

(No Model.)

J. B. BENNETT.
MECHANICAL TELEGRAPH.

No. 390,642.

Patented Oct. 9, 1888.

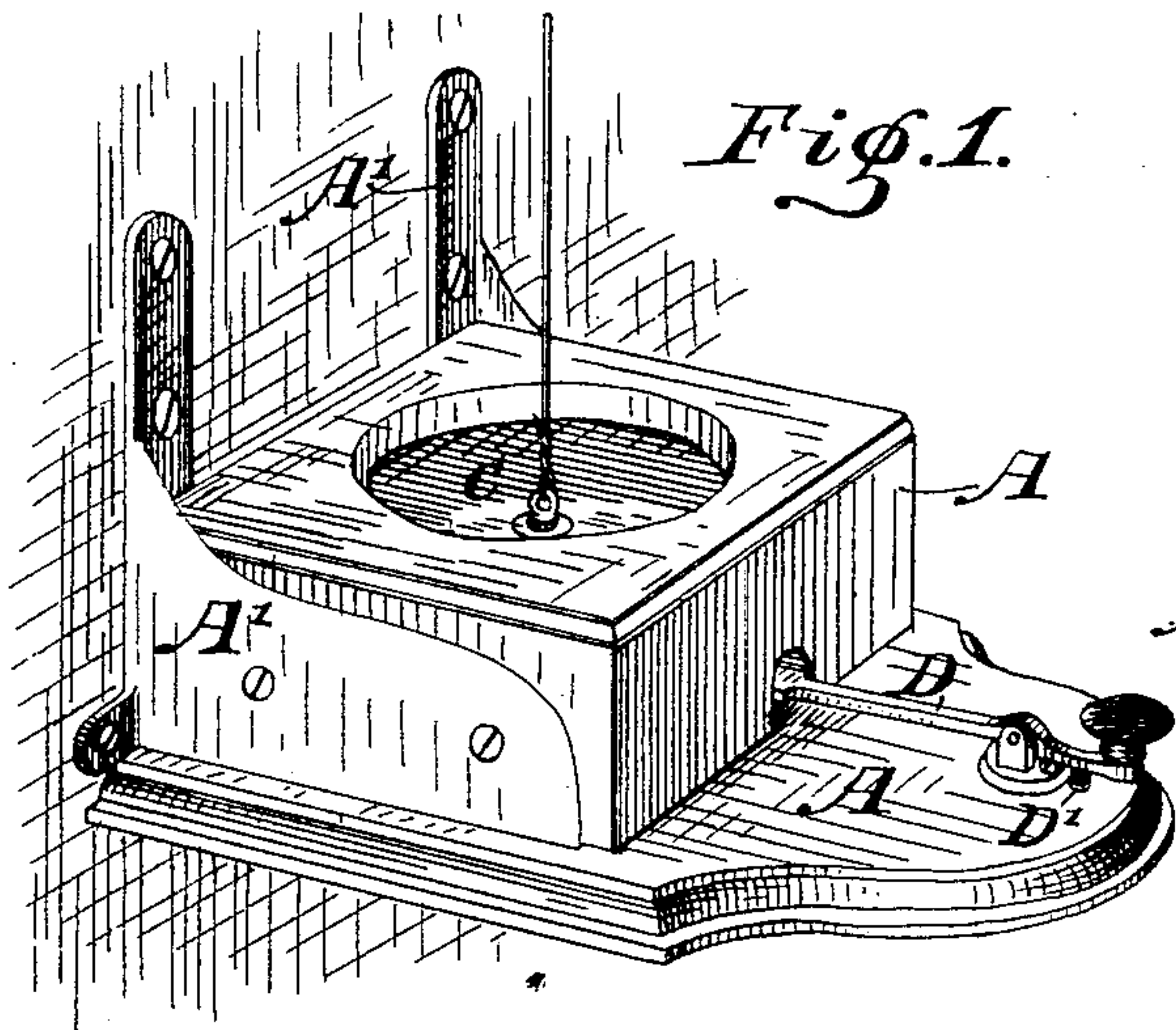


Fig. 1.

