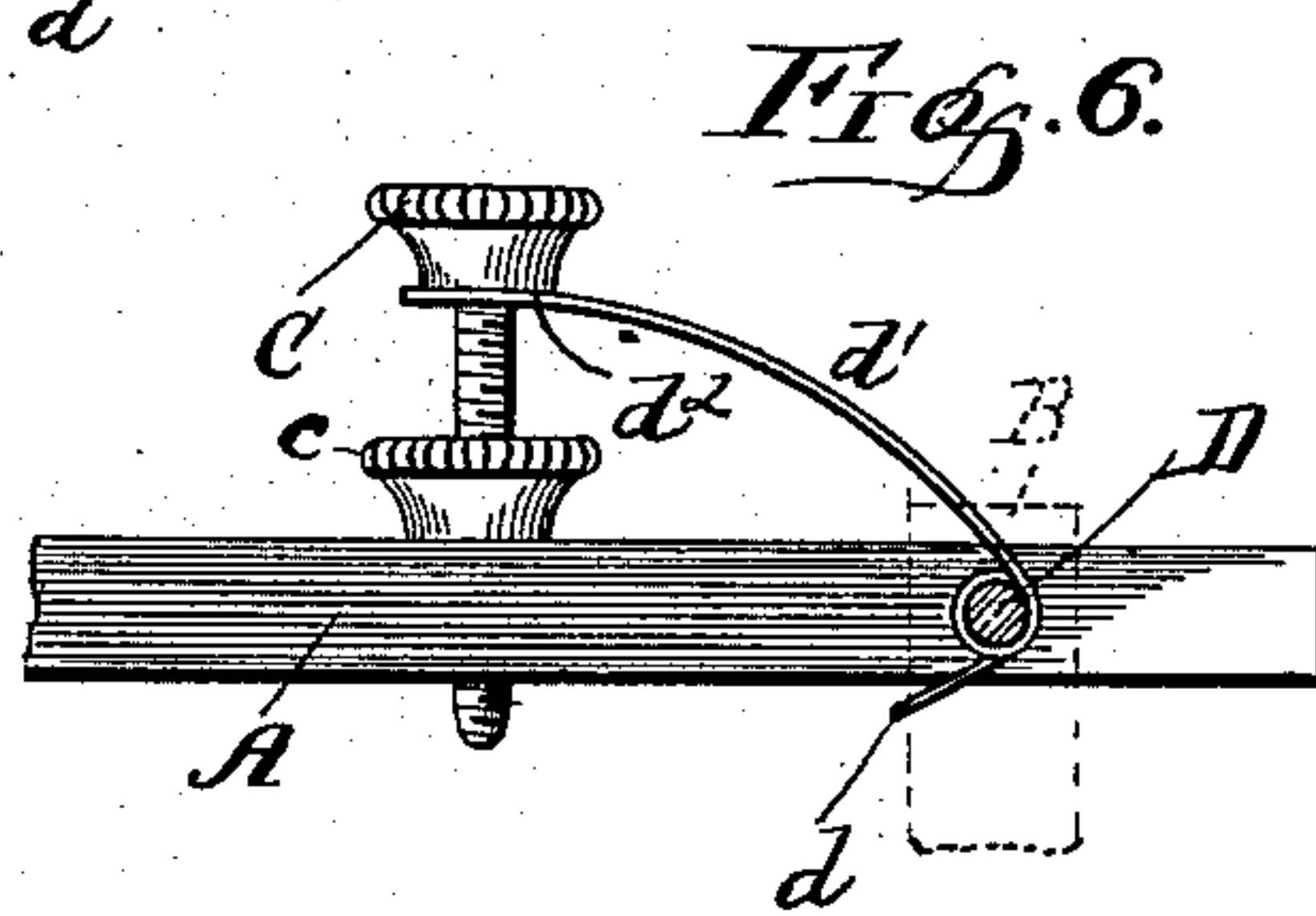
