

(No Model.)

J. H. ROBERTSON.
AUTOGRAPHIC TELEGRAPH.

No. 353,592.

Patented Nov. 30, 1886.

Fig. 1.

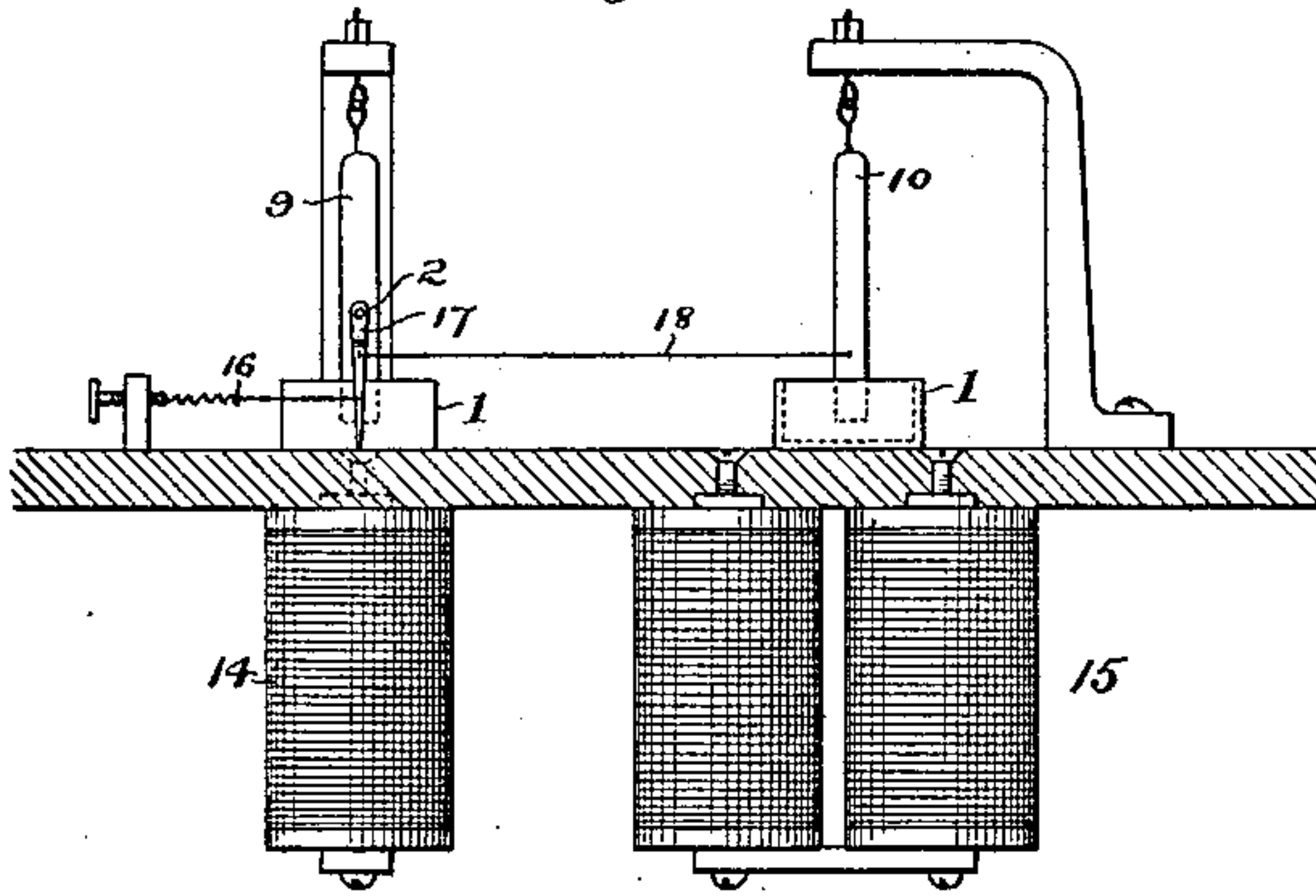


Fig. 4.

