

(No Model.)

2 Sheets—Sheet 1.

J. STEINER.

TELEGRAPH INSTRUMENT.

No. 354,815.

Patented Dec. 21, 1886.

Fig. 1;

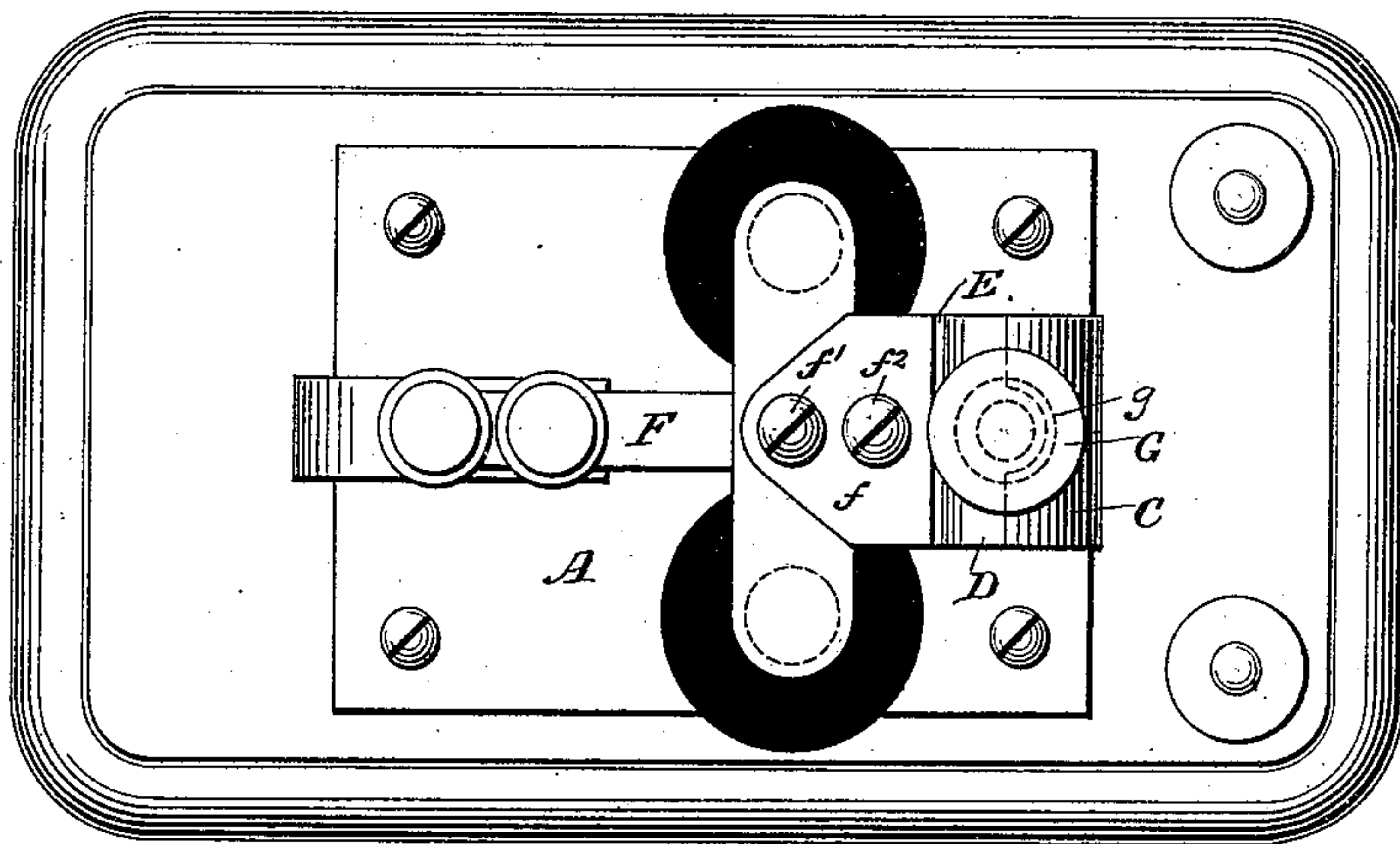
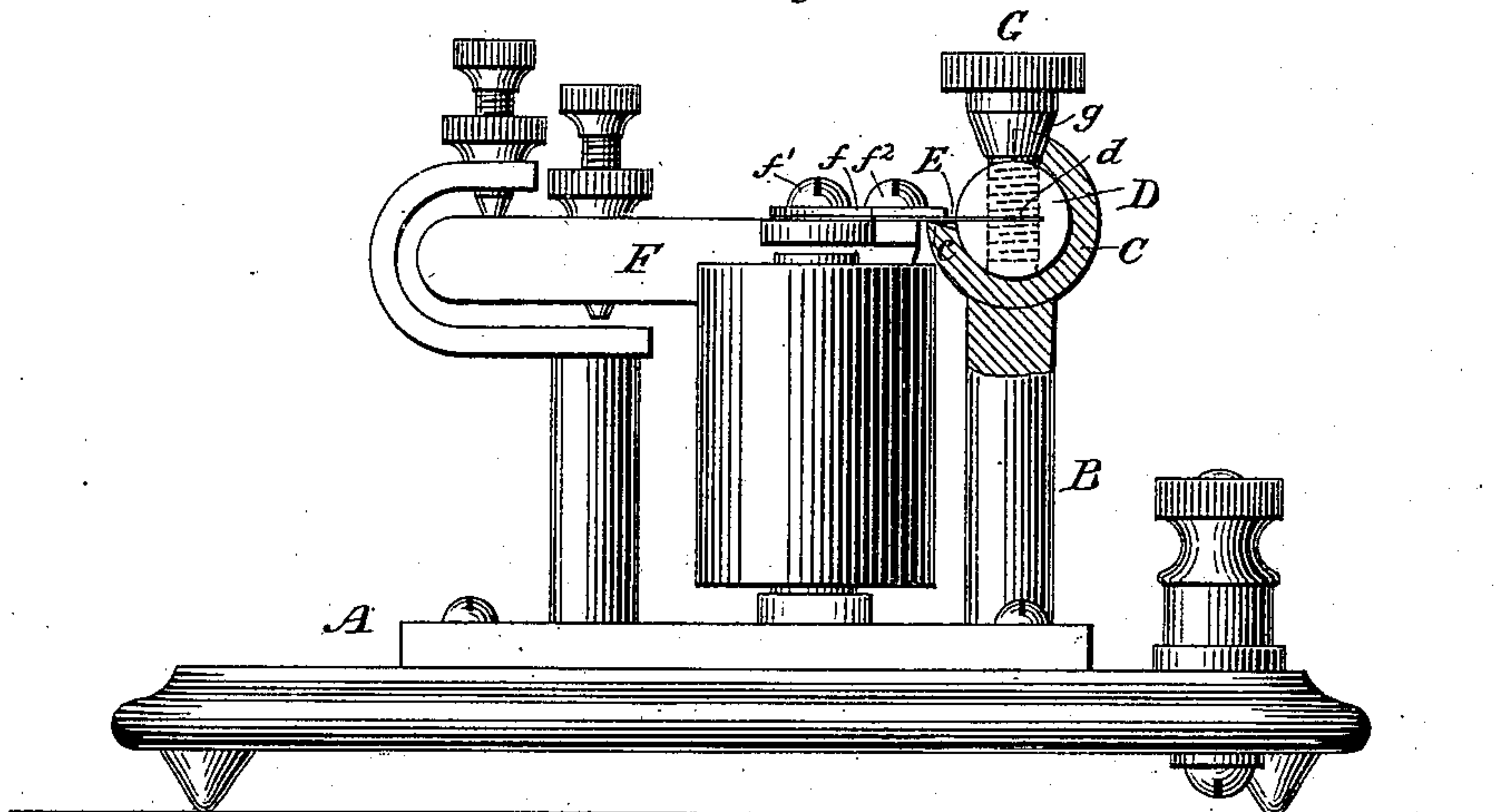


Fig. 2.



Witnesses

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Josef Steiner,

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2 Sheets—Sheet 2.

