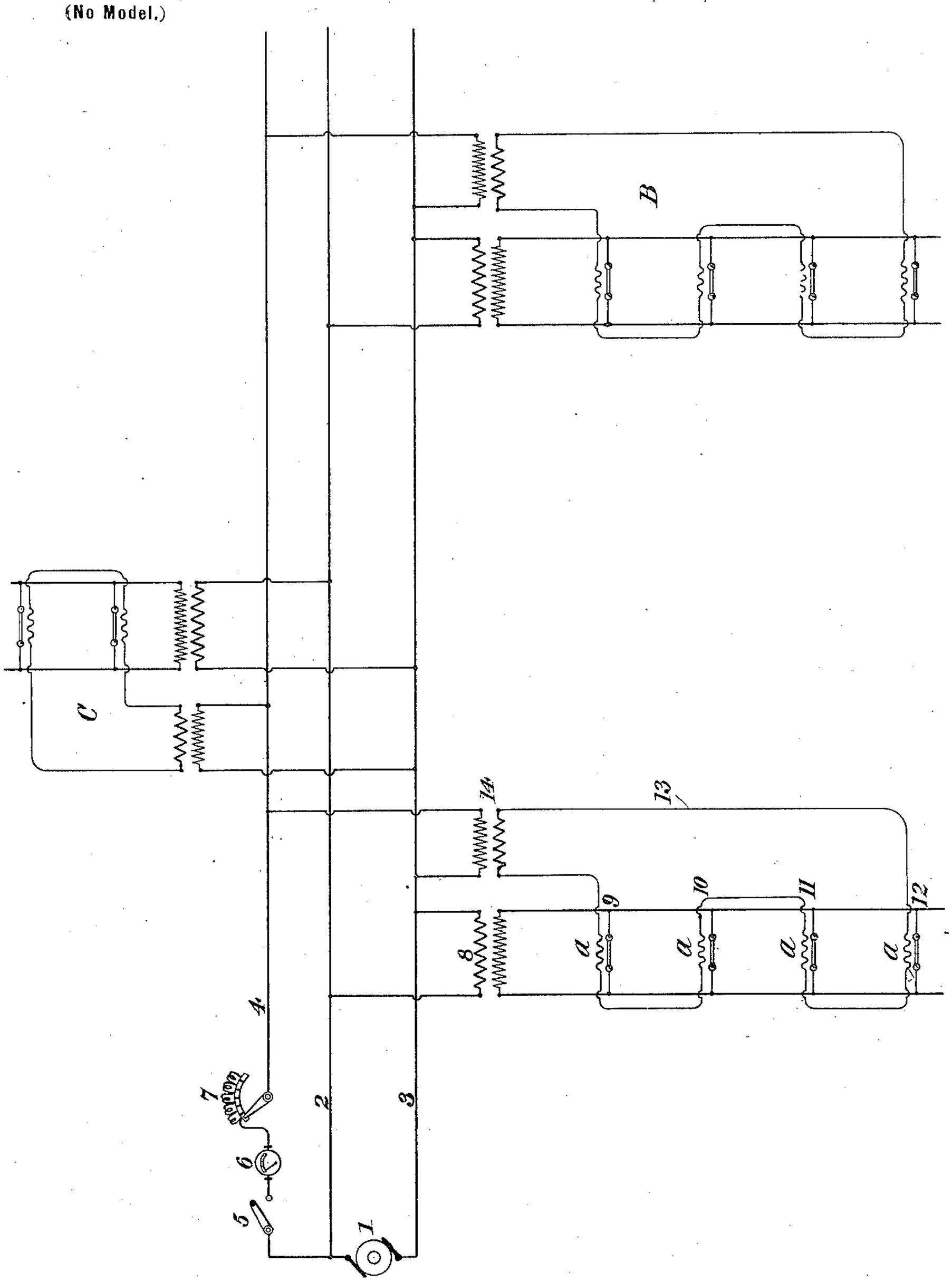
No. 652,701. Patented June 26, 1900.

A. J. WURTS.

IGNITING OR LIGHTING SYSTEM FOR ELECTRIC LAMPS.

(Application filed June 9, 1899. Renewed Feb. 14, 1900.)

(No Model.)



Witnesses:
Raphael Netter
J. H. Jones

Inventor
Alexander J. Wurts
by
Charles A. Terry Atty.

UNITED STATES PATENT OFFICE.

ALEXANDER JAY WURTS, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR TO GEORGE WESTINGHOUSE, OF SAME PLACE.

IGNITING OR LIGHTING SYSTEM FOR ELECTRIC LAMPS.

SPECIFICATION forming part of Letters Patent No. 652,701, dated June 26, 1900.

