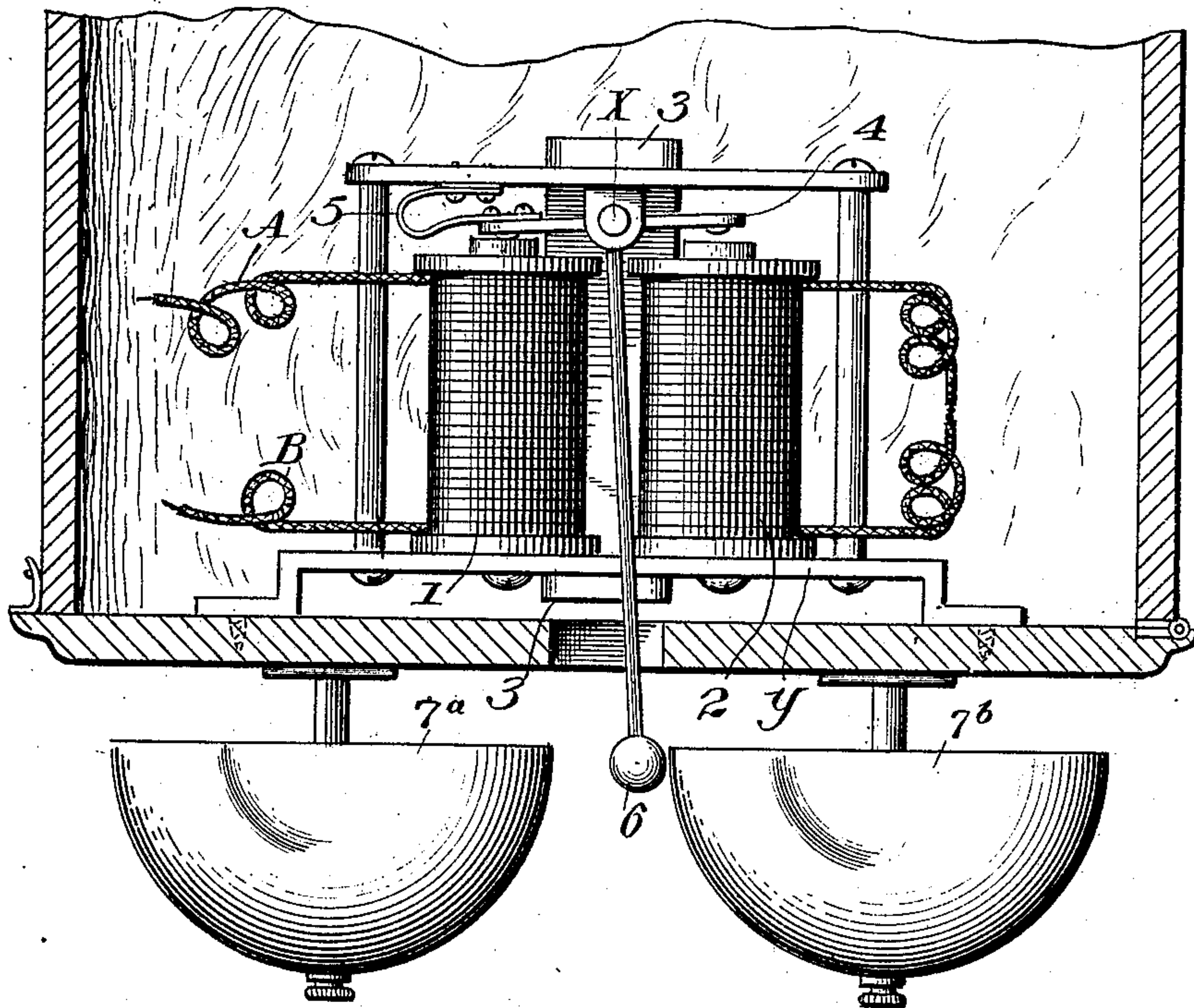


No. 828,368.