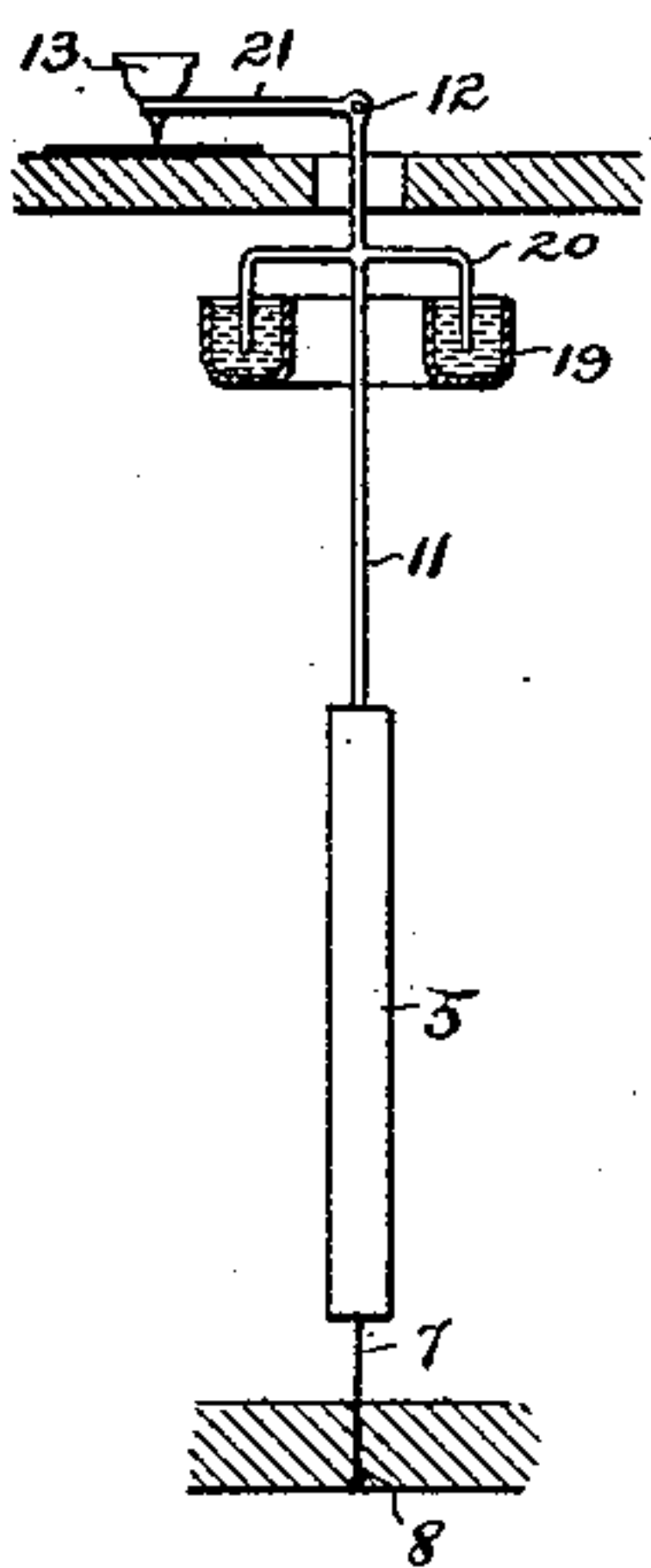


Fig. 2.