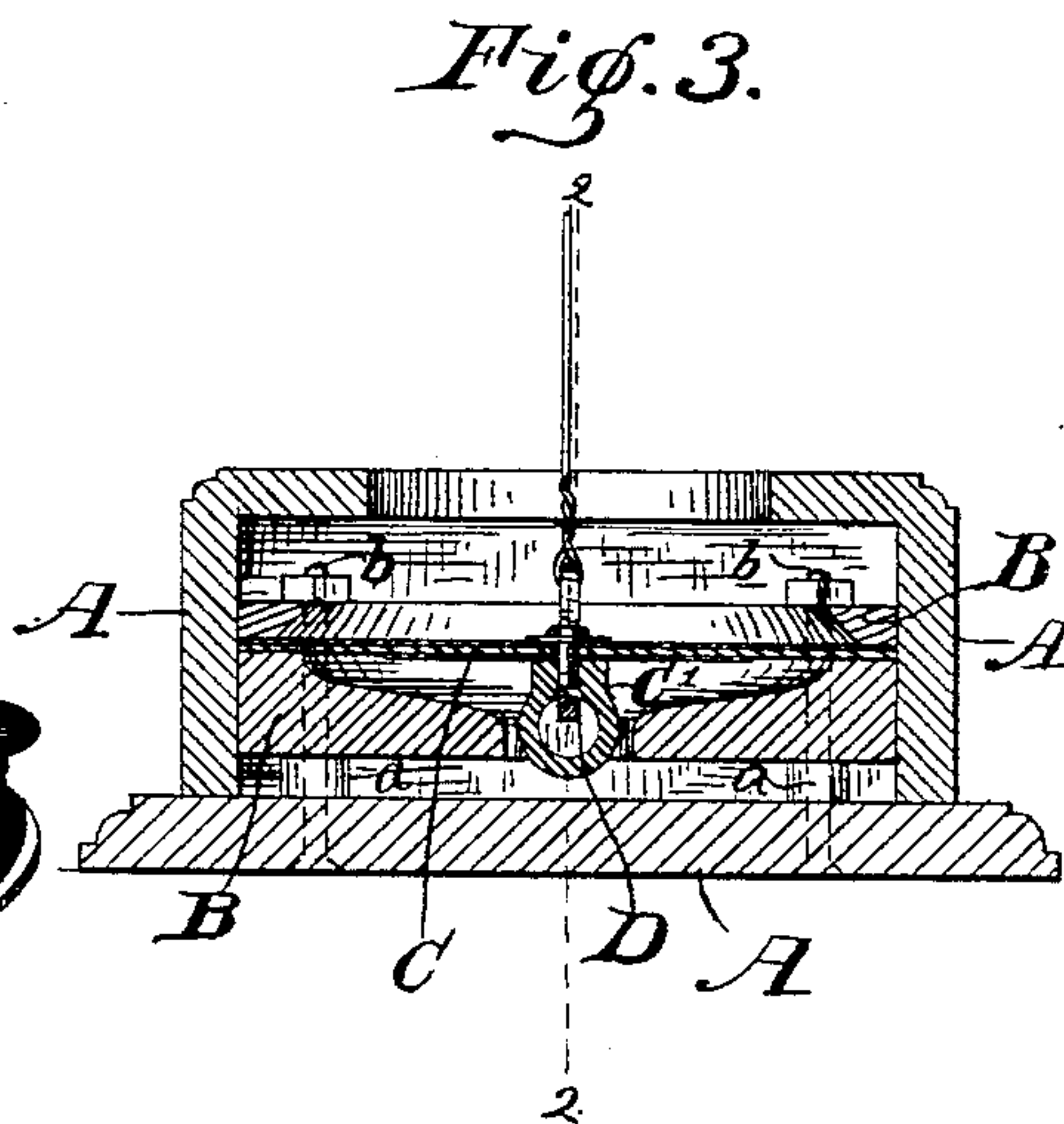


Fig. 3.

