

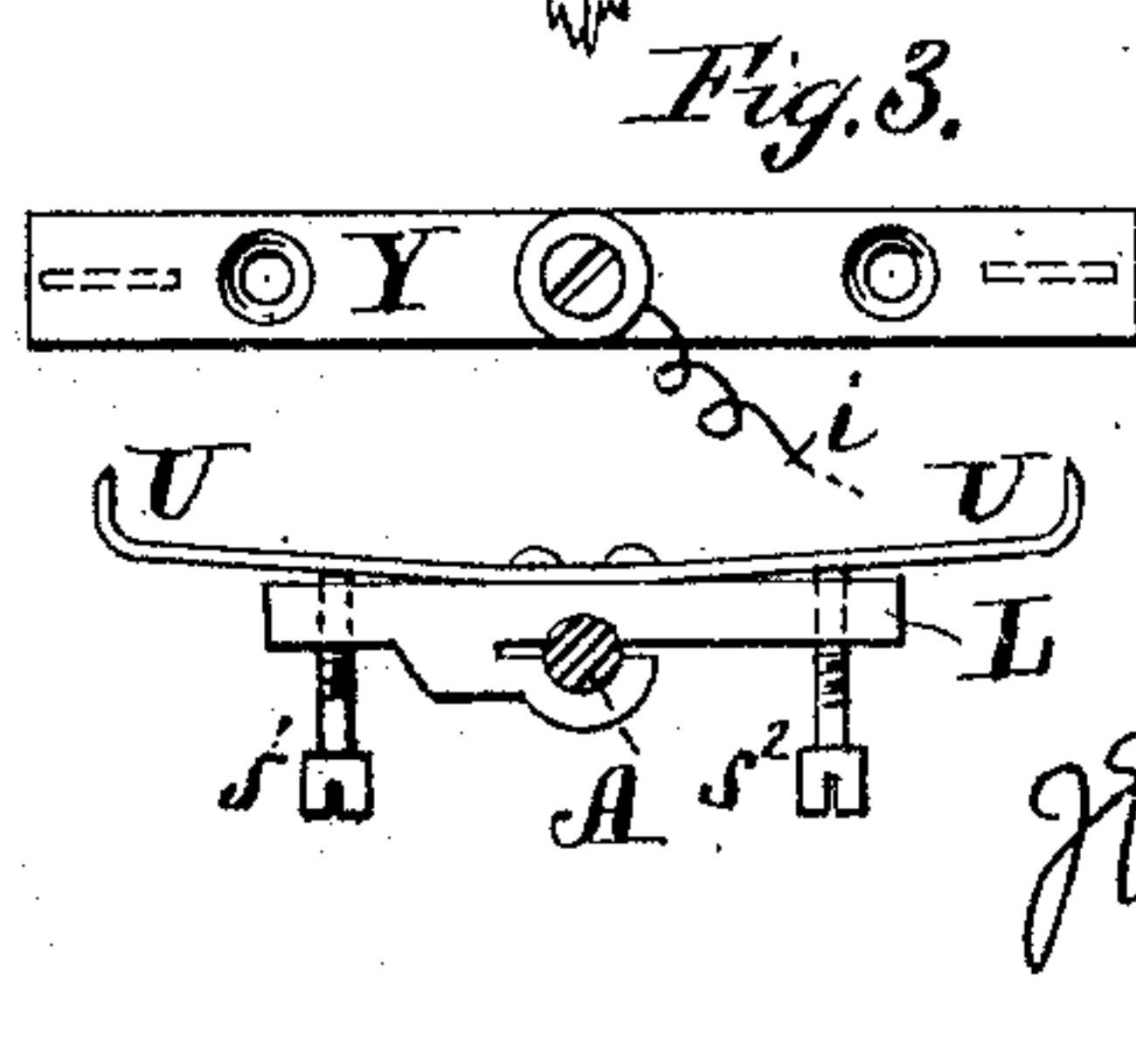
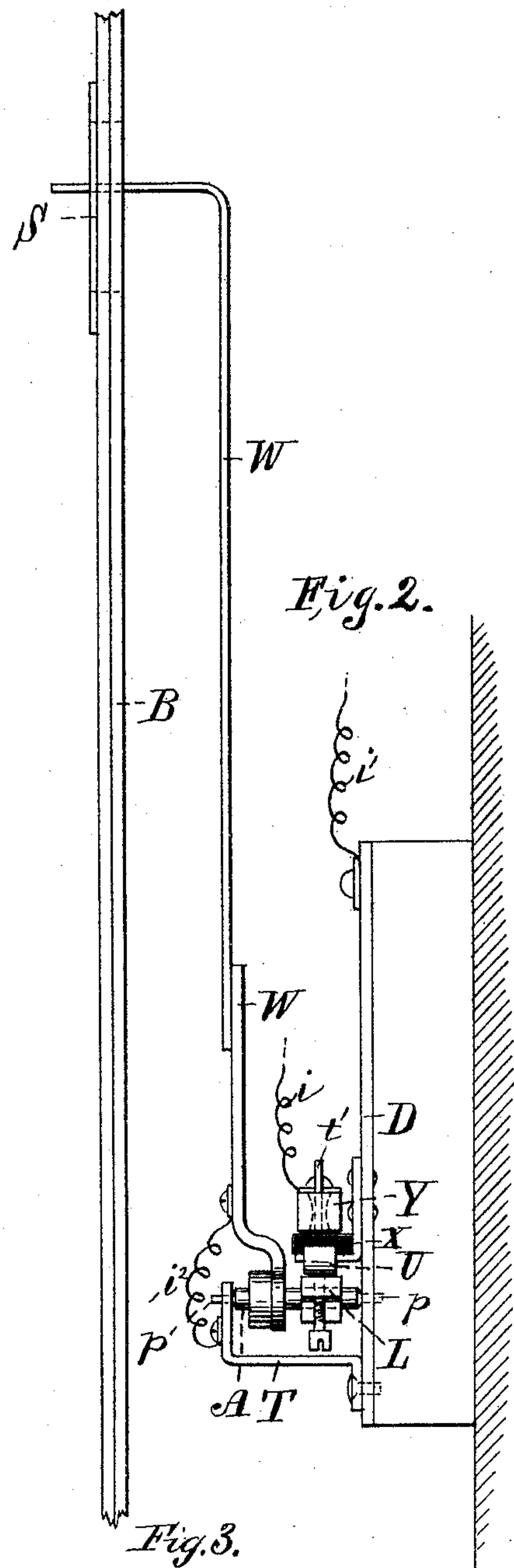
