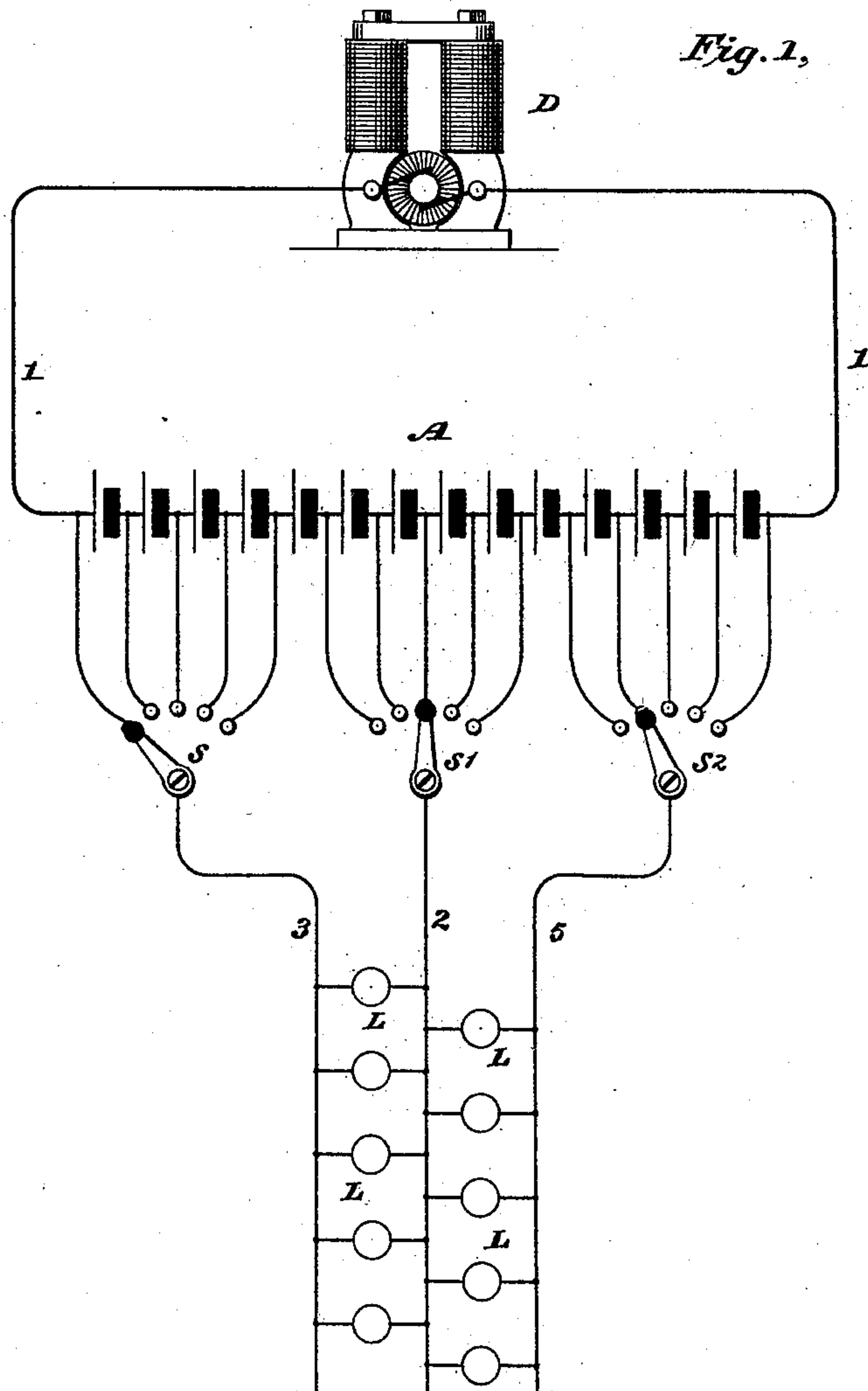


(No Model.)

T. P. CONANT & Z. LATSHAW.
SYSTEM OF ELECTRICAL DISTRIBUTION.

No. 378,432.

Patented Feb. 28, 1888.



Witnesses

Geo. W. Breck
Edward Thorpe

Thomas P. Conant, Inventors.
Zach Latshaw

By their Attorney

M. B. Vining

UNITED STATES PATENT OFFICE.

