P. H. THOMAS.

DEVICE FOR STEADYING RECTIFIED CURRENTS.

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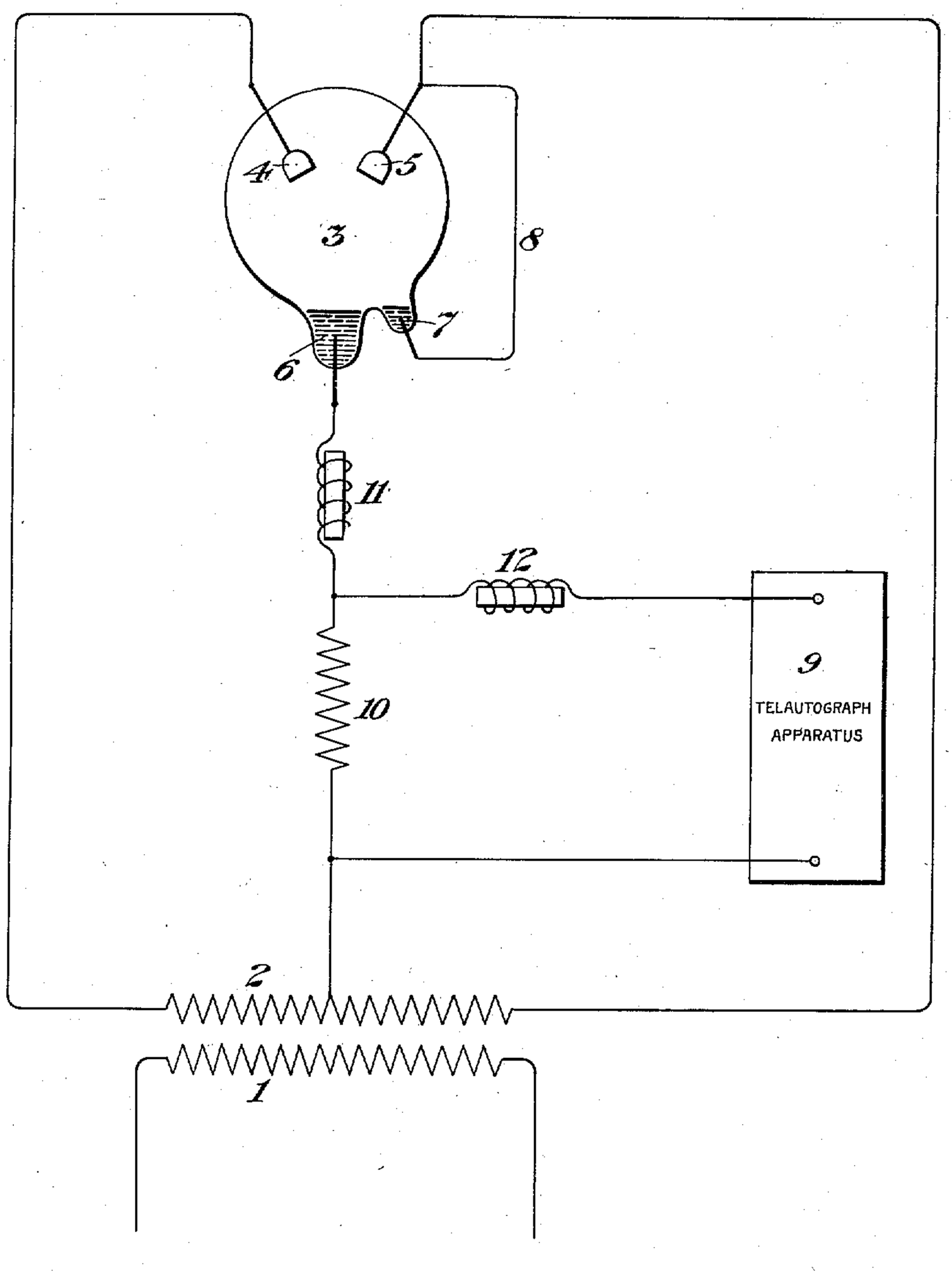
968,895. Patented Aug. 30, 1910.



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DEVICE FOR STEADYING RECTIFIED CURRENTS.

