(No Model.)

J. W. BROWN.

AUTOMATIC CIRCUIT CLOSER FOR TELEGRAPH KEYS.

No. 456,110. Patented July 14, 1891.

Fig. 1.

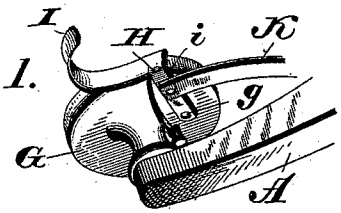


Fig. 2.

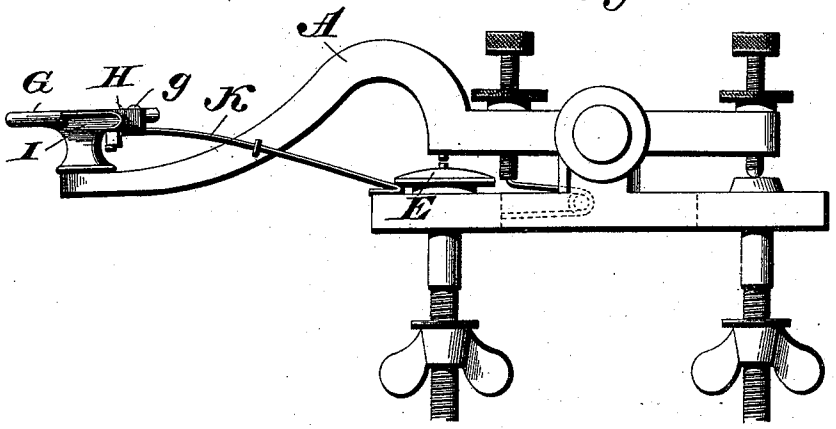
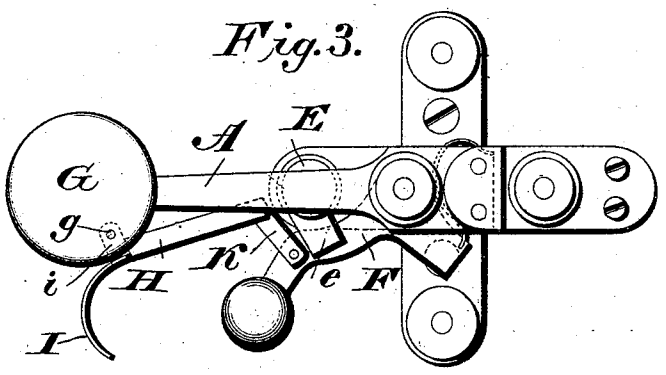


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

JAMES W. BROWN, OF VAN WERT, OHIO, ASSIGNOR OF ONE-HALF TO AUGUSTUS L. SWEET, HENRY W. BLACHLY, AND JOHN M. TRYON, ALL OF SAME PLACE.

AUTOMATIC CIRCUIT-CLOSER FOR TELEGRAPH-KEYS.

SPECIFICATION forming part of Letters Patent No. 456,110, dated July 14, 1891.

Application filed April 16, 1891. Serial No. 389,195. (No model.)

To all whom it may concern:

Be it known that I, JAMES W. BROWN, a citizen of the United States of America, residing at Van Wert, in the county of Van Wert and State of Ohio, have invented certain new and useful Improvements in Automatic Circuit-Closers; 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to automatic circuit-closers for telegraph-keys.

The object of my invention is to provide a telegraph-key having the ordinary finger-button with means for automatically closing the circuit when the finger of the operator is removed from the button; and the invention consists in providing the finger-button with an arm which is pivoted thereto and provided with a curved extended portion which is adapted to be swung horizontally upon a pivot to the edge of the key, and held there by the operator when the key is in use, said horizontally-swinging finger-piece being spring-actuated in one direction to automatically close the circuit when the key is not in use, as will be hereinafter fully set forth, and particularly pointed out in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a perspective view of a portion of a telegraph-key and finger-button, showing my improved circuit-closer applied thereto. Fig. 2 is a side view showing my invention applied to an ordinary key or circuit-closer and Fig. 3 is a plan view showing my improvement applied to a different style of key.

