No. 770,184. PATENTED SEPT. 13, 1904.

J. F. MICKEY.

ATTACHMENT FOR TELEGRAPH SOUNDERS.

APPLICATION FILED MAY 2, 1904.

NO MODEL.

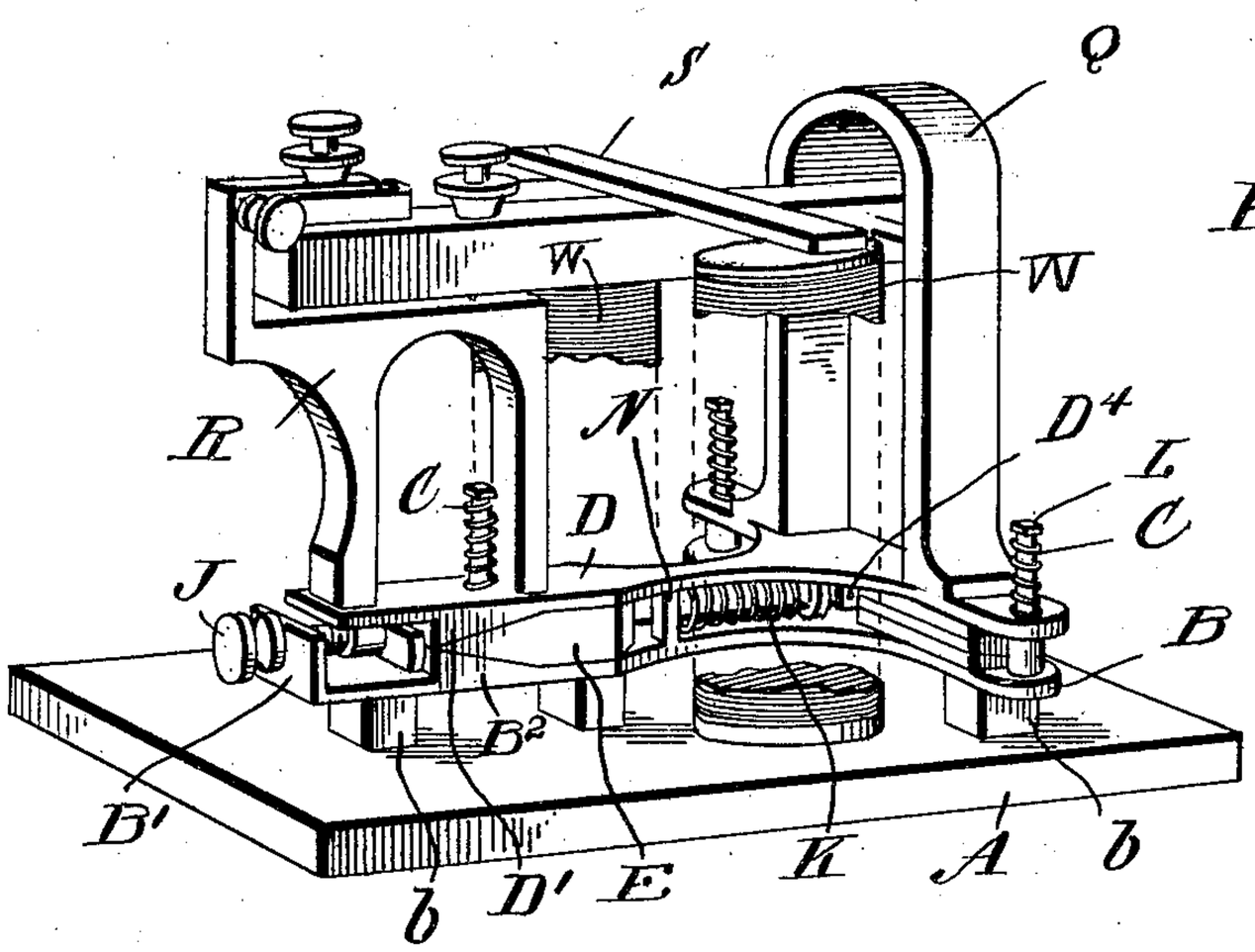

Fig. 1.

