

G. V. BUQUOI.
 TELEGRAPH KEY.
 APPLICATION FILED OCT. 30, 1911.

Patented Aug. 20, 1912.

1,036,443.

2 SHEETS—SHEET 1.

FIG. 1.

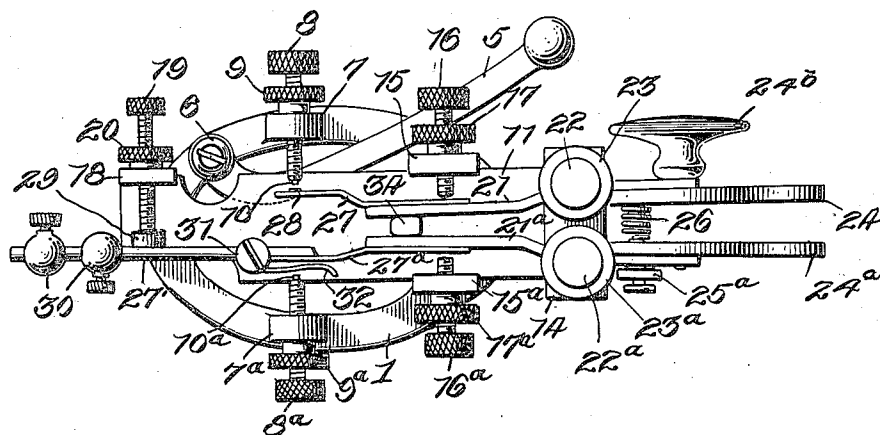
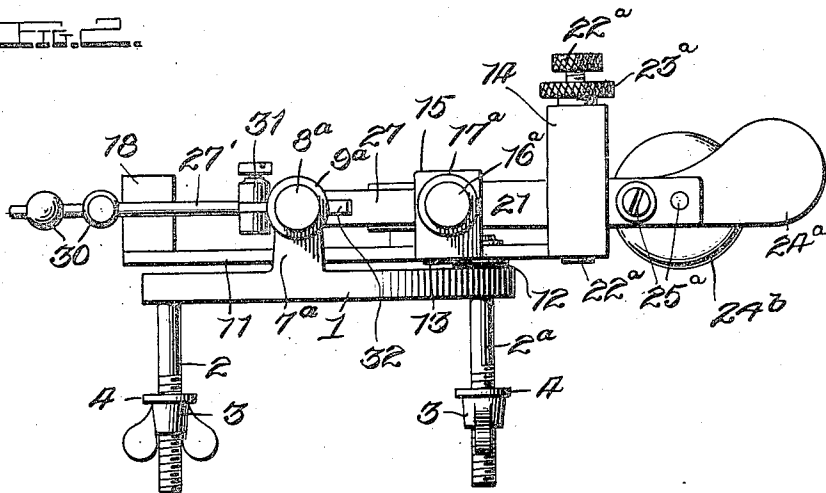


FIG. 2.



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 2 SHEETS-SHEET 2.

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FIG. 2.

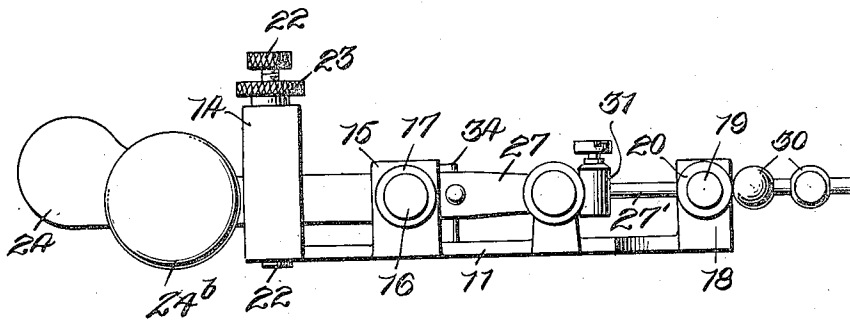


FIG. 1.

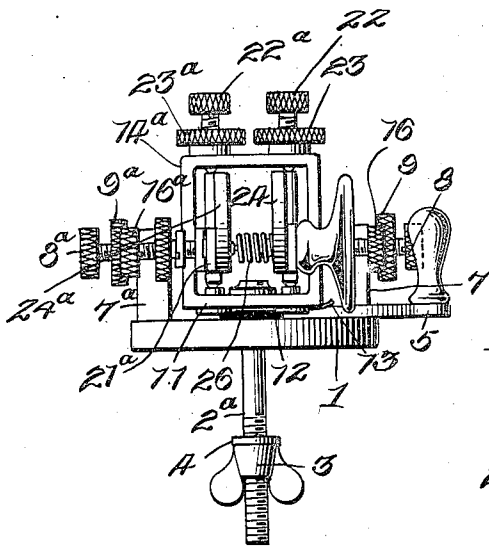


FIG. 3.

