H. E. BLAKE.
Telegraph-Keys.

No. 201,089. Patented March 12, 1878.

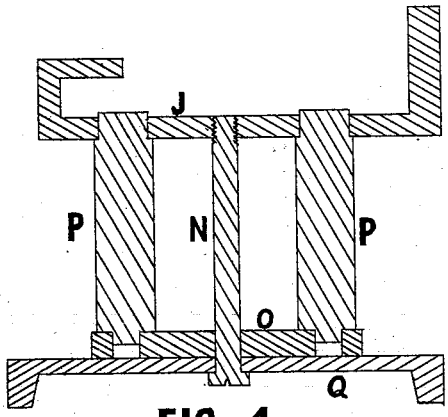

FIG. 4

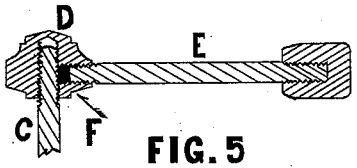

FIG. 5

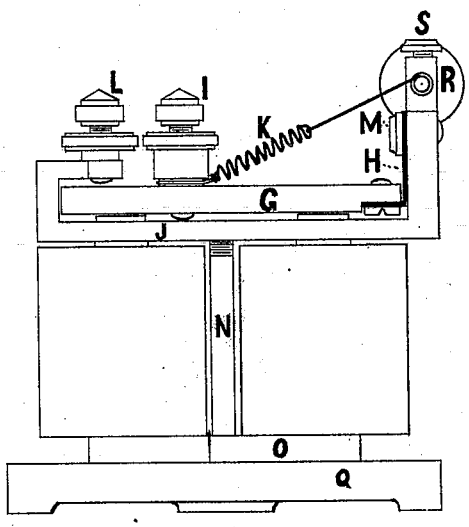

FIG. 3

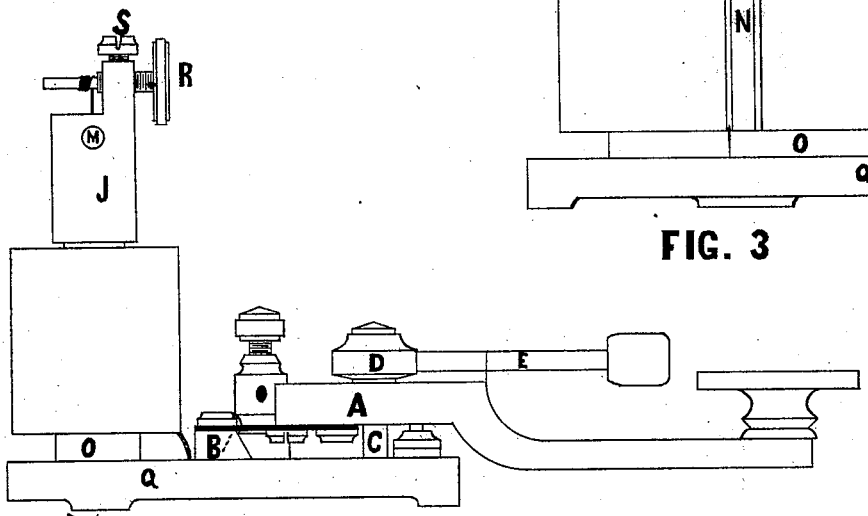

FIG. 2

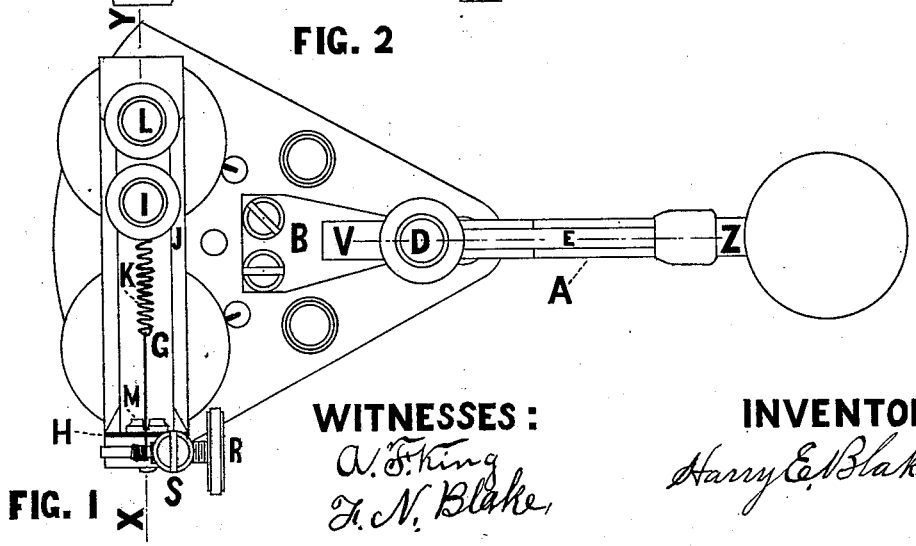

FIG. 1

WITNESSES:
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UNITED STATES PATENT OFFICE.

