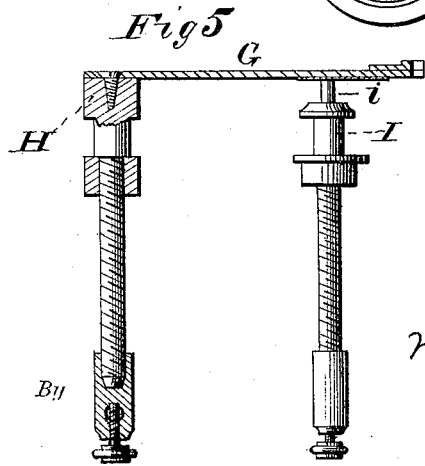
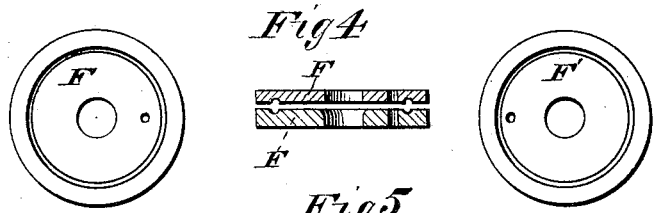
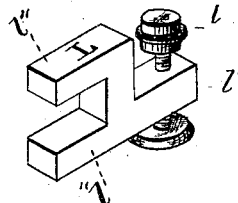
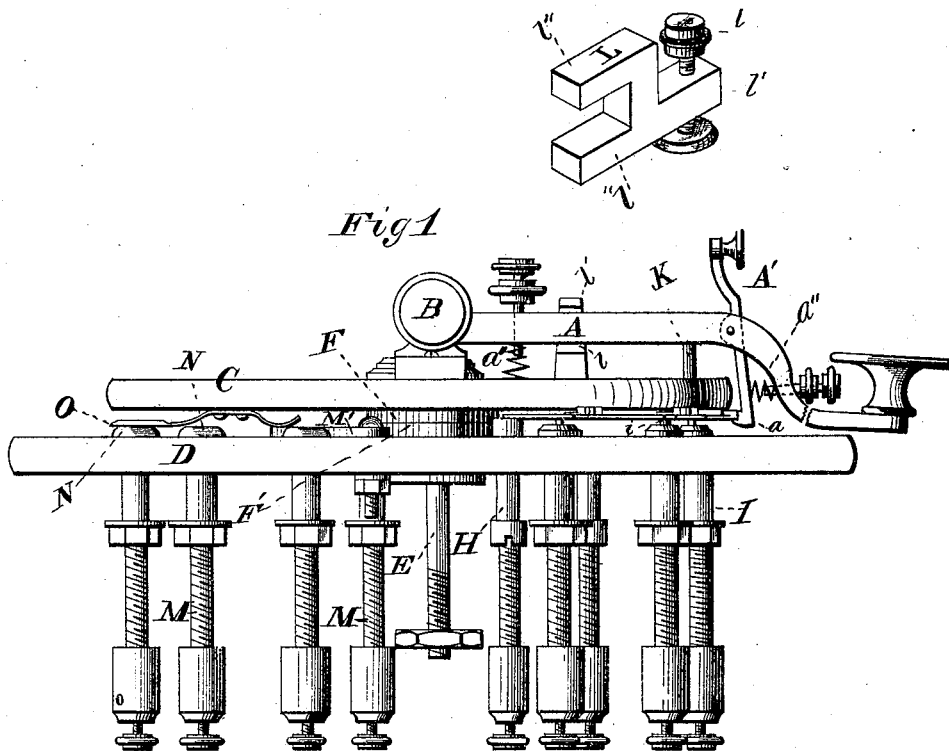


M. L. M. HUSSEY. Compound Telegraph-Key.

No. 166,876.

Patented Aug. 17, 1875.



WITNESSES
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Wm. E. Chaffee.

