

(No Model.)

2 Sheets—Sheet 1.

J. STEINER.
TELEGRAPH INSTRUMENT.

No. 354,814.

Patented Dec. 21, 1886.

Fig. 1,

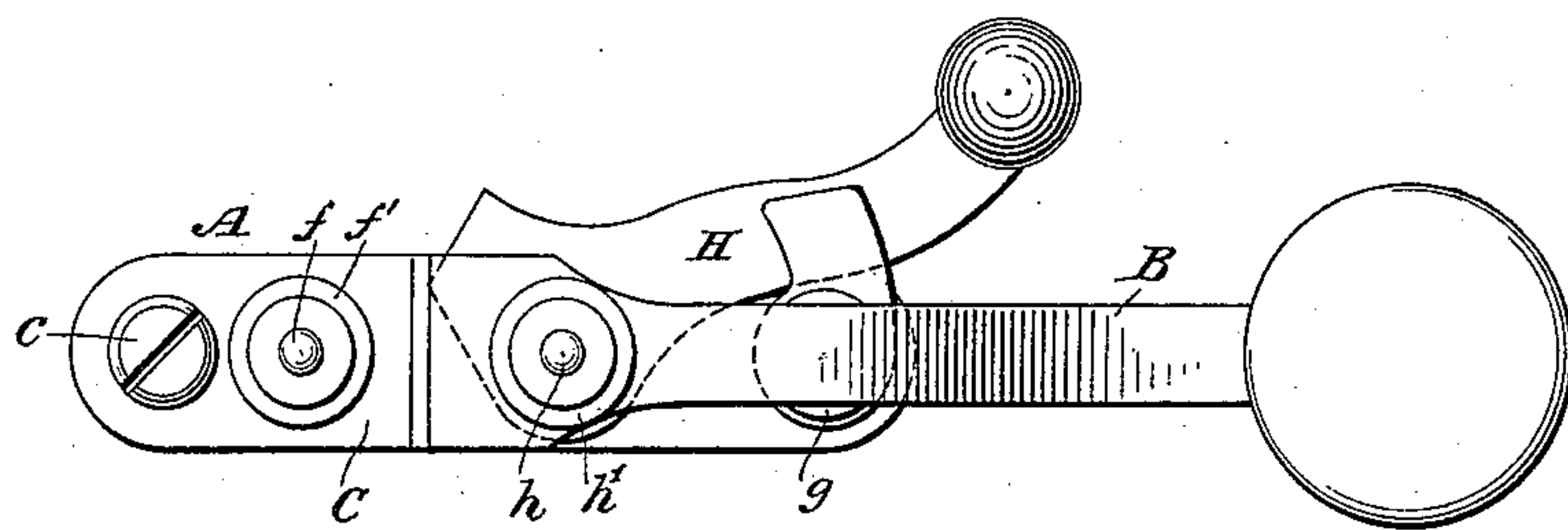
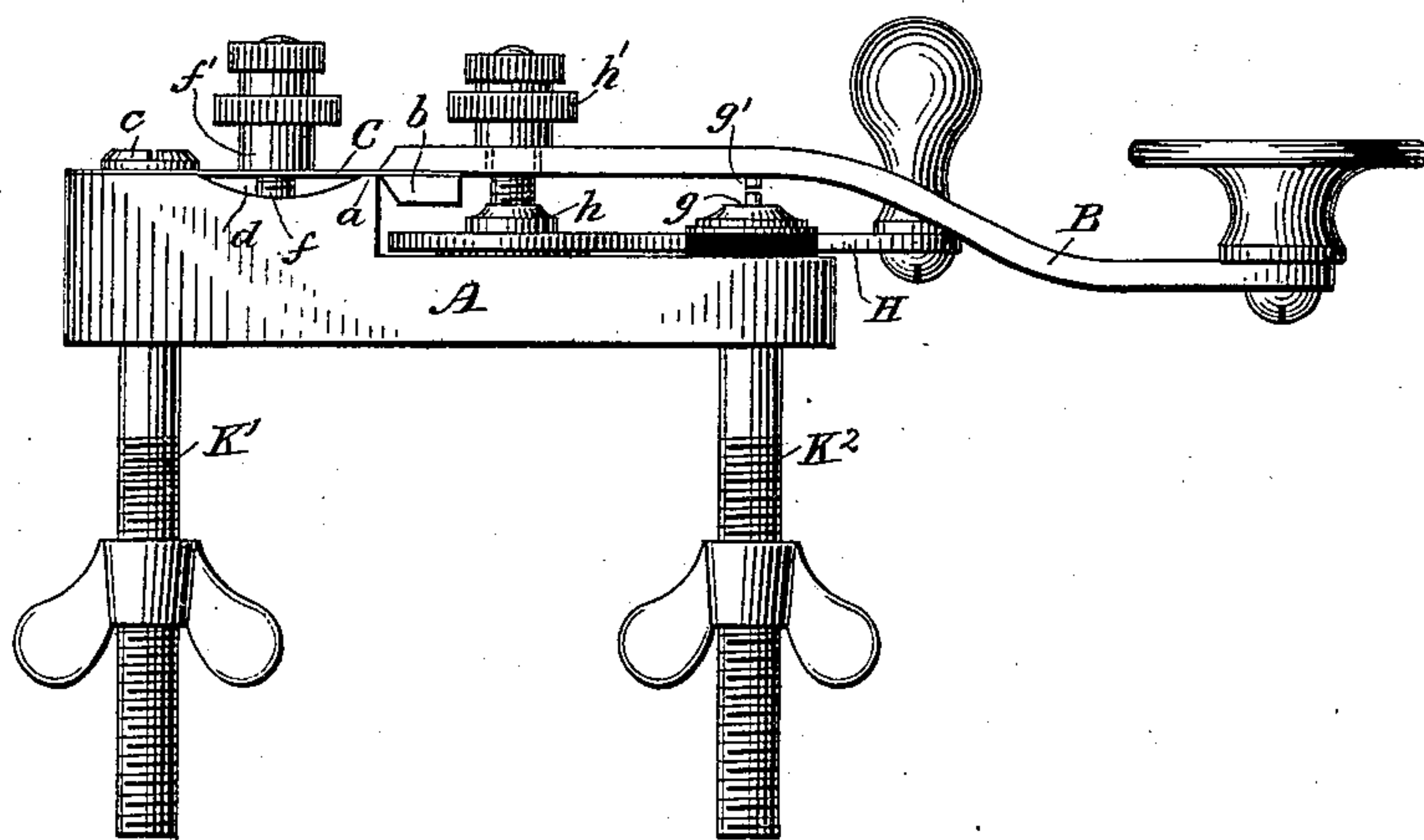