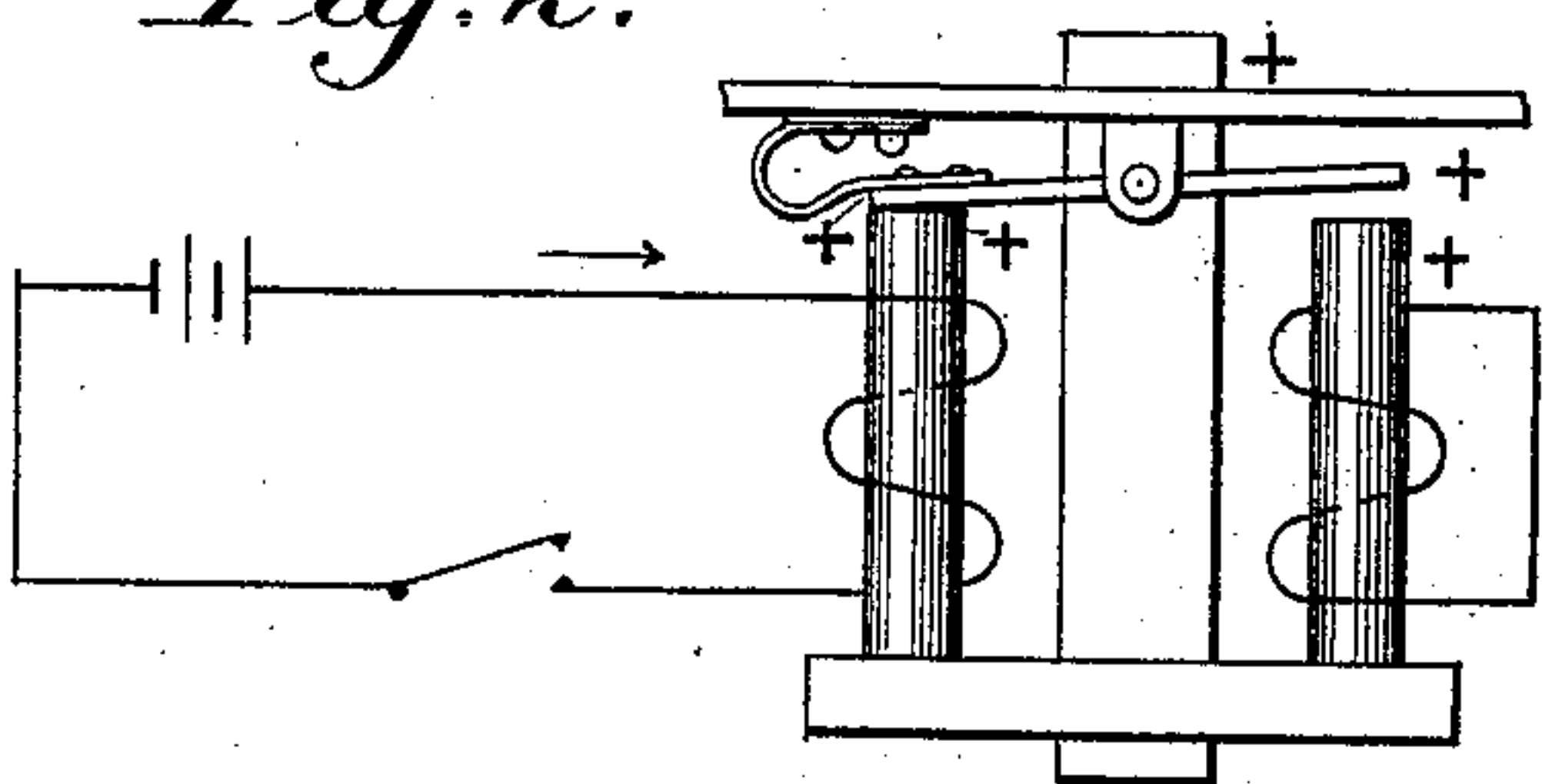
PATENTED AUG. 14, 1906.

