(No Model.) 2 Sheets—Sheet 1.

R. W. GREEN.

TELEGRAPH KEY.

No. 455,320. Patented July 7, 1891.

Fig. 1.

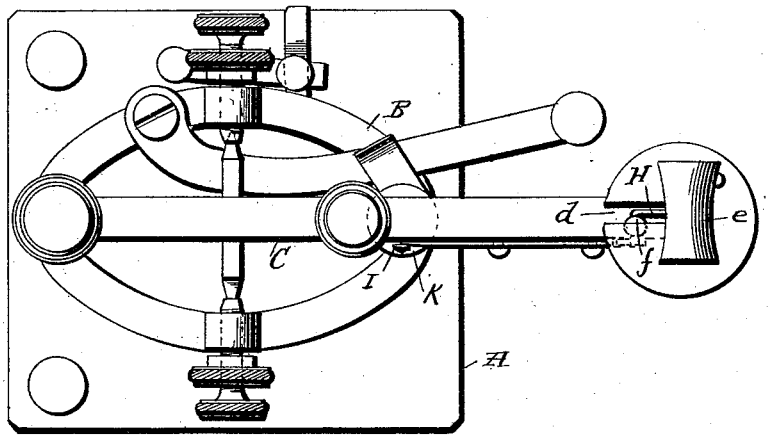


Fig. 2.

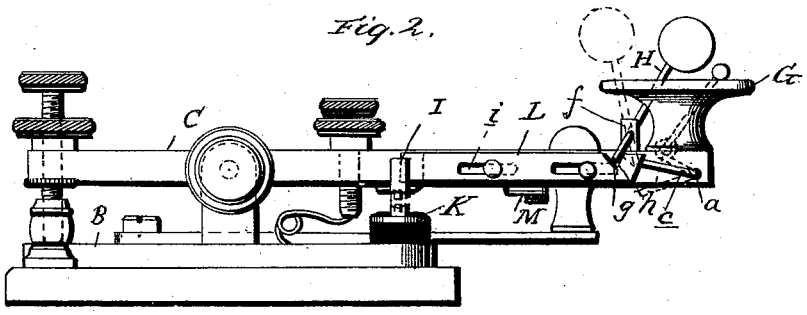


Fig. 3.

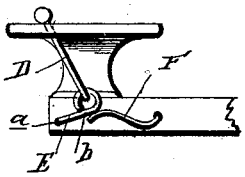
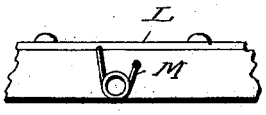


Fig. 4.



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(No Model.) 2 Sheets—Sheet 2.

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TELEGRAPH KEY.

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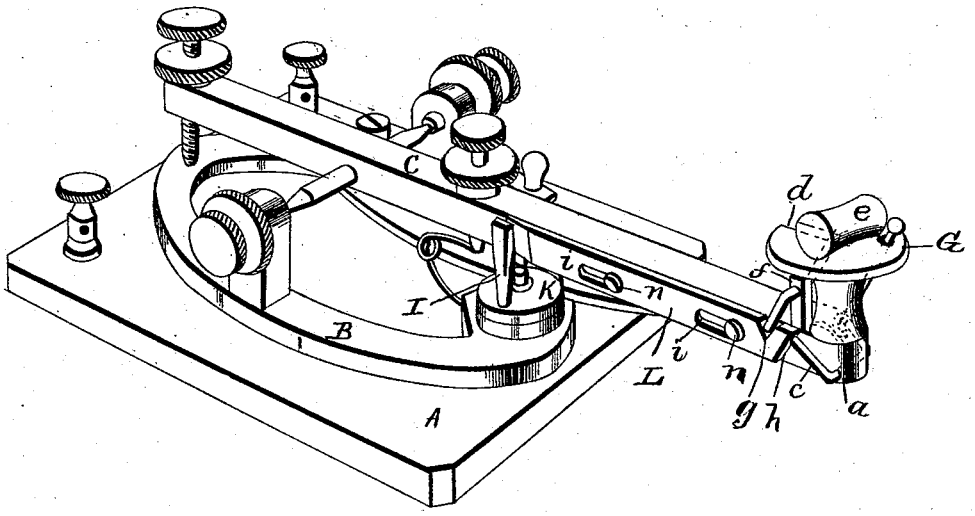
Fig. 5.



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UNITED STATES PATENT OFFICE.

ROBERT W. GREEN, OF ST. THOMAS, CANADA.

TELEGRAPH-KEY.

SPECIFICATION forming part of Letters Patent No. 455,320, dated July 7, 1891.

Application filed February 10, 1890. Serial No. 339,947. (No model.)