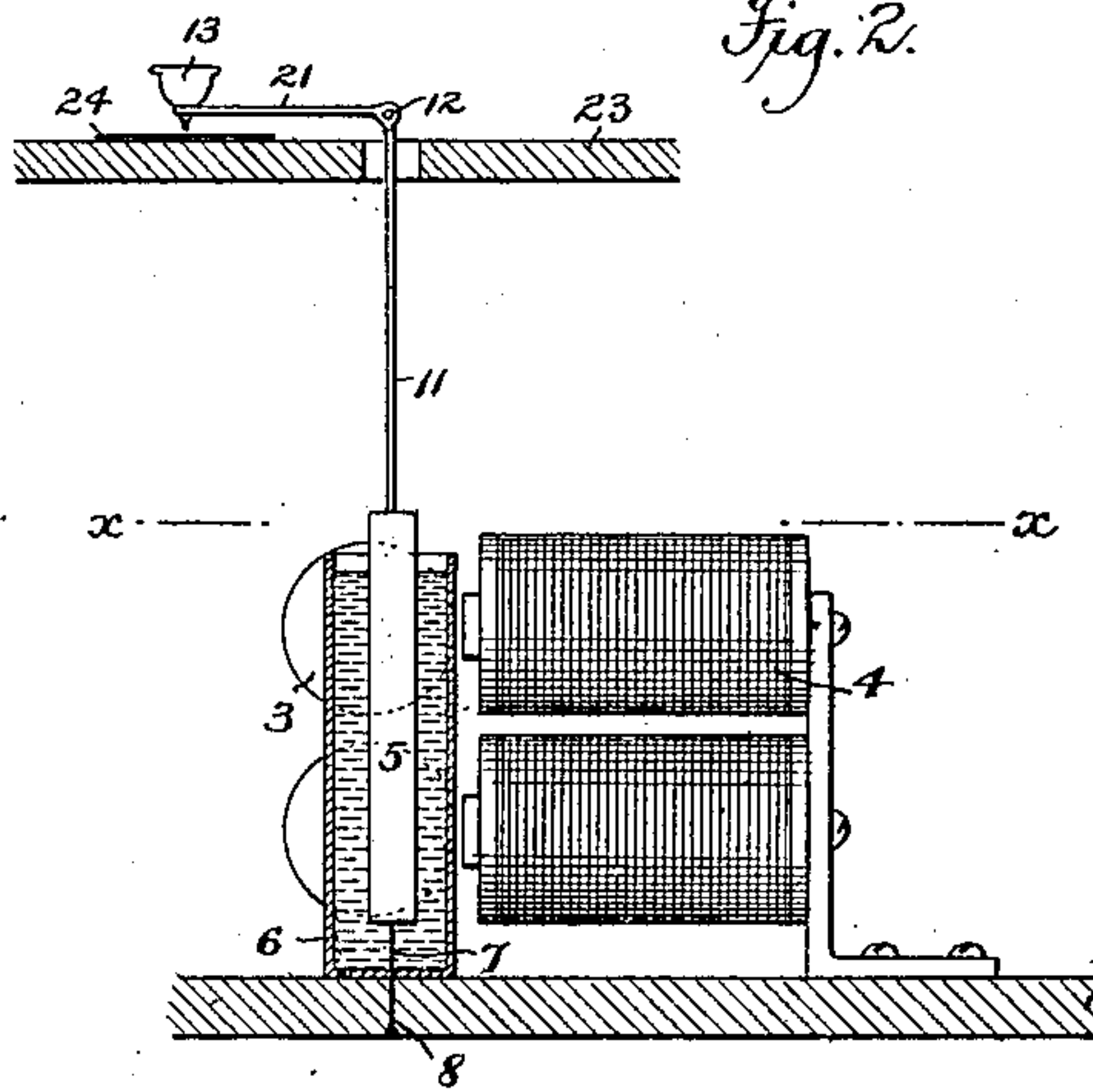


Fig. 5.