H. M. BASCOM.  
ELECTRIC SIGNALING DEVICE.  
APPLICATION FILED SEPT. 21, 1904.

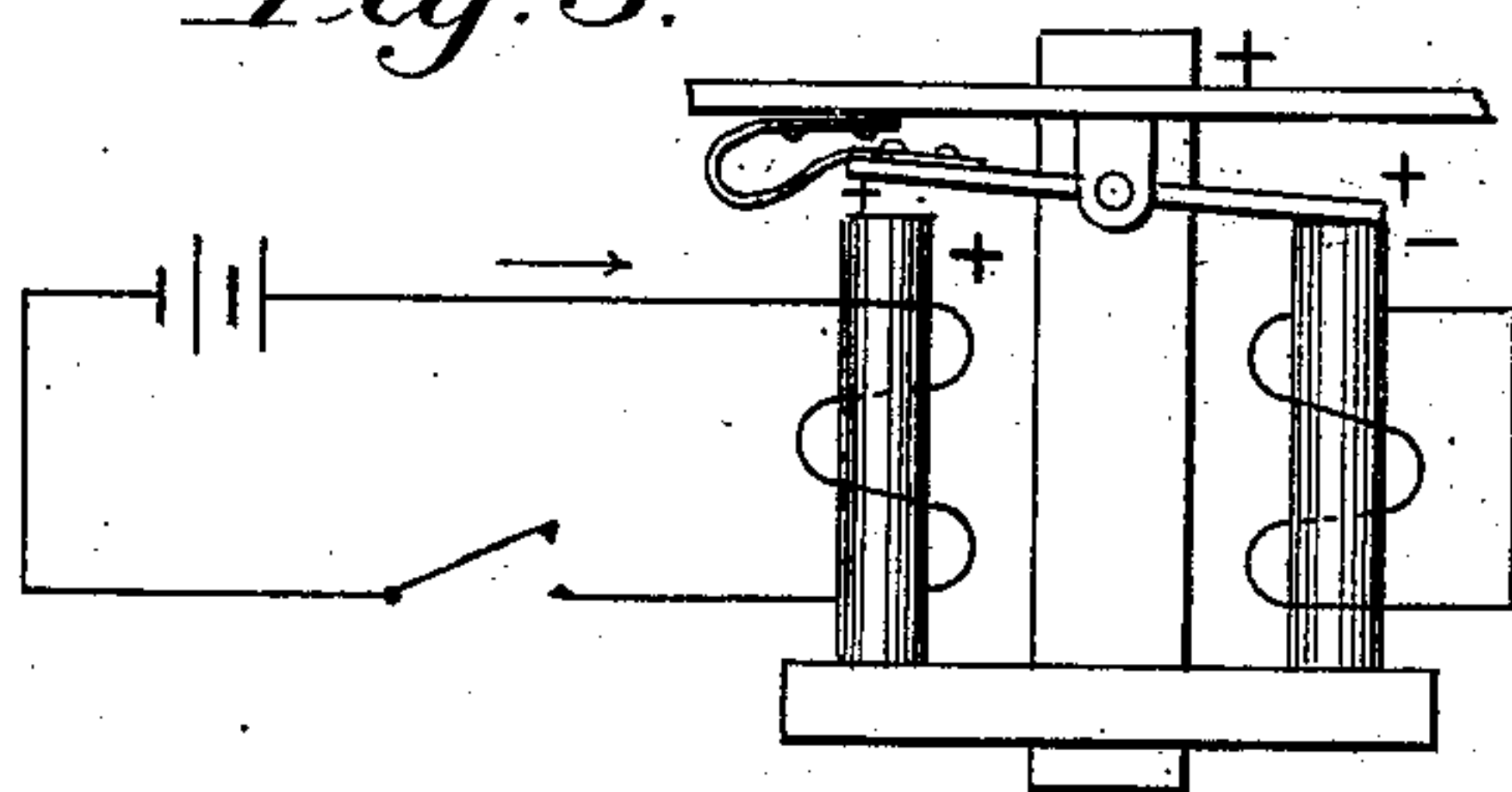
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



Witnesses  
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W. M. Kuehne

Inventor  
Henry Melvin Bascom  
By his Attorney *Otto Munn*



# UNITED STATES PATENT OFFICE.

HENRY MELVIN BASCOM, OF BROOKLYN, NEW YORK, ASSIGNOR OF  
ONE-HALF TO JOHN F. HEMENWAY, OF NEW YORK, N. Y.

## ELECTRIC SIGNALING DEVICE.

No. 828,368.

Specification of Letters Patent.

Patented Aug. 14, 1906.

