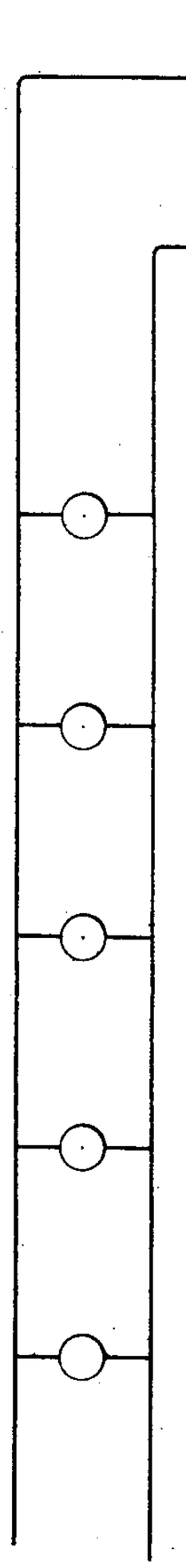
(No Model.)

J. I. CONKLIN.

ELECTRIC LIGHTING SYSTEM.

No. 535,443. Patented Mar. 12, 1895.

Fig. I



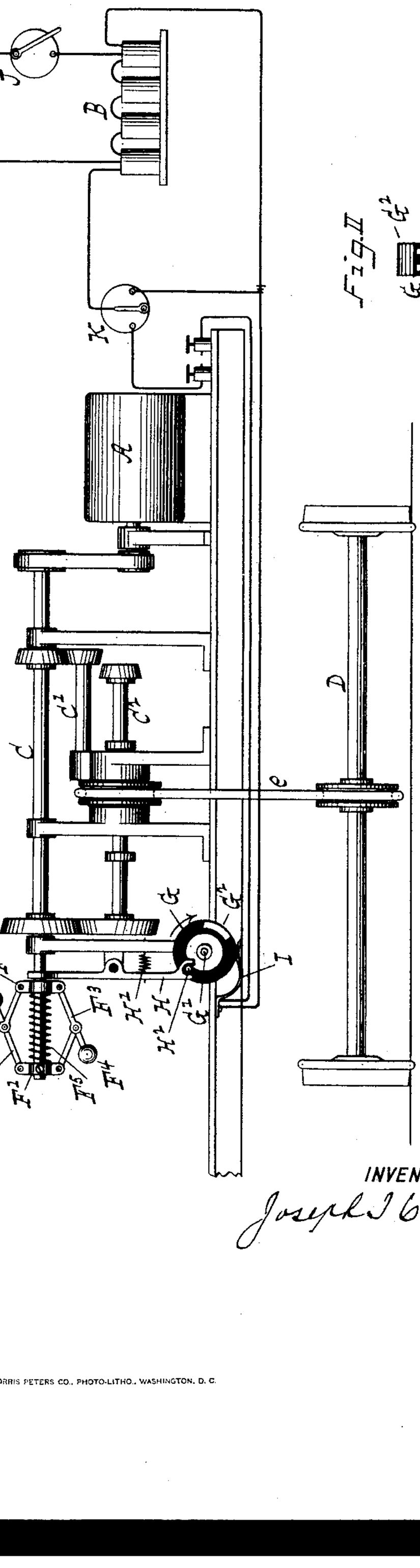
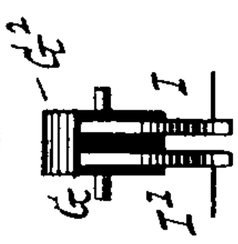


Fig. II



WITNESSES:

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ELECTRIC-LIGHTING SYSTEM.

SPECIFICATION forming part of Letters Patent No. 535,443, dated March 12, 1895.

Application filed July 30, 1894. Serial No. 518,922. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH I. CONKLIN, a citizen of the United States, and a resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Electric-Lighting Systems, of which the following is a specification.

My invention relates especially to the system of electric-lighting for which Letters Patent of the United States were granted to me November 3, 1891, No. 462,237, and in which is incorporated the mechanical movement for which other Letters Patent of the United States were granted to me October 15, 1889, No. 412,841. The system referred to is particularly adapted to the lighting of railway cars, and includes a dynamo and a storage-battery to be charged thereby; and the general object of my invention is to automatically control the condition of the battery circuit, as to whether the mechanical movement is in or out of operation.

To this end the invention consists in certain features of construction and combination of parts which will be hereinafter fully set forth.

In the accompanying drawings, Figure I represents, in side view, an apparatus adapted to the purpose of my invention. Fig. II represents, in inverted plan view, a circuit-closer concomitant thereto.

Similar letters and numerals of reference indicate similar parts.

In the drawings the letter A indicates the dynamo, B the storage-battery, and C one of the shafts of the mechanical movement, which shaft is connected to the armature-shaft of the dynamo, for its operation in the usual way.

My system is intended to be applied more particularly to the lighting of railway cars; and in this use thereof, the shaft C—which may be termed the main-shaft—of the movement, is connected to the car-axle D, by means of a belt *e*, engaging one of two intermediate shafts C', C^2, which co-operate with said main-shaft, as fully described in my said Patent No. 412,841.

The letter F indicates the governor, which may be of any usual or suitable form; it consisting, in this example, of two collars F', F^2, on the main-shaft C, one fixed and the other movable, jointed arms F^3 with centrifugal weights F^4, and a spring F^5 on said shaft, between the collars, acting thereon with a tendency to force them apart from each other. The spring F^5, however, may be omitted, since its use is due mainly to the horizontal position of the main-shaft.

The letter G indicates the circuit closer, which is composed of a disk mounted on an axial pivot G' to be capable of oscillating motion; and H indicates a setting-lever, to which is connected a retractile spring H' and which engages, at one end, with an eccentric pin H^2 of the circuit closer, and at the other end with the movable collar F^2 of the governor. Combined with the circuit closer G are two contact springs I I', which are connected respectively, with the dynamo and battery, as by wires 1, 2.

The disk G, constituting the circuit closer, is composed of a non-metallic and nonconducting material, with a peripheral metallic portion G^2, in fixed relation to the contact springs I, I', which are in peripheral engagement with the disk; and the operation of the circuit closer is similar to that of a commutator, that is to say, when the parts are at rest the contact springs are out of metallic connection, while when the parts are in operation the governor F releases the setting lever H, allowing it to follow the action of its retractile spring H', with the effect of turning the disk G in the direction of the arrow shown in Fig. I, and bringing the contact springs I I' into metallic connection, thereby closing the battery-circuit from the dynamo.

The lighting-circuit includes a switch J; while the battery-circuit includes a switch K, the purpose of which is to test the battery.

What I claim as my invention, and desire to secure by Letters Patent, is—

In an electric car lighting device, the combination with the dynamo, the driving shaft connected with the dynamo and with a car axle and the battery connected with the dynamo, of the governor mounted on said shaft, the pivoted lever, one end of which abuts against the movable collar of the governor, the oscillating disk formed of non-metallic and nonconducting material, provided with a pin which engages with the lower end of said lever, the retractile spring connected with said

lever, the peripheral metallic sections secured to said disk, the contact spring bearing against the disk and connected with a conductor leading to the battery, and a contact spring also bearing against said disk and connected with a conductor leading to the dynamo, the construction being such that when the driving shaft is at rest the lever will oscillate the disk and throw the contact springs out of metallic connection and thereby open the circuit between the dynamo and battery, substantially as described.

Signed at New York, in the county of New York and State of New York, this 27th day of July, A. D. 1894.

JOSEPH I. CONKLIN.

Witnesses:
CHAS. WAHLERS,
R. T. VAN BOSKERCK.