

UNITED STATES PATENT OFFICE.

GEORGE FRED PHILBROOK, OF LISBON FALLS, MAINE.

TELEGRAPH-KEY.

SPECIFICATION forming part of Letters Patent No. 545,532, dated September 3, 1895.

Application filed January 19, 1895. Serial No. 535,551. (No model.)

To all whom it may concern:

Be it known that I, GEORGE FRED PHILBROOK, a citizen of the United States, residing at Lisbon Falls, in the county of Androscoggin and State of Maine, have invented certain new and useful Improvements in 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.

This invention relates to telegraph-keys which automatically close the circuit when the operator's finger is withdrawn. Heretofore divers devices have been sometimes used for this purpose with the view of obviating the inconvenience of the switch being accidentally left open after the message has been sent; but such devices have been too complex, easily disordered, and uncertain, or have necessitated a cramped and inconvenient position of the fingers, or have been otherwise unsatisfactory.

The object of my invention is to effect the automatic circuit-closing with the utmost certainty and the least possible number of operative parts, and to avoid all inconvenience in manipulation. To this end I make use of a weighted and pivoted button arranged to fall when the operator's finger leaves it, and provided with a contact-piece which closes the circuit by being brought against a conductor in the same circuit when the said button thus falls over.

My invention consists in the combination of the said pivoted button with the contacts, whereby it closes the circuit, as aforesaid, and also more specifically in the construction and combination of parts hereinafter particularly set forth and claimed.

In the accompanying drawings, Figure 1 represents a perspective view of a telegraph-key embodying my invention in the position it takes while receiving the pressure of the operator's finger. Fig. 2 represents a similar view of a part of the same with the button fallen down to close the circuit, as stated. Fig. 3 represents a vertical central sectional detail view of the button. Fig. 4 represents in perspective detail one form of the spring or conductor with which the falling button makes contact and the rubber block that is

attached thereto; also, the said spring and block detached.

A designates the base of the key, provided on top with a plate B, which forms part of the electric circuit. This plate is provided with the ordinary raised contact-stud *b*, which is arranged for contact in the usual manner with the corresponding stud *c* of the key-lever C, pivoted at its rear end between insulated or insulating lugs D, raised on the said base. The usual replacing-spring E is interposed between the said lever and base, and the usual screw F, working through the said lever, adjusts its tension. The operating end of the said lever is bifurcated at C' to allow the pivoting of the key-button or knob G thereto, leaving the said button free to fall outward from the end of the said lever on its pivot. The top or crown of this button has a rim G' raised on its rear edge, of approximately semi-circular form, so as to receive the pressure of the operator's finger when the button is in the position shown by Fig. 1 and prevent cramping or slipping. The forward part of the button is weighted, preferably by drilling holes therein and filling these with plugs of lead *g*.

The lower end of the shank of the button is provided with a wedge-shaped downward extension H of conducting material, the same being adapted to enter between bifurcations I' of a spring I, the other end of which is attached to the plate B. A rubber block J fits upon this spring and also is fastened into the space between the bifurcations of the lever above mentioned behind the button, where it is fastened by transverse rivets *j*. The under side of this block is channeled to guide the said lever and spring and allow endwise play without wear while the said lever rises and falls. It also insulates these parts from each other, so that the circuit will not be closed by any direct contact between them, but only during operation by contact between the studs *b* and *c*, and after pressure ceases and the button is allowed to fall over by contact between the wedge-shaped extension or contact piece H and the bifurcations I' of spring I, whereby it is received. The chief use of the part I is as a contact-piece and conductor, and its resilience mainly serves to keep it in position for service. Of course its form may be

varied, and it need not even necessarily be a spring if means are provided to hold it ready for contact and allow it to yield as the key descends. Of course the button may be pivoted to turn down sidewise instead of forward, making electrical connection in substantially the same way without departing from the spirit and scope of my invention.

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

1. In a telegraph key, a pivoted button arranged to fall over when left without pressure and provided with an integral extension forming an electrical contact piece, in combination with another contact piece arranged in the path of the contact-piece first mentioned, to make contact therewith and close the circuit when the button falls over substantially as set forth.

2. In a telegraph key, a pivoted button arranged to fall over when left without pressure and provided with an integral extension forming an electrical contact piece, in combination with a spring which is bifurcated at its end to receive the said contact-piece and forms the other contact, closing the circuit when the button falls over substantially as set forth.

3. A telegraph key provided with a pivoted key-button which has a raised semi-circular rim on the rear or inner part of its periphery, for the purpose of facilitating the turning up of the said button into working position by the operator's finger, the forward or outer part of the periphery of the said button being left smooth substantially as set forth.

4. A telegraph key provided with a pivoted key-button which has a raised semicircular rim on the rear or inner part of its periphery to facilitate the lifting of the button into working position by the operator's finger, and countersunk weights near the outer part of its periphery to insure the falling over of the button when left without pressure substantially as set forth.

5. A telegraph-key provided with a pivoted button for automatic circuit-closing, the said button having leaden weights countersunk in it near its outer edge for the purpose set forth.

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

GEORGE FRED PHILBROOK.

Witnesses:

HARRIS GINSBURY,
GEORGE W. BEAL.