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Fig. 3,

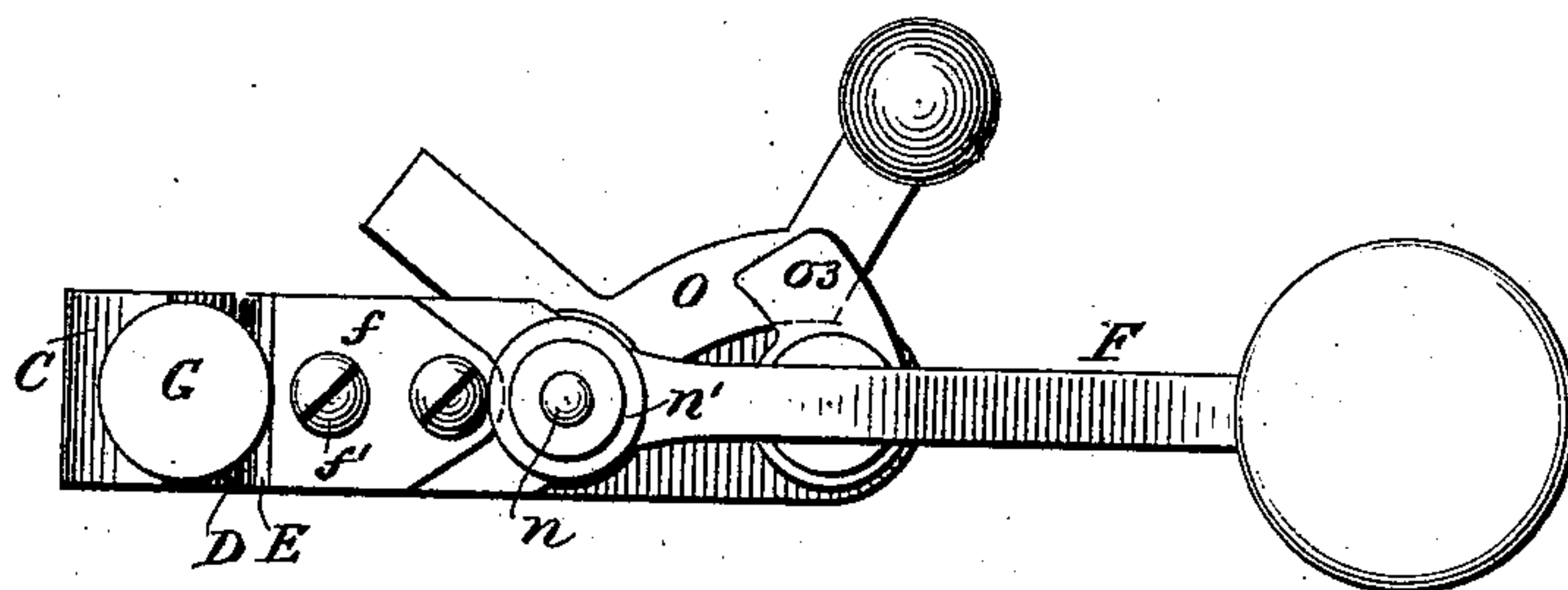
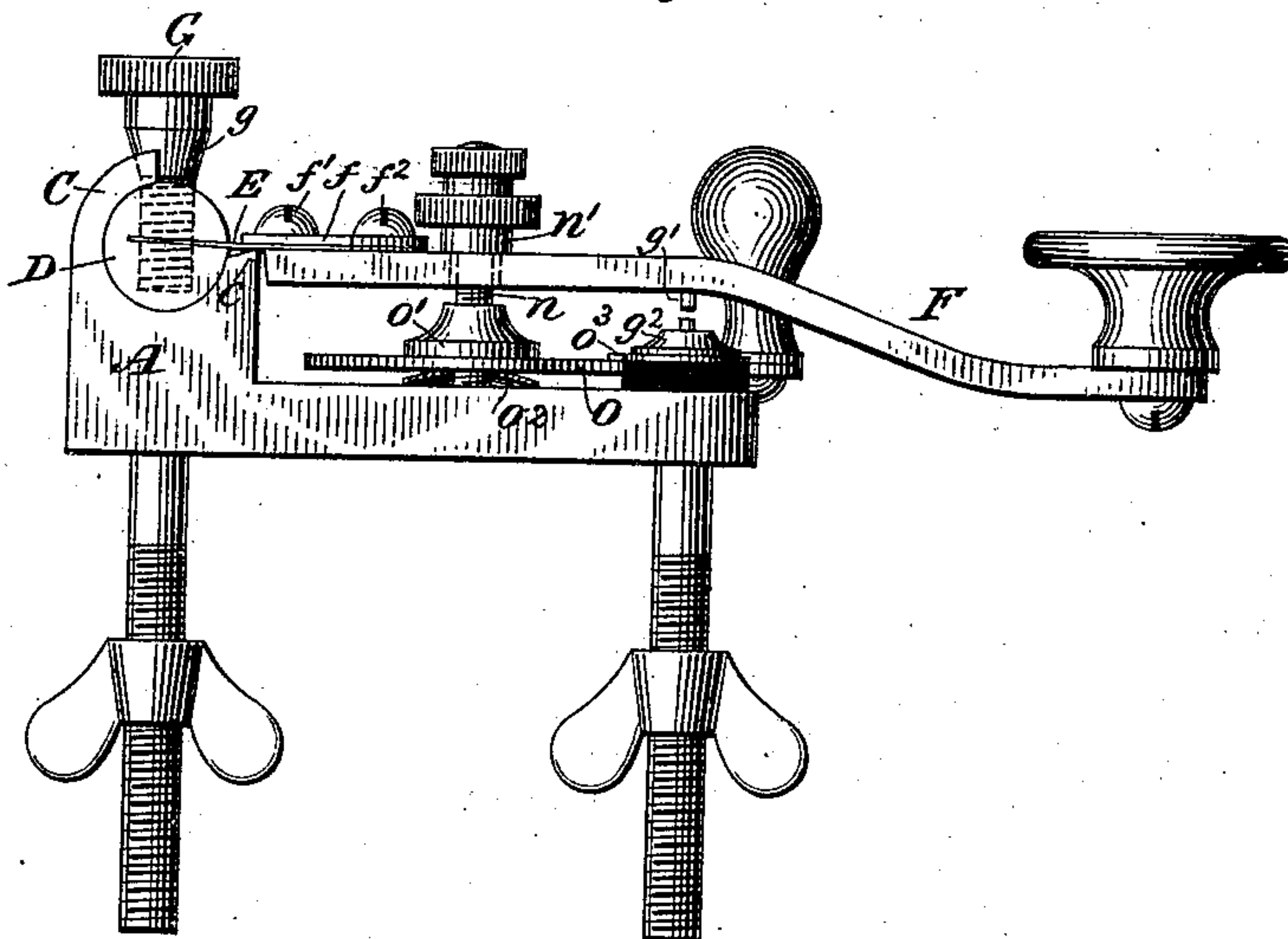