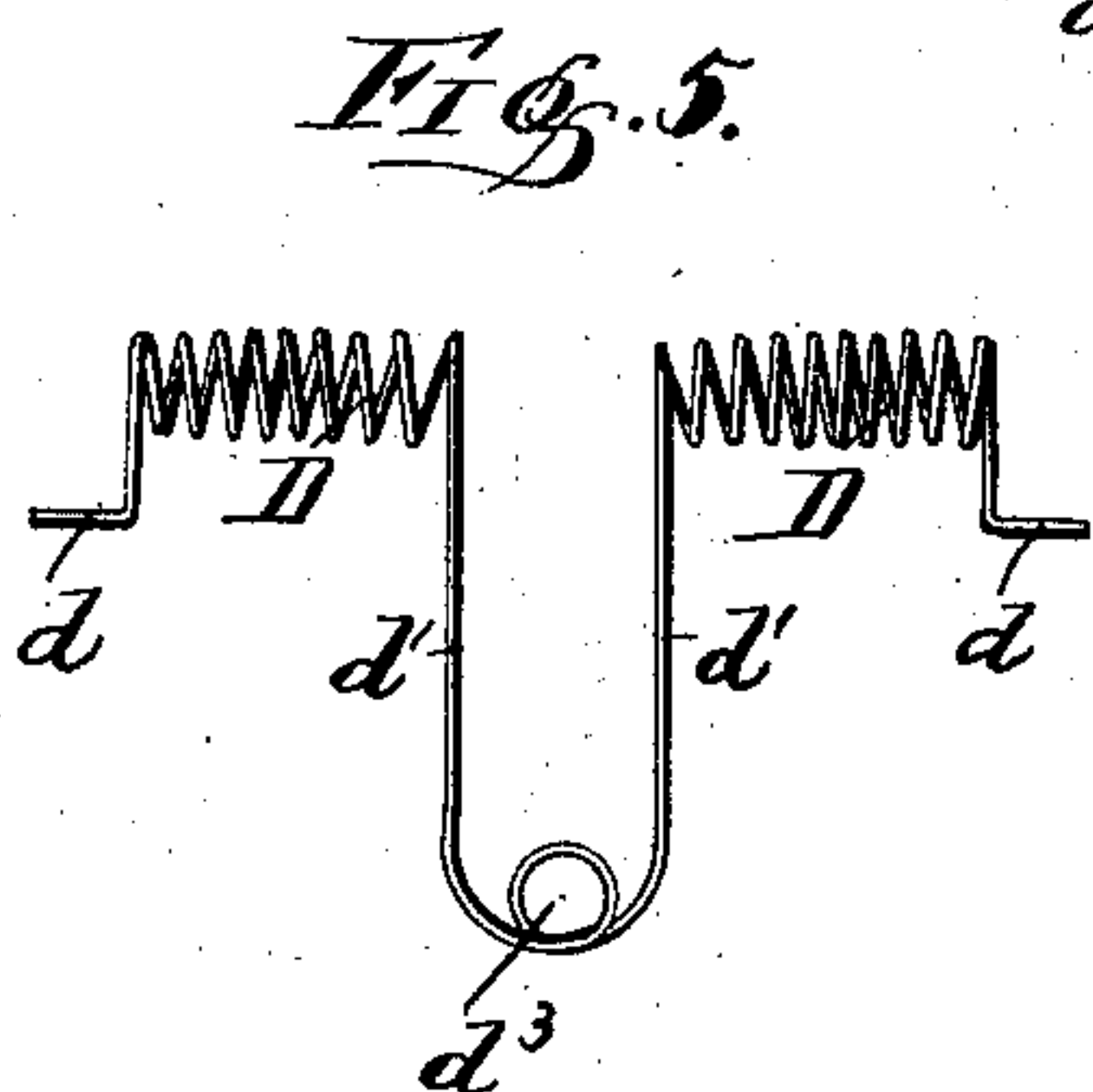