Fig. 2,



Witnesses

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Josef Steiner,

By his Attorneys

Pope & Edgcomb

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Fig. 3,

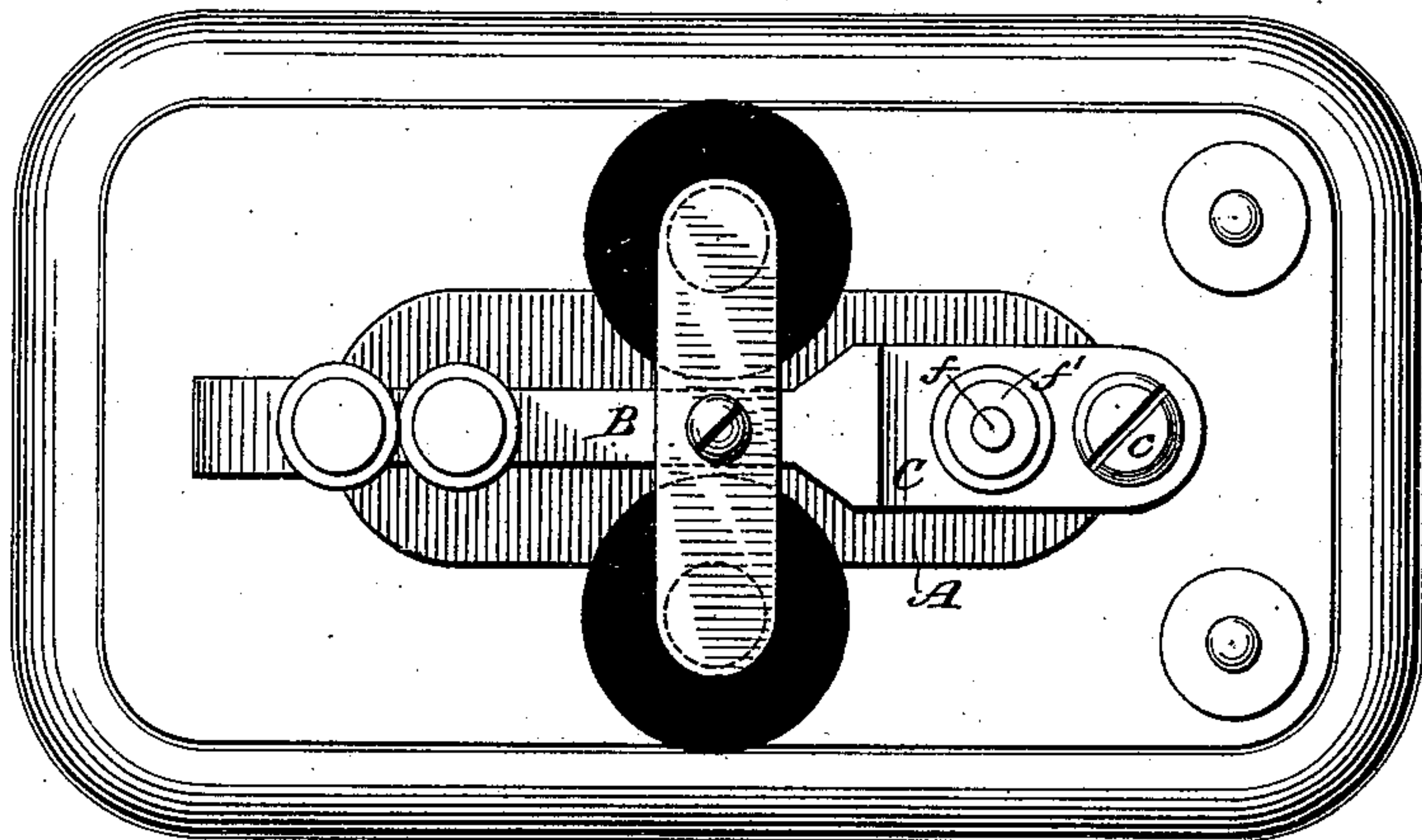
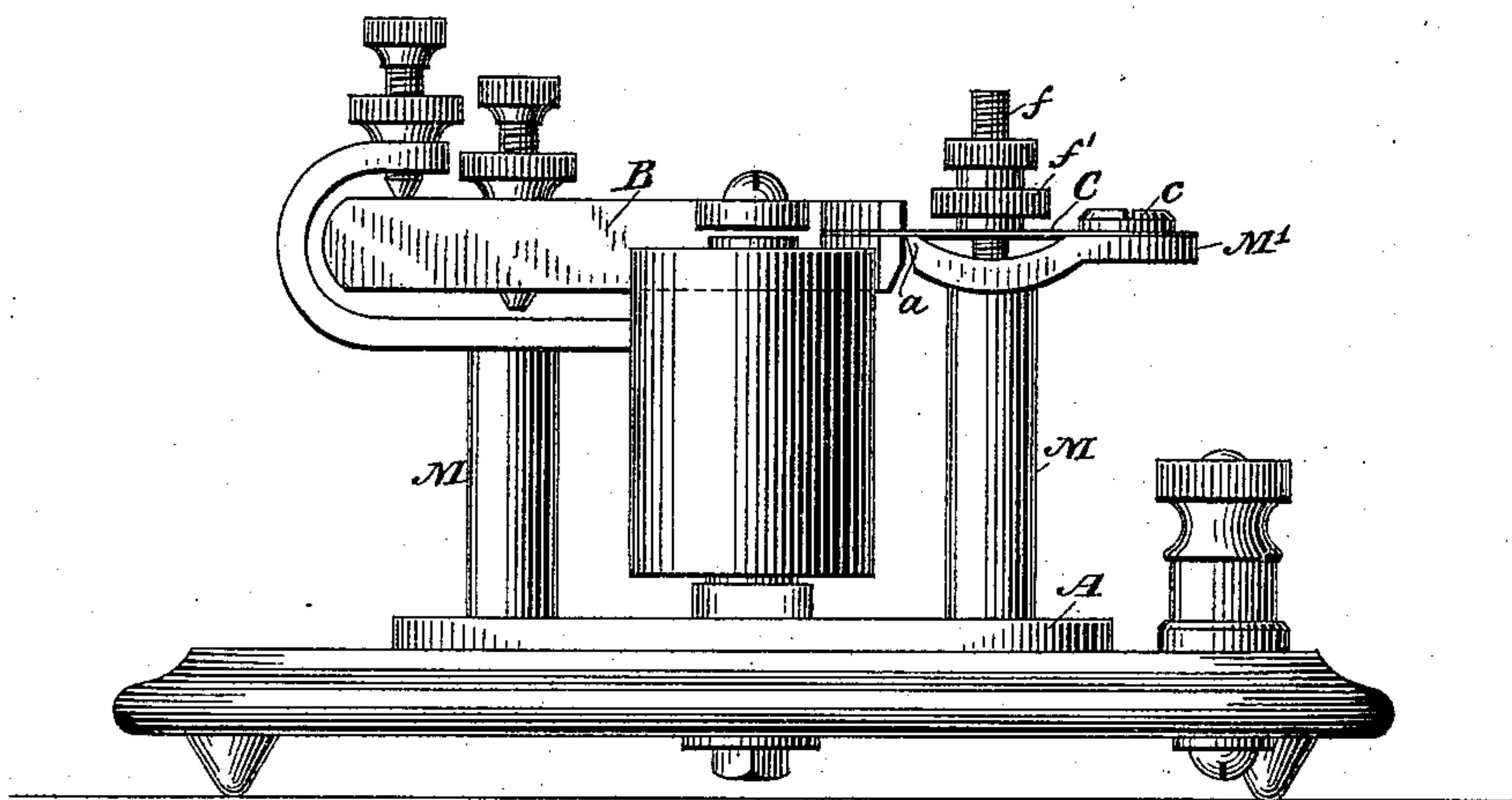