968,895. Specification of Letters Patent. **Patented Aug. 30, 1910.**

Application filed September 27, 1905. Serial No. 280,252.

To all whom it may concern:

Be it known that I, PERCY H. THOMAS, a citizen of the United States, and resident of Montclair, county of Essex, State of New Jersey, have invented certain new and useful Improvements in Devices for Steadying Rectified Currents, of which the following is a specification.

In applying direct current obtained by means of a vapor converter from an alternating current source to the operation of devices such as telautograph machines requiring an unusually steady source of direct current, difficulty has been experienced with the undulations of current corresponding to the alternations of the supply. It is possible though not always expedient or desirable to reduce the numerical value of these pulsations by merely increasing the keeping-alive inductance normally used in connection with converters. I have found that by providing an additional choke coil and a resistance, the latter being connected in shunt to the added choke coil and the telautograph apparatus and in series with the original choke coil or inductance, the effects of fluctuation can be still further reduced and a means supplied for keeping the converter alive during the non-operating periods of the telautograph device.

My invention is illustrated in the accompanying diagrammatic drawing.

In this drawing the alternating current source is represented as a transformer having a primary, 1, and a secondary, 2. The converter is shown at 3 as being provided with positive electrodes, 4 and 5, a negative electrode, 6, and a starting electrode, 7, connected by a wire, 8, with the positive side of the circuit. The starting electrode 7 is shown simply as a suitable auxiliary for starting the apparatus into operation but any preferred means for starting the converter may be used with or without the employment of the supplemental starting electrode.

It will be understood that a telautograph apparatus is chosen simply by way of illustrating a type of apparatus requiring currents having a high degree of steadiness. This apparatus is shown at 9. The terminals of the secondary 2 are connected with the positive electrodes 4 and 5, and an intermediate point of the said secondary is connected to the negative electrode, 6, through a resistance, 10, and an inductance, 11. A second or added inductance, 12, is connected to one terminal of the telautograph apparatus, as shown.

When the telautograph apparatus is not taking current, the converter will be kept alive by the choke coil 11 operating on current which passes through the resistance 10; whereas, during the operating periods of the telautograph apparatus, any pulsations in the current will cause variations in the voltage upon the choke coil, 12, of such a character as to cause variations of current in the resistance 10 tending to reduce the pulsations of current in the telautograph apparatus.

Thus the system described and shown tends to produce in the telautograph apparatus or other device requiring steady current a condition favorable to its successful operation.

I claim as my invention:

1. The combination with an alternating current supply circuit and a direct current work circuit containing a translating device requiring steady current, of a vapor converter and a choke coil for keeping the same alive, and a resistance in series with the said choke coil and in shunt upon the translating device, and a second choke coil in the circuit of translation.

2. The combination with an alternating current supply circuit and a direct current work circuit containing a translating device requiring steady current, of a vapor converter and a choke coil for keeping the same alive, and a resistance in series with the said choke coil and in shunt upon the translating device, and also in shunt upon a second choke coil, as described.

3. A system of electrical distribution in which a source of alternating current is connected at its terminals to a vapor converter, and at an intermediate point to the direct current side thereof, in combination with a choke coil in circuit of the rectified current, a resistance in series with the said choke coil, and a second choke coil and a translating device in shunt upon the said resistance.

4. A system of electrical distribution in which a source of alternating current is connected at its terminals to a vapor converter, and at an intermediate point to the direct current side thereof, in combination

with a choke coil in circuit of the rectified current, a resistance in series with the said choke coil, and a translating device in shunt upon the said resistance, the said shunt circuit containing an auxiliary choke coil, as described.

5. In a system of electrical distribution, the combination with an alternating supply circuit and a direct current work circuit containing a translating device requiring steady potential, of a vacuum rectifier comprising an hermetically sealed and completely exhausted container and a vaporizable reconstructing cathode therein, a choke coil for keeping alive said rectifier and means for opposing a substantially prohibitive electromotive force to rapid variations in said supply, together with means for shunting excess current due to supply variations around the direct current work circuit.

Signed at New York, in the county of New York, and State of New York, this 25th day of September, A. D. 1905.

PERCY H. THOMAS.

Witnesses:
WM. H. CAPEL,
THOS. H. BROWN.