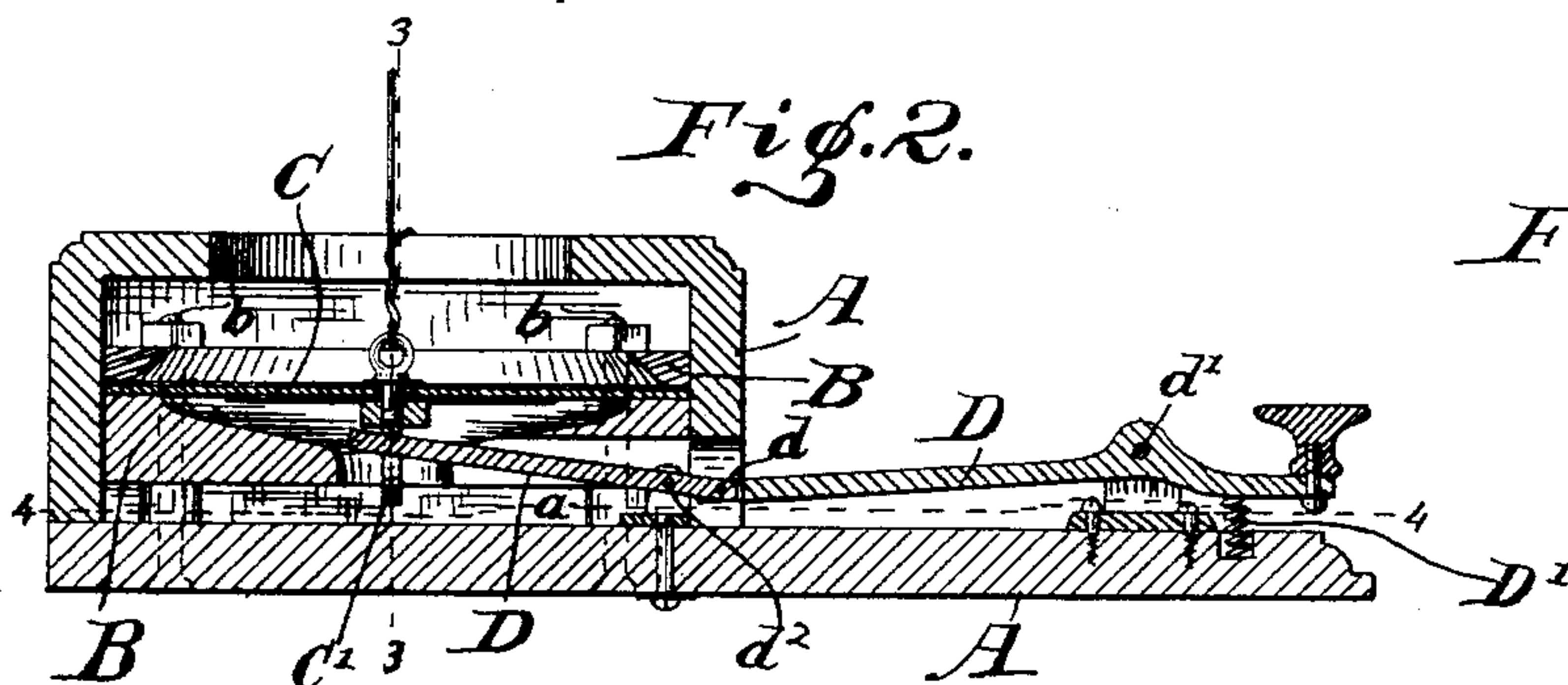


Fig. 2.