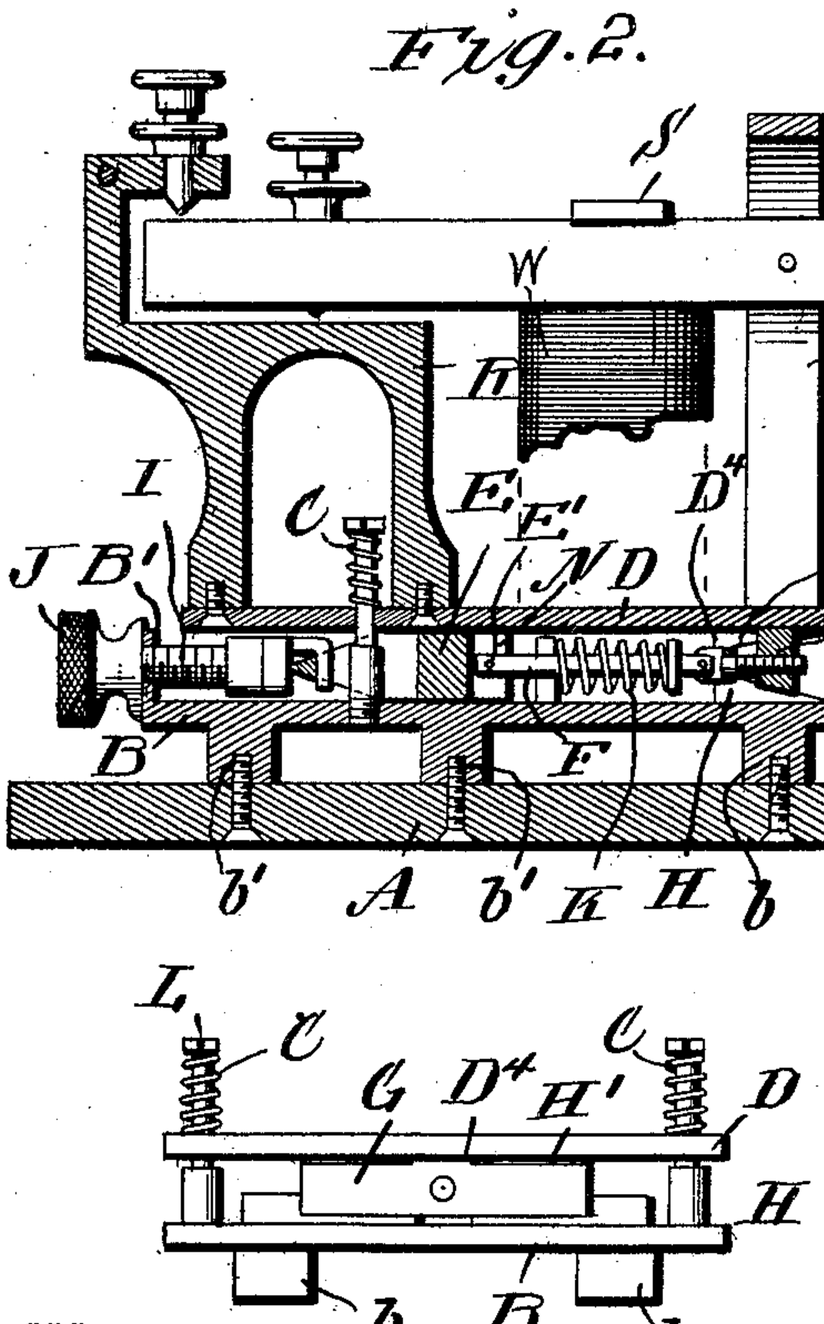

Fig. 2.

