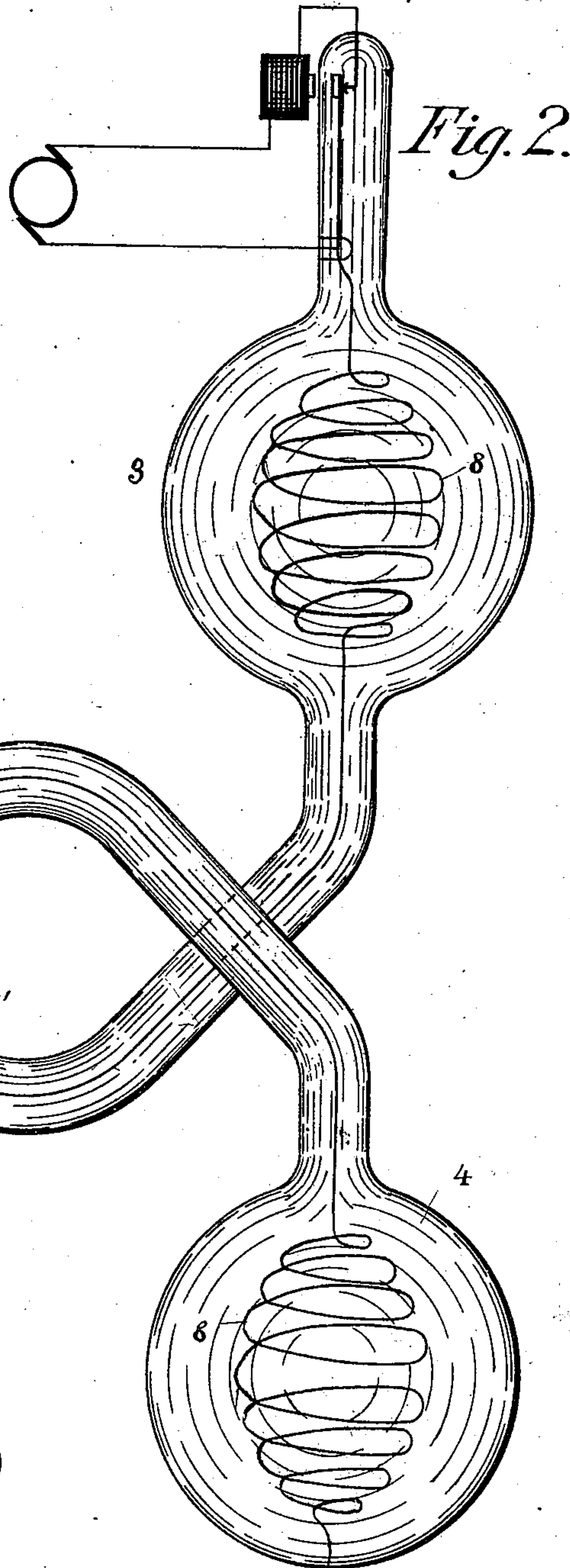
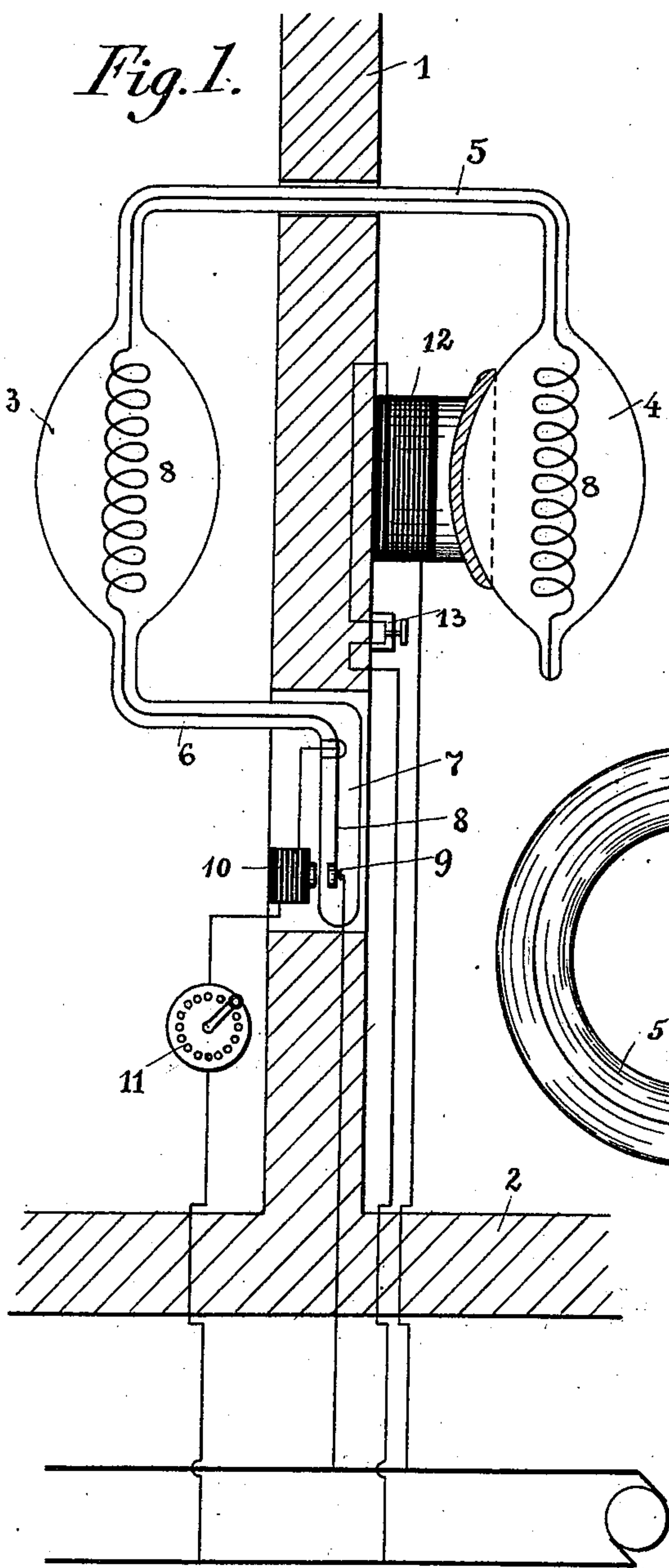


