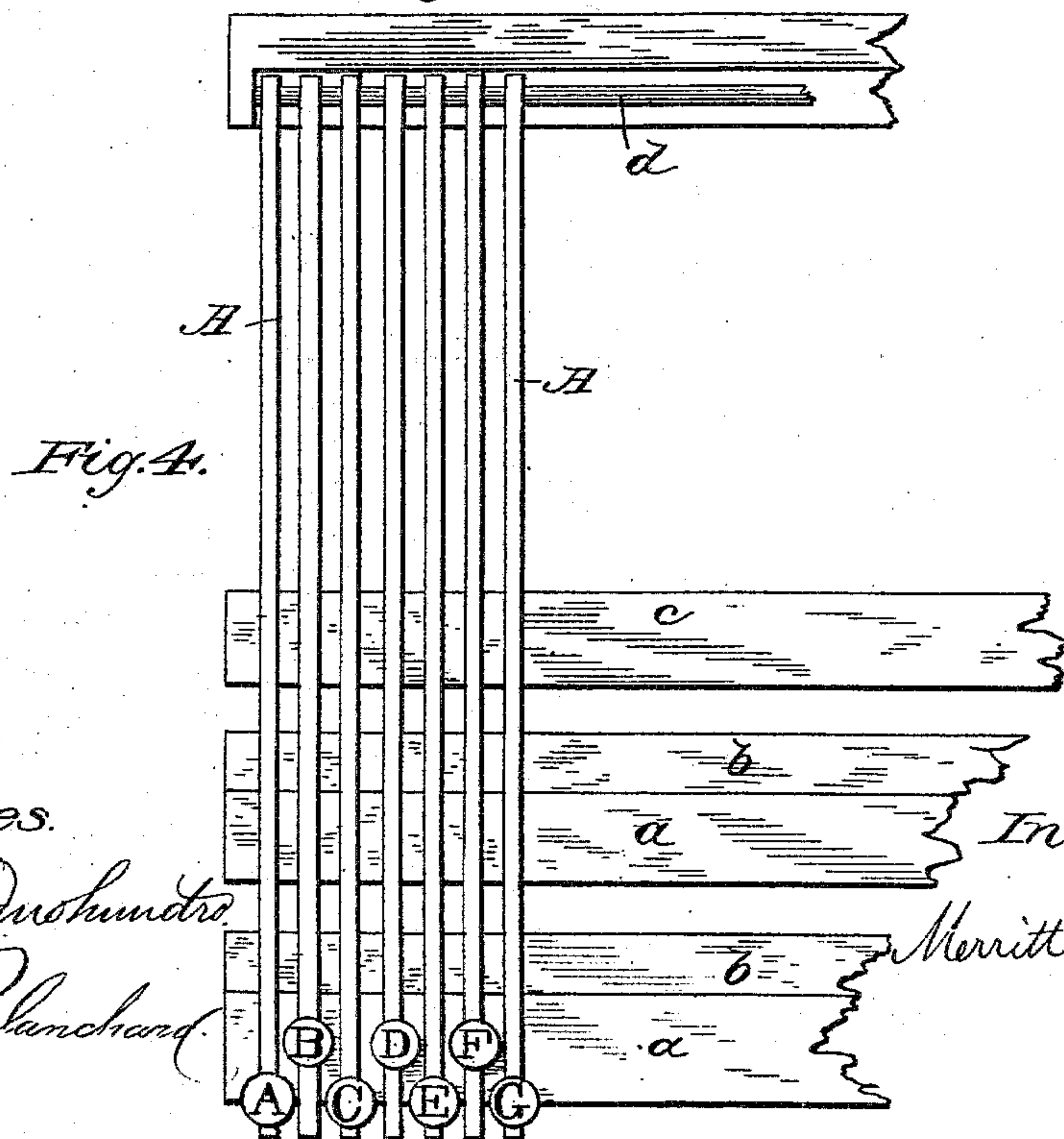
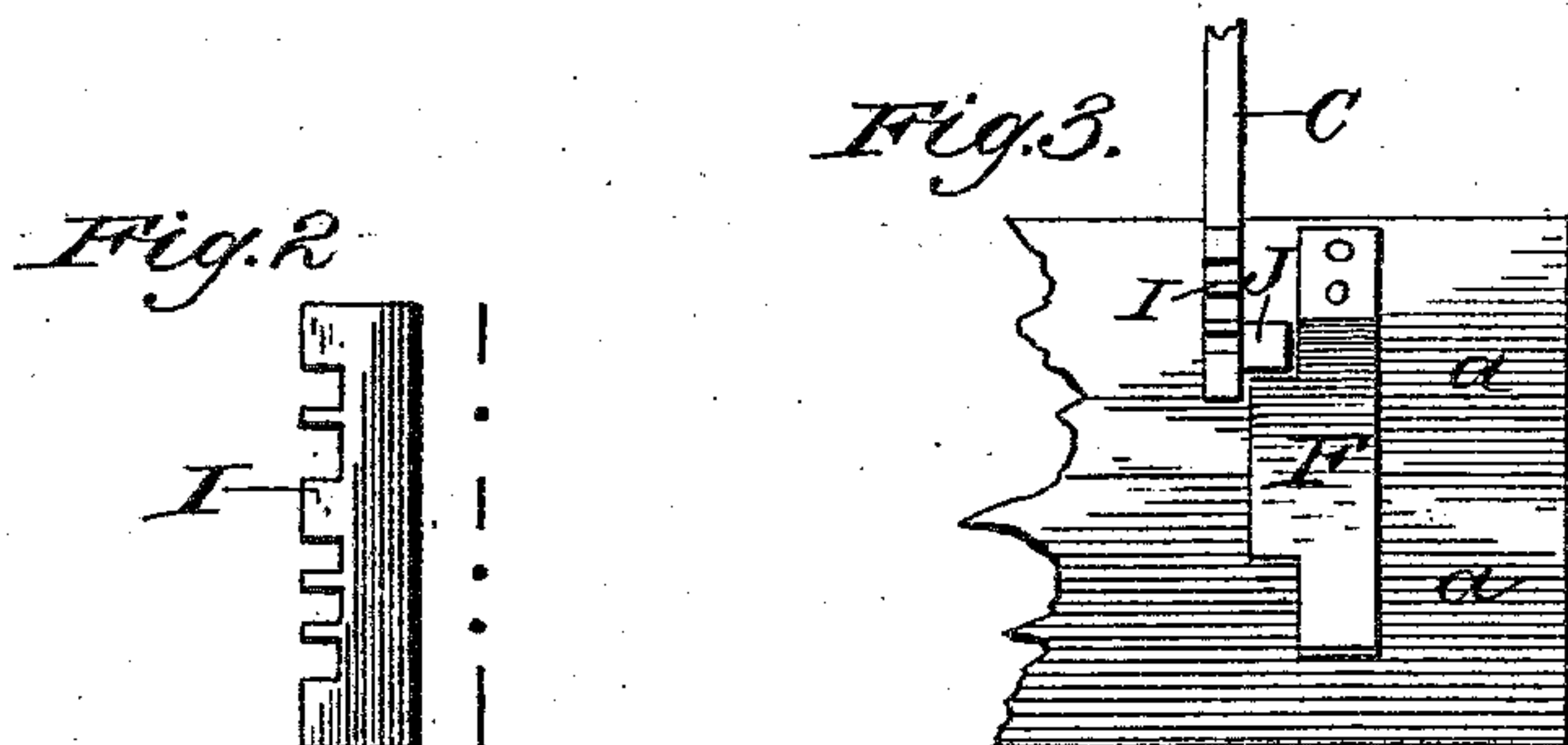