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per L. Deane.
 Attorney

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Fig 2

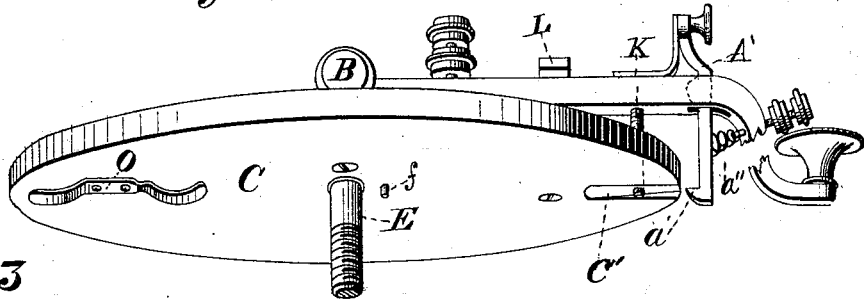
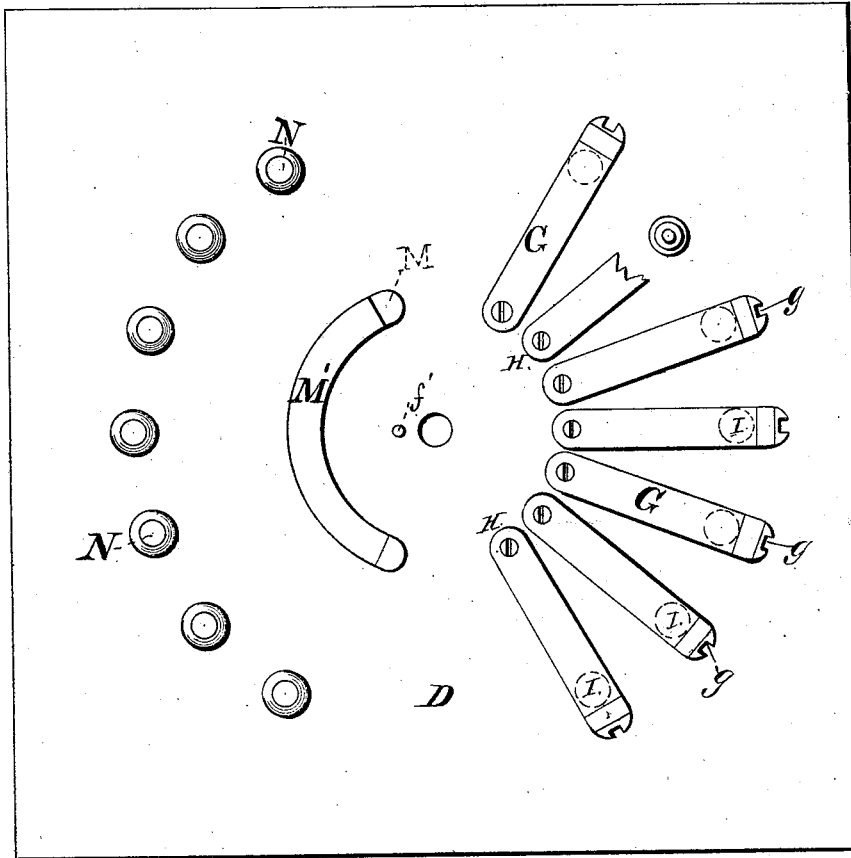


Fig 3



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 Attorney

UNITED STATES PATENT OFFICE.

MARCUS L. M. HUSSEY, OF MENLO PARK, ASSIGNOR OF ONE-HALF HIS RIGHT TO GEORGE W. BARKER AND WILLIAM ETTINGER, OF JERSEY CITY, NEW JERSEY.

IMPROVEMENT IN COMPOUND TELEGRAPH-KEYS.

Specification forming part of Letters Patent No. 166,876, dated August 17, 1875; application filed August 5, 1875.

To all whom it may concern:

Be it known that I, MARCUS L. M. HUSSEY, of Menlo Park, in the county of Middlesex and State of New Jersey, have invented certain new and useful Improvements in Telegraph-Operating Machine; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawing and to the letters of reference marked thereon, which form a part of this specification.

Figure 1 is a side elevation. Fig. 2 is a perspective, showing the under side of the top table. Fig. 3 is a plan, showing the top of the lower table. Fig. 4 is a section and plan of disks F F'. Fig. 5 is a section showing the circuit-plate, posts, and platinum point.

The design of this invention is to produce a simple device whereby the use of many keys and their adjuncts of sounders, switches, and the necessary complication of wires attached to the one or the other thereof, and several local batteries, is obviated; and to this end it consists, more particularly, first, in a telegraph-operating machine so constructed and adapted that a single key may be used to operate one or any number of different wires; second, in so constructing the machine that the operation of connecting the key with any given line serves to make the proper connection of the sounder and local battery; third, in so constructing and attaching the machine that it will be impossible to open any wire but the one in use, while all the other wires are closed; fourth, in so constructing the machine that there is but a single point for breaking the connections, and that a platinum point.

