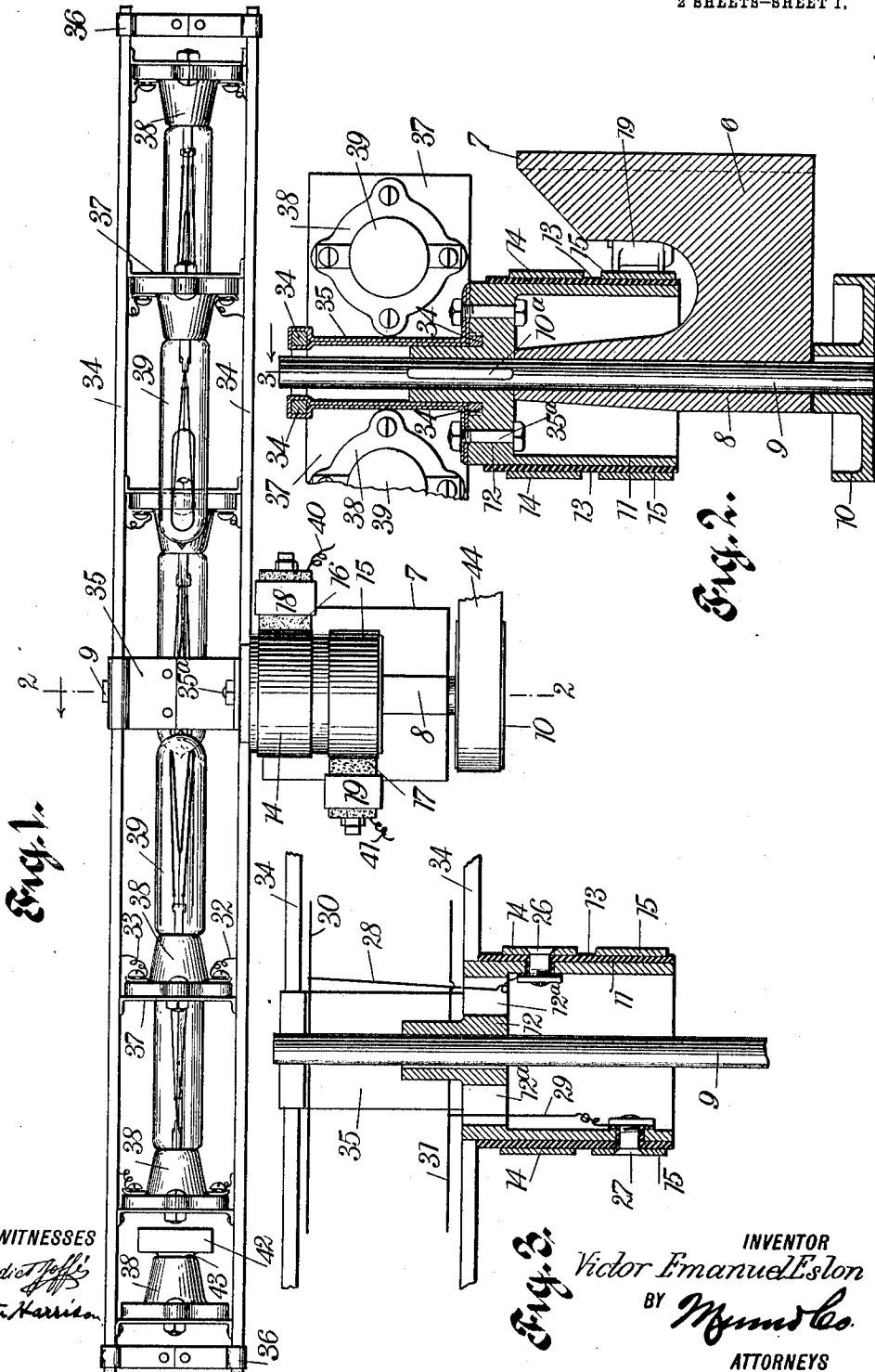


V. E. ESLON.
MECHANISM FOR DIFFUSING LIGHT.
APPLICATION FILED AUG. 2, 1911.

1,020,813.

Patented Mar. 19, 1912.

2 SHEETS—SHEET 1.



WITNESSES
Benedict J. Hoff
Walton Harrison

INVENTOR
Victor Emanuel Eslon
BY *Myers & Co.*
ATTORNEYS

V. E. ESLON.
 MECHANISM FOR DIFFUSING LIGHT.
 APPLICATION FILED AUG. 2, 1911.

1,020,813.

Patented Mar. 19, 1912.
 2 SHEETS—SHEET 2.

