(No Model.)

J. STEINER.

TELEGRAPH KEY.

No. 509,964. Patented Dec. 5, 1893.

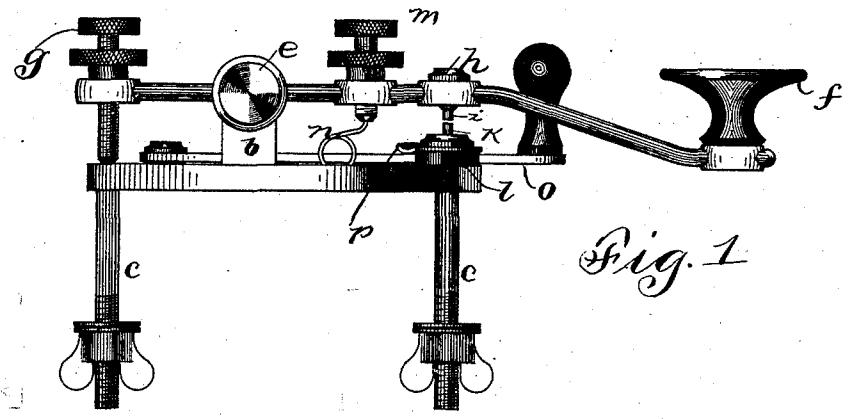


Fig. 1

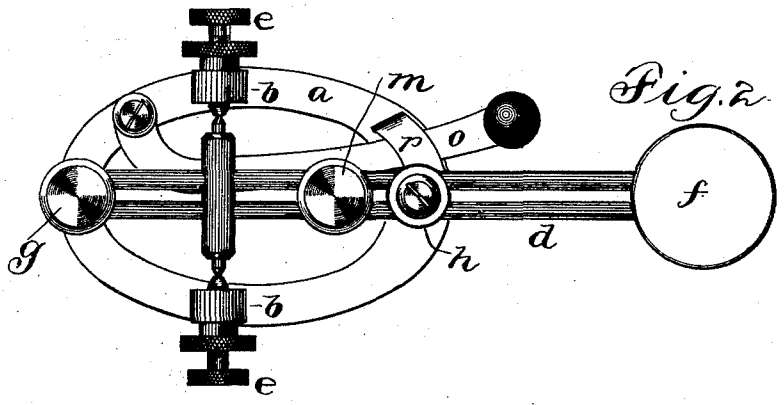


Fig. 2

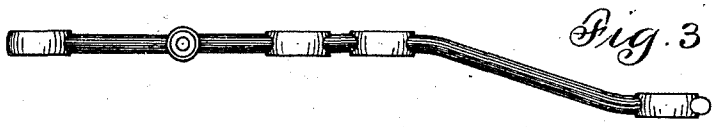


Fig. 3

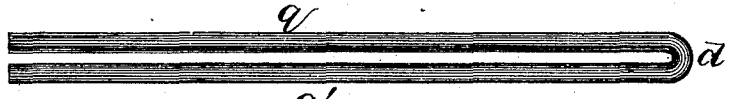
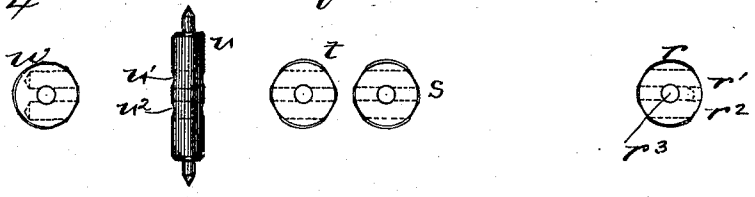


Fig. 4



WITNESSES

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TELEGRAPH-KEY.

SPECIFICATION forming part of Letters Patent No. 509,964, dated December 5, 1893.

Application filed May 8, 1893. Serial No. 473,362. (No model.)

To all whom it may concern:

Be it known that I, JOSEF STEINER, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Telegraph-Keys, (Case No. 5,) of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to telegraph keys; its object is to produce an improved form of lever for telegraph keys, which shall be light, rigid and of neat appearance, and which shall at the same time be simple and cheap in construction.

My improved lever is constructed of rods or bars of metal of small diameter; it comprises a short transverse bar pivoted at its extremities in suitable bearings and two longer bars rigidly secured to the transverse bar, which carry at one extremity the button or handle of the key, and at suitable intermediate points the usual adjusting screws and contact points.