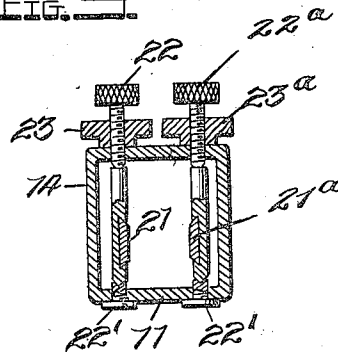
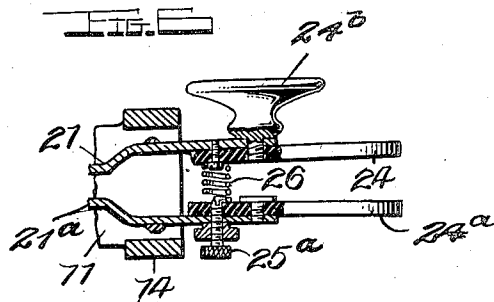


FIG. 4.



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TELEGRAPH-KEY.

1,036,443.

Specification of Letters Patent. Patented Aug. 20, 1912.

Application filed October 30, 1911. Serial No. 657,426.

To all whom it may concern:

Be it known that I, GEORGE V. BUQUOI, a citizen of the United States, residing at St. James, in the parish of St. James and State of Louisiana, have invented certain new and useful Improvements in Telegraph-Keys, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to telegraph keys and has for its object to provide a key which will require less energy and thereby permit faster operation than the styles now commonly used. This object is accomplished by making the sending of a number of "dots" in succession semi-automatic, and so arranging the key that it is operated by a horizontal rolling motion of the hand rather than by a vertical staccato movement.

Another object of this invention is to provide an attachment which can be readily installed on the ordinary type of telegraph key used, so as to reduce the cost of installing or substituting the same for the apparatus at present in use.

A still further object is to arrange the key so that it will prevent telegraphers' paralysis, and enable telegraphers who have a tendency to the same to use the device for telegraphing, even when other types of keys make the same impossible for them.

Still another object is to provide means for adjusting the various parts and for making the action of the device as silent as possible.

In addition to these objects, are many others which will become apparent as the invention is more fully set forth.

In the construction shown in the drawings, by way of example, Figure 1 represents a plan view of a telegraph key embodying this invention, Fig. 2 is a side elevation of Fig. 1. Fig. 3 is a detail of a portion of the device which can be substituted in an ordinary telegraph key, in order to make the same embody this invention. Fig. 4 is an end elevation of Fig. 1; and Figs. 5 and 6 are details of parts of the device.

Similar reference characters refer to similar parts throughout the drawings.

In the construction shown in the drawings, 1 represents a base portion of the device, which is preferably constructed similar to that of an ordinary telegraph key and which has the ordinary threaded legs 2 and

2^a provided at the end portion thereof, and with wing nuts 3 and washers 4 for the purpose of holding the base portion securely to a table or the like.

5 is the ordinary switch used for opening and closing the telegraph circuit, it being secured to the base portion by means of a screw 6 in the well known manner.

The journal posts 7 and 7^a which are provided with the screws 8 and 8^a, and nuts 9 and 9^a, for the purpose of ordinarily supporting the ordinary key are in the present case provided with contact points 10 and 10^a for a purpose to be hereinafter described.

Mounted on the back portion of the base 1 and secured thereto by means of the legs 2 and 2^a, is a plate 11, which forms the main supporting means of the instrument embodying this invention. The leg 2^a and also the plate 11 are insulated from the base 1 by an insulating member 12. A contact plate 13 is carried by the plate 11 out of contact with the base 1, as is clearly shown in the drawings. The movement of the switch 5 connected with the base 1, opens or closes the telegraph circuit in the well known manner, by making or breaking contact with the blade 13.

Referring to the base 11 in particular, it will be noticed that the back portion is provided with a projection 14, and a pair of standards 15 and 15^a adjacent thereto and on each side of the base, these uprights being provided with adjusting screws 16 and 16^a therein for the purpose of limiting the action of the keys, in the manner which will be referred to.

17 and 17^a are suitable nuts provided on the screws 16 and 16^a for the purpose of securely locking the same in any desired position. Another standard 18 is provided at the front portion of the base 11 for the purpose of properly holding and adjusting the screw 19, which is provided with a suitable locking nut 20.