Heretofore it has been proposed to provide a telegraph-key with means for automatically closing the circuit, and my invention is intended as an improvement upon such circuit-closers.

A refers to the operating lever or key, which is usually pivoted to a standard formed upon the base-plate so as to have a rocking movement thereon to make and break the circuit.

In Fig. 3 of the drawings the key or operating-lever is held normally raised, so that the contact-points will be separated by a spring. In both cases the disk or anvil-plate E is electrically connected with the post, and the circuit is established, in the usual manner, through said post and the contact-points which project from the plate E and depend from the key A.

In the design shown in Fig. 3 the plate or anvil E is provided with a projection *e*, with which the pivoted spring-actuated arm F of the usual circuit-closer is passed to complete the circuit when the key is not in use.

In carrying out this invention the finger-button G has pivoted, preferably to the under side thereof, by means of a vertical pivot-pin *g*, a finger-piece H, having a curved portion I and an inwardly-projecting ear *i*, through which the vertical pivot-pin *g* passes. This finger-piece H in each case has pivoted thereto a bar or plate K, which either contacts directly with the anvil or plate E and base-plate or with a pivoted arm or lever F, which passes beneath the anvil or plate E or a member attached thereto. The bar K, as shown in Fig. 2, is pivoted to the ear *i* of the finger-piece H, and it is suitably guided by a loop attached to the operating-lever, its end being bent, as shown, to engage with the anvil or plate E and the base-plate, while in Fig. 3 the same movement that is applied thereto will operate the lever or circuit-closer F.

In using this improved circuit-closer the operator will grasp the finger-button with his thumb, the first finger bearing upon the face of the button, while the second finger rests in the curved portion I to swing the same upon its pivot and bring it in contact with the edge of the key, thus holding the circuit open. As soon as the the operator takes his hands from the key the circuit will be automatically closed, the portion H being projected by the spring.

With a circuit-closer constructed as herein shown and described it will be observed that

the movement of the automatic circuit-closer is accomplished by direct pull of the second finger, so as to move the curved portion, which is curved or recessed to fit over the periphery of the key directly in contact with the outer edge, thereby affording the operator means for grasping the key.

By my device no obstruction is given to the free independent working of the key, and at the same time the action of the circuit-closer when the key is not in use is automatic, instantaneous, and effective.

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

1. In an improved circuit-closer for telegraph-keys, a finger-piece secured by a vertical pivot to the finger-button and adapted to be moved horizontally upon said vertical pivot, so as to open the circuit, and a spring for automatically throwing the same in an opposite direction, substantially as set forth.

2. In combination with a telegraph-key, an automatic circuit-closer consisting of a bar having a curved portion in which the finger of the operator lies, a projecting portion pivoted to one side of the center of the finger-button and adapted to swing horizontally toward the periphery of said button, and a spring for normally drawing the finger-rest operating the circuit-closer away from the periphery of the button, substantially as set forth.

3. In combination with a telegraph-key, an automatic circuit-closer embodying in part a finger-rest having a curved portion and beyond said curved portion an inwardly-projecting ear *i*, through which a vertical pivot-pin *g* passes so as to secure the same adjacent to the periphery of the finger-button, the finger-rest extending on a line with the upper face of the key to bear against and engage with the periphery of the same when the key is in use, and a bar pivotally connected therewith for opening and closing the circuit, substantially as set forth.

4. In combination with a telegraph-key having the usual finger-button, a circuit-closing device secured adjacent to the periphery of the key by a vertical pivot, so as to swing horizontally thereon and abut against the periphery of the finger-button, a spring for throwing the finger-rest which operates the circuit-breaker away from the finger-button, the portion *i* of the finger-rest extending beneath the finger-button, and a bar connected therewith beyond the pivotal point and adapted either directly or indirectly to make and break the circuit, substantially as set forth.

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

JAMES W. BROWN.

Witnesses:

CHAS. L. MCFADDEN,

GEO. E. WILSON.