(No Model.)

S. S. BOGART.

DEVICE FOR OPERATING SIGNALS.

No. 578,442. Patented Mar. 9, 1897.

Fig. 1.

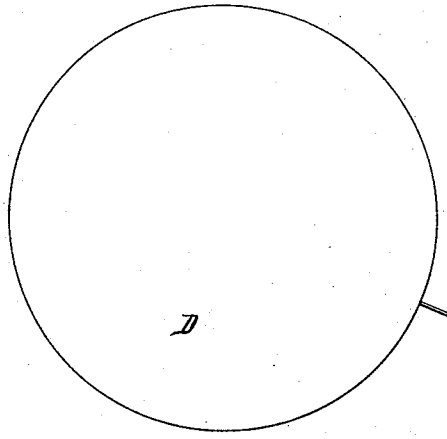


Fig. 2.

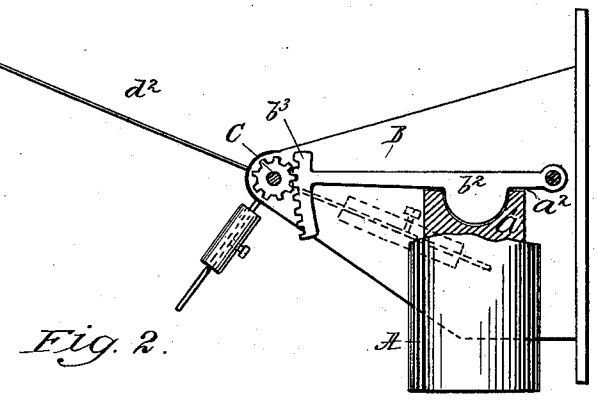
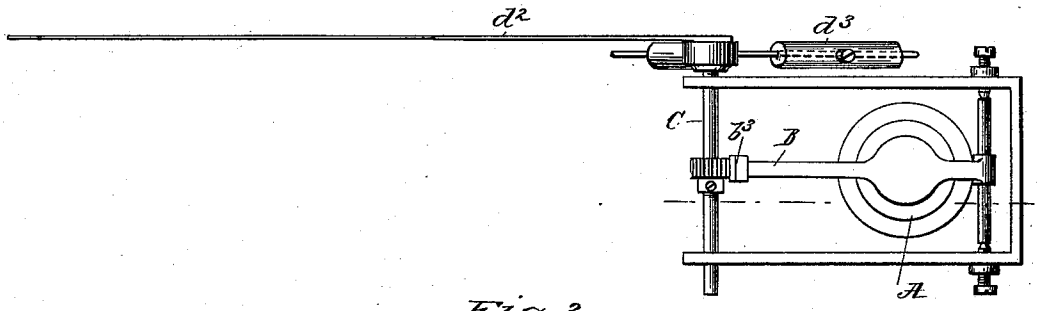


Fig. 3.



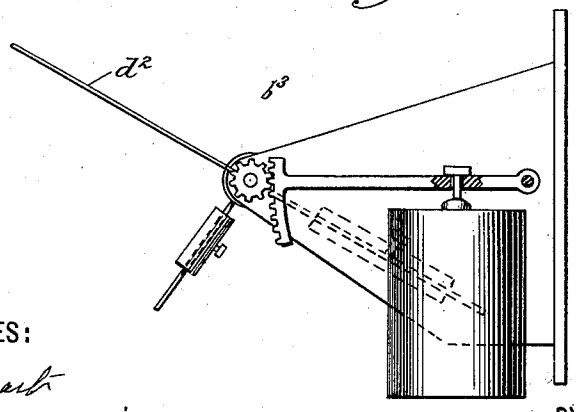
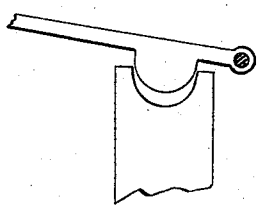


Fig. 4.



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UNITED STATES PATENT OFFICE.

SAMUEL S. BOGART, OF SCHRAALENBURG, NEW JERSEY, ASSIGNOR TO THE ELECTRIC SELECTOR AND SIGNAL COMPANY, OF WEST VIRGINIA.

DEVICE FOR OPERATING SIGNALS.

SPECIFICATION forming part of Letters Patent No. 578,442, dated March 9, 1897.

Application filed February 7, 1895. Serial No. 537,555. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL S. BOGART, of Schraalenburg, Bergen county, New Jersey, have invented certain new and useful Improvements in Devices for Operating Signals, of which the following is a specification.

The accompanying drawings illustrate the invention, of which—

Figure 1 is a side view of the signal and operating-magnet. Fig. 2 is a top view of same. Fig. 3 is a side view of a modification of the devices, and Fig. 4 shows the relative positions of the armature and magnet of Fig. 1 when the armature is at the top of its upward stroke.

The device may be used in connection with a selecting instrument or with any other instrumentality wherein electricity is employed as an operating medium.

Viewing Fig. 1, A is an electromagnet erected upon a suitable base whose pole is concave in form, as shown at a', or partly concave and having the rectangular part, as shown at a^2. Pivoted to a suitable standard is an armature-lever B, extending over the magnet and having an armature convex in form, as shown at b^2, to correspond with the configuration of the magnet. This form gives great power to the attraction of the magnet, which, being located between the fulcrum and free end of the lever, enables the magnet to operate more quickly, as that side of the armature nearer to the pivot is closer to the pole of the magnet than the side nearer to the free end of the lever when the armature is up, and when the electric current is closed through the coils of the magnet the attraction is stronger at the inner side and increases in force as the lever descends. This construction and arrangement of magnet and armature enables me to make the armature-lever of any length to give sufficient throw to the signal in its course from "safety" to "danger."

On the end of the armature-lever I have placed the curved rack b^3 for operating the signals and assuring a steady and equalized movement to the same.

Suitably journaled in the frame of the apparatus is the shaft C, upon which is placed the pinion c^2, which meshes with the rack b^3.

The signal D may be circular, square, trapezoidal, or of any preferred forms, and is connected with the pinion-shaft C by means of the rod or bar d^2. A generator (not shown in the drawings) should be used and means for controlling the circuit thereupon through coils of the magnet. Suitable counterbalances, as shown at d^3 d^4, may be used and properly adjusted, as required. The modification shown in Fig. 3 exhibits the same parts, except that the magnet used is in the shape of a solenoid.

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

In an electric signaling device, a rod carrying a signal at one end and attached near its other end to a properly-journaled shaft, carrying a pinion, in combination with a fulcrumed armature-lever, provided at its free end with a rack meshing with the pinion on the shaft, and carrying a convex armature located between the fulcrum and the free end of the armature-lever, an electromagnet provided with a pole conforming in shape to the convex armature, and the counterbalance d^3, whereby the weight of the signal is adjusted to be raised by a magnet of little power, and is lowered by its own weight aided by the counterbalance.

Signed at the city of New York, in the county of New York and State of New York, this 14th day of January, A. D. 1895.

SAMUEL S. BOGART.

Witnesses:
C. P. MACKIE,
M. TURNER.