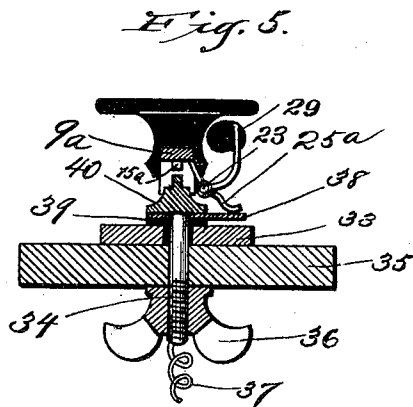
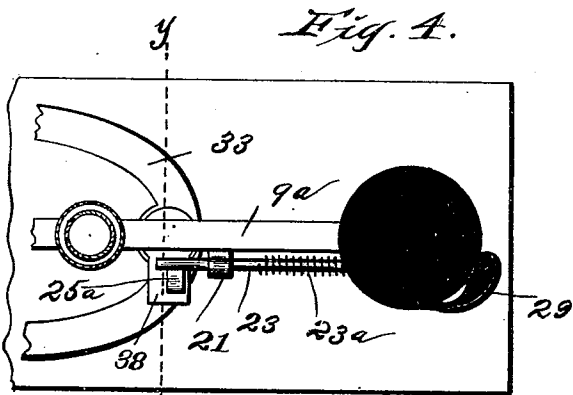
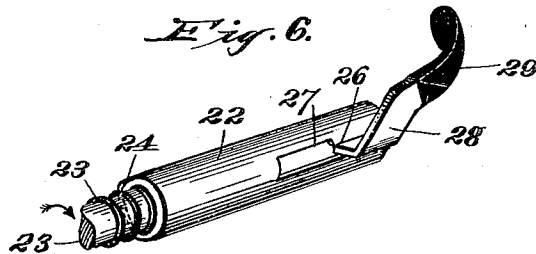
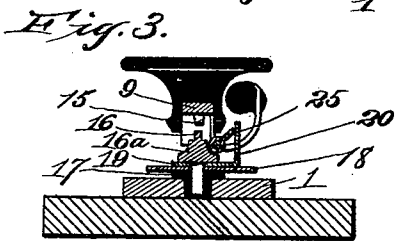
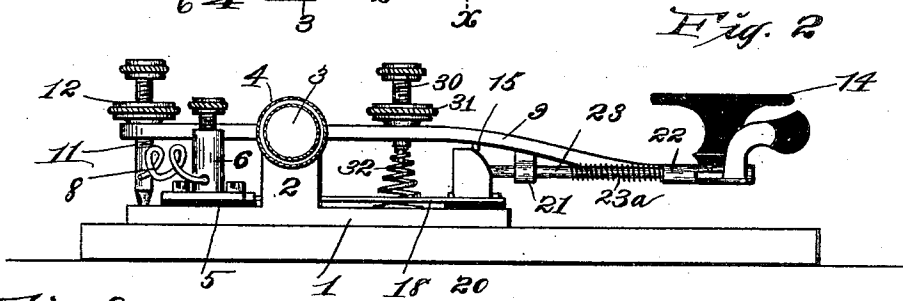
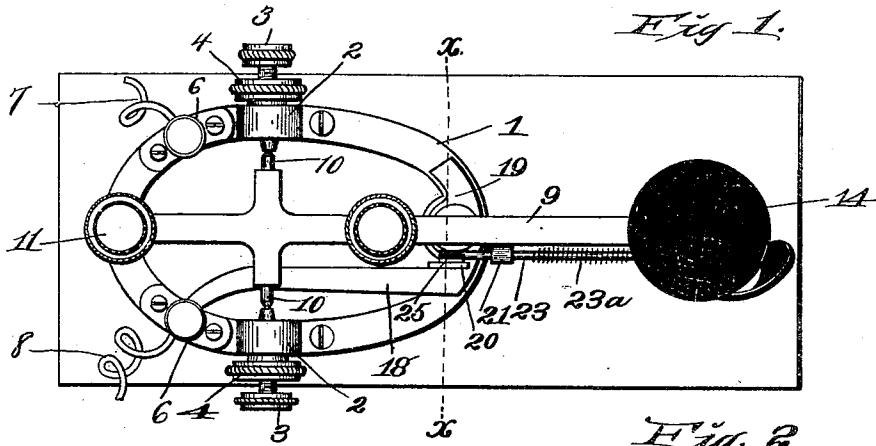


(No Model.)

H. E. MOSS.
SELF CLOSING TELEGRAPH KEY.

No. 511,787.

Patented Jan. 2, 1894.



Witnesses:

M. P. Smith,
J. P. Thorpe.

Inventor:
Henry E. Moss.

By Higdon & Higdon
Att'ys.

UNITED STATES PATENT OFFICE.

HENRY E. MOSS, OF KANSAS CITY, MISSOURI.

SELF-CLOSING TELEGRAPH-KEY.

SPECIFICATION forming part of Letters Patent No. 511,787, dated January 2, 1894.

