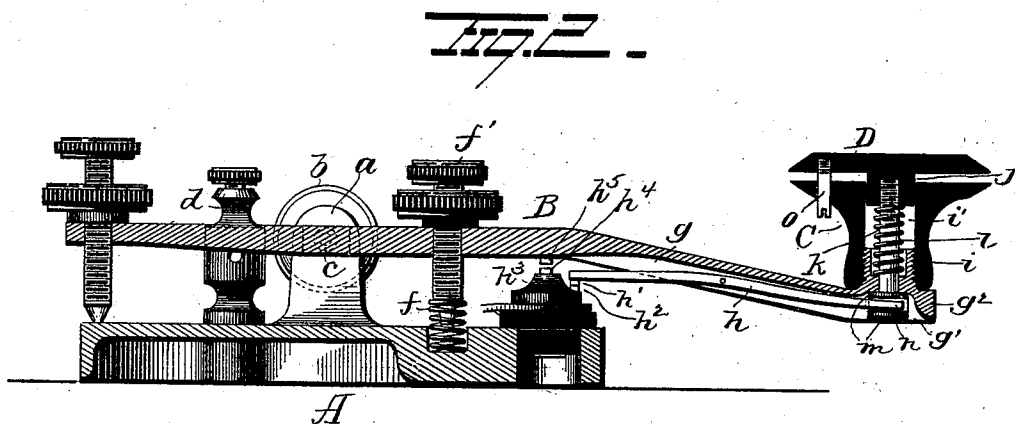
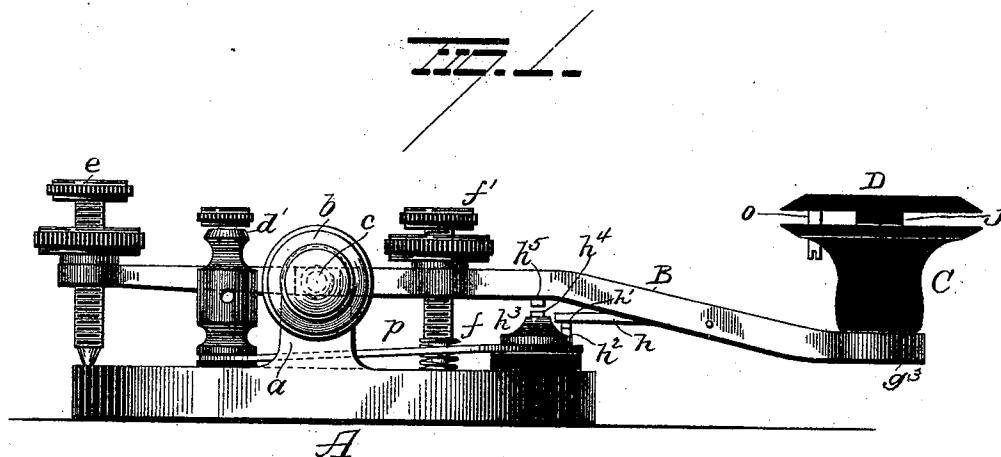


(No Model.)

C. W. BRADFORD.
TELEGRAPH KEY.

No. 538,651.

Patented May 7, 1895.



Witnesses
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CHARLES W. BRADFORD, OF CLINTON, ASSIGNOR OF ONE-HALF TO E. W. BOYER, OF FAIRFIELD, MAINE.

TELEGRAPH-KEY.

SPECIFICATION forming part of Letters Patent No. 538,651, dated May 7, 1895.

Application filed January 24, 1894. Renewed February 21, 1895. Serial No. 539,291. (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 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,—the object of the invention being to provide a telegraph key with simple and efficient devices adapted to operate automatically to close the key and thus prevent the circuit in which said key is included from being accidentally or carelessly left open when the key is not in use.

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 claim.

In the accompanying drawings, Figure 1 is a view of my improved key, showing the positions of the parts when the key is not in use. Fig. 2 is a sectional view of the key, illustrating my improvements.

A represents the base of the key, at diametrically opposite points on which posts *a*, *a* are located for the reception of the usual thumb screws *b*, in the ends of which latter the trunnion *c* of the key lever B is mounted. Binding posts *d*, *d'* are located on the base A, the binding post *d* being electrically connected therewith and the post *d'* being insulated therefrom.