HARRY E. BLAKE, OF FLUSHING, NEW YORK.

IMPROVEMENT IN TELEGRAPH-KEYS.

Specification forming part of Letters Patent No. **201,089**, dated March 12, 1878; application filed June 16, 1877.

To all whom it may concern:

Be it known that I, HARRY E. BLAKE, of Flushing, State of New York, have invented an Improved Telegraph-Instrument, of which the following is a specification:

The object of my invention is to produce a telegraph-instrument which shall be much simpler, and thus less expensive to manufacture and less liable to get out of order, than the ordinary first-class instruments now in use, and yet, at the same time, shall do its work equally as well or better than they. The instrument is, primarily, a combined key and sounder, intended for main-line use.

The accompanying drawings, forming a part of this specification, and the following description, will enable any one skilled in the manufacture or use of telegraph-instruments to clearly understand the workings of the devices composing my invention.

The same reference letters in the drawings refer to the same parts in the different figures.

Figure 1 is a horizontal projection or plan of the instrument. Fig. 2 is a side, and Fig. 3 a back-end, view of the same. Fig. 4 is a vertical section at X Y through the yoke, magnet-cores, back armature, base, and screw which holds the same together. Fig. 5 is a vertical section at V Z through the circuit-closing and key-lever-adjusting device.

The key-lever A is supported by the flat spring B. This spring takes the place of the trunnion, binding, and trunnion screws and spring in ordinary keys. This device works easier and more freely than the present style of key, because there is no friction, and because it is impossible, by improper adjustment, to make it bind or work heavily.

The combined circuit-closing and lever-play-adjusting device consists of a steel stud, C, fastened to the base at the lower end, passing through a hole in the lever, and threaded at the upper end, a nut, D, and a lever, E.

Turning down the nut by means of the lever closes the circuit. The lever screws into the nut, and a bit of leather, F, as shown in Fig. 5, is placed between the end of the lever and the top of the stud, so that by screwing the lever into the nut the leather is forced against the stud. Thus the nut may be so adjusted as to move smoothly and easily by the hand of the operator, but not move of itself.

The play of the key-lever is adjusted by turning the circuit-closing lever to a greater or less extent. This adjusting device is far superior to the method heretofore in use, for this reason: Different operators like a different amount of play in the key-lever; and with this device each operator adjusts it to suit himself by the same motion of the hand which opens the circuit.

The circuit-closing device is superior, also, because it is simple, easily operated, and not liable to stick. Any operator knows the vexation due to a sticking circuit-closer switch.

The sounder-lever G is made of soft iron, and is supported by the flat spring H in a similar manner to the key-lever, as in the key it takes the place of the trunnions, &c.

In action, the downstroke of the lever is made by the end of the stroke-screw I striking on the yoke J. This screw is located at that point of the lever (viz., about one-third of its length from its free end) which gives the most effective blow; and to make it still more effective, its binding-nut is made heavy. The upstroke is made by the spring K, and is adjusted by the screw L.

The spring K is adjusted by the wheel and axle R, which is prevented from moving of itself by the screw S in the same manner in which the circuit-closer lever prevents that device from moving. The yoke J takes the place of the trunnion-supports and sounding-post in ordinary instruments.

This combination of the working parts produces a wonderfully clear, loud tone, even with a small battery force. The hole in the spring H through which the screw M passes is made oblong, so as to admit of adjusting that end of the lever at the proper distance from the magnet-core.

The section Fig. 4 shows the arrangement of parts by which a single screw, N, fastens the yoke J and back armature O to the cores P P, and the yoke, back armature, and cores, all four, to the base Q.

Having described my invention, what I

claim as new, and desire to secure by Letters Patent, is—

1. The combination of the stud C, nut D, lever E, and leather F, arranged substantially as and for the purposes specified and shown.

2. The combination of the yoke J, magnet-cores P P, back armature O, base Q, and screw N, all arranged substantially as and for the purposes specified and shown.

HARRY E. BLAKE.

Witnesses:

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E. W. HOWELLS.