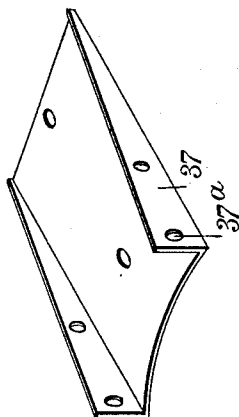
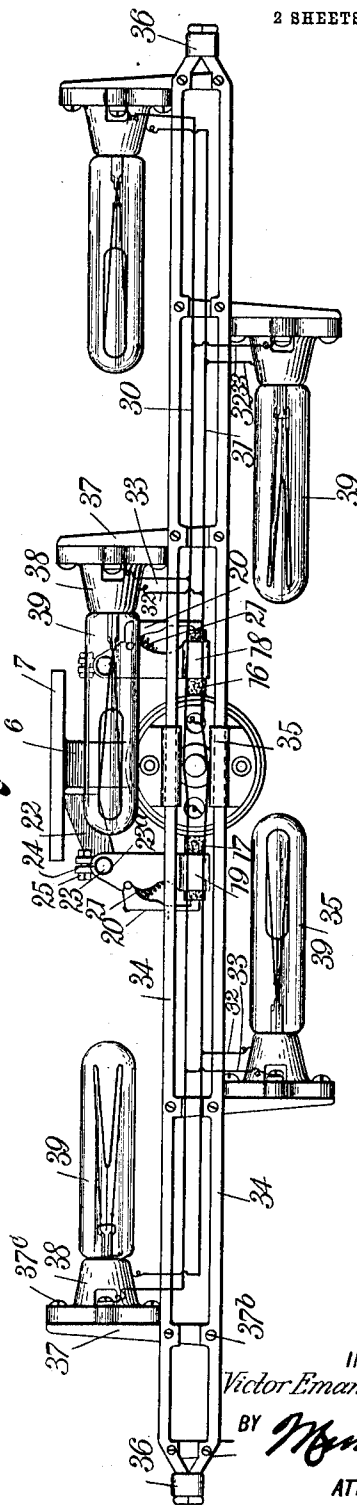


Fig. 5.

WITNESSES
Walter Harrison
Walton Harrison

Fig. 4.



INVENTOR
Victor Emanuel Esdon
 BY *Wm. H. Esdon*
 ATTORNEYS

UNITED STATES PATENT OFFICE.

VICTOR EMANUEL ESLON, OF TACOMA, WASHINGTON, ASSIGNOR OF ONE-HALF TO
CARL OLSEN, OF TACOMA, WASHINGTON.

MECHANISM FOR DIFFUSING LIGHT.

1,020,813.

Specification of Letters Patent.

Patented Mar. 19, 1912.

Application filed August 2, 1911. Serial No. 641,894.

To all whom it may concern:

Be it known that I, VICTOR EMANUEL ESLON, a subject of the Czar of Russia, and a resident of Tacoma, in the county of Pierce and State of Washington, have invented a new and Improved Mechanism for Diffusing Light, of which the following is a full, clear, and exact description.

My invention relates to a mechanism for diffusing light, my more particular purpose being to provide a number of moving lamps and to so distribute and locate these lamps as to cause the light therefrom to be diffused by aid of the so-called "persistence of vision."

Reference is to be had to the accompanying drawings forming a part of this specification in which like characters of reference indicate corresponding parts in all the views, and in which—

Figure 1 is an inverted plan view showing my improved mechanism provided with a number of incandescent lamps ready for use; Fig. 2 is a fragmentary section on the line 2—2 of Fig. 1, looking in the direction of the arrow, and showing more particularly the collector rings by aid whereof the current is sent to the lamps; Fig. 3 is a fragmentary section on the line 3—3 of Fig. 2, looking in the direction of the arrow; Fig. 4 is a front elevation of the apparatus complete; and Fig. 5 is a detail showing one of the plates used for holding the respective lamp receptacles.

A pedestal 6 is provided with a base 7 whereby it may be secured to a railing, wall, or the like, and is further provided with a bearing 8 of any approved construction. Extending through this bearing is a shaft 9 carrying a driving pulley 10. Mounted rigidly upon this shaft, by aid of a key 10^a, is a collector drum 11 having generally a cylindrical form and provided with a thick bottom 12. Encircling the drum 11 is a cylinder 13 of insulating material, and encircling this cylinder and spaced apart are two collector rings 14, 15 made of conducting material. The thick bottom 12 of the collector drum 11 is provided with holes 12^a, as indicated in Fig. 3.

Adjacent to the collector rings 14, 15 and normally engaging the same respectively are two brushes 16, 17 made of carbon, metal or other appropriate conducting ma-

terial, and having the usual or any desired form. These brushes are mounted in brush holders 18, 19, the latter being provided with movable arms 20 and with tensile springs 21. These springs normally tend to force the arms against the brushes, thus pushing the latter endwise against the collector rings. In order to support the brush holders 18, 19, I provide two arms, one of which is shown at 22 in Fig. 4. Each arm 22 is mounted rigidly upon the pedestal 6 and is provided with a stationary pin 23. Each brush holder 18, 19 is provided with a clamp 24 for holding it securely upon the pin 23. A bolt 25 forms a part of the clamp and is used for loosening or tightening the same. Encircling the pin 23 and extending through the clamp is a sleeve 23^a of insulating material. By loosening the bolt 25 the clamp may be adjusted to different angles relatively to the arm 22 on which it is supported, and when thus adjusted it is held firmly in place by pressure of the clamp under control of the bolt 25. By thus adjusting the clamps 24, the brushes 16, 17 are adjusted to different angles relatively to the collector rings 14, 15.