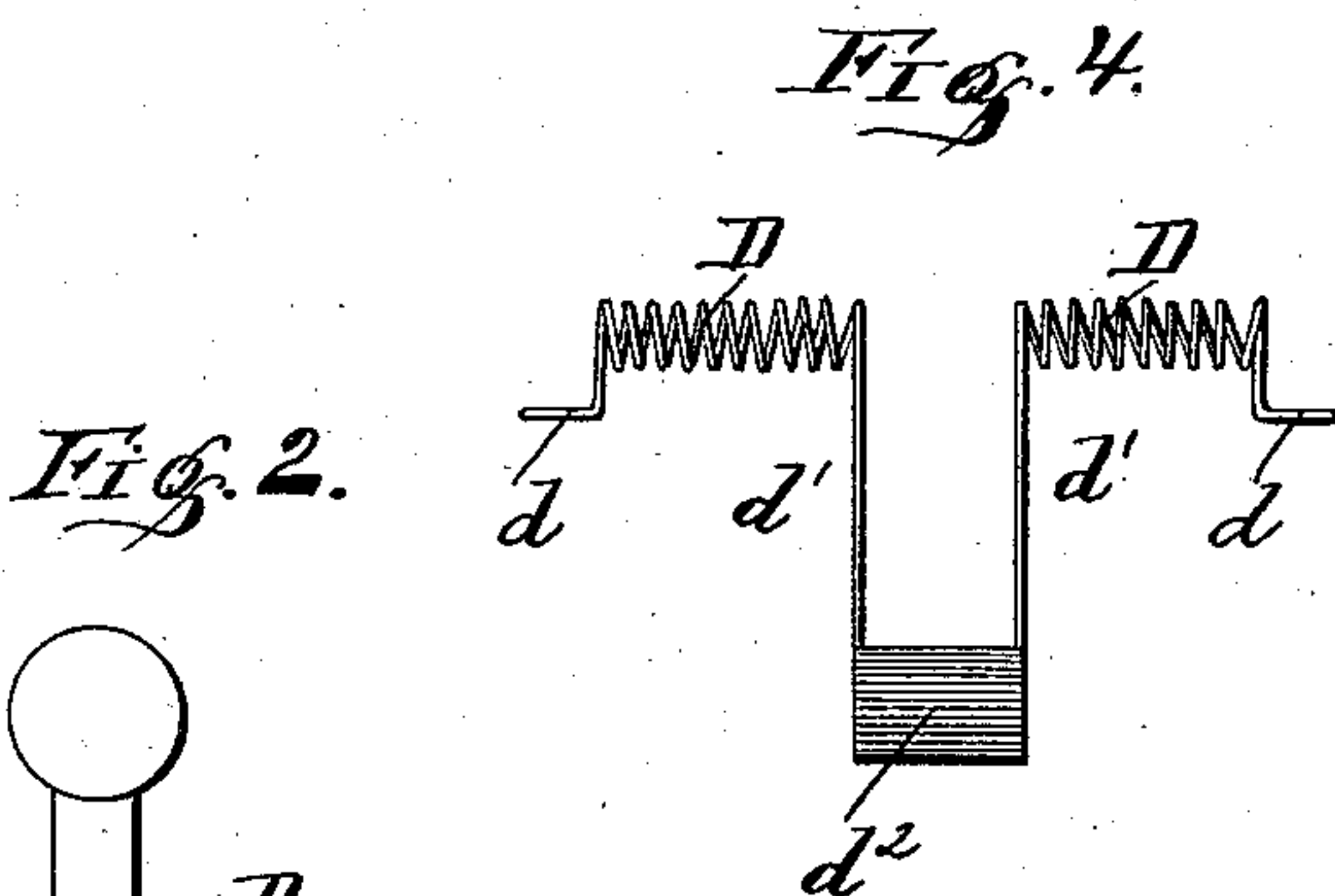