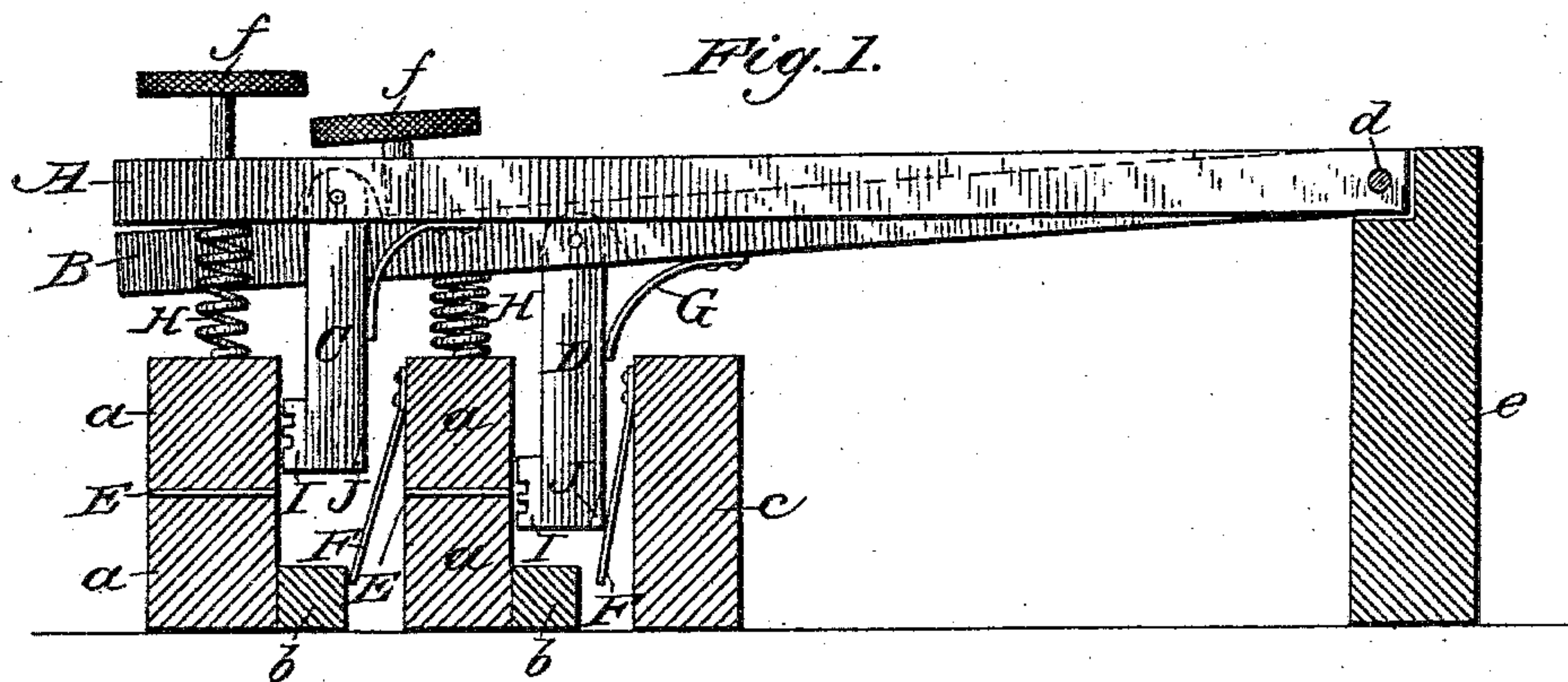