Fig. 4,



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UNITED STATES PATENT OFFICE.

JOSEF STEINER, OF BROOKLYN, ASSIGNOR TO HASKINS & STEINER, OF
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TELEGRAPH-INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 354,815, dated December 21, 1886.

Application filed July 31, 1886. Serial No. 209,606. (No model.)

To all whom it may concern:

Be it known that I, JOSEF STEINER, a citizen of the United States, residing in Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Telegraph-Instruments, of which the following is a specification.

My invention relates to the construction of the supporting parts of the levers of various forms of electric instruments, such, for instance, as telegraphic keys, sounders, relays, &c. The object of the invention is to provide a convenient, economical, and efficient form of support, and one which may be easily and accurately adjusted.

The invention consists, in general terms, in supporting the lever by means of a flat resilient spring, one end of which is supported from the frame or body of the instrument, while the other end is secured to the lever. Between the two ends of the spring there extends a rigid shoulder or fulcrum upon which the spring rests, and across which it bends when the lever is operated. Suitable means are provided for pressing or moving the fixed end of the spring downward, thus modifying its pressure upon the shoulder opposite the lever, and thereby giving to the latter a greater or less tendency to move in the opposite direction. This may be accomplished in various ways. The method shown in the present instance consists in turning the support of the spring in the socket, thereby causing the spring to press with more or less force upon the shoulder or fulcrum.