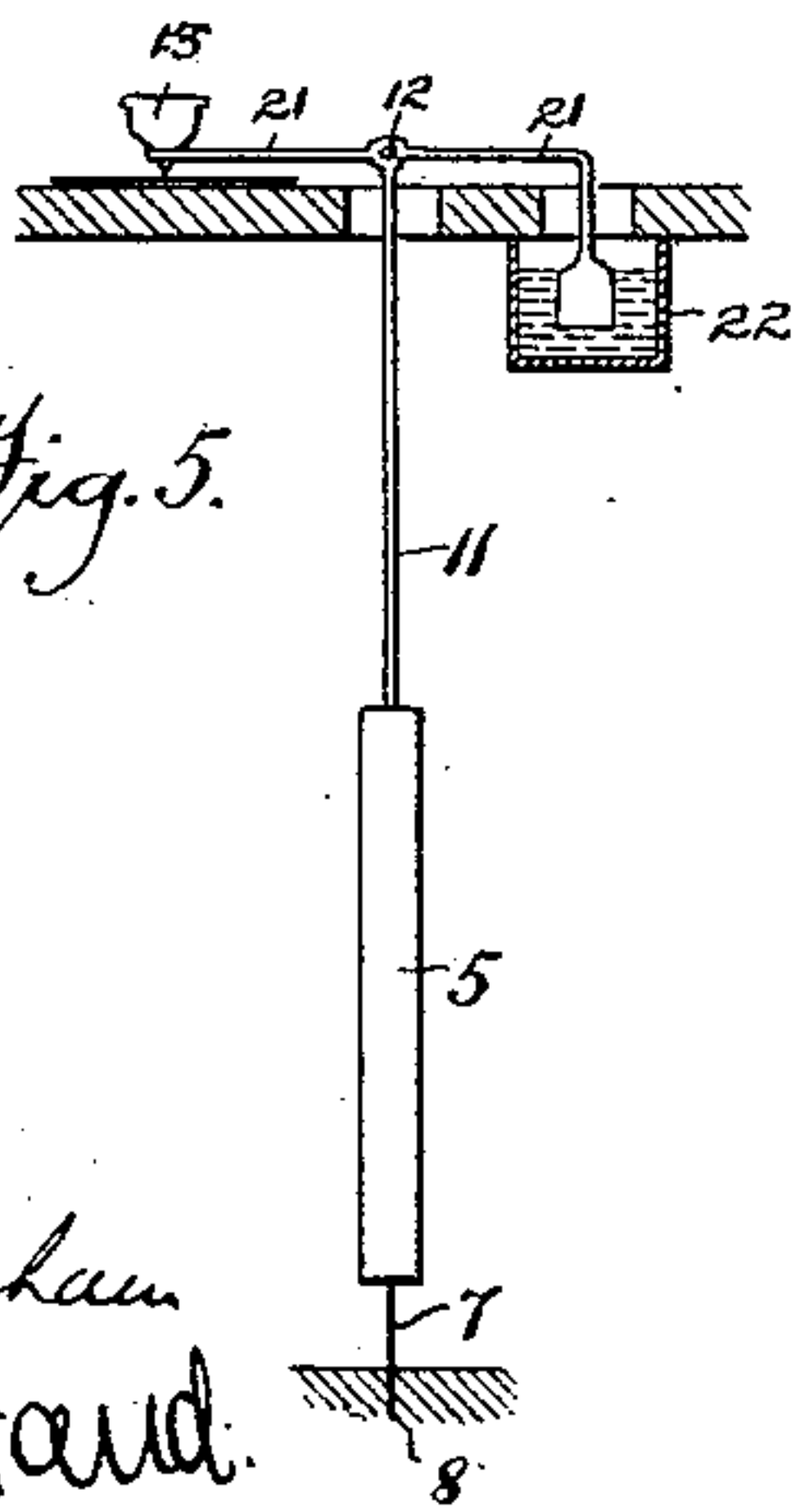