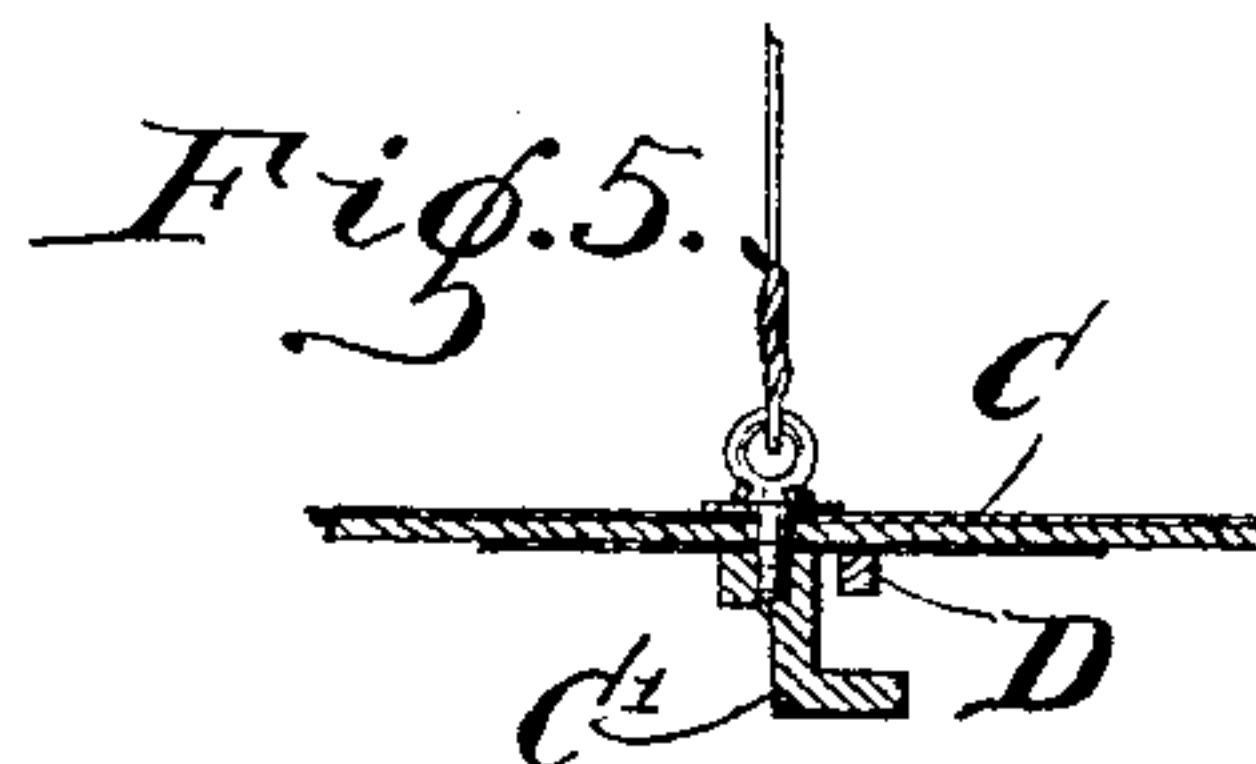


Fig. 5.

