

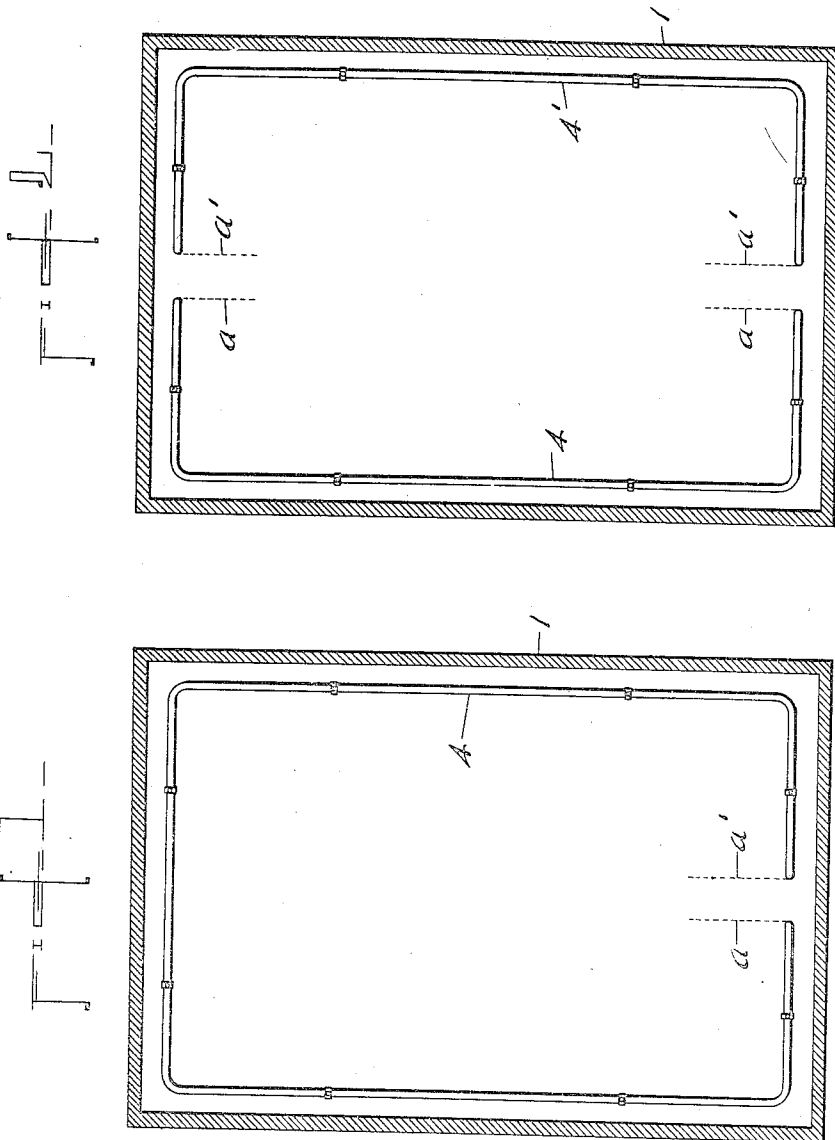
No. 849,009.

PATENTED APR. 2, 1907.

D. McF. MOORE.

METHOD OF ELECTRIC LIGHTING.

APPLICATION FILED APR. 18, 1903. RENEWED SEPT. 27, 1906.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## METHOD OF ELECTRIC LIGHTING.

No. 849,009.

Specification of Letters Patent.

Patented April 2, 1907.

Application filed April 18, 1903. Renewed September 27, 1906. Serial No. 336,497.

*To all whom it may concern:*

Be it known that I, DANIEL McFARLAN MOORE, a citizen of the United States, and a resident of Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Methods of Electric Lighting, of which the following is a specification.

My invention relates to methods of distributing electric energy and converting the same into light and involves a radical departure from previous practice in which the electric energy is distributed or conducted over metal conductors and converted into light at isolated or distinct spots, whereas in my improved system the energy may be considered as converted into light and the luminous agent distributed or conducted over a space or area which is to be lighted.

My improved method of distributing electric energy and illuminating areas or spaces thereby consists, substantially, in converting the electric energy into a luminous column of gas or vapor and distributing or conducting said luminous column over, around, or through the spaces to be illuminated, in contradistinction to distributing the current and at local points converting it into areas of light more or less localized.

