

(No Model.)

J. H. ROBERTSON.

AUTOGRAPHIC TELEGRAPH.

No. 357,039.

Patented Feb. 1, 1887.

Fig. 1.

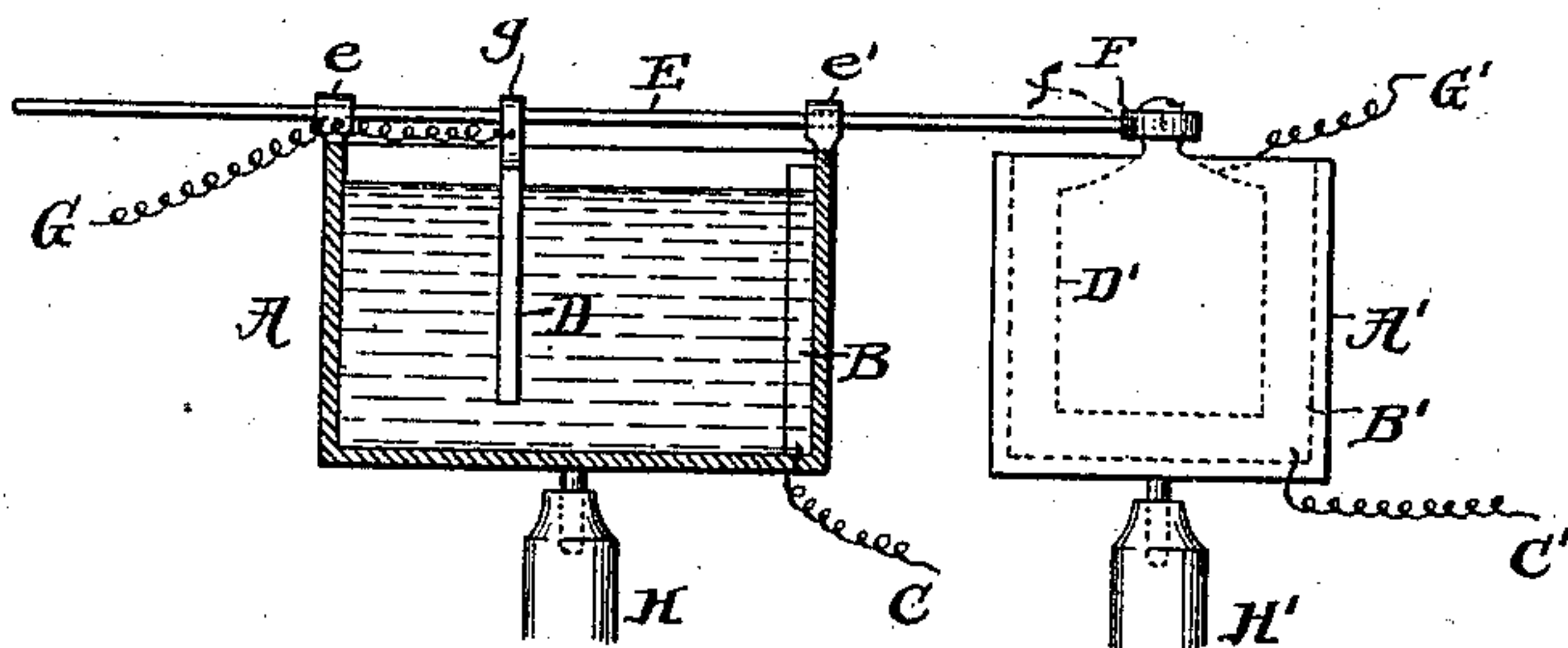
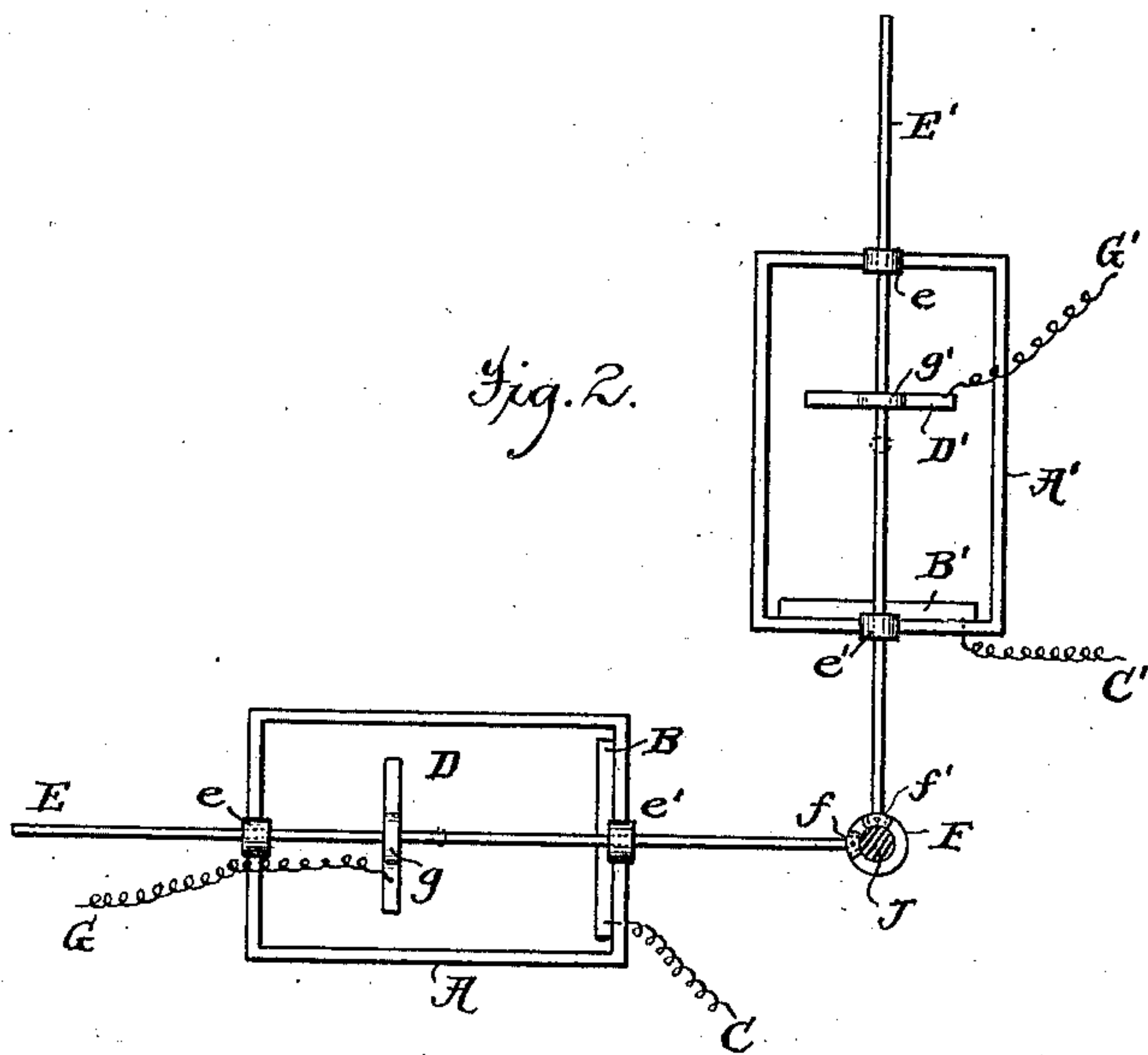