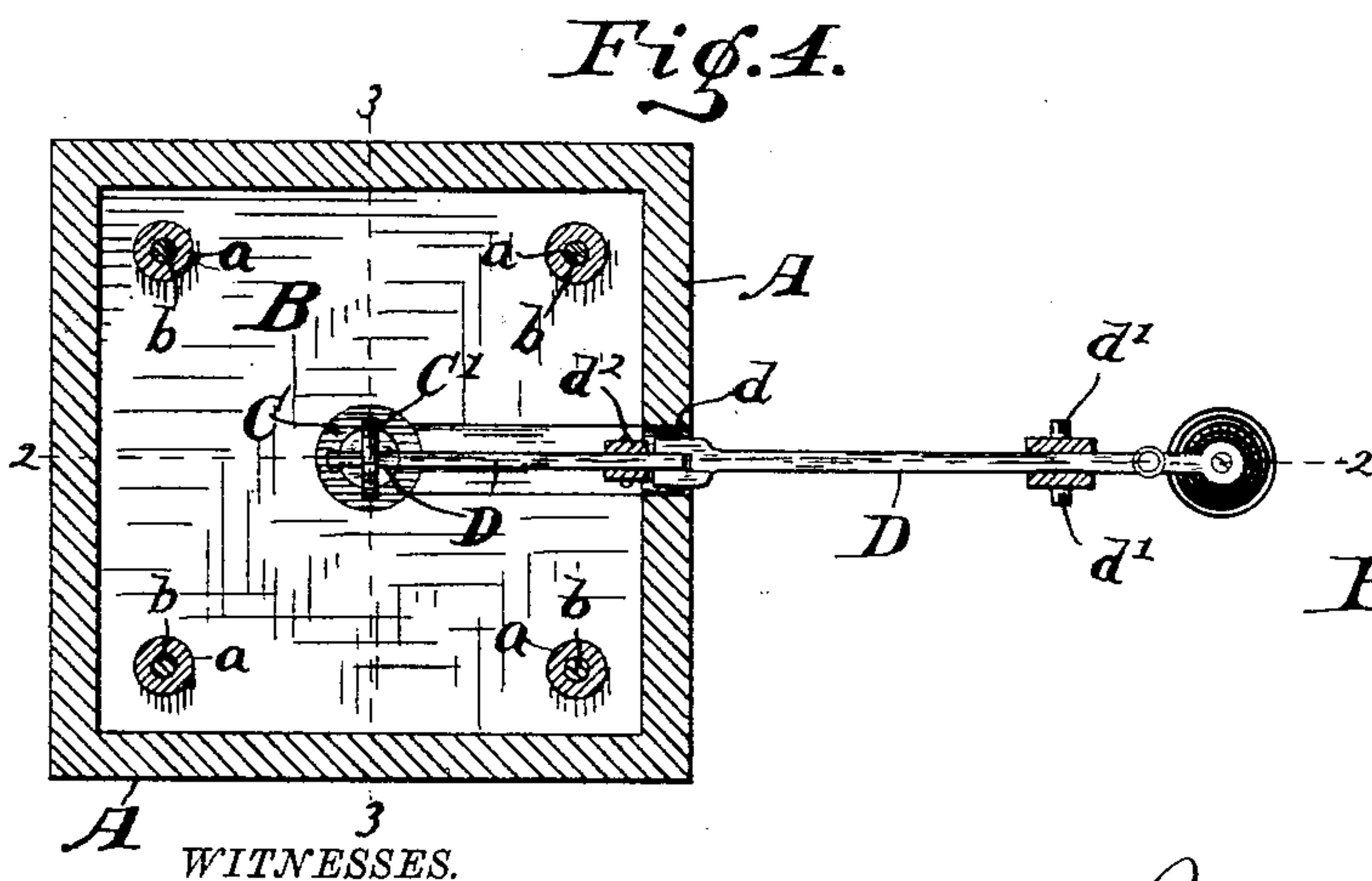


Fig. 4.