Fig. 4.

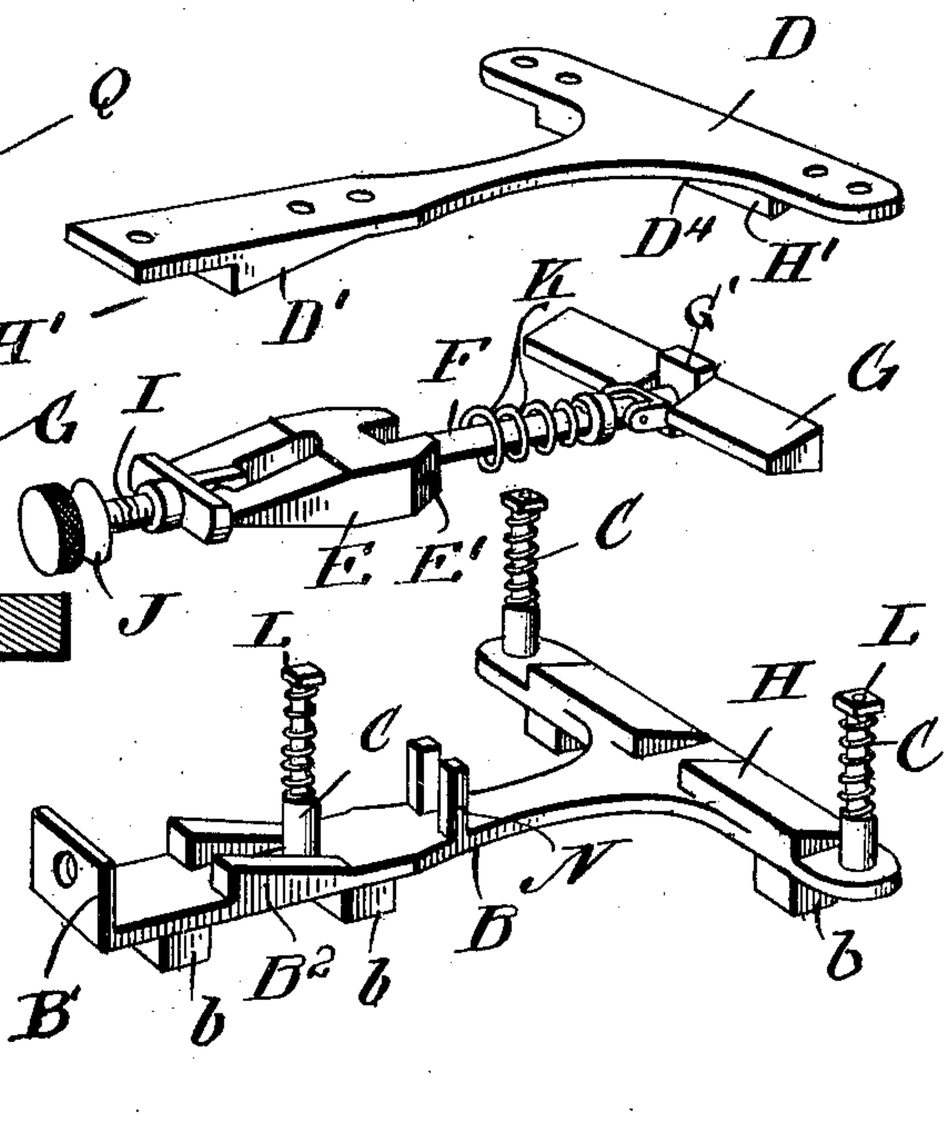

Fig. 3.

WITNESSES:

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No. 770,184. Patented September 13, 1904.

UNITED STATES PATENT OFFICE.

JOHN F. MICKEY, OF BALTIMORE, MARYLAND, ASSIGNOR OF ONE-HALF TO JOSEPH J. NOPPENBERGER, OF BALTIMORE, MARYLAND.

