

(No Model.)

W. P. & J. H. CURL.  
ELECTRICAL CALL DEVICE.

No. 303,626.

Patented Aug. 19, 1884.

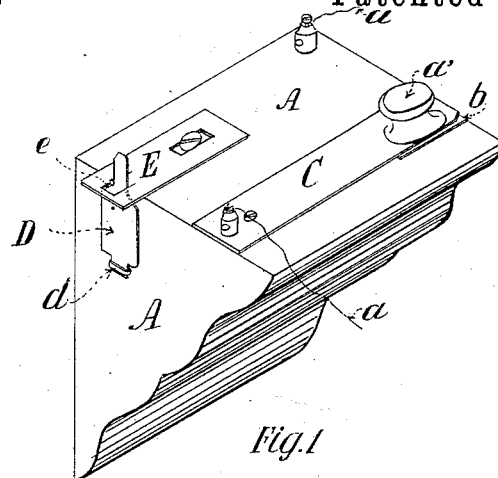


Fig. 1

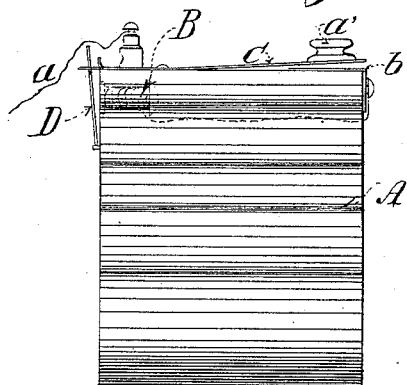


Fig. 2

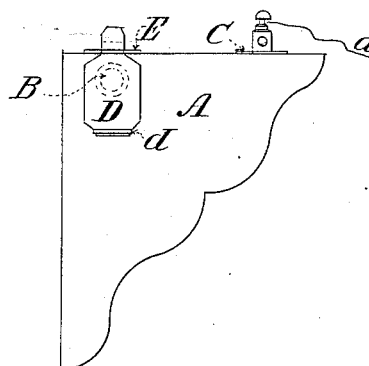


Fig. 3

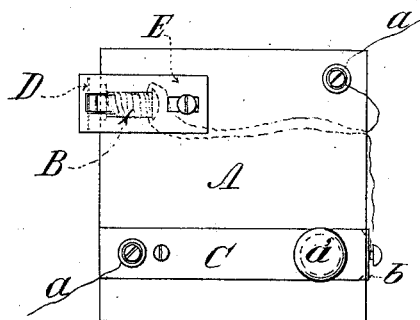


Fig. 4

Witnesses

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# UNITED STATES PATENT OFFICE.

WILLIAM P. CURL, OF ARDMORE, PENNSYLVANIA, AND JAMES H. CURL, OF ELWOOD, NEW JERSEY, ASSIGNORS, BY MESNE ASSIGNMENTS, TO THEMSELVES AND HENRY D. HUGHES, OF RADNOR, PENNSYLVANIA.

## ELECTRICAL CALL DEVICE.

SPECIFICATION forming part of Letters Patent No. 303,626, dated August 19, 1884.

Application filed October 15, 1883. (No model.)

*To all whom it may concern:*

Be it known that we, WILLIAM P. CURL and JAMES H. CURL, citizens of the United States, the said WILLIAM P. CURL residing at Ardmore, county of Montgomery and State of Pennsylvania, and the said JAMES H. CURL residing at Elwood, in the county of Atlantic and State of New Jersey, have invented certain new and useful Improvements in Electrical Call Devices, of which the following is a specification, reference being had therein to the accompanying drawings.

Our invention relates to telegraph call or signal devices that are used in offices, stores, dwellings, &c., for the purpose of summoning a messenger from a telegraph office or station. A person using the ordinary call or other signal devices now in vogue has no means of knowing whether or not his wire is in working order, and cannot, until the arrival of the messenger, tell whether his call has or has not been received. Consequently it frequently happens, when the messenger has from any cause failed to put in his appearance, that a second, and sometimes a third, call is made, thereby causing considerable confusion.