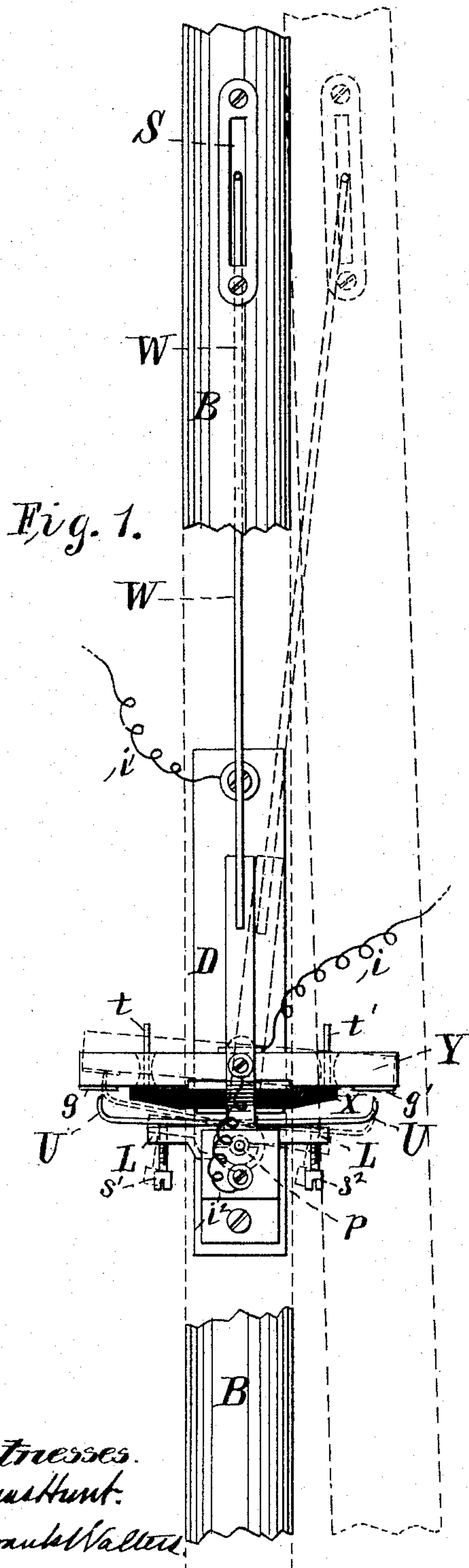
(No Model.)