(No Model.)

D. McF. MOORE.
REGULATION OF ELECTRICAL PHOSPHORESCENT ILLUMINATION BY
MAGNETIC INDUCTION.

No. 548,130.

Patented Oct. 15, 1895.



WITNESSES:

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DANIEL MCFARLAN MOORE, OF NEW YORK, N. Y.

REGULATION OF ELECTRICAL PHOSPHORESCENT ILLUMINATION BY MAGNETIC INDUCTION.

SPECIFICATION forming part of Letters Patent No. 548,130, dated October 15, 1895.

Application filed January 3, 1895. Serial No. 533,701. (No model.)

To all whom it may concern:

Be it known that I, DANIEL MCFARLAN MOORE, a citizen of the United States, and a resident of New York, county and State of New York, have invented certain new and useful Improvements in Regulation of Electrical Phosphorescent Illumination by Magnetic Induction, (Case No. 13,) of which the following is a specification.

I have discovered that a wire, located in an evacuated inclosure and made luminous by interrupting the circuit of the wire, becomes more brilliant by being subjected to the influence of a magnet which may be located outside of the inclosure. I find, also, that if the current which is interrupted is of too little capacity to produce luminosity a magnet brought within inductive relation to the wire will cause an immediate and continuous generation of light about the wire.

My invention includes, also, a special form of device for increasing the degree of light in a tube that is generated by the interruption of a conductor in a vacuum.

Figure 1 is an elevation in vertical section of my invention as applied to practical illumination of two adjoining rooms. Fig. 2 shows a portion of that which is shown in Fig. 1 in elevation, and the same constitutes a part of my invention.