Application filed September 21, 1904. Serial No. 225,326.

*To all whom it may concern:*

Be it known that I, HENRY MELVIN BASCOM, a citizen of the United States, residing at Brooklyn, New York, have invented new and useful Improvements in Electric Signaling Devices, of which the following is a specification.

My invention relates to electric signaling devices.

The object of my invention is to construct a signaling instrument that will only respond to a pulsating or intermittent current of but one direction; and the invention consists of certain combinations of elements hereinafter described.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is a view of an electrical signaling instrument embodying the invention, and Figs. 2 and 3 are diagrammatic views.

In the drawings, 1 and 2 are two coils of an electromagnet. A permanent magnet 3 is so arranged that one pole—say the south pole—is connected to the yoke *y* of the electromagnet and the other pole is in close proximity to a soft-iron armature 4, mounted on a horizontal axis *x*. The permanent magnet magnetizes by induction the armature 4, making its ends north poles. The armature is held against the pole of coil 1 by the spring 5. The motion of the armature to the right or left about its axis will cause the hammer 6 to strike the gongs 7<sup>a</sup> and 7<sup>b</sup> alternately.

The terminals of coil 1 are connected to the source of current, while the terminals of coil 2 are joined together.

A current entering coil 1 will induce a momentary current in coil 2 in a direction tending to oppose any action in the core of the electromagnet caused by the current in coil 1. The cessation of a current in coil 1 will induce a momentary current in coil 2 in a direction tending to prolong and intensify any action in the core of the electromagnet caused by the current in coil 1.

Assuming a positive current to enter coil 1 at the terminal A, there will be produced at the pole of coil 1 a north pole and there will be a tendency to produce at the pole of coil 2 a south pole. This tendency will be momentarily neutralized by the induced current in coil 2. If the current should cease in coil 1, a strong south pole would suddenly be produced at the pole of coil 2. This would

momentarily attract the armature 4 against the pressure of the spring 5. When the attraction of the armature ceases, the latter is again forced back to the pole of coil 1 by the spring 5. Therefore a pulsating or intermittent current entering at A of coil 1 would cause the armature 4 to oscillate and the hammer 6 to strike the gongs 7<sup>a</sup> and 7<sup>b</sup>. A negative current, either steady, pulsating, or intermittent, entering the coil 1 at the terminal A will cause no movement of the armature 4, as at no time would a current of this kind produce a south pole at the pole of coil 2. As the movement of the armature takes place after the current has ceased in coil 1 a negative current entering coil 1 at the terminal A immediately after the current of the opposite direction has ceased will prevent any movement of the armature 4, as it would produce a south polarity at the pole of coil 1 which would also attract the armature 4; but as the armature is already held against the pole of coil 1 no movement of the armature will take place. Therefore an alternating current will not ring this bell.

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

1. An electric signaling instrument, comprising the combination of an electromagnet, having two coils, one of said coils being connected to a source of current, and the other coil being independent of the source of current, and an armature normally held against the pole of one coil of said electromagnet, and adapted to be attracted to the other coil upon cessation of current in the first coil, substantially as described.

2. An electric signaling instrument, comprising the combination of an electromagnet having two coils, the terminals of one of said coils being connected to a source of current, and the terminals of the other coil being joined together, and an armature adapted to be attracted to the pole of the second coil when a current has ceased in the first coil, substantially as described.

3. An electric signaling instrument, comprising the combination of an electromagnet having two coils, one of said coils being connected to the source of current and the terminals of the other coil being connected together, an armature pivotally suspended over said coils, a permanent magnet for mag-

netizing said armature, a hammer depending from said armature, associated with two bells, and means for oscillating said hammer between the bells, and causing a signal to be  
5 given, substantially as described.

4. An electric signaling instrument, including an electromagnet having two coils, one of said coils being connected to a source of current and the other coil comprising a  
10 short-circuited electrical conductor, and means for causing a current to pass through the first coil and induce a current in the sec-

ond coil, said induced current being ineffective during the flow of current through the first coil, and becoming effective after cessation of current in the first coil, substantially  
15 as described.

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

HENRY MELVIN BASCOM.

Witnesses:

JOHN A. PERCIVAL,  
H. M. KUEHNE.