UNITED STATES PATENT OFFICE.

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VICTORIO-NIXIE TUBE

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To all whom it may concern:

Be it known that I, Charles D. Ronalli, of the city of Dearborn, in the county of Wayne and the state of Michigan, have invented a new and useful electro-chemical and electro-mechanical apparatus which allows for the display of textual messages in an illuminated and animated fashion.

In former patents granted to me I have shown and described a system for the rapid illumination of gasses characterized by the following particulars: luminiferous gasses are produced by pumping plaedroxic aetheros (in its gaseous form) at high pressures about a magnet in a helical path. Once the gas is magnet-ized, it is passed through a cylindrical glass vessel containing purified methylene chloride where ultra-violet light, as contained in the sun's rays, cause the mixture to fluoresce. The gas is then passed into a smaller sealable vessel where it may be electrified, producing light, for several seconds before the gas must be released and replaced with more gas produced through the aforementioned process. The property of this device which makes it unique from other electrical light-producing mechanisms is that the excitation and, thus, illumination appears instantaneous to the human eye.

My present invention makes use of this system of producing light; its distinguishing characteristic being the use of this light.

This invention is carried out in the following way: Instead of producing the light inside of a large bulb, it is done in a series of small, independent chambers. When this row of vertically-arranged chambers is rap-idly moved through the air, the hum-an eye perceives a solid line of light. Furthermore, when these lights are rapidly sequenced on and off in a pattern controlled via clock-work, legible text and small images may be displayed.

The following is illustrative of the manner in which I carry out this invention: Figure 1 is an exhibition of the device in full. The main box (K) contains the clockwork mechanism and several components of the chem.-ical system, including the plaedroxic aetheros reservoir. Upon winding the main spring via the key (C), the device is set into motion. The plae-droxic aetheros gas is pumped thr-ough the magnet-ization tubes (I), around the horse-shoe magnets (B) and into the Excitation Chamber (A) where bubbles of gas (G) are passed through the methylene chloride and exposed to sunlight. The gas then pas-ses through tube "H" and into the Emitting Stalk (D) (through a rotating connection) contained within the Glass Bulb (F). The self-regulated clockwork also rotates the Emitting Stalk about its column (Fig. 2: f), and controls the lights. The text to be displayed is entered through the use of the lever and button (E).

Figure 2 is a detailed diagram of the Emitter Stalk. The entire Stalk is rotated about the Main Column (f), as powered by the aforementioned clockwork motor. Besides producing the motion necessary to visualize the text, this rotation serves to generate an electrical current by means of the simple dynamo formed by the coils (b) and the horseshoe magnets (Fig. 1: B). This current is passed down into the clockwork (through a rotational connection) where it is pulsed in a pat-tern that will produce the necessary sequence of light pulses. The current is passed back up the stalk and into the Emitting Head (a), through wire bundle "e", and into the electrodes (n) inside the Emitting Micro-Chambers (k).

Figure 3 shows the reverse side of the Emitting Head. The plaedroxic aetheros is pumped through joint "o", the miniature Pressure Adjust-ment Valve (j), and into the Stab-ilization Chamber (h). The gas is then passed through the Cooling Coil (c) and into the Dispersal Ball (Fig. 2: d), where it is released into the Micro-Chambers (k). Gas pressure can be monitored via the Miniature Pressure Gauge (i), and electrical voltage can be adjusted via the Rheostat (g).

After a few totaled seconds of electrification, the plaedroxic aeth-eros in the Micro Chambers will no longer fluoresce and must be rep-laced. Component "m" on Figure 2 is a miniature automatic valve which releases the gas after this time. This gas is then allowed to flow out of the Micro-Chambers, through tube "l", and out the Exhaust Vent (e). The gas, which is now contained within the Glass Bulb (Fig. 1: F), is drawn back into the Chemical System where it repeats the excitation process.

What I claim is—

1. The method of producing, exciting, regulating, and illuminat-ing plaedroxic aetheros in the self contained manner described herein.

2. The method of using this system of aetherious illumination to exploit the human sense of Per-sistence of Vision in order to dis-play a written message, as herein set forth.

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Witnesses:

EDWARD A. DOYLE,

WILLIAM HUGHES.