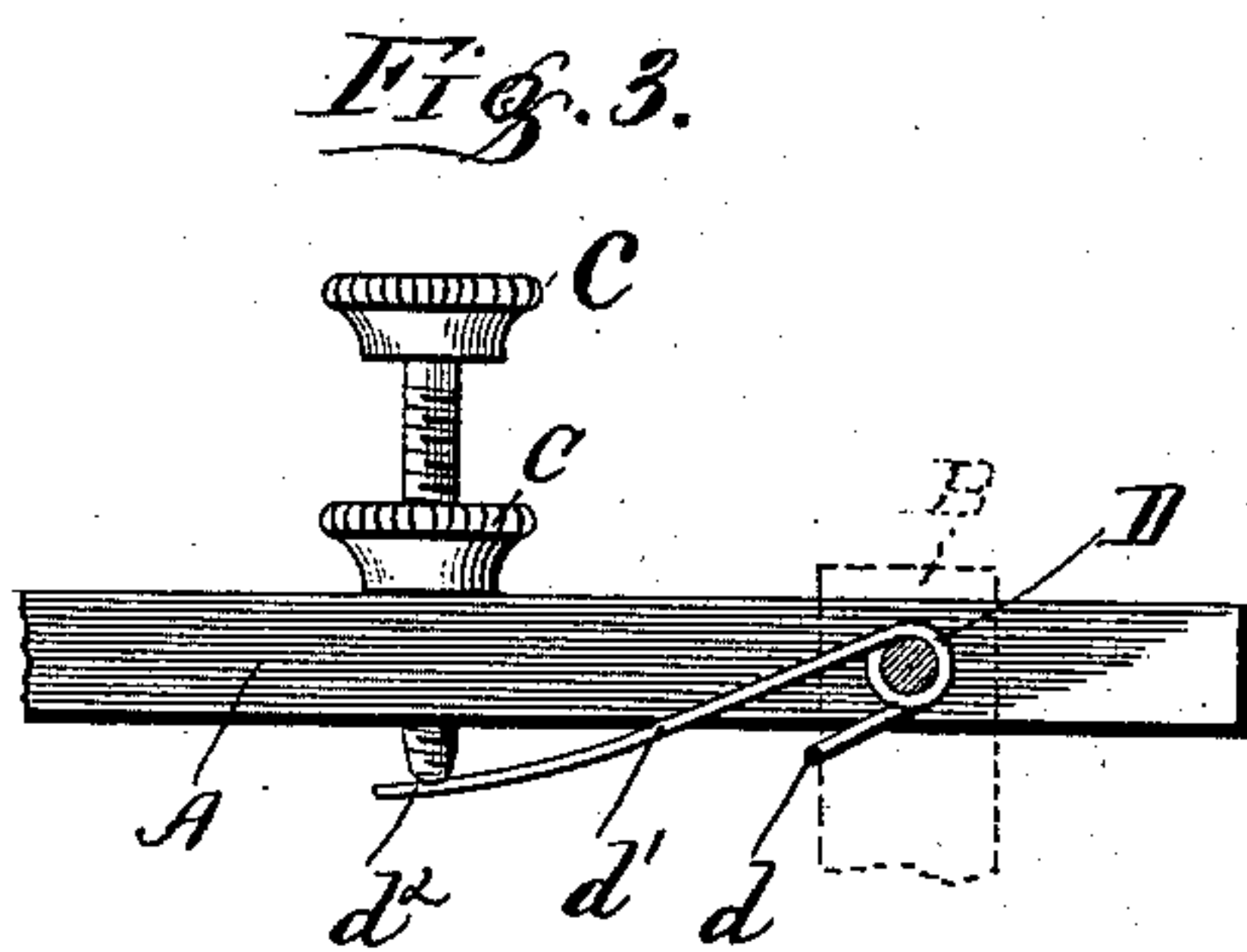