THOMAS P. CONANT, OF BROOKLYN, NEW YORK, AND ZACH LATSHAW, OF
McKEESPORT, PENNSYLVANIA, ASSIGNORS TO THE ELECTRICAL ACCU-
MULATOR COMPANY, OF NEW YORK.

SYSTEM OF ELECTRICAL DISTRIBUTION.

SPECIFICATION forming part of Letters Patent No. 378,432, dated February 28, 1888.

Application filed September 8, 1887. Serial No. 249,078. (No model.)

To all whom it may concern:

Be it known that we, THOMAS P. CONANT and ZACH LATSHAW, citizens of the United States, and residents of Brooklyn, in the county of Kings, State of New York, and of McKeesport, in the county of Allegheny, State of Pennsylvania, respectively, have jointly invented certain new and useful Improvements in Systems of Electric Distribution by Accumulators, of which the following is a specification.

Our invention relates to an arrangement of apparatus for adapting a dynamo-machine to supply a working-circuit containing translating devices with current of an electro-motive force and intensity differing in those respects from that which the dynamo is constructed to furnish, combined with an arrangement of circuits calculated to economize the amount of copper or conducting material required to carry the current.

We provide a series of secondary-battery cells, which we arrange in a series as great as the electro-motive force of the dynamo is capable of charging. From the battery the working-circuit is led by two main conductors and a compensating conductor, each adjustably connected to points in the battery calculated to preserve a substantially uniform electro-motive force between each main conductor and the compensating conductor, so that the potential between either main conductor and the compensating conductor may be preserved substantially uniform. By the use of a compensating conductor we may use currents in the working-circuit of a higher electro-motive force and conductors containing less metal than would be the case were the compensating wire not employed.

The accompanying drawing illustrates our invention.

A is a series of secondary-battery cells arranged in series and charged by the dynamo D, connected thereto by circuit 1. Any number of cells may be so connected, provided that the capacity of the dynamo to furnish the requisite effective electro-motive force be not exceeded.

3 and 5 are main leads, and 2 is a compensating conductor. Between the main leads

and the compensating conductor are connected translating devices, as lamps L L.

s , s' , and s^2 are three pivoted switch-arms making contact with a series of fixed contact-points connected at different points in the series of cells. To these switch-arms the conductors 3 2 5 are respectively connected, and the said arms are so adjusted upon the fixed contacts that the electro-motive force between 2 and 5 and 2 and 3 will be as nearly equal as possible.

In case the number or capacity of the translating devices upon opposite sides of the compensating conductor becomes unequal, a current varying in amount according to the degree of inequality will pass through the compensating conductor, the direction of such current varying according to which side contains the greater capacity.

The arrangement shown may be amplified and extended by the addition of other compensating conductors and other series of lamps.

We contemplate the application of the system here shown and described to supply current over extended areas as a central-station system of lighting towns and villages, and it is in this connection that its utility and economy are most manifest.

What we claim, and desire to secure by Letters Patent, is—

1. The combination of a secondary battery, a working-circuit consisting of three conductors, and means for adjustably connecting two or more of said conductors to different points in said battery, whereby the difference of potential between any two conductors may be regulated.

2. The combination of a dynamo-electric machine in circuit with a secondary battery, a working-circuit consisting of three conductors connected to different points in said battery, respectively, and a series of translating devices in two divisions, each division between a separate pair of conductors.

3. The combination of a series of cells of secondary battery electrically connected, a working-circuit consisting of three or more conductors, a series of fixed contact-points connected to different points in the series of

cells, and movable contacts for two or more of said conductors, each in position to make contact with two or more of said fixed contacts.

4. The combination of a dynamo-electric
5 machine, a series of cells of secondary battery connected in circuit therewith, a working-circuit consisting of three conductors, translating devices divided in two series, each series located between a different pair of conductors,
10 and a switch for each of said conductors, whereby the point of connection between either of said conductors and the battery may be changed, varied, or altered.

5. The combination of a dynamo-electric machine, a series of cells of secondary battery, 15 a working-circuit consisting of three conductors, and switches $s s' s^2$.

Signed at the city of New York, in the county of New York and State of New York, this 6th day of September, A. D. 1887.

THOMAS P. CONANT.
ZACH LATSHAW.

Witnesses:

DANIEL E. DELAVAN,
WM. B. VANSIZE.