In another application of even date herewith there is described a device constructed upon the same general principles as this, but having a different form of adjustment.

In the accompanying drawings, Figure 1 is a plan, and Fig. 2 a side elevation, of a telegraphic sounder embodying the features of the invention. Figs. 3 and 4 are similar views of a key.

Referring to the figures, A represents the base supporting the various parts of the instrument. A post, B, carries at its upper end a section of a cylinder, C. Within this there is fitted a short rod or bar, D, capable of turn-

ing in its support. This bar receives one end of a spring, E, which enters and is securely clamped in a saw-cut, c. The other end of the spring is fastened to and supports the lever F of the instrument. The spring is preferably fastened to this lever by a clamp, f, consisting of a plate extending above the spring, which is fastened by screws f' and f'' . The lever F is widened beneath the spring, and an armature of the instrument, in the case of a telegraphic sounder, is secured in position by the screw f' .

The cylindrical support or socket C is constructed with a shoulder, c, across which the spring E rests, the shoulder acting as a fulcrum for the spring.

The edge of the tube is beveled inward, so that the shoulder c is formed by the outer edge of the tubular socket C. It is evident that a tendency may be given to the lever to rise by adjusting the relative positions of the shoulder c and the end of the spring where it enters the support D. For the purpose of securing the ready adjustment of these parts, either the support D may be turned or the socket C may be adjusted. The former method is usually preferred. For this purpose a screw, G, provided with a conical-shaped head, as shown at g, turns in the bar or support D. The conical head g of the screw presses against a curved section of the upper edge of the socket C, and as the screw is turned into the support D tends to revolve the support downward, thus increasing the tension of the spring E across the shoulder c.

In Figs. 3 and 4 the invention is shown as applied to a telegraph-key. The base A and the curved socket C are here cast in one piece. The shoulder c is formed, as before, upon one side, and the spring E rests across it. The lever F of the key is fastened to the spring by screws $f' f''$, passing through the clamping-plate f. The limiting-post n extends from the base up through a hole in the lever, and is provided with a limiting-nut, n' . The switch or cut-out O is pivoted upon the post n, and is prevented from rising upon the post by a nut or stop, o' . A spring-washer, o'' , is placed upon the post beneath the nut, and this gives suf-

ficient tension to hold the cut-out securely and press it upward, so that it will make good contact with the lip ϕ^3 .

I claim as my invention—

5 1. The combination of the lever of a telegraphic instrument, a spring secured to one end thereof, a support for the other end of the spring, a shoulder across which the spring bears, and an adjustment for modifying the
10 relative positions of the shoulder and the support.

2. The combination, in a telegraphic instrument, of a lever, a spring for carrying the same, secured at one end to the lever, a support receiving the other end of the spring, a shoulder
15 across which the spring bears, and an adjustment for modifying the position of the support with reference to the shoulder.

3. The combination, with the lever of a telegraphic instrument, of a cylindrical support, a spring, a tubular socket receiving the same, and a screw for adjusting the position of the support within said socket.

4. A tension-adjusting device for telegraphic
25 instruments, consisting of a spring, a cylindrical

support for the spring, a tubular socket for the support, a screw entering the support and pressing against a bearing-surface in said socket, and a shoulder formed by said socket against which said spring bears.

5. A tension-adjusting device for telegraphic instruments, consisting of a spring, a cylindrical support for one end of the same, a shoulder across which it bears, a tubular socket for the support, a conical screw entering the support,
35 and a curved converging bearing-surface for the screw formed in the socket.

6. In a telegraphic instrument, a metal base having tubular socket integral therewith, a cylindrical support in said socket, a lever, a
40 spring connecting said lever with said support, and an intermediate bearing-surface for said spring.

In testimony whereof I have hereunto subscribed my name this 27th day of July, A. D. 45 1886.

JOSEF STEINER.

Witnesses:

DANL. W. EDGECOMB,

CHARLES A. TERRY.