(No Model.)

C. W. BRADFORD.

AUTOMATIC CIRCUIT CLOSER FOR TELEGRAPH KEYS.

No. 480,689. Patented Aug. 9, 1892.

Fig. 1.

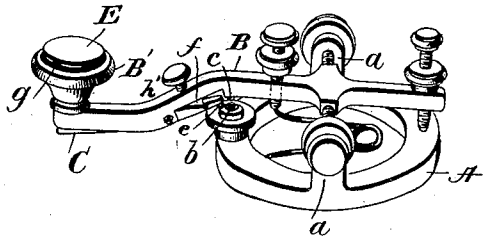


Fig. 2.

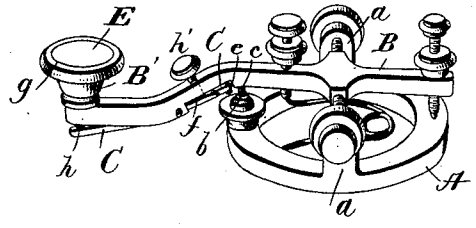
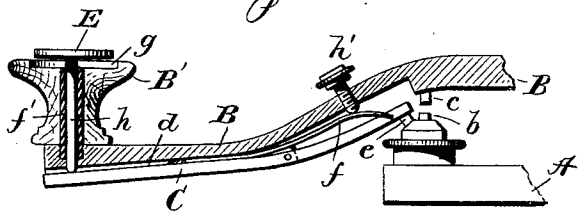


Fig. 3.



Witnesses:
Jas. E. Hutchinson.
G. F. Downing.

Inventor.
C. W. Bradford
By H. A. Seymour
Attorney.

UNITED STATES PATENT OFFICE.

CHARLES W. BRADFORD, OF CLINTON, MAINE, ASSIGNOR OF ONE-HALF TO FOREST J. MARTIN, OF SAME PLACE.

AUTOMATIC CIRCUIT-CLOSER FOR TELEGRAPH-KEYS.

SPECIFICATION forming part of Letters Patent No. 480,689, dated August 9, 1892.

Application filed May 31, 1892. Serial No. 434,984. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. BRADFORD, a citizen of the United States, residing at Clinton, in the county of Kennebec and State of Maine, have invented certain new and useful Improvements in Automatic Circuit-Closers for Telegraph-Keys; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in telegraph-keys, its object being to construct a telegraph-key in such manner that the liability of accidentally leaving the circuit open incident with keys of ordinary construction will be effectually avoided.

With this object in view the invention consists in certain novel features of construction and combinations and arrangements of parts, as hereinafter set forth, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in perspective of my improved key, showing the same closed. Fig. 2 is a view in perspective showing the position of the cut-out when the key is in operation. Fig. 3 is a detail view.

A represents the base of the key, on which the uprights *a* are mounted, and in these uprights the key-lever B is mounted and provided with the usual adjusting screws and springs. A platinum contact *b* is located on the base, and another platinum contact *c* is carried by the lever B, as usual. The key-lever B is provided in its under face and rearwardly of the contact-point *c* with a groove *d*, in which a lever C is pivotally mounted, the fulcrum of said lever being located at a point about one-third the length of the lever from the contact-points. The lever C is provided at its forward end with a contact-point *e*, adapted to engage the lower contact-point of the key, such engagement being normally maintained by means of a flat spring *f*, located in the groove *d* and bearing on the top of the lever C. If desired, a coiled spring may be substituted for the flat one. The lever C is preferably made of light metal and extends rearwardly to the rear end of the key-lever B.

The key-lever B is provided at its inner end with a perforation adapted to receive the lower screw-threaded end of a small tube *f'*, which projects upwardly from the end of the key-lever, and has fitted to it the operating-button B', which button is provided in its top with a recess *g*. A short rod *h* passes loosely through the tube *f*, and at its lower end is connected with or bears upon the inner end of the lever C, and at its upper end said rod has a disk E secured to it. When the parts are in their normal positions and the key is not in use, the contact-point on the forward end of the lever C is maintained in engagement with the lower contact of the key by the spring *f*, said spring also causing the disk E to be maintained elevated, as shown in Fig. 1.

When it is desired to operate the key, the button B' will be grasped by the thumb and second finger in the usual manner and the forefinger will be pressed upon the disk E, whereupon the lever C will be turned on its fulcrum and the contact *e* carried thereby will be moved away from the lower contact of the key, and the circuit will then be open and the key ready for operation to send messages. It will be seen that the disk E is located normally some distance from the button B', so that the end of the lever C, which carries the contact *e*, can be moved some distance from the lower contact of the key when the key is being operated, the disk E, by means of which said lever is operated, being adapted to enter the recess *g* in the button B'.

The key-switch constructed and arranged as above described is very simple and efficient in the performance of its functions to automatically close the key and maintain it closed when the key is not in use.

In some cases it may be desired to regulate the tension of the spring *f*. For this purpose a screw *h'* will be passed through the key-lever B and made to bear on said spring *f*.

When the key-lever is made of thin steel, the groove *d* may be omitted and the lever C pivotally connected to its bottom in any suitable manner.

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

1. In a telegraph-key, the combination, with the lower contact and the key-lever, of a piv-

oted lever carried by the key-lever, a spring for maintaining the pivoted lever in contact with the lower contact of the key to normally close the circuit, a set-screw passing through the key-lever and bearing on said spring, whereby to regulate its tension, and means for moving the pivoted lever out of contact with the lower contact of the key, substantially as and for the purpose set forth.

2. In a telegraph-key, the combination, with the lower contact and the key-lever, of a pivoted lever carried by the key-lever, a spring bearing on the pivoted lever to force it into contact with the lower contact of the key to normally close the circuit through the key, a set-screw passing through the key-lever and bearing on the spring for regulating the tension thereof, a button carried by the key-lever and having a perforation and a recess therein, a pin passing through said perforation and bearing on said pivoted lever, and a disk carried by said pin and adapted to enter the recess in the button when the key is operated, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

CHARLES W. BRADFORD.

Witnesses:
A. A. PLAISTED,
GEO. W. DORR.