1 represents the partition between two rooms which are to be illuminated, while 2 may be considered as the floor.

3 and 4 are exhausted bulbs having a communicating-tube 5, which passes through the partition 1, so that the bulbs 3 and 4 are located in the respective rooms. There is another tube 6 extending from the bulb 3 within the partition 1, where it contains vibratory electrical terminals 7 and 8, the latter being provided with an armature 9, there being a magnet 10 for vibrating the terminals to and from each other, so as to produce rapid interruptions of the current, the magnet 10 being in series with the terminals. One of the conductors 8 is carried through the bulbs 3 and 4 and the tube 5. In the bulbs it is coiled into convolutions.

It has been set forth in other applications of mine that when the terminals are vibrated in the vacuum a conductor, such as that represented by 8, which passes through the evacu-

ated space, will be surrounded by a halo, and if the rarity of the atmosphere is increased the remaining atmosphere will also become luminous.

When I have two bulbs connected by the tube 5, I can regulate the current—for example, by a rheostat 11—so that only the bulb 3 will radiate light, and I can, without increasing the current, cause a generation of light in the bulb 4 by providing an electromagnet 12, adapted to be within inductive relation of the contents of the bulb 4. This magnet may be turned in and out of the circuit by a suitable circuit-closer 13, so that the light may be extinguished and obtained in the room by respectively demagnetizing and energizing the magnet 12.

Another way of operating the system consists in putting the maximum current through a vibrator having the contacts 7 and 8, whereby the bulb 4 becomes luminous to a certain degree. Then the circuit-closer 13 may be closed, and it will be found that the magnetic action will increase the luminosity, and therefore the magnet 12 serves in general to regulate the degree of illumination of a room. Another part of my invention, taken by itself, is represented in Fig. 1, and is in part that which is shown in Fig. 1, except that it has a little different shape. The bulbs 3 and 4 are connected by a curved tube 5'. By having this tube communicating with the two bulbs 3 and 4 its luminosity is greater than if the bulbs were reduced to the size of the tube, it being supposed that the conductor 8 extends through the tube and that the amount of conductor in the respective bulbs is increased by having it coiled as represented. It is evident that another magnet may be placed adjacent to the bulb 3 for changing the intensity of the light therein.

The conductor 8 need not pass through the bulbs, and yet the regulation may be effected; but the results are highly superior by having a conductor connected to one of the contacts and passing through the bulbs.

I claim as my invention—

1. The combination with an evacuated inclosure, of vibratory electric terminals therein, means for interrupting the circuit at the terminals, and an electric conductor extending by itself alone from one of the terminals

only, and throughout the evacuated inclosure and independent of a return circuit.

2. The combination with an evacuated inclosure, of vibratory electric terminals therein, means for interrupting the circuit at the terminals, and a coiled electric conductor extending from one of the terminals only and throughout the evacuated inclosure and independent of a return circuit.

3. The combination with an evacuated inclosure, of vibratory electric terminals therein, means for interrupting the circuit at the terminals, a coiled electric conductor extending from one of the terminals only, and throughout the evacuated inclosure and independent of a return circuit, and a magnet within inductive action of the convolutions of the coil.

4. The combination with an evacuated inclosure of vibratory electric terminals therein, means for interrupting the circuit at the terminals, a coiled electric conductor extending from one of the terminals only, and throughout the evacuated inclosure and in-

dependent of a return circuit, and a magnet outside of the inclosure and within inductive action of the convolutions of the coil.

5. The combination with an evacuated inclosure, of terminals therein within sparking distance of each other, and an electrical conductor extending by itself from only one of the terminals, throughout the evacuated space and independent of a return circuit and extending into the wall of the inclosure.

6. The combination with an evacuated inclosure, of an electric conductor therein wound in convolutions, and vibratory electric contacts in an electric circuit, which is electrically connected with the said conductor.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 21st day of December, 1894.

D. McFARLAN MOORE. [L. S.]

Witnesses:

WM. R. WARREN,

EDWARD P. THOMPSON.