

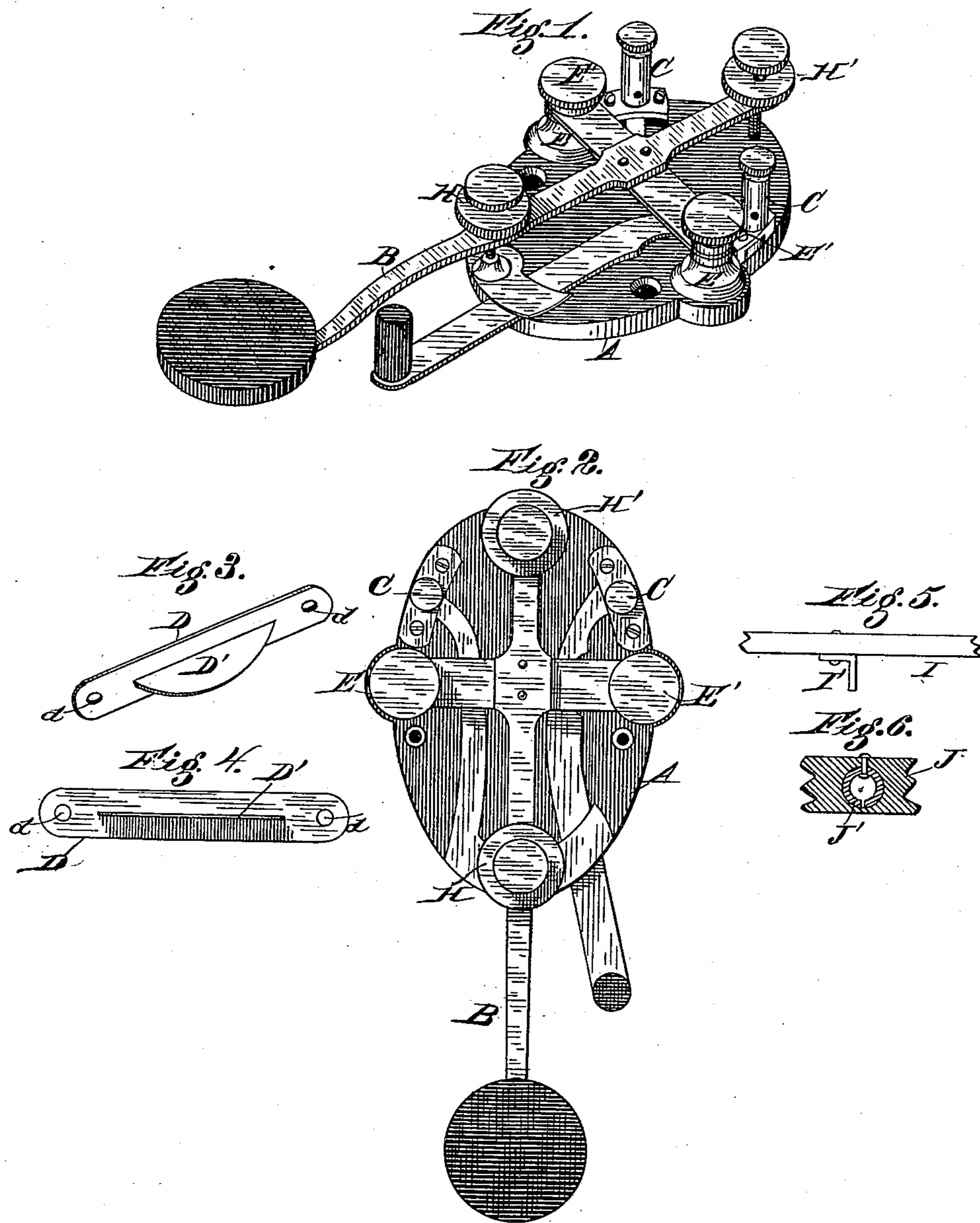
(No Model.)

E. A. EDWARDS.

TELEGRAPH KEY.

No. 270,767.

Patented Jan. 16, 1883.



Attest,

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UNITED STATES PATENT OFFICE.

EDGAR A. EDWARDS, OF CINCINNATI, OHIO.