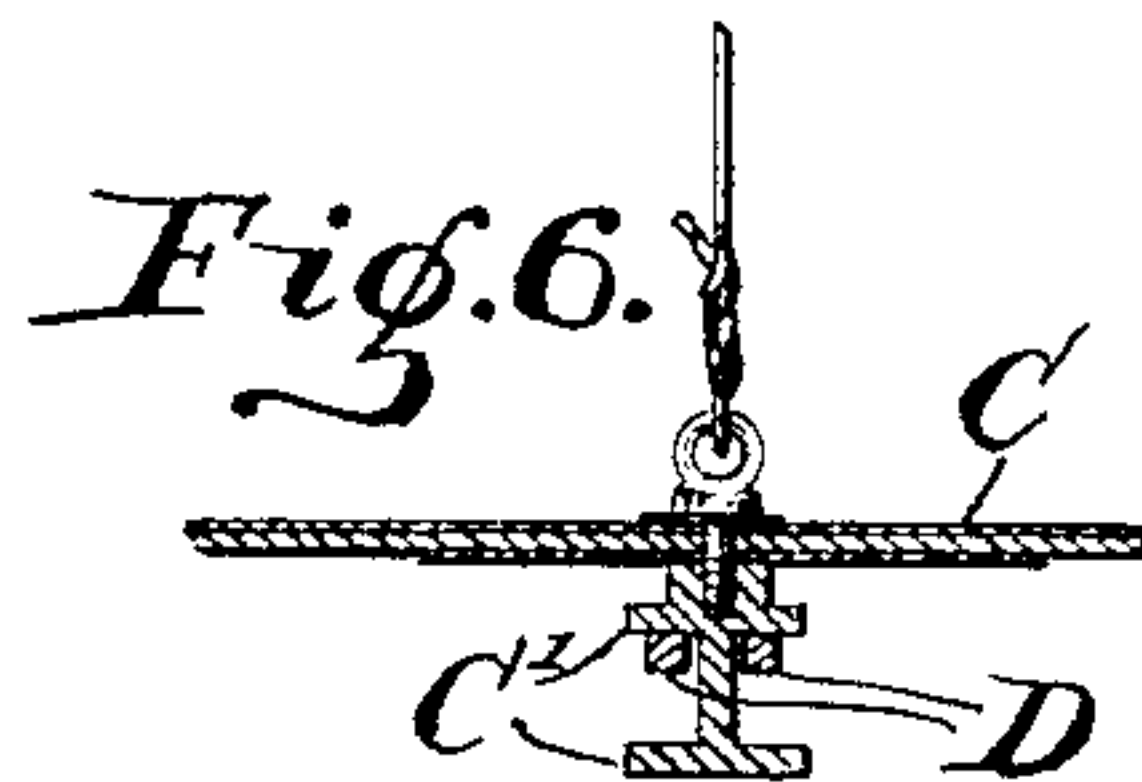


Fig. 6.