My invention is illustrated in the accompanying drawings.

In the drawings, Figure 1 represents a side elevation of my improved key. Fig. 2 is a plan thereof. Fig. 3 is a side elevation of the lever, the contact points and adjusting screws being removed. Fig. 4 represents in plan the skeleton or frame of the lever with the parts removed from the frame, but distributed in their proper positions with relation thereto below the frame.

The frame a of the key is constructed as usual, being an elliptical base plate provided with upward extensions b to support the trunnions of the lever, and having two downwardly projecting screws c, furnished with thumb-nuts, for securing the base plate to a table. The lever d is pivotally supported upon adjustable trunnion screws e carried in the supports b. The lever carries at one extremity the knob or button f, by which it may be manipulated; at its other extremity it carries the adjustable screw g which is adapted to come in contact with the base plate a to limit the upward stroke of the button. Upon the forward portion of the lever is fixed a screw h carrying a suitable contact point i which is adapted to make contact with an anvil k carried upon the base plate a, but insulated therefrom by a bushing l of insulating material. Another adjustable screw m extends through the lever and engages with the extremity of a spiral spring n whose other extremity is fixed in the base plate a. The spring n is coiled to exert an upward pressure upon the lever d, which pressure may be adjusted by the movement of the adjusting screw m. A switch lever o is pivoted to the frame and is adapted to be moved into engagement with the strap p which is connected with the insulated anvil k, whereby the contact pieces of the key may be short circuited.

The lever d in my invention, as will be seen in Figs. 3 and 4, consists of two parallel bars or rods $q\,q'$ which are in this case represented as the limbs of a loop of wire or small rod; upon these bars or rods are mounted the spindle of the lever and small blocks of metal which carry the various adjusting screws and other parts, the spindle and blocks being perforated at suitable points and forced on to the rods $q\,q'$. Thus one small circular disk r having transverse perforations $r'\,r^2$, represented in Fig. 4 by dotted lines, and a central perforation r^3, are first forced upon the rods $q\,q'$ to the forward extremity, being secured there by soldering or otherwise. This disk serves to support the button f of the key. Then other disks $s\,t$, similarly perforated, are forced over the rods $q\,q'$ into proper positions to receive the contact screw i and the adjusting screw m, respectively, and are similarly secured in place. A spindle u consisting of a short piece of metal rod having suitable trunnion points formed upon its extremities, is also provided with transverse perforations $u'\,u^2$, and is forced into place upon the rods; and finally, another disk w whose perforations do not extend entirely through the disk, is forced on to the rear extremity of the bars $q\,q'$, concealing the extremities of the rod. The different screws i, m and g are finally put in place in their respective disks s, t and w, and the lever mounted on its trunnions. The lever thus constructed is very light while at the same time it is very rigid. Lateral motion or spring of

the lever is resisted by a breadth of metal equal to the diameters of both rods, and is still further reduced by the rigid connection of the rods at intervals by means of the screw supporting disks upon them.

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

1. In a telegraph key lever the combination with two parallel rods, of a spindle provided with pivotal points at its extremities secured transversely thereto, and contact points and adjusting screws carried upon the parallel rods, substantially as described.

2. The combination with parallel rods, of a spindle provided with pivotal points at its extremities secured transversely thereto, blocks of metal secured to the parallel rods at suitable intervals, and contact points and adjusting screws carried by said blocks of metal, substantially as described.

3. The combination with two parallel rods, of a spindle provided with pivotal points and having perforations through which said rods are inserted, disks of metal having perforations through which said rods are inserted, said disks being fixed in place upon the rods by suitable means, and adjusting or contact-making screws extending through the disks, substantially as described.

4. As a new article of manufacture, a telegraph key lever constructed of two or more rods of metal, and a spindle having pivotal points at its extremities and provided with perforations through which said rods are inserted, substantially as described.

5. As a new article of manufacture, a telegraph key lever consisting of two rods of metal, a spindle having transverse perforations through which said rods extend, and one or more disks of metal having similar perforations through which the said rods are also inserted, the disks carrying suitable adjusting or contact-making screws, substantially as specified.

In witness whereof I hereunto subscribe my name this 10th day of April, A. D. 1893.

JOSEF STEINER.

Witnesses:
ADAM KLING,
ELLA EDLER.