In the accompanying drawings, A represents the key-arm, provided at *a'* with the usual spring. This arm is mounted upon suitable bearings in the sockets or standards B, which are placed upon and suitably secured to the upper and revolving table C. This table is centrally connected to and upon the lower table D by the main post E. The top or upper end of this post is affixed to said table C. It passes down through said table D, and also

the operating-table, beneath which it is secured and held by a nut and washer or any like or ordinary contrivance for that purpose. Between the said upper and lower tables, and with said main post passing centrally through them, are the disks F F'. The use or office of these is to afford the surest and steadiest bearing for the upper table. In order to make them work more steadily I have hollowed them out somewhat, so as to have an annular bearing-face on the under side of F and on the upper side of F'. The disk F is connected to the upper table by pin *f*, and F' to the under table by pin *f'*. Each one of the circuit-plates G is rigidly attached at the end by one of the main-line posts H, while their outer end extends over the posts I, each of which has in its top a platinum point, *i*. The outer end of each circuit-plate is notched at *g*. This is adapted to receive and hold the latch end *a'* of the spring-catch A'. This catch is pivoted in the arm A at such a point that it can move freely outside the edge of the upper table, and, being rigidly attached to said table, it moves with it, and said table can be also moved by it.

According as it is desired to use any particular wire, the said latch end is pressed down through said slot *g*, and when it passes through the same and below said plate G, the spring *a''*, acting upon the upper part of A', causes the latch to come under and engage with said plate, and lift it up into recess C, so that it is raised thereby above the top of the platinum point *i* in post I, and held firmly against the lower end of post K, which is set in and through the arm A, and extends down through a hole or opening in the top table C, and, projecting into recess C', comes directly over the platinum point in said post I. The recess C' is sufficiently deep to afford all necessary play of said plate in working the instrument.

The key may be adjusted by means of a screw, *l*, which passes through the extension *l'* of the piece L, the arms *l'' l''* of which hold the key on the upper and under side. This piece L is secured to the upper plate C by said screws. The connection with the local and only battery is made by means of post M, which connects with the circle-connector M'

in the upper face of the table D, and this in turn is made to connect with the sounder-posts N by means of the double spring O, which is rigidly attached to the under side of the upper table C, directly opposite to the key A, and said spring has one arm adapted to move upon the said circle-connector, and the other to rest upon the top of one or the other posts, N, according as the operator revolves the key or said upper table.

When the key is not in use the outer end of said spring falls between any two of said sounder-posts N, thus opening the local battery circuit, which will, of course, remain open until the key is brought into use again. Of course, I propose to use any number of posts H, I, and N that may be necessary to adapt my invention to use, and any number of wires, and otherwise multiply the parts for same purpose. This would obviously be mere duplication of parts, and is not now dwelt more particularly upon.

While I have here shown the plate D stationary and C movable, to bring the key into circuit with any one line, it is evident that this relation of moving and stationary parts may be reversed without departing from the spirit of my invention.

The detail of constructing and operating my device or invention according to the above will be readily understood by all persons skilled in the art to which its use and construction belong; and the advantages to be derived from my said invention, as thus substantially illustrated and explained, are of very great consequence. By means of it there will be a large saving or gain in mere space or room in an office, likewise in the time of the operators, and in the expense of local and main batteries, cost of instruments, and trouble and delay of continually cleaning and repairing the same. There will, in addition, be no liability of having wires left open by any cause. For these and many more like reasons, not now necessary to recite, the utility of my said invention will be readily understood.

Having thus described my invention, what

I consider new, and desire to secure by Letters Patent, is—

1. The combination, with a single key, of one or more anvils, each representing a different wire or circuit, and all so arranged that the movement of said key or its support serves to bring said key into suitable connection with any desired one of said wires or circuits, substantially as described.

2. The combination of a single key-lever, contact-point, and anvils, as described, with a connector and local contact, so arranged that upon the movement of said key to connect with any one of the line-circuits the local-battery and proper sounder connections are simultaneously made, substantially as and for the purposes set forth.

3. The combination, with the main or operative lever, of an auxiliary or spring lever, adapted to hold the main circuit closed when such circuit is not in use, whereby but a single contact-point is needed, substantially as and for the purposes set forth.

4. The combination of two disks or plates, one provided with a single key-lever, and the other provided with one or more contact-points, through which various telegraphic circuits pass, one plate being movable in relation to the other, whereby the movement of one plate upon the other brings the key-lever into position to operate any desired circuit of the series, substantially as set forth.

5. The combination of the key, the table C, and spring O with posts M, circle-connector M', and post N, substantially as and for the purposes set forth.

6. The combination of the key A and latch-spring A' a with the circuit-plate G, posts K and I i, substantially as and for the purposes set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

MARCUS L. M. HUSSEY.

Witnesses:

E. F. M. FAEHTZ,
PHILIP McNICHOL.