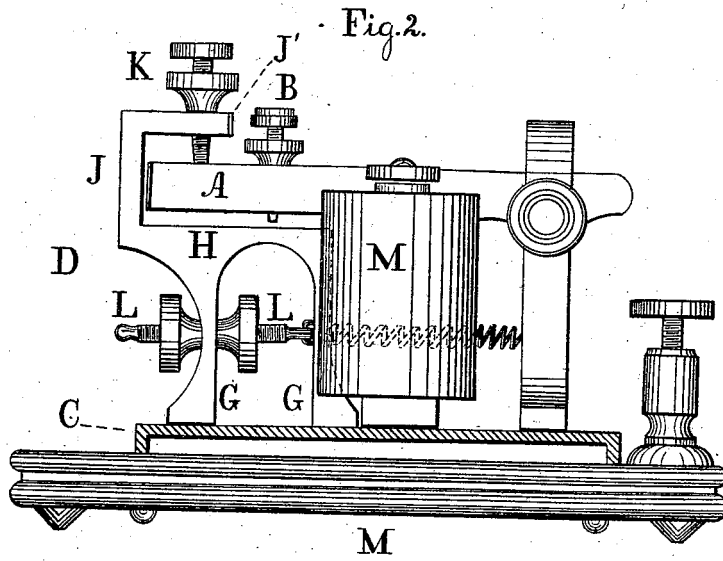
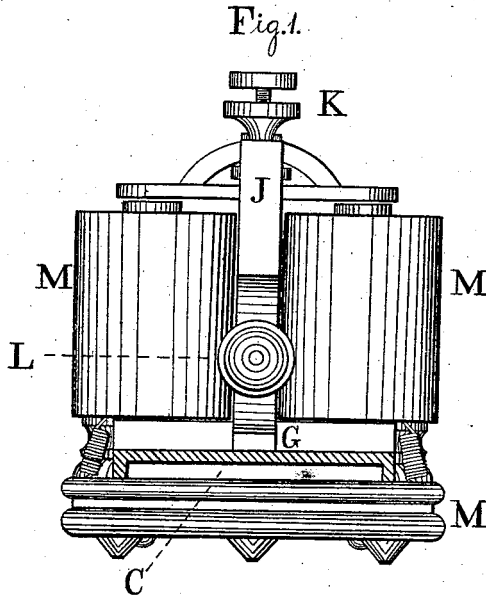


**J. H. BUNNELL.**  
**Telegraph-Sounder.**

No. 159,894.

Patented Feb. 16, 1875.



Witnesses  
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Inventor  
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 Attys.

# UNITED STATES PATENT OFFICE.

JESSE H. BUNNELL, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO  
PARTRICK, BUNNELL & CO., OF SAME PLACE.

## IMPROVEMENT IN TELEGRAPH-SOUNDERS.

Specification forming part of Letters Patent No. 159,894, dated February 16, 1875; application filed  
July 31, 1874.

*To all whom it may concern:*

Be it known that I, JESSE H. BUNNELL, of the city and county of Philadelphia and the State of Pennsylvania, have invented a new and useful Improvement in Telegraph Instruments; and I do hereby declare the following to be a clear and exact description of the nature thereof, sufficient to enable others skilled in the art to which my invention appertains to fully understand, make, and use the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is an end view of the device embodying my invention, partly in section. Fig. 2 is a side view thereof, partly in section.

Similar letters of reference indicate corresponding parts in the two figures.

The object of my invention is to produce a telegraphic sounding apparatus which shall give a clear, well-defined, and loud sound. This I accomplish by the following arrangements, some of which may be used in sounders of, in other respects, ordinary construction, but which I prefer to use combined in one instrument. The armature-lever carries the stroke-screw. This is located at a point at or near the middle of that part of the lever which is between the armature and the forward end. Underneath this lever is located a longitudinally-extending arch upon which the stroke-screw strikes. The location of the stroke-screw as above prevents any rebound, and, in combination with the arch, produces the well-defined and loud sound desired. Sometimes the apparatus is mounted upon a hollow metallic box, which I do not, broadly, claim.

Referring to the drawings, A represents the lever, the fulcrum end of which is mounted as usually, and carries at the end opposite to its axis the stroke-screw B, which is fitted thereon at a point between, say, five-eighths of an inch, and one inch from said end. C represents the base of the instrument, which is constructed of metal and made hollow, and on which the various proper parts are supported. The yoke D consists of vertical supports G, which rest on the base C, the horizontal body H, and the angular arm J, the horizontal limb J' of which is above and extends inwardly, so

as to overhang the lever H, whose free end projects into the space between the body H and the upper limb of the arm J, so that the body H receives the stroke of the screw B. An adjusting-screw, K, is fitted in the horizontal or overhanging part of the arm J, and receives the stroke of the lever A.

It will be noticed that the yoke is arranged or extends longitudinally or in the direction of the swing of the lever A, in contradistinction to the transverse arrangement heretofore adopted.

The adjusting-screw L of the lever extends horizontally and longitudinally, and is journaled or fitted to one of the supports, G, of the yoke, so that said screw L is accessible from both sides of the yoke without interference of the magnets M, thus affording ample opportunity for the thumb and forefinger of the hand embracing the sides of the support G and engaging with the said screw, whereby the latter may be set with ease and nicety.

It will also be seen that the end of the lever A does not project beyond the yoke, but is encircled thereby, thus overcoming the heretofore existing awkward appearance and the objectionable feature of its liability to accidental movement.

The stroke-screw is convenient of access, and its arrangement is such that the strokes are deposited with full force, and without any rebound whatever.

The hollow base will be supported, preferably, upon a thin wooden base, M, and, by its nature, serves to impart to the instrument the greatest sound from comparatively weak strokes of the lever.

It will further be noticed that the supports G G and part H form an arch, on whose top or crown the stroke of the sounder-lever is deposited. The crown thus produces a large sounding-surface and increases the resonance of the instrument, and as the screw B, located on the lever, makes a solid stroke without any tendency to rebound, it is evident that clearness and strength of sound are combined.

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

1. In combination with an armature-lever, a stroke-screw, located midway, or near midway, between the end thereof and the armature, substantially as and for the purpose set forth.

2. In a telegraph sounding apparatus, the arch located underneath the lever in the line of the direction of the swing of the lever, substantially as and for the purpose set forth.

3. The combination, with the sounder-lever A, of the arch G H, substantially as and for the purpose set forth.

4. The lever A, stroke-screw B, and arch G H, combined and operating substantially as and for the purpose set forth.

5. The lever A, carrying the stroke-screw B, the arch G G H, and hollow base U, constructed, combined, and operating substantially as and for the purpose set forth.

JESSE H. BUNNELL.

Witnesses:

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