(No Model.)

W. HADDEN.

RAILWAY SIGNALING APPARATUS.

No. 312,627. Patented Feb. 24, 1885.

Fig. 1.

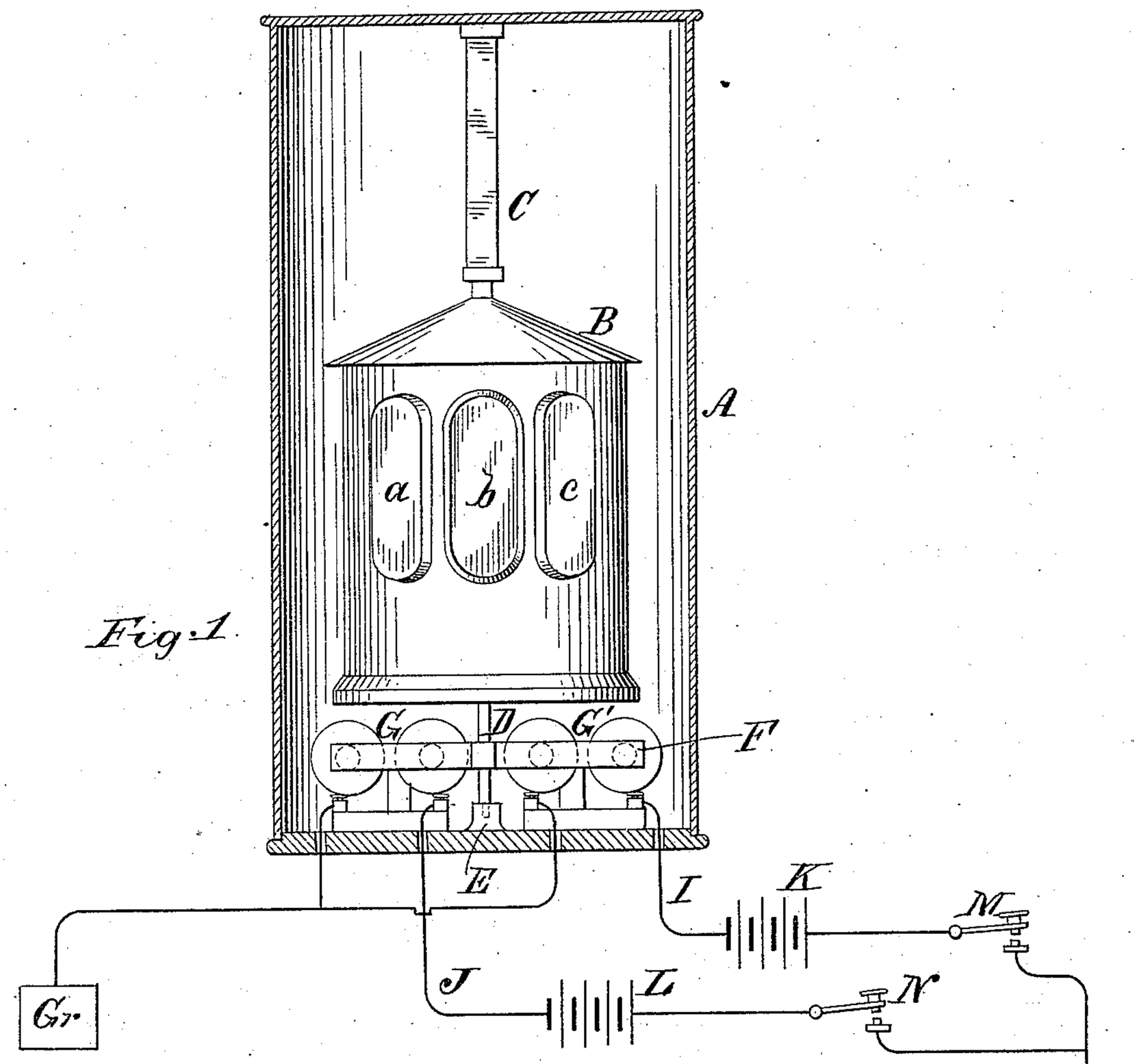
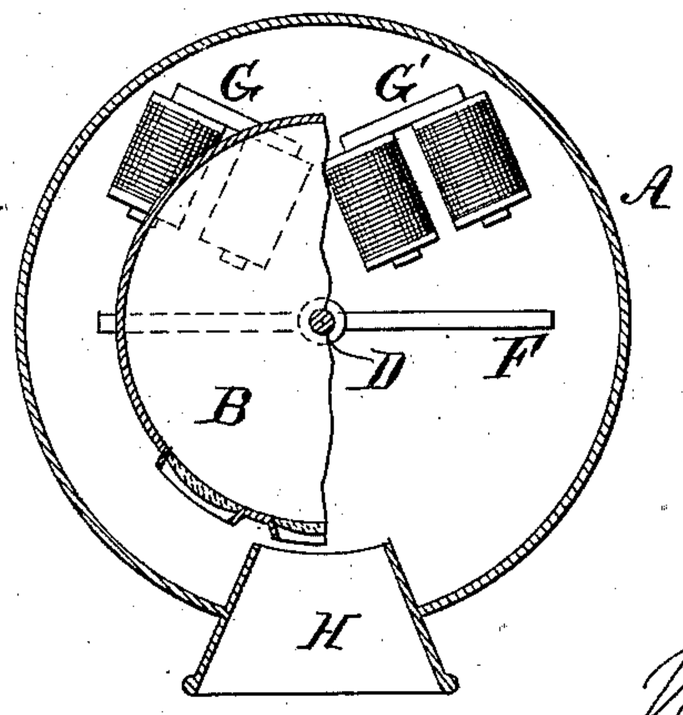