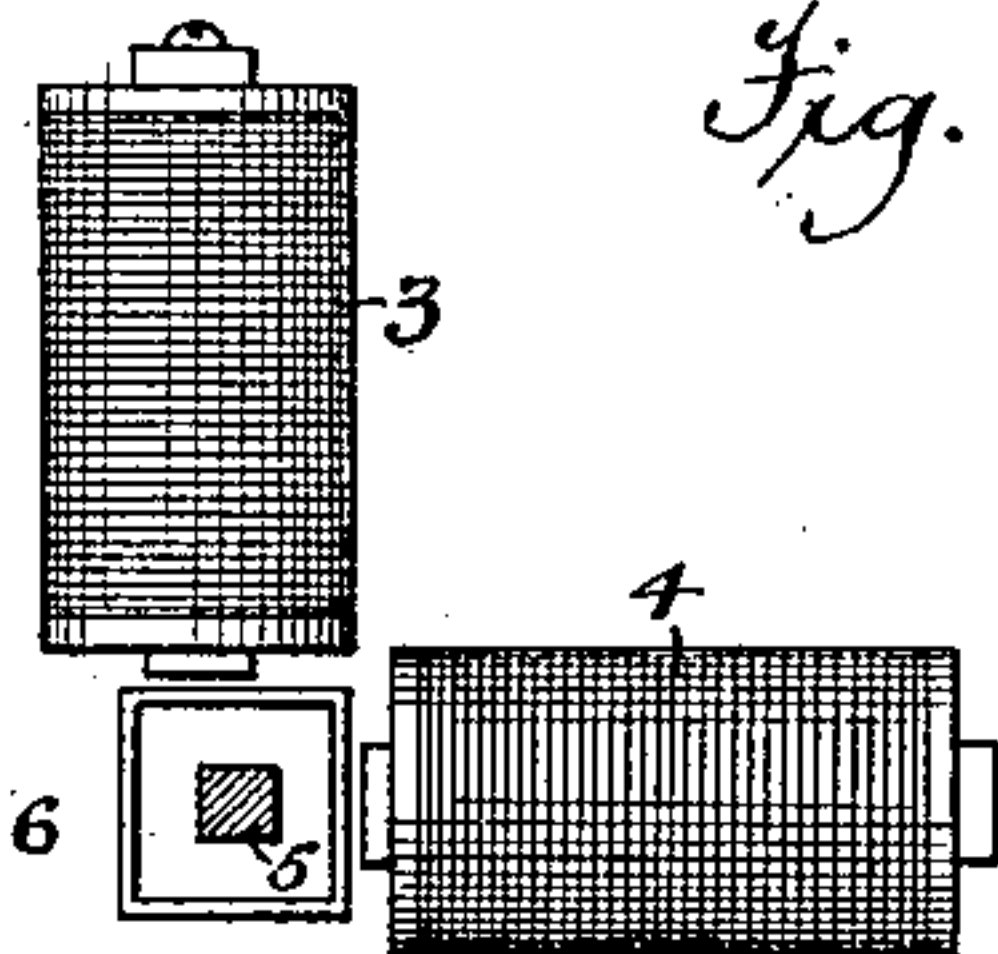