Fig. 2.



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AUTOGRAPHIC TELEGRAPH.

SPECIFICATION forming part of Letters Patent No. 357,039, dated February 1, 1887.

Application filed September 15, 1886. Serial No. 213,553. (No model.)

To all whom it may concern:

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

In a former application filed by me in the United States Patent Office I have described means for varying the strength of the current in an electric circuit in autographic telegraphs, by immersing one electrode to a greater or less extent in a liquid constituting part of the other electrode.

In the present application the electrode is not immersed to a greater or less extent, but is located in the liquid and advanced toward and withdrawn from that part of the vessel where connection is made with the conductor of the circuit. Instead of varying the extent of surface of the electrode immersed the whole surface thereof is carried nearer to or farther from the plate, connecting with a conductor of the circuit.

In the accompanying drawings, Figure 1 is a side view of my device, partly in section. Fig. 2 is a plan view thereof.

The transmitting-instrument embraces in its construction two receptacles, A A', containing a liquid. The latter consists of water, which may be acidulated or saturated with carbon or other conducting powder. Almost any liquid may be used. If the liquid consists of a material of high resistance, it is advantageous to mix with it some substance, liquid or otherwise, of higher conductivity. By so doing the power of the battery will not be wasted in overcoming a great deal of useless resistance, and it will not be necessary to travel through a large space unnecessarily to attain a small result. In the case of some liquids used for insulating purposes—such as paraffine-oil, shellac, &c.—they would have to be highly saturated with better conducting material to get any result.

Within each receptacle A A' is located a plate, B B', of platina or other good conducting material connected by wires C C' with a

battery. (Not shown.) The electrodes D D' are suspended in the liquid from rods E E', which rods are connected to the stylus or holder J, as described in my former application, referred to. Conductors G G' extend from sleeves g g' on the rods E E', to which the electrodes D D' are fastened, and connect with the electro-magnets of the receiving-instrument. (Not shown.) The rods E E' slide in bearings e e' on the receptacles A A'. The latter are pivoted, as at H H', so as to permit the movement of the stylus or holder J to impart free play to the sliding rods E E'. The latter are pivoted to holder-ring F in sockets f f', to further aid in the play of the rods. It will thus be seen that as the electrodes D D' are brought nearer to or farther from the plates B B' by the action of the stylus or holder J and rods E E' the strength of the current will be varied.

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

1. The combination, with a stylus or holder, of a receptacle containing a liquid included in an electric circuit and connections between said holder and receptacle so arranged that the movements of the former may bring the immersed electrode toward and away from a plate in the liquid to vary the resistance in the circuit and the strength of the current, substantially as described.

2. The combination, with a receptacle containing a liquid and included in an electric circuit, of an electrode immersed in the same, a stylus or holder, and connections between said electrode and holder, substantially as described.

3. The combination, with two receptacles containing a liquid, of a stylus or holder and connections between said holder and receptacles so arranged that the movements of the holder will cause an electrode immersed in the liquid to be brought toward and away from a plate in the receptacle contained in the circuit, substantially as described.

4. The combination, with two receptacles containing a liquid and included in an electric

circuit, of a stylus or holder and sliding rods carrying electrodes suspended in said liquid, substantially as described.

5. The combination, with two pivoted receptacles containing a liquid and included in an electric circuit, of a stylus or holder and connecting sliding rods operating electrodes suspended in said liquid, so as to vary the re-

sistance of the current, substantially as described. 10

In testimony whereof I have hereunto subscribed my name.

JAMES H. ROBERTSON.

Witnesses:

JNO. E. GAVIN,

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