V. HIMMER.

CIRCUIT BREAKER FOR PRIMARY ELECTRIC CLOCKS.

No. 355,820.

Patented Jan. 11, 1887.



Witnesses.
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UNITED STATES PATENT OFFICE.

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CIRCUIT-BREAKER FOR PRIMARY ELECTRIC CLOCKS.

SPECIFICATION forming part of Letters Patent No. 355,820, dated January 11, 1887.

Application filed January 14, 1886. Serial No. 188,531. (No model.)

To all whom it may concern:

Be it known that I, VITALIS HIMMER, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Circuit-Breakers for Electric Clocks, of which the following is a specification, reference being had therein to the accompanying drawings.

My improvement is designed to be used in connection with the central clock of the system by which the secondary clocks embraced in the circuit of said central clock are run in the ordinary well-known manner, being actuated by the pendulum of the central or primary clock to make and break the circuit; and its object is to obtain a circuit-breaking mechanism which, while it offers the least possible resistance to the motion of the pendulum of said central clock, secures a make and break of the circuit with each swing of the pendulum.

My invention is illustrated in the accompanying drawings, in which similar letters and numbers refer to similar parts throughout the several figures.

Figure 1 represents a front view of the invention, showing its connection with the pendulum-rod. Fig. 2 is a side view of said mechanism. Fig. 3 is a view of a portion thereof, showing certain parts of the construction more in detail.

Although it will in general be necessary to use only one of said circuit-breakers upon each central clock, yet in order to secure greater certainty of action, which might be made necessary by a temporary derangement of said circuit-breaker, I prefer to use two upon each clock.

Referring to Figs. 1 and 2, B is the pendulum-rod, which is slotted at S.

W is a lever, the upper end of which is bent and rests in the slot S, as shown in Fig. 2, so that it rocks with the pendulum-rod. The lower end of the lever W is rigidly attached to the sleeve A, Fig. 2, upon the arbor *p*, one end of this arbor *p* resting in the plate D, secured to the back of the clock, and the other end resting in the bracket T.

L is a bar, which is fastened by a friction-

joint, Fig. 3, to the arbor A, and which bears on its upper side the plate U. This plate U is bent at its ends, as shown, and its curvature is adjusted by the screws *s*² *s*². The bar L and plate U thus rock as the pendulum-rod moves the lever W.

Y is a bar carrying on its lower side the contact-plates *g g'*, and resting upon the insulating-support X, the latter being made of some insulating material.

t t' are pins which pass up from the support X and through holes in the bar Y, which are somewhat larger than the pins *t t'*, so that the bar Y is thus secured to the support X, but has a longitudinal play, so that it will rock whenever either end is pushed up by the ends of the plate U when the latter make contact with the plates *g g'*.

The bar Y is electrically connected with one pole of the battery by the wire *i*, and the other pole of the battery is connected with the plate U through the wire *i'*, plate D, bracket T, wire *i'*, lever W, arbor A, bar L, and plate U. I have found it best in practice to use the wire *i'*, as, although the current will at times pass into the arbor A from the plate D through the pinion *p*, it is unsafe to rely upon that path, owing to the resistance offered by the oil upon the pinion *p*, and the fact that the pinion gradually wears its bearings so that they do not secure contact at all points.

In the above device it will be seen that each swing of the pendulum-rod makes and then breaks the circuit.

What I claim is—

A circuit-controlling device consisting of the combination, with a clock mechanism and a vibrating pendulum, of the lever W, arbor A, bar L, plate U, bar Y, and support X, carrying the contact-plates *g g'*, all arranged in an electric circuit and operated substantially as described.

In testimony whereof I affix my signature, in presence of two witnesses, this 7th day of January, 1886.

VITALIS HIMMER.

Witnesses:

THOMAS HUNT,
J. E. HINDON HYDE.