The key lever B is provided at its forward end with the usual adjustable screw *e*, and at a point between its ends with a screw *f*, the lower end of which bears on a spring *f* located in a recess in the base A, and by means of a screw *f'* the resistance of said spring can be adjusted, thus regulating the tension of the key lever. The key lever B is made with a recess *g* in its under side, and this recess communicates with a recess *g'* made in the bottom of a head or enlargement *g*² at the inner end of the key.

Within the recess *g* a lever or bar *h* is pivoted at a point between its ends, the forward

end of said lever being provided with a platinum contact point *h'* adapted to make contact with a platinum point *h*² projecting from the contact post *h*³ of the key, said contact post being also provided at its upper end with a platinum point *h*⁴ with which the platinum contact point *h*⁵ on the bottom of the key lever B is adapted to make contact.

Projecting upwardly from the head or enlargement *g*² and communicating with the recess *g'* therein, is a hollow, exteriorly screw-threaded shank *i*, for the reception of similar threads in the opening *i'* of a button C. The upper portion of the opening *i'* is made plain for the reception of a short shank *j* projecting loosely therein from a disk D, said disk being preferably made of a diameter equal to the greatest diameter of the button C. Passing loosely through the head *g*² and shank *i*, is a pin or stem *k* provided at its upper end with screw threads adapted to screw into a similarly threaded socket in the short shank *j* of the disk D. A coiled spring *l* encircles the stem or pin *k* within the hollow shank *i*, and bears at one end against the shank of the disk D and at the other end on an annular shoulder at or near the base of the hollow shank *i*,—the purpose of which spring will be presently made apparent. That portion of the pin or stem *k* which projects into the recess *g'* in the head *g*², is provided with two integral disks or flanges *m*, *m*, spaced a short distance apart, and the portion of the stem or pin *k* between these disks is made angular for the reception of the bifurcated inner end *n* of the bar or lever *h*, the distance between said disks or flanges *m* being sufficient to permit sufficient play of said bar or lever when it is turned on its fulcrum. Thus it will be seen that the bar or lever *h* will be inclosed within the key lever,—that the connection between the inner end of said bar or lever and the pin or stem *k* is projected within the recess *g'* and that by making the portion of said stem where the bar or lever *h* is connected thereto, angular, the disk D will be prevented from turning at least in one direction,—but if it is desirable that said disk should be prevented from turning in either direction when in use, and as it is possible that it might become unscrewed from the stem *k* and in

this manner turn when in use notwithstanding the connection above described between the stem k and the bar or lever h , I prefer to provide a pin or screw o passing loosely through said button C and screwed to the disk D . The current will enter the key by one of the binding posts (say the post d), and from the post d it will pass through a portion of the base A , through the key lever, to the bar or lever h , thence through the contacts h' , h^2 , (when the key is not in use) to the contact post h^3 , and thence through a plate p connected at one end to said contact post and at the other end to the binding post d' , and finally out through said binding post d' .

From the construction and arrangement of parts above described it will be seen that the point h' on bar or lever h will be maintained normally in electrical contact with the point h^2 on the contact post h^3 , by the action of the spring l , so that the current will normally pass through the key as above described. When the key is in use, the operator will press upon the disk D , whereupon the bar or lever h will be turned on its fulcrum and the contact points h' , h^2 , will be separated, thus switching the key properly into circuit to be operated in the usual manner. When the operator has finished his use with the key, he will simply remove his hand therefrom, whereupon the action of the spring l will cause the bar or lever h to turn on its fulcrum and bring

the points h' , h^2 into electrical contact and thus the key will be automatically closed.

My improvements are very simple in construction, cheap to manufacture, the devices for automatically closing the key are out of sight and protected and their presence does not require any enlargement of the parts of the key. My improvements are also very effectual in the performance of their functions.

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

In a telegraph key, the combination with a base, a key lever and a contact post, of a pivoted bar or lever carried by the key lever and adapted to normally make contact with the contact post, a stem loosely connected with the inner end of said bar or lever, a button on the key lever through which said stem loosely passes, a disk at the upper end of said stem, and a pin passing through said disk and button whereby to prevent the former from turning independently of the latter, substantially as set forth.

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

CHARLES W. BRADFORD.

Witnesses:

ACHSA M. BRADFORD,
HOWARD W. DODGE.