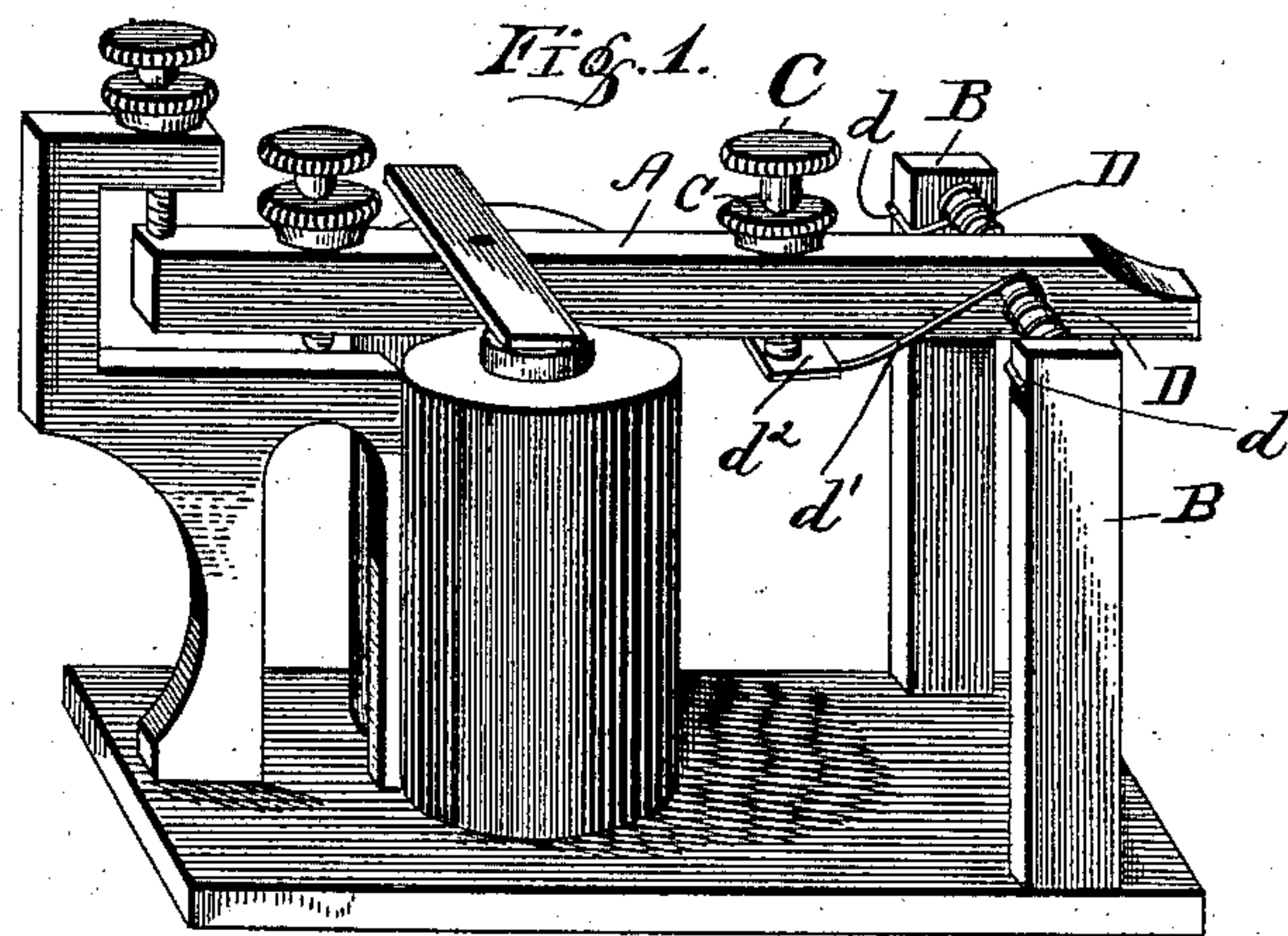