Fig. 4,



Witnesses

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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. 354,814, dated December 21, 1886.

Application filed July 31, 1886. Serial No. 209,605. (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 secured to 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 modifying the pressure exerted upon the spring between the shoulder and the support or frame, thereby giving to the lever 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 simply of an adjusting-screw, which by bearing against the spring tends to rock it upon the shoulder or fulcrum. The greater the pressure of the screw, the greater will be the force required to actuate the lever.

In the accompanying drawings, Figures 1 and 2 are respectively a plan and a side elevation of a telegraphic key embodying the features of the invention, and Figs. 3 and 4 are like views of a telegraphic sounder. In another application of even date herewith there is shown a special form of adjustment for devices of this character.

Referring to the figures, A represents the support or base of a key, and B a key-lever. A spring, C, is secured at one end to the base by a screw, *c*. The other end of the spring is secured to the lever B by means of a suitable clamp, *b*, which may be brazed or in any other suitable way fastened to the lever. The sup-

port A is hollowed beneath the spring C, as shown at *d*, and the spring rests against the shoulder or fulcrum *a*, extending from the base, near the point of attachment, to the lever. It is evident that when the lever is depressed the spring must bend across the shoulder or fulcrum, and for the purpose of modifying the effort required to move the lever, and thus bend the spring, means are provided for causing the portion of the spring upon the side of the shoulder opposite the lever to be pressed down with more or less force, as required. A convenient method of accomplishing this consists in extending a threaded screw-rod, *f*, upward from the base through an opening in the spring. A nut, *f'*, turning upon this screw, presses against the spring, causing it to be depressed into the cavity *d* more or less, as required.

The key is provided with the usual anvil, *g*, and circuit-closing point *g'*. The screw-post *h*, which is employed for holding the switch H in position, extends upward through the body of the key-lever, and is provided with a set-screw, *h'*, for limiting the play of the key-lever. Two posts, *K*, *K'*, which are employed for holding the key to the table, may be respectively the posts receiving the screw *c* and the anvil *g*. The lever B of the sounder shown in Figs. 3 and 4 is supported in essentially the same manner, such modifications in construction being made as are required to adapt it to the special application.

The supporting-post M, extending from the base of the instrument, carries the plate M', to which the spring C is attached by means of the screw *c*. The support M is provided with the shoulder or fulcrum *a*, and the lever B is attached to the spring beyond the shoulder in any convenient manner. This instrument is also equipped with an adjusting-screw, *f*, and nut, *f'*, acting in the same manner as those employed upon the key.

I claim as my invention—

1. In a telegraphic instrument, a movable lever, a spring supporting the lever, an adjustable support for one end of the spring, and a fulcrum for said spring between the support and the lever.

2. In a telegraphic instrument, a lever, a spring supporting the lever, a rigid support at one end, a transverse fulcrum for said spring,

and an adjustment for said spring between said fulcrum and the rigid support.

3. In a telegraphic instrument, the combination of a lever, a yielding spring attached to
5 said lever at one end, an adjustable support for the spring, an intermediate fulcrum applied to the spring, and means for adjusting the relative positions of the spring and the fulcrum.

10 4. In a telegraphic instrument, a lever, a supporting-spring for the same, a transverse

fulcrum for the spring, and an adjusting device for modifying the pressure of the spring against said fulcrum.

In testimony whereof I have hereunto subscribed my name this 27th day of July, A. D. 1886. 15

JOSEF STEINER.

Witnesses:

DANL. W. EDGECOMB,
CHARLES A. TERRY.