In carrying out my invention I may employ any conducting gas or vapor and one of any desired degree of attenuation, depending upon the nature or character of the gas or vapor and the nature or character of the electric energy used in rendering the same luminous. To confine and permit the distribution or conduction of the luminous column in the desired directions or over the desired localities or spaces, the said gas is confined in a suitable tube of glass or other proper translucent non-conductor, which in the case of glass and in the ordinary practice of my invention would be built up in lengths of suitable size convenient for handling and joined end to end by proper joints adapted to prevent the escape of the attenuated gas or vapor or the entrance of the atmosphere and provided with terminals at proper points on its length or with means for applying the electric energy to the gaseous contents, so as to render the same luminous. As well understood in the art, said means may consist of either an external conducting-body wrap-

ping or surrounding the portion of tube where the energy is applied or may consist of internal conductors connected with the source of energy through a wire or conductor sealed into the tube.

Figure 1 illustrates my invention diagrammatically and as applied to the lighting of an arbitrarily-selected area indicated by the parallelogram 1. Fig. 2 illustrates diagrammatically a modification in the manner of practicing my invention.

As before stated, the usual practice in electric lighting has been heretofore to run metallic conductors in any desired manner over, around, or through the area or space indicated by the parallelogram 1 and to take off electric energy from the same at a number of spots or points and convert it into light by means of individual lamps or lighting devices affording spots or points of comparatively intense illumination, the number of such lamps or lights depending upon their power and the degree of illumination desired. In my improved method, as illustrated in Fig. 1, the electric energy is employed to produce a luminous column of light-giving gas and said column of gas is conducted around or through the space to be lighted, the electric wires or conductors supplying the energy instead of being distributed through the same as heretofore being excluded.

In the drawings, 4 indicates a tube of glass or other translucent material properly sealed and distributed or disposed over, around, or through the area to be illuminated and having its gaseous contents rendered luminous by the application of electric energy derived from any suitable source typified by wires or conductors *a a'*, from which the energy is applied, preferably at the ends of the continuous tube, and conducted around through the gaseous contents of the same and over, through, and around the areas to be lighted as luminous electric energy. Inasmuch as the manner of applying the energy to the gaseous contents forms no particular part of my invention I have merely shown in this diagram the connection of the conductors *a a'* in a skeleton way to the end of the tube. The manner of mounting or supporting the tube is also omitted from the drawings, as this forms no particular part of my invention and may be varied according to requirements or choice.

So, also, the direction in which the tube 4 is conducted or disposed over or in relation to the space or area to be illuminated may be varied as choice may dictate. It is shown in the figures as disposed near the confines of the arbitrarily-selected area shown on the drawings, although it might obviously run in part or whole across or longitudinally of said area.

It is obvious that it is not necessary that the whole length of tubing containing the luminous column of gas should be fed or supplied from one point or one source of energy, but that said tube might be operated and have its column of gas rendered luminous in sections in the manner indicated in Fig. 2, where the two sections of tube 4 4' are shown as supplied from two sources *a a'*, properly joined thereto so as to form practically a continuous electric circuit embracing the gaseous columns of the two sections of tubes 4 4' in series with one another.

It is obvious that the method is not limited to the employment of a single tube supplied from the same source of energy *a a'*, but that a number of tubes might be run out in multiple from said source and disposed or conducted over the arbitrarily-selected area to be illuminated in any desired direction or manner.

My improved method of electric lighting presents the following advantages: First, it is possible to dispense with or diminish the use of distributing wiring through the building or room thereof, as well as with the use of armored piping or conduit, junction-boxes and moldings, flexible cords, sockets, and other appliances now used for incandescent house-lighting; second, when high potentials are used for rendering the distributed gas-column luminous it becomes possible to more completely localize and protect such high potential; third, my method presents a radical and improved advantage in that

the light is much more thoroughly distributed and diffused than is possible with those systems where the given area to be illuminated is provided with a number of distinct lighting devices each furnishing a point or spot of light and each independently operated or furnished with energy from a conducting wire or wires.

It is to be understood that in the foregoing specification and in the following claims the term "gas" is employed in its broadest sense and is therefore to be understood as including any vapor.

What I claim as my invention is—

1. The herein-described method of converting electric energy into light and distributing the same, which consists in passing the electric energy through a conducting column of gas adapted to be rendered luminous thereby, and prolonging or extending said column around over or through the space to be lighted.

2. The herein-described method of converting electric energy and producing light thereby, consisting in passing the energy through an elongated column or columns of gas in which the energy is converted into light and distributing or conducting the luminous columns around or through the space to be illuminated.

3. The herein-described method of converting electric energy into light and distributing the same, consisting in converting said energy into a luminous column or columns of gas or vapor and distributing or conducting the column over or around the space to be illuminated.

Signed at New York city, in the county of New York and State of New York, this 13th day of April, A. D. 1903.

DANIEL McFARLAN MOORE.

Witnesses:

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E. L. LAWLER.