The object of our invention is to provide a cheap, simple, and durable device that cannot readily get out of order, and by means of which the person using it can see that the wire is in working order, and can be signaled or notified from the telegraph-office that his call has been received.

In the accompanying drawings, Figure 1 is a view in perspective of our device. Fig. 2 is a front elevation; Fig. 3, an end elevation; and Fig. 4 is a plan.

A is a small wooden bracket, about two inches in width, to be fastened to a wall or any other convenient place.

B is a single electro-magnet of the kind commonly used in telegraph-instruments.

*a a* are the two ends of the silk-covered copper wire surrounding the magnet B. One of these ends is connected with a wire extending to an instrument in the telegraph-office, and the other end is continued so as to form the usual ground-connection.

C is a telegraph-key formed of a narrow

piece of spring-brass curved or bent slightly upward and fastened at one end to the top of the bracket A by a small screw or other convenient means. It is also connected at this end with the wire leading to the telegraph-office. At the other end of the key is placed a small glass or porcelain knob, *a'*.

*b* is a small metal plate fastened to the bracket A immediately under the knob *a'*. This plate is connected with one end of the wire passing around the magnet B.

D is an armature made of a thin flat piece of any suitable metal. *d* is a small wire staple or loop loosely supporting the armature D at the bottom.

E is an adjustable guide, preferably made of German silver, supporting the upper end of the armature and keeping it in position over the magnet. *e* is a slot in the guide E in which the armature D moves back and forward. The armature D is held in position by the staple *d* and guide E, leaning slightly outward, as shown in Fig. 2, the guide E being adjusted so that when the magnet B has by attraction drawn the armature D up against a stop on the guide E the armature is still leaning slightly outward and beyond the center of gravity, and consequently will of its own weight, when the current of electricity is broken, fall back into the position shown in Fig. 2. The ends *a a* of the wire surrounding the magnet being respectively connected with a wire extending to the telegraph-office and the ground, and the key C being closed by pressing on the knob *a'*, the circuit of electricity is completed, and the magnet B will attract the armature up toward it and against a stop on the guide E. When the circuit is broken by removing the pressure from the knob *a'* and allowing the key to rise, the armature will of its own weight fall back into the position shown in Fig. 2. By this means it will be readily seen that a person calling a messenger can easily tell when the line is in working order and that his call is received at the telegraph-office, and he can also receive a return-signal from the telegraph-operator. To do this the party calling keeps his key pressed down after he has sent the call, and circuit is then made from ground at call-

ing-station to ground at the central office, where the magnet B, attracting the armature D, holds it in a position up against the stop on the guide E. Then, while the key is thus held down, the central-office operator gives the return-signal by opening and closing the circuit at the central office, thus alternately demagnetizing and magnetizing the magnet B and operating the armature D backward and forward against the stop on the guide E. The armature D, striking against the stop on the guide E, produces a distinctly-audible sound, so that the caller can both see and hear that the signal is given properly.

Should the person using the instrument understand telegraphing, he can readily send a message to the office without leaving his place of business, and the telegraph-operator can notify or signal him that his message has been received.

We do not desire to be confined to the exact means for securing the armature herein described, as modifications may be made without departing from the spirit or sacrificing the advantages of our invention.

What we do claim, and desire to secure by United States Letters Patent, is—

1. In a telegraph-instrument, an upright armature consisting of a metallic plate set loosely in a staple or other holding means at the bottom, and working in an adjustable guide placed above the staple or support holding said armature, substantially as set forth. 30

2. In a telegraph-instrument, the combination of a magnet, B, and upright armature D, and adjustable guide-plate E, provided with the slot e, in which the armature works, as set forth. 35

3. A telegraph apparatus consisting of the bracket A, magnet B, set in the body thereof, armature D, secured thereto, guide E e, adjusted thereon, key C, and metallic contact-point or plate b, and electrical connections, all constructed and arranged as herein set forth. 40

In testimony whereof we affix our signatures in presence of two witnesses. 45

WILLIAM P. CURL.  
JAMES H. CURL.

Witnesses:

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