Fig. 2.



WITNESSES

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RAILWAY SIGNALING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 312,627, dated February 24, 1885.

Application filed June 12, 1884. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HADDEN, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Railway Signaling Apparatus; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, forming a part of this specification.

Figure 1 is a side elevation, partly in section. Fig. 2 is a sectional plan view.

Similar letters of reference indicate the same parts in the different figures of the drawings.

My invention relates to the class of signaling apparatus in which colored lights are displayed to indicate "danger" or "safety;" and it consists in a suspended lantern carrying one or more colored lights, and capable of being thrown into position to display the said lights through the holes of the casing inclosing the lantern by means of electro-magnets operated automatically by the passing train or by means of an attendant.

From the top of the casing A is suspended a lantern, B, by means of a strap, C, so that when undisturbed it will always hang normally in the same position. The lantern B is provided at the lower end with a spindle, D, which turns loosely in a bearing, E, in the bottom of the casing A.

To the spindle D is secured an iron armature, F, and two magnets, G G', are located in the bottom of the casing A, with their poles in the same plane as the armature F, and with the faces of their poles arranged on lines radiating from the spindle D, forming small angles with the armature F.

The lantern B in the present case is provided wich three windows, *a b c*, of the same size, but differing in color. When the lantern hangs in its normal position, the central window, *b*, is opposite a funnel, H, on the side of the casing A, and the windows *a c* are arranged with relation to the magnets G G', so that when the armature F is attracted by the magnet G' the window *a* will be displayed opposite the funnel H, and when the opposite end of the armature F is attracted by the magnet G the window *c* will be displayed opposite the funnel H. When the magnets G G' become inactive, the strap C returns the lantern to its normal position, with the window *b* opposite the funnel H. The magnets G G' are connected in the electric circuits I J, respectively provided with batteries K L and keys M N. By pressing the key M the magnet G' is rendered active, and the window *a* is displayed in the funnel H. When the key M is released, the current ceases to flow through the said magnet, and the lantern regains its normal position. When the key N is pressed, the magnet G becomes active, and, by attracting the armature F, turns the lantern so as to display window *c* in the funnel H. It will thus be seen that by means of the two electro-magnets and two circuits and the suspension-strap C three separate and distinct signals can be given.

Instead of employing the strap C, I may use two wires, as in the bifilar suspension of galvanometer-needles and other similar apparatus.

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

1. In signaling apparatus, the combination, with a rotating signal carrying two or more signaling surfaces, of a suspension-strap or bifilar suspension, as herein specified.

2. In signaling apparatus, the combination, with the lantern B, provided with windows *a b c*, of the strap C and means for turning the lantern from its normal position, as herein specified.

3. The combination, with the lantern B, provided with windows *a b c*, of the casing A, inclosing the said lantern, and provided with a funnel, H, adapted to display one of the windows *a b c*, as specified.

4. The combination, with a lantern provided with a strap or bifilar suspension, as described, of an armature and one or more electro-magnets adapted to turn the lantern, as described.

5. The combination, with the suspension-lantern B, of the armature F, electro-magnets G G', and two electric circuits including the said magnets, as specified.

WILLIAM HADDEN.

Witnesses:
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