ATTACHMENT FOR TELEGRAPH-SOUNDERS.

SPECIFICATION forming part of Letters Patent No. 770,184, dated September 13, 1904.

Application filed May 2, 1904. Serial No. 206,020. (No model.)

To all whom it may concern:

Be it known that I, JOHN F. MICKEY, a citizen of the United States, residing at Baltimore, State of Maryland, have invented certain new and useful Improvements in Attachments for Telegraph-Sounders; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in attachments for telegraph sounders or relays; and the object of the invention is to produce an attachment which may be placed upon an old sounder with magnets of increased resistance and used upon main-line or long wires and to dispense with the local battery, thereby making a sensitive adjustment for all conditions of weather.

The invention consists, further, in various details of construction and in combinations and arrangements of parts, which will be hereinafter fully described and then specifically defined in the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this application, and in which—

Figure 1 is a perspective view of the attachment shown as applied to a telegraph-sounder. Fig. 2 is a vertical longitudinal sectional view. Fig. 3 is a view showing the parts of my invention disassembled. Fig. 4 is a detail view.

Reference now being had to the details of the drawings by letter, A designates the base-plate, and B designates a plate having an angular end B′, and projecting from the bottom of said plate B are lugs *b*, which have threaded holes *b*′ in the bottoms thereof, whereby screws may be passed through threaded apertures in said base A and engage the holes in said lugs for the purpose of holding the plate B securely to the base. Said plate B is T-shaped and is provided with lugs similar to those illustrated under the shank portion thereof. Rising from the plate B are posts C, and D designates a T-shaped plate, which is provided with holes to receive said posts C, whereby the plate is guided in its up and down movements. The upper surface of the plate B has an inclined surface B^2, and projecting from the under face of the plate D is a similarly-inclined surface D′, corresponding to the inclined surface B^2, and intermediate the two inclined surfaces a wedge-shaped block E is adapted to have a play, the under surface of the wedge-shaped block adapted to contact with the inclined surface B^2, while the inclined surface D′ is adapted to contact with the upper inclined surface of said wedge member. The rear end of said block E is bifurcated and carries a pin E′, upon which is pivotally mounted the end of a rod F, the rear end of said rod being fastened to a wedge-shaped block G, the upper and lower inclined faces of which are adapted to contact, respectively, with the inclined surfaces H and H′ upon the two plates B and D. The inclined surface H′ upon the plate D has a recess D^4, (shown in Fig. 3 of the drawings,) and a projection G′ upon the wedge-shaped member G is adapted to be guided by the side walls of said recess as said wedge-shaped member G is moved forward or backward by the longitudinal movement of the rod F.

A spring K is interposed between a shoulder upon the rod adjacent to the wedge-shaped member G and the upright posts N, between which latter the rod is guided in its longitudinal movements. A screw I is fastened to the tapering end of the wedge-shaped member E and passes through an aperture in the angled end B′ of the plate B. A thumb-nut J is threaded on the outer end of the screw I, and a hub portion of said nut is adapted to bear against the angled end B′ of said plate, whereby as the screw is turned in one direction the two wedge-shaped members may be drawn against the inclined surfaces described, thereby causing the two plates to be thrown away from each other, and upon the reverse movement of said nut the spring K, which becomes under tension as the wedge-shaped members are drawn forward, will serve to return said wedge-shaped members to their nor-

mal position, and screws L, mounted upon the posts C and bearing between heads upon said posts and the plate D, serve to throw the plate D back to its normal position after having been raised by the spreading movements of said wedge-shaped member.

Secured to the plate D are the standards Q and R, which form common parts of a telegraphic sounder apparatus, and S designates an armature of the usual construction, which is adapted to be positioned over the magnets W on either side of the plates B and D, the lower portions of which magnets are broken away to better illustrate parts of the invention.