(No Model.)

G. M. LANE.
TELEGRAPH KEY AND SOUNDER.

No. 372,155.

Patented Oct. 25, 1887.



Witnesses
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UNITED STATES PATENT OFFICE.

GEORGE M. LANE, OF ASBURY PARK, NEW JERSEY.

TELEGRAPH KEY AND SOUNDER.

SPECIFICATION forming part of Letters Patent No. 372,155, dated October 25, 1887.

Application filed February 23, 1887. Serial No. 228,499. (No model.)

To all whom it may concern:

Be it known that I, GEORGE M. LANE, a citizen of the United States, residing at Asbury Park, in the county of Monmouth and State of New Jersey, have invented certain new and useful Improvements in Telegraph Keys and Sounders; 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to telegraph keys and sounders, and has for its object to cheapen and simplify the construction of the same by dispensing with the trunnions and pivot-bearings and devising a compact construction, whereby such keys and sounders will at all times be held midway between their supports and be prevented from binding in their bearings, and at the same time will be returned to their normal position after being actuated.

The improvement consists in having a coil-spring mounted upon the shaft of the key or sounder on each side thereof between it and the supports, and having the outer ends of the springs held by or secured to the supports and the inner or proximate ends connected with the key or sounder, preferably by an adjustable connection, whereby the tension of the springs can be varied at will.

The improvement further consists in the novel features more fully hereinafter set forth, claimed, and shown in the annexed drawings, in which—

Figure 1 is a perspective view of a sounder embodying my invention. Fig. 2 is a plan view of a key provided with my improvement. Fig. 3 is a side detail view. Fig. 4 is a plan view of the spring. Fig. 5 is a modified form of spring. Fig. 6 is a side detail view showing the application of the modified form of spring.

The shaft A of the sounder or key is mounted at each end in the supports B B, and the coil-springs D D, one located on each side of the key or sounder, between it and the supports, have their outer ends, *d*, extended outward to rest against the supports, and their inner ends connected with the key or sounder, preferably

by the set screw C, so that their tension can be regulated at will. The inner ends, *d'*, are extended forward and are united by the cross-bar *d*² or by the loop *d*³, which is integral with the wire forming the two coils D D. The tension on the springs can be varied (increased or diminished) by adjusting the set-screw C, the end of which may bear upon the cross-bar or loop. To increase the tension the screw is screwed into the key or sounder and forces the ends *d'* of the springs outward or away from the key or sounder, and to diminish the tension the screw is slackened or unscrewed. The screw is fixed in the adjusted position by the binder *e*. The screw may pass through the connected ends of the springs, as shown in Fig. 6, in which case the tension is increased by tightening the screw, which advances the ends of the spring toward the key or sounder, or the tension is diminished by slackening or unscrewing the screw, as will be readily appreciated.

From the above-described construction it will be seen that the key or sounder is not only returned to a normal position after being actuated, but is at the same time held between its bearings or supports by the coil-springs, so that no binding can take place by a side thrust of the key or sounder.

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

1. The combination, with the shaft of a key or sounder and the supports, of two coil-springs, one located on each side of the key or sounder, having their proximate ends united and adjustably connected with the key or sounder and their outer ends held by the supports, substantially as set forth.

2. The combination, with the key or sounder and the supports, of the two coil-springs having their outer ends extended laterally to engage with the supports and their proximate ends projected forward and connected, substantially as and for the purpose described.

3. The combination, with the key or sounder and the supports, of two coil-springs formed of a single wire, having their outer ends extended laterally and their proximate ends projected forward and united by a loop integral with the wire composing the coils, substantially as shown and described.

4. The combination, with the key or sound-
er, of the two coil-springs mounted upon the
shaft of the key or sounder and held between
the same and the support for preventing lat-
5 eral thrust of the key or sounder, and means,
substantially as set forth, for adjusting the ten-
sion of the springs.

In testimony whereof I affix my signature in
presence of two witnesses.

GEORGE M. LANE.

Witnesses:

WM. B. CHRISTINE,
JOHN ROCKORFELLER.