

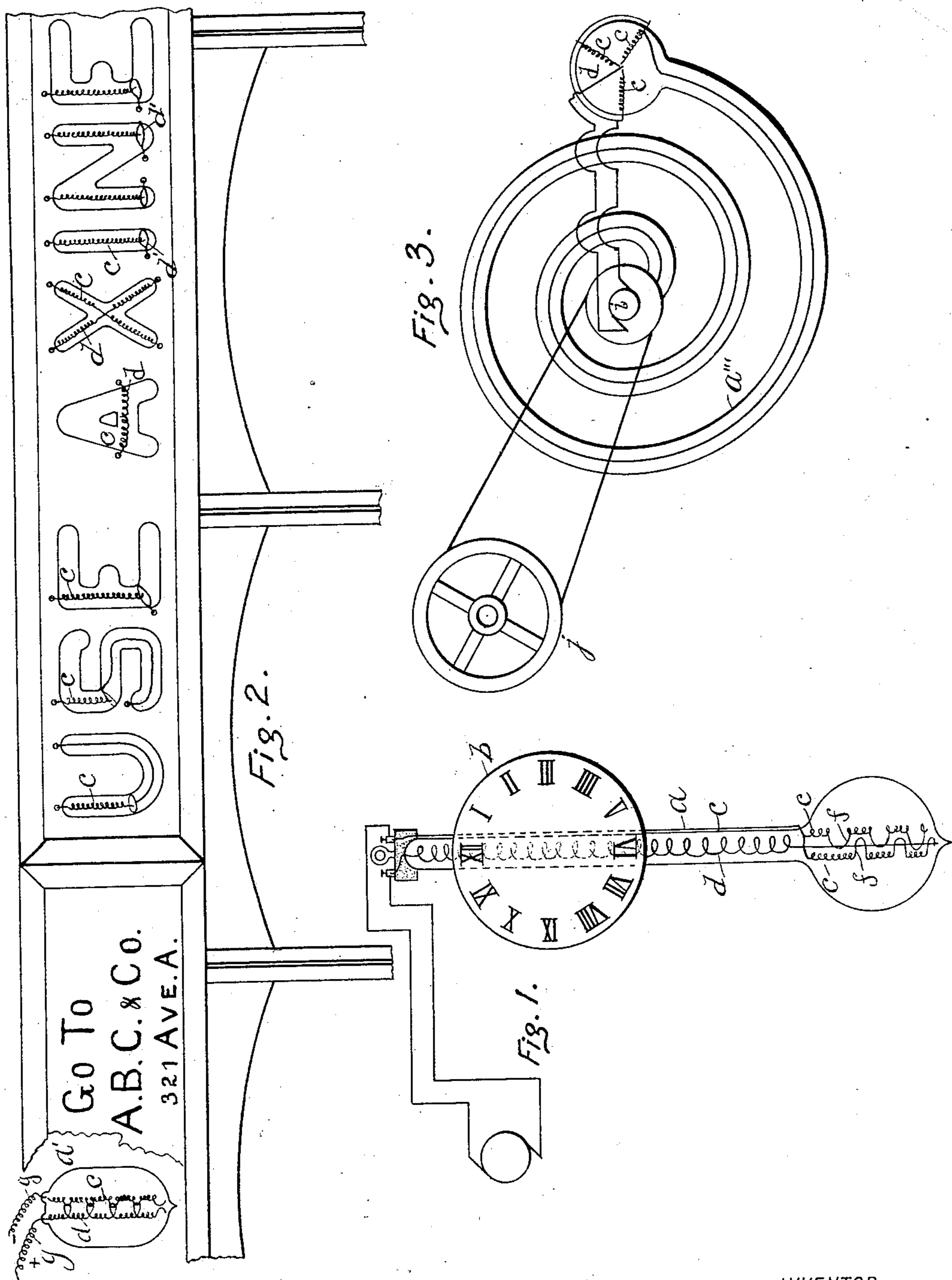
(No Model.)

D. McF. MOORE.

PHOSPHORESCENT ELECTRICAL ILLUMINATION BY OSCILLATION.

No. 548,132.

Patented Oct. 15, 1895.



WITNESSES:

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PHOSPHORESCENT ELECTRICAL ILLUMINATION BY OSCILLATION.

SPECIFICATION forming part of Letters Patent No. 548,132, dated October 15, 1895.

Application filed January 9, 1895. Serial No. 534,377. (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 Phosphorescent Electrical Illumination by Oscillation, (Case No. 8), of which the following is a specification.