To all whom it may concern:

Be it known that I, ROBERT W. GREEN, a citizen of Canada, residing at St. Thomas, in the county of Elgin and Province of Canada, have invented certain new and useful Improvements in Telegraph-Keys; and I do 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 has relation to an improvement in telegraph-keys, and the novelty will be fully understood from the following description and claims when taken in connection with the annexed drawings, in which—

Figure 1 is a plan view of a telegraph-key with my improvements applied. Fig. 2 is a side elevation of the same. Fig. 3 is a detail view of the key lever and knob, showing the means for locking the sliding contact-strip; and Fig. 4 is a detail view of the under side of the key-lever, showing a part of the sliding strip and also the spring for actuating the same. Fig. 5 is a perspective view of my improved device.

Referring by letter to said drawings, A indicates the ordinary wooden base, and B the metal frame mounted thereon.

The switch-levers and binding-posts, together with the adjusting-screws, are of the ordinary construction.

C indicates the key-lever, which is mounted in the ordinary manner and is capable of the usual adjustments. The handle end of this key-lever is provided with a transverse aperture *a*, in which is journaled a rod or strip. This strip, as shown in Fig. 3, has an eye *b* or other suitable means for attachment with the lower end of a rod D, and the other end of this rod E, as will be seen in Figs. 2 and 5, terminates in an angular branch *c* on the opposite side of the key-lever, and its free end is designed to engage the beveled end of a sliding contact-strip, as will be presently explained.

F indicates a spring, which is here shown as a flat spring. This spring is secured at one end to the key-lever, and its opposite or free end bears upwardly against one of the branches of the rod E, and consequently against the lower end of the rod D, so as to hold the latter normally raised. The knob G of the key-lever is provided in its face with a radial slot *d*, through which a shifting-lever H passes. This shifting-lever H is provided at its upper end with a cross-head *e*, and said lever is fulcrumed near its lower end on the key-lever, or preferably a short post *f*, rising from said lever. The lever H being loosely fulcrumed in the post *f*, its lower end is bent angularly in a depending manner, so that its lower point *g* may engage a notch *h* in the sliding contact bar or strip, as better shown in Figs. 2 and 5 of the drawings.

I is a vertically-arranged arm or strip secured at its lower end to the post K in such a position as to allow the key-lever to vibrate without obstruction, and this arm or strip is designed, through the medium of the sliding strip on the key-lever, to close the circuit when said strip has been allowed to move forward.

L indicates the sliding contact-strip. This strip is provided with elongated slots, as shown at *i*, and is held loosely against one side of the key-lever by means of headed studs or screws *n* passing through said slots, as shown. On the under side of the key-lever is a spring M, which is designed to advance the sliding strip or bar L. This spring, which may be a coil or flat spring, has one end secured to the key-lever and its opposite end secured to the contact-strip, as shown. The rod D, which connects with the latch or stop-rod E, is provided at its upper end with a suitable head, and said rod passes through an oblique slot or hole in the knob of the key-lever.

From the construction described it will be seen that when the operator places his hand upon the knob G and against the cross-head *e*, so as to push the latter forward, as shown in dotted lines, the rod D is at the same time depressed. This movement will cause the branch *c* of the latch-rod E to free itself from the beveled end of the slide-bar L, when said bar will be simultaneously drawn backward by the lever H, and, separating said slide from the strip or post I, will open the circuit. As soon as the operator removes his hand from the knob G the spring M will come into action, so as to push forward the sliding strip L to

contact with the vertical strip or post I, and as this strip moves in such direction the lever H will be thrown backward, as shown in full lines on Figs. 2 and 5.

It will be observed that I employ a spring M, having one end attached to the key-lever and its opposite end attached to the contact-strip for the purpose of keeping said strip normally against the post I, and that I employ a spring F, having one end attached to the key-lever and its opposite end bearing against the rod E for a similar purpose. It is obvious, however, that both of these springs are not necessary on the same device, and when the spring F is used the spring M may be omitted, although both may be used together without any serious disadvantage.

My improvements are durable and cheap, and they may be applied to keys such as at present in use at a minimum expense. No care is required to close the circuit, as such operation is automatic, and the objectionable use of separate devices to open the circuit is dispensed with.

Having described my invention, what I claim is—

1. The combination, with a key-lever and a contact-arm, such as I, of a sliding contact-strip of said lever backed by a spring, a latch-lever for holding said strip in an advanced position, a rod connected with the latch-lever and passing through the key-knob, and a lever for withdrawing the sliding contact-strip, said lever being movable in a slot in the key-knob and carrying a cross-head above said knob, substantially as specified.

2. A key having a spring-backed sliding contact-strip, a latch to hold said strip in an advanced position, and a lever for withdrawing the strip, said lever also being adapted to co-operate with the latch-lever, so as to operate the latter, substantially as specified.

3. The combination, with the key-lever having its knob slotted, as described, and a contact-arm, such as I, of the slide-strip L, spring M, latch E, rod D, lever H, having cross-head *e*, and toe *g*, substantially as specified.

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