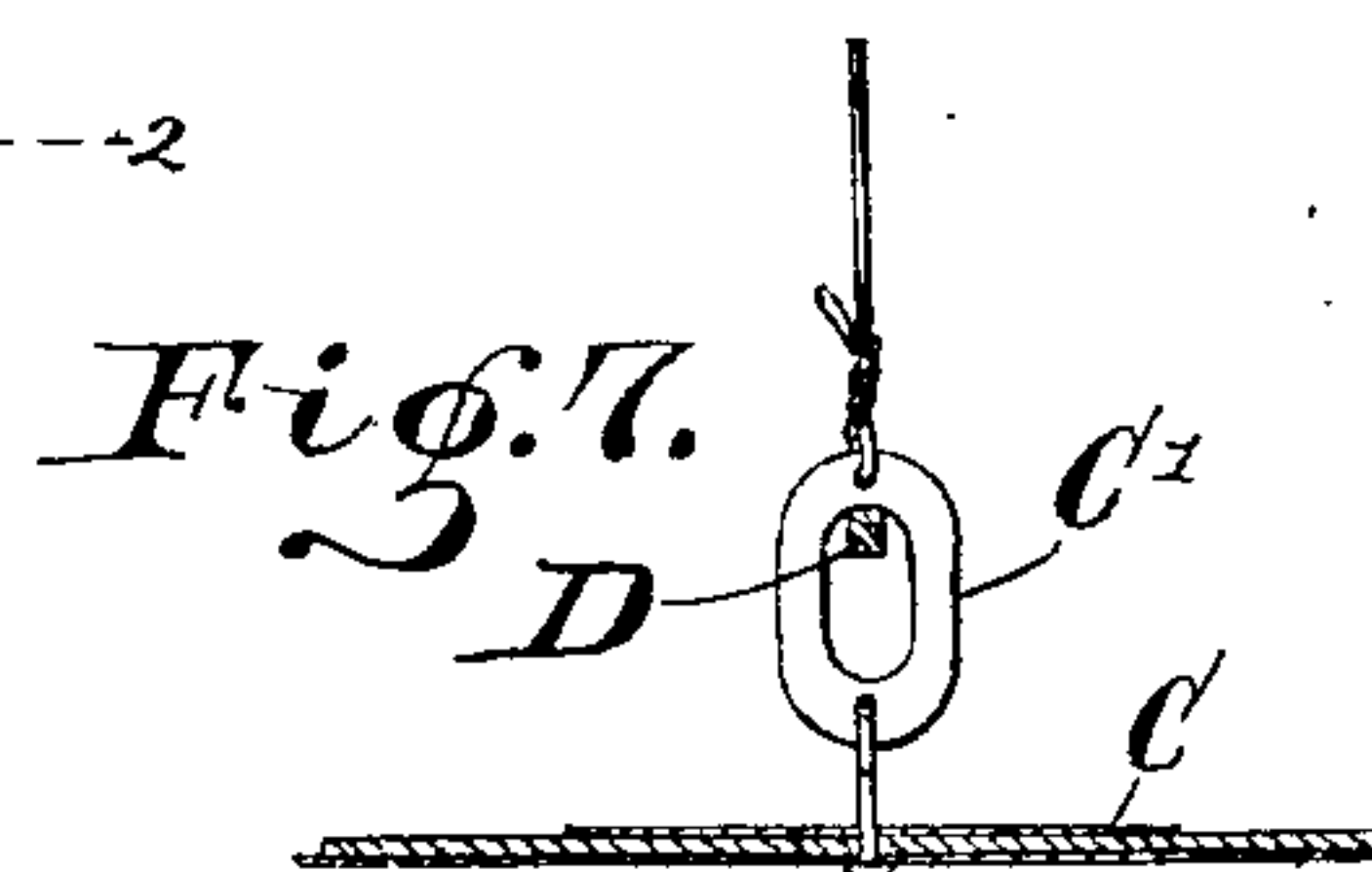


Fig. 7.

WITNESSES.

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MECHANICAL TELEGRAPH.

SPECIFICATION forming part of Letters Patent No. 390,642, dated October 9, 1888.

Application filed June 15, 1887. Serial No. 241,382. (No model.)

To all whom it may concern:

Be it known that I, JOHN B. BENNETT, of the city of Indianapolis, county of Marion, and State of Indiana, have invented certain new and useful Improvements in Mechanical Telegraphs, of which the following is a specification.

My said invention relates to that class of devices by which sound is transmitted over a wire or string by mechanical means from one instrument to another at a distant point; and said invention consists in a certain improved construction by which sounds corresponding to those of an ordinary electrical telegraph instrument may be so transmitted, as will be hereinafter more particularly described and claimed.

Referring to the accompanying drawings, which are made a part hereof, and on which similar letters of reference indicate similar parts, Figure 1 is a perspective view of an instrument embodying my said invention in position for use attached to a wall; Fig. 2, a longitudinal vertical section of said instrument on the dotted line 2 2 in Figs. 3 and 4; Fig. 3, a transverse sectional view of the same on the dotted line 3 3 in Figs. 2 and 4; Fig. 4, a horizontal sectional view looking upwardly from the dotted line 4 4 in Fig. 2; and Figs. 5, 6, and 7, detail views showing different or alternative forms of the part with which the key or sounding-lever comes in contact.

In said drawings, the portions marked A represent the base upon which the instrument is mounted and the inclosing-casing surrounding said instrument; B, a frame carrying the sounding-plate or diaphragm; C, said sounding-plate or diaphragm, and D the key or sounding-lever.

The base and casing A serve simply to support and inclose the instrument, and are generally given a form which is somewhat ornamental. Brackets A' may be and preferably are supplied as a means whereby the instrument may be attached to a wall, it being desirable to secure such an instrument firmly, in order that the proper tension may be given the wire over which the sound is to be transmitted.

The frame B, as shown, consists of two parts,

between which the diaphragm C is secured. These two parts are secured together, and the plate or diaphragm is secured in place by the same bolts (or other connecting parts, such as screws or rivets) *b*, which secure said frame to the base. The lower part of this frame is commonly wood, and the upper part cast-iron, although I do not wish to be understood as confining myself to these materials. The frame is also preferably separated from the base or frame A by washers *a*, interposed between them.

The diaphragm or sounding-plate C is shown as composed of three parts. Of these the upper is a thin brass plate, the intermediate a sheet of pasteboard, and the lower plate or disk (which is of less size than the others) is tin; but this arrangement, as well as the materials, may be varied without departing from my invention, these statements being made merely by way of information concerning the construction which I have employed. Attached to this plate or diaphragm at or near its center is a contact-piece, C', with which the key or lever D comes in contact, and directly above this on the other side of said plate or diaphragm is an eye or hook, to which the wire is to be attached, as shown. This contact-piece may be made in any of several forms. I have shown it in the principal drawings as a ring, so as to embody both contact-surfaces, and in the alternate views, Figs. 5, 6, and 7, as a hook, a \pm -head, and a loop, respectively, and these and other forms may be used at pleasure so long as two contact-surfaces are provided, although I regard the ring form as rather the simplest and best.