Application filed August 21, 1893. Serial No. 483,628. (No model.)

To all whom it may concern:

Be it known that I, HENRY E. MOSS, of Kansas City, Jackson county, Missouri, have invented certain new and useful Improvements in Self-Closing Telegraph-Keys, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to telegraph-keys, provided with a device which will automatically and positively close the circuit as soon as the key is released and the object of the invention is to generally improve and simplify the construction of such devices.

With this object in view, my invention consists in certain peculiar and novel features of construction and combinations of parts as hereinafter described and claimed.

In order that my invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1, is a plan view of the ordinary legless telegraph-key, and showing applied thereto in operative position my circuit closing attachment. Fig. 2, is a side view of the same. Fig. 3, is a vertical transverse sectional view taken on the line $x-x$ of Fig. 1. Fig. 4, is a plan view of a portion of the ordinary leg telegraph-key, and showing my attachment applied thereto in operative position. Fig. 5, is a vertical transverse sectional view, taken on the line $y-y$ of Fig. 4. Fig. 6, is a detail perspective view enlarged of a portion of the circuit closing attachment.

My invention consists essentially in a spring-actuated rod, one end of which is provided with an insulated handle for contact with the thumb, while the other end is adapted to be held by said spring in circuit, and a slotted guide-sleeve carried by the key-lever through which the rod operates.

Referring now to the drawings in detail, 1 designates the base plate of the usual telegraph-key, which is preferably of the skeleton form shown, and 2 designates the vertical and upwardly extending lugs or projections which are oppositely disposed upon the plate 1, and through which the adjustable bearing screws 3—3 operate; said bearing screws being provided with the ordinary lock-nuts 4.

Suitably carried by the plate 1 are the binding-posts 6 to which the wires 7 and 8 are connected in the usual manner; one of these binding-posts being insulated from the plate 1, at 5.

Extending longitudinally above the plate 1 is the key-lever 9, and this key-lever is provided with the usual oppositely projecting trunnions 10 which engage the inner ends of the bearing screws 3. The front end of the key-lever carries the adjustable contact-screw 11, which is provided with the usual lock-nut 12 by which the adjustment of the contact screw 11 is regulated. The opposite end of the lever is provided with the usual insulated button or handle 14.

Extending upwardly from the central portion of the plate 1 and at its inner end and insulated therefrom at 17 is the contact-point 16, this screw being arranged vertically beneath and adjacent to the contact-pin 15 projecting downward from the under side of the key-lever 9. Extending longitudinally of the key is a conducting strip or plate 18 which is connected at one end to one of the binding posts 6 and at its other end rests upon the insulation 17 and contacts with the contact-pin or point 16.

Resting upon and contacting with the plate 18 and also clamped between said plate and the head or enlarged upper end 16^a of the contact pin or point 16 is a contact-plate 19; said plate extending transversely of the key-lever, and is formed with the vertical arm or extension 20 at its outer end.

Secured to and carried by the key-lever 9 in any suitable manner are the bearing and guide sleeves 21 and 22; the sleeve 21 being arranged in longitudinal alignment and forward of the sleeve 22 which is carried at the rear end of the key-lever adjacent to the button or handle 14.

Spirally surrounding the rod 23 extending through the guide-sleeves 21 and 22 is a spring 23^a; said spring being secured at its forward end rigidly to said rod in any suitable manner, and at its rear end to the bearing or guide sleeve 22, at 24. By this arrangement the tendency of the spring 23^a is to spirally contract and operate the rod 23 in the direction of the arrow shown in Fig. 6, and therefore

normally hold the projecting arm 25 of the rod 23 in contact with the vertical arm or extension 20 of the contact-plate. The guide-sleeve 22 in its outer side and near its rear end is formed with a longitudinally extending and horizontal slot 26, and the upper wall or margin of this slot is cut away at its front end or portion so as to form an upwardly extending off-set or recess 27; said recess 27 being adapted to be about half the length of the entire slot 26, and about the same length or a little greater, than the width of the outwardly projecting and horizontal portion of the lever or handle 28 carried by the rod 23; said horizontal portion of the lever or handle 28 occupying normally the narrow or rear end of the slot 26, as shown in Fig. 6. This lever or handle is also insulated at its rear end at 29, said end preferably curving inwardly toward the button 14 of the key-lever so as to afford a rounded surface upon which to place the thumb when the device is operated as herein-after referred to.

In order to hold the contact pin 15 of the key-lever normally out of contact with the contact-point 16, the set-screw 30 passes vertically through said lever a suitable distance outward of said contact points; and is provided with the usual lock-nut 31 to regulate its adjustment; the lower projecting end of said screw engages the vertically arranged helical spring 32 which is adapted to exert its pressure upwardly and hold the contact-pins out of contact as stated.

Referring to Figs. 4 and 5, I show the attachment applied to an ordinary leg-key, the plate 33 of which is suitably insulated in the usual manner as shown at 39 from the desk or table 35 upon which the key is mounted. The key is clamped in position in the usual manner by the hand nut 36 engaging the lower threaded end of the key-leg 34 to which one of the circuit wires 37 is attached.