Fig. 3.



Attest:

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UNITED STATES PATENT OFFICE.

JAMES H. ROBERTSON, OF RUTHERFORD, NEW JERSEY.

AUTOGRAPHIC TELEGRAPH.

SPECIFICATION forming part of Letters Patent No. 353,592, dated November 30, 1886.

Application filed April 28, 1886. Serial No. 200,412. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. ROBERTSON, a citizen of the United States, and a resident of Rutherford, Bergen county, New Jersey, have
5 invented a new and useful Improvement in Autographic Telegraphs, of which the following is a specification.

The object of my invention is to cause the armature or armatures used in the receivers of
10 autographic writing-machines to move in a more steady manner than has heretofore been possible. I accomplish this object by immersing the armature or armatures, or any part connected therewith, in a vessel containing,
15 preferably, a liquid—as, for example, water, alcohol, glycerine, mercury, oil, &c. Any other substance serving the same purpose may, however, be used.

In the accompanying drawings, forming part
20 of this specification, Figure 1 illustrates my invention applied to an autographic telegraph provided with two armatures. Fig. 2 represents the same applied to an autographic telegraph in which one armature serves the purposes of two. Fig. 3 is a cross-section taken
25 on line *xx* of Fig. 2. Figs. 4 and 5 illustrate modifications of my invention.

I have illustrated my invention in Fig. 1 as applied to the particular receiver of an autographic telegraph described and shown in a
30 former application, Serial No. 177,435, filed by me under the date of September 18, 1885, and I have shown only so much of said former invention as is necessary to a full understanding of the invention herein claimed.
35 The armatures 9 and 10 are arranged over magnets 14 and 15, as in said former application, and the arrangements of circuits (not shown) may be considered the same as therein
40 described. I place under each armature a vessel or receptacle, 1, and fill the same with, preferably, a liquid to a height sufficient to immerse the lower ends of said armatures therein, substantially as illustrated. This
45 causes the armatures to move more steadily. The stylus 17, instead of being pivoted close to the side of armature 9, as in my former application, before referred to, is pivoted to the end of a lateral extension, 2, of said armature,
50 the said extension being of a length sufficient

to permit the stylus to operate properly outside of the liquid-receptacle. The armature 10 is connected with stylus 17 by cord 18, and said stylus is returned to normal position by spring 16, all as described in my said former
55 application.

In Figs. 2 and 3 I have shown two electromagnets, 3 and 4, placed at right angles to and near each other, so that one armature, 5, will serve for both. I surround this armature with
60 a vessel, 6, of non-magnetic material, which vessel I fill with liquid, as hereinbefore described. The armature 5 is supported in normal position on a spring-wire, 7, which passes through the bottom of the receptacle and base,
65 and is fastened at 8 in any suitable and effective manner. A rod, 11, extends upwardly from the armature through an aperture in table 23, and has pivoted to it at 12 an arm, 21, which carries the stylus 13. The latter rests
70 by gravity on the paper 24. The aperture in table 23 is sufficiently large to allow for the maximum movement in either direction of the armature 5. I have shown the stylus combined with a reservoir for ink; but so far as
75 the liquid-receptacle is concerned any other kind or form of stylus may be used.

In Fig. 4 I have varied the construction shown in Fig. 2 by providing the rod 11 with an extension, 20, arranged to dip into an annular
80 trough or vessel, 19, containing liquid. This annular vessel takes the place of vessel 6 in Fig. 2.

In Fig. 5 I have extended the stylus-carrying arm 21 in rear of its pivot 12 and combined it with a liquid-receptacle, 22, as shown. This construction serves the same purpose as those illustrated in Figs. 2 and 4, and operates in substantially the same manner. I therefore consider these several constructions equivalent
90 of each other.

I am aware that a longitudinally-oscillating stylus, incapable of lateral movement, has been combined with an armature partially sustained or floating in liquid; but such a device
95 has nothing in common with my invention, and I lay no claim thereto.

I lay no claim in this application to an armature and liquid-receptacle, the armature having a projection immersed in the liquid, but
100

reserve the right to claim such subject-matter in an application filed by me June 30, 1886, Serial No. 206,692, autographic telegraph.

What I claim, and desire to secure by United States Letters Patent, is—

1. In an autographic telegraph, the combination, with the receiving stylus arranged to have a free lateral motion over the surface of the paper and armature or armatures, of a liquid-containing receptacle, substantially as described.

2. In an autographic telegraph, the combi-

nation, with the receiving stylus arranged to have a free lateral motion over the surface of the paper and armature or armatures, of a liquid-containing receptacle in which said armature or armatures are immersed, substantially as described.

In testimony whereof I have hereunto subscribed my name.

JAMES H. ROBERTSON.

Witnesses:

JNO. E. GAVIN,
JOHN PRATT.