The key or sounding-lever D is much the same in general appearance as an ordinary telegraph-key. It is, however, preferably jointed, and the two parts connected by a pivot, *d*, in order to increase the length of the stroke of the end which comes in contact with the part C' relatively to the finger-motion of the operator. The main part is mounted on preferably adjustable pivots *d'*, and the other part on a pivot, *d''*. Under the outer end near the finger-piece is a spring, D', which holds it up, except when forcibly depressed.

The operation is as follows: The instrument

being in position the operator takes hold of the finger-piece on the key, the same as in an ordinary telegraph-instrument, and makes the signals in precisely the same manner. The inner end of the key or lever comes in contact with the contact-piece C' in both its downward and its upward movement (or with said contact-piece and one side of the diaphragm alternately) and thus produces double the number of sounds that it would if it were permitted to strike the diaphragm alone or a single-surfaced contact-piece. The sound produced by the contact is transmitted over the wire in the ordinary manner. This instrument is particularly valuable for learners and amateurs who have only a comparatively short length of wire and who do not desire to be at the expense of procuring and trouble of keeping up a battery.

The instrument can be so adjusted that the touch and sound will be almost precisely the same as in an electrical instrument, so that an operator who has learned on this instrument will be able without any disadvantage on account of the difference in instruments to take up electrical telegraphing at once.

I am aware of the United States Patent No. 113,041, to J. Gamble, March 28, 1871, for an improvement in telegraph-key sounders, in which a key is shown consisting of two vibrating levers hinged together, and I do not claim the invention described in this patent; but,

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

1. The combination, in a mechanical-telegraph instrument, of the sounding lever or key, the diaphragm, and the anvil, as described, attached thereto, the said anvil having two contact-surfaces, with one of which said key will come in contact in its initial movement, and with the other of which it will come in contact in its reverse movement, substantially as set forth.

2. The combination, in a mechanical-telegraph instrument, of the diaphragm, the sounding lever or key, said key being formed in two parts, which are pivoted together, and a device attached to said diaphragm, whereby two contact-surfaces are provided for said sounding lever or key.

3. The combination, in a mechanical-telegraph key or sounder, of the key and sounder levers jointed to each other end to end, both being supported by pivotal screws arranged in the same horizontal plane, substantially as and for the purpose set forth.

4. The combination, in a mechanical-telegraph instrument, with the diaphragm, of a key, D, formed in two parts pivoted together and each part pivoted to a bearing upon the base, substantially as shown and described.

5. The combination, in a mechanical-telegraph instrument, of a diaphragm to which the wire is connected, two contact-surfaces connected to said diaphragm, and a sounding lever or key arranged in a substantially parallel plane with said diaphragm and passing between said surfaces, substantially as set forth.

6. The combination, in a mechanical-telegraph instrument, of a diaphragm, a double contact-piece upon one side of said diaphragm, and a hook, eye, or equivalent part upon the other side, to which to connect the wire, substantially as set forth.

7. The combination, in a mechanical-telegraph instrument, of the diaphragm, a two-part frame in which the same is mounted, and a base or main frame-work carrying the whole instrument, said diaphragm-frame and diaphragm being connected to said main frame by bolts, which also connect the diaphragm and its frame together and hold them in position, substantially as set forth.

8. The combination, in a mechanical-telegraph instrument, of the diaphragm, a double contact-piece upon one side of said diaphragm, a device to which to connect the wire upon the other side of said diaphragm, a two-part frame in which the diaphragm is mounted, and a base or main frame-work carrying the whole instrument, said diaphragm-frame and diaphragm being connected to said main frame by the same parts which also connect the diaphragm and its frame together and hold them in position.

9. The combination, in a mechanical-telegraph instrument, of the diaphragm, the frame in which the same is mounted, frame-work, bolts by which it is secured to the base or supporting frame-work, washers interposed between said frame and said base, and a two-part key mounted in bearings upon said base, substantially as set forth.

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 8th day of June, A. D. 1887.

JNO. B. BENNETT. [L. S.]

Witnesses:

C. BRADFORD,
CHARLES L. THURBER.