By the provision of the apparatus shown and described means are provided which may be attached to the base of an old sounder instrument with magnets of increased resistance or magnets of an old relay, thereby producing a first-class combination sounder and relay for main-line wires in which the adjustment may be easily and quickly made.

By the use of my apparatus telegraph companies may dispense with local batteries—that is, batteries worked by the relay for the sounder and which are kept in the office, two cells generally being employed for each wire—and by the provision of my adjusting apparatus, which is placed between the sounder-plate and standards of the sounder, a more sensitive adjustment is afforded the sounder than by using only the heavy spring which is common in all sounders. The relays commonly used are of one hundred and fifty ohms resistance, and the sounders are four and five ohms resistance. By taking the four or five ohm magnets off the sounder and putting fifty-ohm magnets on in their place and placing my improved adjusting apparatus under the standards produces an instrument that works on the main line with a one-hundred-and-fifty-ohm resistance-relay and requires less batteries to work the line. By experiments it has been shown that my apparatus works successfully upon lines from eight miles to over one hundred, and merely by slight changes in the adjustment of the screws perfect results are obtained.

My improved apparatus may be placed upon any sounder, thus utilizing the old instrument without the necessity of an entirely new instrument, and economizes in table-room over the relays commonly in use.

While I have shown a particular detailed construction of apparatus illustrating my attachment for telegraph-sounders, it will be understood that I may alter the detailed construction of the same, if desired, without in any way departing from the spirit of the invention.

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

1. An attachment for telegraph-sounders comprising, in combination with the base-plate and magnets mounted thereon, plates supported by said base, armature-supporting standards carried by one of said plates, an armature, and means for varying the distance between said plates, as set forth.

2. In combination with the base of a telegraph-sounder, magnets mounted thereon, two plates mounted upon said base, a movable wedge-shaped member intermediate said plates, and means for moving said wedge-shaped member, whereby said plates may be moved from each other, standards rising from one of said plates, and an armature supported by one of said standards, as set forth.

3. In combination with the base of a telegraph-sounder, a plate and magnets supported thereon, posts rising from said plate, a second plate mounted upon said posts and provided with inclined faces, wedge-shaped members mounted between the plates and adapted to contact with the inclined faces thereof, a screw secured to one of said wedge-shaped members, and a nut mounted upon said screw and adapted to bear against one of said plates, whereby the latter may be moved apart, and springs for returning the plates to their normal positions, standards rising from one of said plates, and an armature carried by one of said standards, as set forth.

4. In combination with the base of a telegraph-sounder, a stationary plate secured thereto, magnets upon said base, posts rising from said plate, wedge-shaped members connected together, a screw fastened to one of said wedge-shaped members passing through an aperture in an angled portion of said plate, a nut mounted upon the end of said screw and adapted to bear against the angled end of said plate, an inclined movable plate mounted upon said posts, springs bearing against the upper surface of said movable plate, inclined surfaces upon the adjacent faces of said plate against which said wedge-shaped members are adapted to frictionally bear, standards mounted upon said movable plate, and an armature supported by one of said standards, as set forth.

5. In combination with a base of a telegraph-sounder, a plate having lugs projecting from the bottom thereof, screws fastening said plate to said base, posts rising from said plate, one end of the latter being bent at an angle, wedge-shaped members having connections between the same, one of said wedge-shaped members having a projection adapted to be guided in a recess in said plate, a screw fastened to one of said wedge-shaped members and extending through an aperture in the angled end of the plate, a nut fitted upon the screw and bearing against the angled end of the plate, a movable plate having apertures to receive said posts, the adjacent faces

of said plates having inclined faces adapted to contact with the faces of said wedge-shaped members, springs mounted upon said posts and bearing against the upper surface of said movable plate, standards mounted upon the movable plate, and an armature supported by one of said standards, as set forth.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

JOHN F. MICKEY.

Witnesses:
CHAS. J. FOX,
GEO. W. RYAN.