(No Model.)

M. H. DEMENT.
TELEGRAPHIC TRANSMITTER.

No. 287,914.

Patented Nov. 6, 1883.



Witnesses.

Will R. Quinlan
Frank J. Blanchard

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UNITED STATES PATENT OFFICE.

MERRITT H. DEMENT, OF CHICAGO, ILLINOIS.

TELEGRAPHIC TRANSMITTER.

SPECIFICATION forming part of Letters Patent No. 287,914, dated November 6, 1883.

Application filed January 3, 1883. (No model.)

To all whom it may concern:

Be it known that I, MERRITT H. DEMENT, of the city of Chicago, county of Cook, and State of Illinois, have invented a new and useful Telegraph Transmitting Apparatus, of which the following is a specification, reference being had to the drawings hereto annexed, which are made a part hereof.

My invention is intended to be a substitute for the ordinary telegraph transmitting-key, the improvement consisting in a device and mechanism whereby each letter of the alphabet or symbol may be transmitted by a single depression of a key instead of from one to eight depressions, as at present.

By means of my improvement messages may be transmitted more rapidly than at present, and the dots and dashes made with mechanical accuracy; and my transmitter requires no special manual dexterity in operation, and may be practically operated by a person who has no special knowledge of telegraphy.

My invention consists of an apparatus for transmitting telegraphic messages, having a series of keys representing letters or symbols, each key being provided with a notched plate corresponding to the dots and dashes representing the particular letter in a telegraphic alphabet. For instance, if the Morse alphabet be followed, the key for the letter D would have one wide and two narrow faces, representing a dash and two dots, while the key for the letter P would have five narrow faces, representing five dots.

In the annexed drawings, Figure 1 is what may be termed a "sectional" view of the transmitter, showing two keys, A and B, hung on a pivotal bar, *d*, the bar being secured in shoulders at each end of the support *e*. One key is shown in position and the other partially depressed. Pivoted to the keys and underneath them are arms which are so arranged as to be capable of a slight swinging movement. To the arms there are secured plates notched so as to have long and short faces, (each plate being different,) corresponding to the dots and dashes of a telegraph-alphabet.

