES W. WEISS, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Electrical Registering Apparatus; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

My invention consists in obtaining a registry of persons or objects passing a given point by causing thereby an interception of rays of light made to fall upon a surface of selenium (or other equivalent substance whose resistance to the passage of an electrical current is lessened by exposure to light) included in an electrical circuit, serving to excite an electro-magnet, whose armature when released will operate to close a second electric circuit, which is made to actuate a registering device.

In the accompanying drawings, Figure 1 is a diagram illustrating my improved apparatus; Fig. 2, a view of the selenium cell detached and partially unrolled to illustrate its construction, and Fig. 3 an enlarged sectional detached view of the adjustable contact-points by which the armature is made to close the local electrical circuit.

30 A represents a selenium cell, constructed of two superimposed strips, *a a'*, preferably of brass, insulated from each other by an interposed sheet of paper, *b*, and by a second sheet of paper, *b'*, laid upon the inner strip, *a'*, the whole being rolled up tightly and secured in a spiral coil, as illustrated. Upon one side of this spiral coil of thin insulated brass strips a coating, *X*, of selenium is laid, so as to connect the edges of the two insulated strips throughout their entire length. An extended attenuated connecting-surface is thus obtained in a very compact form. This selenium cell *A* is inclosed in the end of an open tube, *B*, with its selenium surface inward, the tube serving to 45 cut off and protect it from all rays of light which are not directed thereupon from a lamp or light, *C*, placed opposite the open end of the tube at a suitable distance to allow the passage of persons or objects between it and the 50 tube.

The two copper plates *a a'* of the cell are severally connected each with one of the electrodes of a suitable battery, *D*, by means of connecting-wires *E E*, and an electro-magnet, *F*, is included in the circuit closed from said battery 55 through the copper plate and the selenium. A spring-armature, *G*, is mounted in front of the electro-magnet, so as to be attracted thereto when the magnet is excited, and to fall away therefrom when at rest. The free end of the 60 armature is arranged to vibrate between two contact-points, *M M'*, which are connected together upon a sliding plate, *N*, fitted to move freely between suitable ways or guides *r r*, or otherwise mounted so as to be free to move together in the same direction as the end of the armature-lever. When the armature is not attracted by the magnet, its contact with the point *M'* will close a local circuit, *H H*, and thereby move a registering device, *K*, or sound an alarm; 65 but when the armature is attracted by the magnet this contact is broken and the circuit kept open. The movement of the point *M* in one direction and of the point *M'* in the opposite direction when unduly pressed upon by the 70 armature-lever will produce an automatic adjustment of the contact-point with reference to the position of the armature-lever, as determined by the power of the magnet *F*, so as to maintain under all conditions a very delicate 75 and sensitive contact.

The circuit from the battery *D* is completed from one plate, *a*, to the other plate, *a'*, of the cell *A* through the selenium *X* uniting their edges, and the resistance of the selenium when exposed to the light is thereby so far diminished as that it will serve as a conductor for the electric current, which, exciting the electro-magnet *F*, will cause it to attract its vibrating armature *G*, and thus open the local circuit *H H*. Hence 80 so long as the rays of light from the lamp *C* fall unobstructedly upon the selenium cell the local circuit *H H* will remain open; but the instant the light is intercepted in any manner, as by an object or person passing between the 85 light and cell, the increase of resistance in the sensitive selenium to the electric current will so far diminish or cut off the current in the primary circuit *E E* as that the magnet *F* will be weakened sufficiently to allow the spring- 90 95 100

armature G to drop back and by contact with the point M' close the local circuit, and thus operate the registering apparatus K or an alarm or other device.

5 I claim as my invention—

The method, substantially as herein described, of actuating a registering device, which consists in causing each person or object passing a given point to intercept rays of light falling upon a selenium surface included in an

electric circuit, whereby another electric circuit is closed and a registering device included therein actuated.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES W. WFISS.

Witnesses:

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