I have already filed applications for United States Letters Patent in which phosphorescent illumination is produced throughout the interior of an exhausted inclosure and along wires extending through the inclosure by rapidly alternately interrupting and closing an electric circuit at points within the vacuum by the action of a magnet, which, through the medium of an armature, vibrates contacts located in the circuit.

My present invention is of such a nature that the light is produced without the aid of a magnet and by the oscillation or shaking of the evacuated inclosure.

The accompanying drawings set forth the construction of the apparatus and illustrate some of its applications in practice.

Figure 1 shows the construction and also an application of the invention in elevation with all parts not belonging to my invention omitted. Fig. 2 represents a portion of the interior of an electric or similar car in which the invention is employed for the purposes of advertising. Fig. 3 shows another application in elevation.

a is an evacuated inclosure, in this instance built in the form of a pendulum of a clock, and located suitably behind the transparent face *b* of the clock, so that the same may be visible without the aid of any other light. The pendulum *a* is made of glass, hermetically sealed, and contains two easily flexible and elastic conductors *c* and *d*, the one being of one polarity when in circuit and the other of the opposite polarity. In short, they are connected, respectively, to the poles of an electric generator *e*, which in view of the nature of my invention may be of very low electro-motive force. The current may be taken from any ordinary lamp-socket found in dwelling-houses, stores, and other buildings in cities or private plants provided with direct or alternating-current generators. As the pendulum moves to and fro during its ordinary opera-

tion, the flexible conductors *c*, which are coiled to produce flexibility and elastic motion, and which are provided with loops *f*, so that the same are loosely interwoven and alternately touch and separate, cause interruptions and closures of the circuit and a consequent diffusion of light along the conductors *c* and *d* and also throughout the residual atmosphere or space of the pendulum. In order to describe what it looks like, it may be stated that the whole mass of the pendulum appears to radiate a luminosity even more brilliant and beautiful than that produced by the high potential currents or static electricity in the ordinary Geissler tubes. A similar construction is shown by the bulb *a'*, which may be suspended from binding-posts *g* in a car and adjacent to one of the advertisements above the windows. If it is in an electric car, it is evident that the current may come from the trolley. The motion of the car will cause the alternate make and break of the current between the two conductors *c* and *d*, producing luminosity and calling travelers' attention to it, and consequently to the advertisement. The light is so brilliant as to be visible in the daytime as well as at night, especially in view of its peculiar color and change of colors or chameleon effects.

At *a''* are shown letters formed of the vacuum-tubes arranged to spell the words of some trade-mark which is to be advertised, such as to form the words "Use Axine." The tubes are provided with the flexible and elastic conductor *c*, while the other conductor *d'* may be a ring inside of the vacuum, against which the flexible conductor can be shaken to and fro and in and out of contact. At the letter A the conductors may be, as in the pendulum, both formed of flexible conductors *c* and *d*. In letter X the two conductors are both flexible and at the cross of the X they are straight and just out of contact with each other or just in contact with each other when the car is at rest. The motion of the car will joggle the conductors, causing beautiful flashes of luminosity, which will follow each other very often in such rapid succession as to produce a continuous glow. At any rate in all these cases the light will occur at such rapid intervals as to serve the purpose intended and described.

The spiral tube a''' is suitable for use in a store-window by connecting it up with a pulley j and belt h , so that the spiral may be rotated upon the axle i . The conductors within the tube are d' and c and are arranged so that as the spiral tube rotates the conductors c of one polarity fall to and from the conductor d' of the other polarity, producing a beautiful effect throughout the spiral.

It is needless to explain further applications of this formation of luminosity without a magnet, because the evacuated bulbs may be applied in general to any article of commerce or of art having its own oscillatory motion or any kind of motion, or if it has not its own motion the bulb may be shaken by some power applied for the purpose.

I claim as my invention—

1. A phosphorescent illuminator, consisting of the combination of an evacuated inclosure and relatively yielding electric terminals therein, normally separated from each other and forming the terminals of an electric generator.

2. A phosphorescent illuminator, consisting of the combination of a rotary evacuated inclosure of relatively yielding electric termi-

nals therein in loose contact with each other, and included in an electric circuit and means for automatically rotating the inclosure.

3. A phosphorescent illuminator, consisting of the combination of a movable evacuated inclosure, of relatively yielding electric terminals therein, out of contact with each other, and included in an electric circuit, and automatic means for moving the inclosure.

4. A phosphorescent illuminator, consisting of the combination of a movable evacuated inclosure, of relatively yielding electric terminals therein, in loose contact with each other, included in an electric circuit, and means for automatically oscillating the inclosure.

5. Letters or signs, consisting of evacuated translucent tubes, shaped into letters or signs, and containing vibratory electric terminals.

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.