E E represent plates of copper or other suitable material, insulated by non-conducting blocks *a a*, and connected with the main transmitting-wire.

The spring G operates upon the arm C, so as to hold the plate I against the blocks *a a*, and the copper plate E, so that the faces on the former will be sure to touch the latter and make the circuit as the key is depressed.

The spring F, a detailed view of which is shown in Fig. 3, is used to prevent the plate I from passing over the copper plate E in its upward or return movement.

The arm C is provided with a cam-pin, J, which, as the key is depressed, slides along the shoulder shown on the spring F in Fig. 3, thus pressing the spring back until the cam passes the lower part of the shoulder on the spring, when the spring is released and returns to position with its lower end resting against the block; and when the key is lifted by the action of the spring H the cam J catches behind the shoulder of the spring F, and passes up until it reaches the top of the shoulder, the spring meanwhile being held with sufficient firmness by the lower point resting against the plate *b* to throw the arm C, as it ascends, back and away from the plate E until the cam J on the arm C shall have risen to a point higher than the shoulder on the spring F, at which time the arm C will be released, and the spring H operates to throw and hold the arm C back against the block *a* in position to be again operated upon. The blocks *b b* are stops against which the key-arm C strikes, and against which also the lower point of the spring F rests, one purpose being to give the spring rigidity enough to throw the arm C back when the cam J catches behind the shoulder of the spring.

Fig. 2 is a detail view of a notched plate, showing long and short faces. By the side of it are also represented the dots and dashes as they would appear upon the paper slip at the receiving-station after the notched plate here shown has operated upon the plate E.

Fig. 4 is a plan view of a portion of the transmitter, showing arrangement of keys.

In a full-sized machine there would be forty-five or more keys. To make them compact two wires may be used, as here shown, the arms upon the first and each alternate key operating upon one wire, and the remainder of the keys upon the other, the two wires being connected with the main transmitting-wire;

or, if desired, the keys may be so arranged as to have the arms form a circle, using but one wire, and that being in a circle either inside or outside of the arms. Each key is marked
5 with the letter corresponding in a telegraphic alphabet with the dots and dashes made by the operation of the plate which is attached to that key.

The operation of the machine consists in de-
10 pressing the key representing the letter to be transmitted, and thereby causing the notched plate attached to the arm underneath the key to pass across the plate or wire E, the circuit being closed, as the faces of the plate pass, for
15 a short or long period, as the faces are wide or narrow, and the circuit being opened between the faces while the openings or notches are passing. A wide face would occupy a longer time in passing the plate E, and would make
20 a dash at the receiving-station, while the narrow face would occupy a shorter time, and would make dots. The messages sent by this transmitter are intended to be received
25 upon a continuous strip of paper at the receiving-station in dots and dashes, which may be transcribed at convenience.

The plate I may have the spaces between the faces therein filled with non-conducting material instead of being left open, and the
30 transmitting-wire in such case need not be incased by the blocks *a a*, but may be made more protruding. The transmitter may also be made to accomplish the same object by placing the notched plates upon a support
35 connecting them with the transmitting-wire, and providing the arm C with a single point, narrower than the openings or spaces between

the faces on the plates, and as the key is depressed the circuit will be closed and opened as the point on the arm C comes in contact
40 with the faces or passes the intervening openings in the plates. The transmitter, when made in this way, will accomplish substantially the same result as if made as hereinbefore described, and is fully within the spirit of my
45 invention.

I am aware that patents have heretofore been granted for the use of similar notched plates or series of metal blocks; but I believe that the means herein described of adapting
50 such a device to practical telegraphy are superior to any heretofore devised.

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

1. The combination of the key A, arm C,
55 plate I, spring G, a transmitting-wire, cam J, spring F, and spring H, substantially as and for the purposes shown and described.

2. A telegraph-key provided with a hinged
60 arm, and means for pressing the arm against the transmitting-wire as the key is depressed, in combination with the cam J and spring F, substantially as and for the purposes shown
65 and described.

3. In a telegraph-transmitter, a key provided with a hinged arm having a cam, J, in combination with the spring F and plate *b*,
substantially as and for the purposes shown and described.

MERRITT H. DEMENT.

Witnesses:

FRANK J. GRIDLEY,
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