TELEGRAPH-KEY.

SPECIFICATION forming part of Letters Patent No. 270,767, dated January 16, 1883.

Application filed September 23, 1882. (No model.)

To all whom it may concern:

Be it known that I, EDGAR A. EDWARDS, a citizen of the United States, and a resident of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Telegraph-Transmitters, of which the following is a specification.

My invention relates to telegraph-keys or instruments used for transmitting telegraphic signals, and is an improvement on the well-known Morse key, being in substituting for the trunnions or pivots upon which the lever vibrates a torsional spring or strip of metal.

Figure 1 is a perspective view of a key embodying my invention. Fig. 2 is a plan view of the same. Fig. 3 is a perspective view of one side of the torsional metal spring. Fig. 4 is a plan view of the under side of the same. Figs. 5 and 6 are modifications of my improvement.

A represents the base of an ordinary telegraph-key, as the style known as the "legless" pattern.

B represents the lever carrying the contact-point, which point is secured in the end of screw H.

C represents binding-posts.

D represents a piece of metal, preferably spring-steel, but may be made of spring-brass or other suitable material. It is preferably made flat and thin to allow of a free torsional movement. This strip of metal is secured rigidly to lever B by rivets, screws, or any other desirable means. Spring or strip D is provided with holes *d* at its ends. Thumb-screws E' pass through holes *d* and into posts E, thus firmly binding spring D to post E. This arrangement is made in order that lever B, with spring D, may be quickly and easily removed for cleaning the contact-points or other purposes.

D' represents a rib of metal, secured by soldering or other convenient means to one side of spring D. This rib is designed to prevent any vertical movement of spring D.

H H' represent adjusting thumb-screws for regulating the amplitude of movement of lever B. The ease of movement of lever B is regulated by adjusting thumb-screws H H', so that spring D is placed under more or less torsional strain.

In the modification shown in Fig. 5 the lever is fulcrumed upon an angled torsion-spring, I', which latter will of course have its ends secured in a suitable manner—such, for instance, as the spring shown in Figs. 1 and 2.

In the modification shown in Fig. 6 the letter J indicates the lever, and J' a tubular slitted torsion-spring, extending through the lever, and on which the latter is fulcrumed, said spring being attached to the lever, as shown. This form of torsion-spring will also have its ends suitably secured.

When a telegraph-key is constructed as herein described the side or lateral movement is reduced to a minimum. The adjustment of trunnion set-screws is obviated. The torsional metal springs will not wear out, but last indefinitely.

The adjusting-screws H H' serve the purpose of regulating the amplitude of the lever movement, and also serve the purpose of regulating the retractile resistance of the torsion-spring. By this arrangement a secondary retractile spring to resist the downward movement of the contact-lever is not necessary. In ordinary telegraph-keys a retractile spring is always supplied to regulate the force required to depress the lever, as well as pivots or trunnions on which the lever vibrates.

In my invention the torsional spring not only takes the place of the pivots or trunnions, but, when used in connection with adjusting-screws H H', takes the place of the ordinary retractile spring. The construction of the key is thus simplified and cheapened by discarding one of the hitherto necessary features—viz., the retractile springs.

I do not limit myself to the application of torsional springs to telegraph-keys alone, as it is obvious the torsional strip or spring may be applied to other electrical instruments. Thus it may replace the pivots or trunnion of the relay and sounder.

I claim—

1. In a telegraph-key, the combination, with the circuit-breaking lever, of a torsional spring upon which said lever is fulcrumed, substantially as described.

2. In a telegraph-key, the combination, with the circuit-breaking lever, of a torsion-spring

provided with the rib D', said lever being fulcrumed on the spring, substantially as described.

5 3. The combination, in a telegraph-key, of the lever fulcrumed upon the torsional spring, with the adjusting-screws H H', for regulating the amplitude of the lever movement and the retractile resistance of the torsion-spring, substantially as described.

10 4. In a telegraph-key, the combination, with the circuit-breaking lever, of a torsional spring

upon which said lever is fulcrumed, the posts to which the spring is connected, and the screws E E', substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

EDGAR A. EDWARDS.

Witnesses:

JNO. E. JONES,
E. E. WOOD.