Vertically pivoted within the projecting part 14 are a pair of key levers 21 and 21^a, the socket screws 22 being provided on the under portion of said part, and the cove screws 22^a on the upper portion thereof for the purpose of adjustment to take up lost motion. Suitable locking nuts 23 and 23^a are provided on the screws 22 in order to lock the latter in any desired position. Secured to the outer portions of the levers 21 and 21^a are a pair of keys 24 and 24^a made

of any insulating material, but preferably of hard rubber, and one of them carries a screw 25 which serves for the purpose of holding a compression spring 26 between the handles, so that the latter will be normally kept apart. The inner portion of the levers 21 and 21^a are provided with spring extensions 27 and 27^a. The projection 27 is provided with a contact portion 28 that is arranged to make and break contact with the contact point 10 and the other projecting part 27^a has a vibrator rod 27' secured to the end portion thereof and provided with adjustable weights 30 thereon. This rod is arranged to abut against the rubber stop 29 on the adjustable screw 19 when the key is closed, and thereby mute its vibratory movement as will be hereafter explained. On the portion of the rod 27' adjacent to the spring part to which it is attached, is an adjustable holder 31 that is provided with a spring 32, which is arranged to contact with the contact point 10^a on the side adjacent thereto, in the manner clearly shown in the drawings.

It will be noticed that the keys 24 and 24^a are arranged so as to employ a horizontal or rolling action of the hands to properly actuate them. This arrangement requires less energy to be exerted by the operator than the vertical movement usual in such apparatus. It is desirable to add an additional cap or handle 24^b to one of the keys 24 and 24^a in order to facilitate their operation.

The operation of the device is semi-automatic and is as follows: The arm of the operator is rested on the table and the hand is supported by the keys 24 and 24^a which, by reason of the fact that the key levers have a horizontal instead of vertical motion, serve as a true support and save the wrist muscles of the operator the strain due to the holding of the hand in an elevated position, as is required on the ordinary instrument. The keys 24 and 24^a are loosely engaged between the thumb and forefinger, the thumb being on the outside of the key 24^a with which "dots" are sent and the forefinger on the outside of the key 24 with which "dashes" are sent. To send dashes, a rolling motion of the hand to the left will, as is obvious, move the key 24 to the left swinging the key lever 21 on its pivot and causing the points 28 and 10 to contact, the spring 26 throwing the lever back and breaking the contact when the side pressure on the key 24 is released. Contacts made in this way at proper intervals to produce dashes, momentarily establish the current through the leg 2, base 1, post 7, screws 8, contacts 10 and 28, spring extension 27, lever 21, screws 22, projections 14, plate 11, and out through the leg 2^a. To send dots, the hand is rolled to the right throwing the key 24^a to the right and swinging the lever

21^a on its pivot, thus bringing the spring contact 32 against the contact 10^a to close the circuit. The rebound of the lever occasioned by the spring 32 is transformed by the extension rod 27' into a vibratory movement which action again brings the spring 32 into contact with the point 10^a repeating the contact automatically and sending over the line a succession of electric impulses corresponding to "dots" until the key 24^a is released and the spring 26 allowed to throw the key outwardly to the left and bring the vibrating rod 27' against the rubber stop 29 on the end of the screw 19 whereby the vibration of the key lever is muted. It will thus be seen that the sending of a succession of "dots" automatically follows the single actuation of the key 24^a, the number of dots sent depending upon the length of time that the key 24^a is held against the operation of the spring 26, and in this way the number of movements required of the operator to send a Morse character is greatly reduced. At each contact between the spring 32 and the point 10^a a circuit is established through the leg 2, the base 1, the post 7^a, the screw 8^a, contact point 10^a, the spring 32, spring clamp 31, vibrator rod 27', spring 27^a, lever 21^a, screws 22 and 22^a, projections 14, base 11, and out through the leg 2^a. When the instrument is not in use for sending, if the switch 5 is closed a circuit is established through the leg 2, the base 1, the screw 6, the switch 5, the plate 13, the plate 11, and out through the leg 2^a.

It will be observed that the motion of the hand which breaks the contact with one key is in the same direction as that required to make the contact with the other key and as a result the one movement of the hand serves both purposes, thus further reducing the number of movements required, in addition to the saving due the automatic repetition by the vibrating lever of the initial impulse imparted by the dot key.

Obviously while there is shown but one form of this invention in the drawings, it is not desired to limit this application for Letters Patent to that particular form or in any other way otherwise than necessitated by the prior art, as many modifications in the construction thereof may be made without departing from the principles thereof or coming within the scope of the appended claims.