Mounted upon and contacting with the key-leg 34 and also separated by the insulation 39 from the plate 33 is a contact-plate 38, corresponding to the contact-plate 19, and this plate is held firmly in position by the head or enlargement 40 of the key-leg 34. The key-lever 9^a is provided with the guide and bearing sleeves as before described, and extending longitudinally through said guide and bearing sleeves is the rod 23 which is provided with the retraction spring 23^a arranged as described, and is also provided with the insulated handle portion 29. The front or forward end of the rod 23 however, instead of being provided with the straight projection 25 as shown in Figs. 1 and 3, is provided at said end with the curved spring-arm or extension 25^a, the said arm being arranged so that the convex side of its outer end shall bear upon the horizontal plate 38 when the lever is in its normal position, that is, when the horizontal portion of the lever or handle 28 occupies the rear or narrow portion of the slot 26.

The arm 25^a is curved as described so that it shall yield slightly to the pressure of the spring 23^a, and thereby be held more firmly in contact with the plate 38.

Referring to Figs. 1, 2 and 3, when the key is in its normal position, or position to receive a message, the current entering through the wire 7 passes from its corresponding binding-post 6, plate 1, contact screw 11, key-lever 9 and rod 23 to the extension 20 of plate 19, and thence passes through the conducting strip 18 and corresponding binding post 6 to the wire 8 through which it passes to complete the circuit.

Referring to Figs. 4 and 5, which are not provided with the connecting strip 18, the current passes to the lever through the outermost key-leg (not shown), and thence passes by way of rod 23, spring arm 25^a and contact strip or plate 38 to the key-leg 34, whence it passes out through the wire 37. Now when it is desired to send a message it is necessary to make and break the contact alternately, and the operator grasping the button 14 of the key lever, simultaneously with his thumb presses against the insulated portion 29 of the handle 28 and causes said handle to travel forward in the slot 26, the arm 25 or 25^a at the same time sliding forward upon the plate 20 or 38. When the forward movement of the rod is ended by the horizontal portion of the lever or handle coming in contact with the front end of the slot of the sleeve 22, the pressure upon the insulated portion 29 causes said horizontal portion to move upwardly into the recess 27, and by thus revolvably operating the rod 23 in a direction opposite to that indicated by the arrow Fig. 6, the arm or extension 25 or 25^a is moved out of contact with the extension of the plate 19 or the plate 38. By now manipulating the key in the usual manner, the current is alternately made and broken through the contact points 15 and 16 in the usual manner. Immediately, however, the key-lever is released, the spring 23^a retracts and causes the rod to assume its normal position so that the arm 25 or 25^a shall contact with the extension of the plate 19 or the plate 38 and complete the circuit as before explained. It will be seen from the above that it requires a movement of the rod, in two different directions, effected by a single and continuous pressure, to cause the extension 25 or 25^a to be thrown out of contact with the plate 19 or 38, one forward and the other at right angles thereto and upward, and that for this reason it will be practically impossible to break the circuit unintentionally or accidentally, because the mere inward movement of the rod 23 only causes the arm or extension of said rod to slide upon the contact plate.

From the above description, it will be seen that I have produced a self-closing telegraph-key which is simple, durable and inexpensive of construction and positive and reliable in operation.

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

1. The combination with a key-lever, and a
5 contact plate in circuit, of a bearing sleeve
carried by the key-lever having a longitudi-
nally extending slot, the upper margin of
which from its inner end a suitable distance
outward, occupies a higher plane than the
10 upper margin of the outer portion of the said
slot, a rod having a contact arm, and carried
revolubly in said bearing sleeve, an arm pro-
jecting from said rod and through said slot,
and provided with a handle, a spring secured
15 to the said bearing and to the rod in such
manner that it exerts a retracting and rotat-
able influence on the rod, so as to hold the
contact-arm thereof always against the said
contact-plate, when said rod is not operated
20 in the reverse direction by an overcoming
force, substantially as set forth.

2. In a self-closing telegraph-key, the com-
bination with a pivotal key-lever provided
with a contact-pin, and a contact-pin adja-
25 cent to the key-lever pin, and a plate in con-

tact with the contact-pin adjacent to the key-
lever pin, and sleeves carried by the key-
lever, one of said sleeves being provided with
a longitudinally extending slot of increased
width at its inner end, a rod longitudinally 30
adjustably and revolubly mounted in said
guide-sleeves, and an arm or extension at one
end of said rod, and a handle portion project-
ing through said slot, and insulated, and a
spring actuating said rod to hold the arm and 35
the lever in contact with the said contact-
plate and in the narrow portion of the slot
respectively, and arranged so that when an
over-coming force is applied, said rod will
move the arm or extension out of contact 40
with the said contact-plate, and the handle-
portion shall occupy the widened portion of
said slot, substantially as set forth.

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

HENRY E. MOSS.

Witnesses:

MAUD FITZPATRICK,
M. P. SMITH.