Application filed June 9, 1899. Renewed February 14, 1900. Serial No. 5,213. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER JAY WURTS, a citizen of the United States of America, and a resident of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Igniting or Lighting Systems for Electric Lamps, of which the following is a specification.

My invention relates to a system of igniting or lighting that class of electric lamps in which the glower or glowers are required to be heated by an external source of heat before they are in condition to conduct current through the medium of their own conductivity. In some cases, particularly in systems of street-lighting, it is desirable to control the lighting or igniting and extinguishing of the lamps from a central station instead of providing automatic control at each individual lamp. This has the advantage of avoiding all danger of burning out the heaters and at the same time makes it possible to construct lamps of this class more cheaply, inasmuch as the automatic devices and moving parts in the individual lamps can be dispensed with and the lamp structure can be made very simple, durable, and efficient.

My present invention is also applicable to the igniting or lighting of electric lamps in large rooms, halls, shops, and the like, it being understood that the groups of lamps which I purpose controlling from a central plant may be as large or as small as is found desirable or convenient.

I have illustrated my invention in the accompanying drawing, which is a diagram of the circuits and apparatus employed by me for the purposes set forth above.

In the drawing, 1 is any suitable source of electric current, and 2 and 3 are the high-potential lighting-mains.

4 is a branch from one side of the circuit—say the wire 2—this branch being used for igniting purposes.

At 5 I show a switch for opening and closing the branch 4, at 6 an ammeter, and at 7 a rheostat.

For reducing the tension of the current in the mains to the proper tension for lighting purposes—say two hundred and twenty volts—I provide a converter 8, in the secondary circuit of which are lamps 9, 10, 11, and 12 of the class described above. Near each lamp is a heater *a a a a*, all included in series in a heater-circuit 13, operated from a converter, (shown at 14.) This arrangement is duplicated at B, and again at C a smaller group of lamps and heaters is shown. Naturally the number of lamps thus grouped together will vary with the needs of the service; but in every instance a heater will be provided for each lamp. Now on the closing of the switch 5 the heaters will all begin to operate, and after the lapse of a very short time all the lamps will be ignited. The switch 5 may then be opened and all the heaters thereby cut out.

The function of the rheostat 7 is to control the amount of current in the heater-circuit, the ammeter 6 being present to indicate at all times the quantity of current that is passing.

I claim as my invention—

1. In an igniting or lighting system for lamps wherein the glowers are brought to a state of conductivity by electrical heating devices, a number of such lamps arranged in one or more groups at local stations, a corresponding number of heaters in proximity to the said lamps and arranged in series with each other, a switch controlling the heater-circuit, the said switch being located at a central station.

2. In an igniting or lighting system for that class of lamps in which glowers of rare earth or mixtures of rare earths are brought to a state of conductivity by electrical heating devices, a suitable source of current and mains extending therefrom, a number of lamps connected with the mains and arranged in one or more groups at a local station or stations, a third wire constituting a branch from one of the mains, and a number of heaters corresponding to the number of lamps arranged in corresponding groups between the said third wire and the other main, and a switch controlling the passage of the current in the said third wire.

3. In an igniting or lighting system for that class of lamps in which glowers of rare earth or mixtures of rare earths are brought to a state of conductivity by electrical heating de-

vices, a pair of mains and a number of lamps arranged in one or more groups at a local station or stations, a third wire constituting a branch from one of the mains and heaters connected up between the said third wire and the other main, in combination with a switch and an adjustable resistance in the said heater-circuit, the said switch and resistance being located at a central station.

4. In an igniting or lighting system for that class of lamps in which glowers of rare earth or mixtures of rare earths are brought to a state of conductivity by electrical heating devices, a pair of mains and a number of lamps arranged in one or more groups at a local station or stations, a third wire constituting a branch from one of the mains and heaters connected up between the said third wire and the other main, in combination with a switch, an ammeter and an adjustable resistance in the said heater-circuit, the said switch, ammeter and resistance being located at a central station.

5. In an igniting or lighting system for that class of lamps in which glowers of rare earth or mixtures of rare earths are brought to a state of conductivity by electrical heating devices, a generator, a pair of mains extending therefrom and a third wire extending from one side of the generator, a number of heaters included between said third wire and the opposite main.

6. In an igniting or lighting system for that class of lamps in which glowers of rare earth or mixtures of rare earths are brought to a state of conductivity by electrical heating devices, a generator and a pair of mains, a derived circuit including heating devices in series at local stations, and a switch at a central station controlling the derived circuit.

Signed by me at East Pittsburg, Pennsylvania, this 6th day of June, 1900.

ALEXANDER JAY WURTS.

Witnesses:

WESLEY G. CARR,

H. C. TENER.