Having thus described this invention, what is claimed is:—

1. In a telegraphic instrument, the combination of a base in electric communication with the battery circuit, posts rising from the base, contacts carried by the posts, a plate normally insulated from the base, a switch to connect the plate and base, a projection from the plate, a pair of key levers arranged side by side and pivoted in the

connection for horizontal movement, keys on one end of the levers and the other end of the levers arranged adjacent the contacts, a spring extension formed on the end of one of the levers, and a weight adjustably mounted on the spring extension whereby when the key is actuated mechanical vibration of the lever is set up to make and break the contact and automatically repeat the impulses.

2. In a telegraphic instrument, the combination of a base in electric communication with the battery circuit, posts rising from the base, contacts carried by the posts, a plate normally insulated from the base, a switch to connect the plate and base, a projection supported on the plate, a dot and a dash lever arranged side by side and pivoted intermediate of their lengths in the projection for horizontal movement, keys on one end of the levers and the other end of the levers arranged adjacent the contacts, a stop arranged between the levers intermediate their pivotal point and their contacts to limit their inward movement, a spring extension formed on the end of the dot lever, a weight slidably mounted on the spring extension whereby to set up a mechanical vibration of the lever when the key is actuated to make and break the contact automatically to send a succession of dots upon one movement of the key, and means arranged on that side of the lever opposite the contact to stop the vibration of the lever when the key is released.

3. A telegraph instrument of the class described, comprising in combination a base proper, a plurality of journal members on said base, a plurality of adjustable screws having contact points thereon disposed in said members, an attachment secured to said base and insulated therefrom, a plurality of adjusting screws in said attachment, a plurality of levers supported by some of said screws, said levers being provided with contact points thereon, for engagement with the first mentioned contact points, and means disposed on said levers for controlling the action thereon, a post for limiting the inward movement of said levers, resilient means disposed between said levers so as to keep the same normally against said post, and binding posts connected with said attachment and said base.

4. In combination with a Morse telegraph base, an attachment comprising a base having a plurality of projections thereon, a plurality of adjusting screws in said projections, a plurality of levers pivotally secured in one of said projections and arranged to come in contact with said screws, so as to be regulated in movement thereby and open and close the circuits, insulating handles for operating said levers, resilient means disposed between said handles for keeping the

same normally apart, a plurality of springs secured to said levers, a rod secured to one of said springs, a plurality of weights adjustably mounted on said rod, resilient means disposed on said levers for opening and closing the circuit, and a piece of rubber disposed on one of said adjusting screws and arranged to resiliently and silently control the movement of one of said levers.

5. In a telegraph instrument of the class described, an attachment comprising a base having a plurality of projections thereon, a plurality of adjusting screws in said projections, a plurality of levers pivotally secured in one of said projections and arranged to come in contact with said screws, so as to be regulated in movement thereby and open and close the circuit, insulating handles for operating said levers, and resilient means disposed between said handles for keeping the same normally apart, and a plurality of adjustably mounted weights on one of said levers.

6. In a telegraph instrument of the class described, an attachment comprising a base having a plurality of projections thereon, a plurality of adjusting screws in said projections, a plurality of levers pivotally secured in one of said projections and arranged to come in contact with said screws, so as to be regulated in movement thereby and open and close the circuit, insulating handles for operating said levers, resilient means disposed between said handles for keeping the same normally apart, a plurality of weights adjustably mounted on one of said levers, and means for controlling the movement of said levers, and resilient means disposed on said levers for opening and closing the circuit.

7. In a telegraph instrument of the class described, an attachment comprising a base having a plurality of projections thereon, a plurality of adjusting screws in said projections, a plurality of levers pivotally secured in one of said projections and arranged to come in contact with said screws, so as to be regulated in movement thereby and open and close the circuit, insulating handles for operating said levers, resilient means disposed between said handles for keeping the same normally apart, a plurality of adjustably mounted weights on one of said levers, resilient means disposed on said levers for opening and closing the circuit, and a resilient member disposed on one of said adjusting screws and arranged to resiliently and silently control the movement of one of said levers.

8. In a telegraphic instrument, the combination with a Morse telegraph base, an attachment comprising a base having a plurality of projections mounted thereon, a dash key lever and a dot key lever mounted upon said base, each being independently

and horizontally operable to close the circuit to send an impulse over the line, contacts mounted on said projections, said levers being arranged adjacent said contacts, the dot
5 key lever having a weighted spring extension beyond the contact point whereby upon a single actuation of the key a mechanical vibration is set up in the lever to repeatedly make and break the contacts thereby to auto-

matically transmit a succession of impulses 10 and means adjustably mounted upon the base to mute the vibrating member.

In testimony whereof I heretofore affix my signature in the presence of two witnesses:

GEORGE V. BUQUOI.

Witnesses:

ED ANDERMANN,

ED MURMONT, Jr.