Two binding posts 26, 27 (see Fig. 3) are mounted upon the collector drum 11 and insulated therefrom. The binding post 26 extends through the cylinder 13 of insulating material and also through the collector ring 14 and is secured to the latter, as will be understood from said figure. The binding post 27 is somewhat similarly mounted, being connected, however, with the collector ring 15. Two wires 28, 29 are secured to these binding posts and are connected to two distributing wires 30, 31. Connected with these distributing wires (see Fig. 4) are a number of lamp wires 32, 33 by aid whereof current is supplied to the lamps, as hereinafter described. A number of metallic arms 34 are connected together at their respective middle portions by a member 35 which may conveniently be made of sheet metal and is secured by aid of bolts 35^a to the thick portion 12 of the collector drum, as will be understood from Fig. 2. The arms 34 are held together at their ends by clasps 36 made preferably of sheet metal and riveted.

In Fig. 5 is shown a plate of which several are used for supporting the respective

lamps. This plate is provided with upturned side portions having holes 37^a and extending through these holes are screw bolts 37^b or other appropriate fastening members. The lamp receptacles are shown at 38 and are secured directly to the plates 37 by aid of screws 37^c. The lamps are shown at 39 and consist of incandescent bulbs containing rather long filaments. It will be understood, however, that I do not limit myself to lamps of this particular type, as many other lamps may be employed for the purpose. Current is supplied to the brush holders 18, 19 by aid of wires 40, 41, as will be understood from Fig. 1. In one of the receptacles 38 (see left of Fig. 1) I mount a weight 42, and for this purpose I provide the weight in question with a stem 43 which is fitted to the receptacle. The purpose of this weight is to confer steadiness of rotation upon the framework and also to enable the framework to turn automatically into a predetermined normal position when it is not otherwise restrained. In order to supply power to the apparatus I provide a belt 44 engaging the pulley 10.

The arms 34 being connected at their ends and middles, as above described, they are very effectively pressed by the plates 37. These plates are so located that when the receptacles are mounted upon them, and the incandescent lamps in turn are mounted within the respective bulbs, the incandescent bulbs fragmentarily occupy a continuous line or zone; that is to say, while some of the lamps 39 are upon one side of the framework and other of the lamps 39 are upon the opposite side thereof, the line of lamps is practically continuous in the sense that the outer end of one lamp is about as far from the middle of the framework as the inner end of the next successive lamp. The purpose of this arrangement is to enable the lamps, when the framework is turned, to pass once, and once only, over a given space so that while each separate lamp, because of its bodily revolution around the center, tends to perform what appears to the eye to be a circle or zone of light, the several circles or zones apparently merge together.

It is a fact well known in optics that when the eye is subjected to a strong light, the sensation thus made continues for an instant owing to the persistency of vision. As a corollary of this fact, whenever an illuminating body is whirled rapidly around in a circle, the eye observes what appears to be a luminous circle. My idea, therefore, is to cause the several lamps 39 to each produce one of these illuminating circles and to have these circles apparently merge together, the net result being that the light has the same effect as if it were radiated from a circular surface and were diffused uniformly or at least more nearly uniform than would be the

case if the lamps were motionless. I find that the rate of rotation of the lamps should be about one-seventh of a second to each complete revolution. I, therefore, turn the revoluble parts at the rate of seven revolutions per second. The lamps 39 are, in this instance, all connected parallel with the distributing wires 30, 31 by aid of the lamp wires 32, 33.

The operation of my device is as follows:—The parts being assembled as above described, and a source of electricity being connected with the wires 40, 41, the pulley 10 is turned by aid of the belt 44, the framework being thus caused to turn at the rate of seven or more revolutions per second. The several lamps are thus energized, one of the circuits employed for the purpose being as follows: wire 40, brush holder 18, brush 16, collector ring 14, binding post 26 (see Fig. 3) wires 28, 30, 33, lamp receptacle 38, lamp 39, wires 32, 31, 29, binding post 27, collector ring 15, brush 17, brush holder 19, wire 41, to source of electricity, thence back to wire 40. The several lamps being parallel, as above stated, they are energized alike and thus caused to glow. The rotation of the pulley 10 causes the framework to turn, as elsewhere stated. The weight 42 steadies the rotation. The lamps being located at unequal distances from the center of rotation, the weight 42 is rendered adjustable in order that it may, at the will of the operator, be brought into such adjustment as to maintain the frame in balance or approximately so. The radiation from the lamps arranged and operated as above described causes the production of a mild, soothing light agreeable to the eye and possessing generally the advantages of a diffusing light.

While for the sake of simplicity I have shown one particular form of my apparatus, it will be understood that I do not wish to be limited on this account, the scope of my invention being commensurate with my claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. An apparatus for distributing light comprising a revoluble frame, and a plurality of lamps carried thereby, said lamps being so spaced from the center of rotation as to form illuminated zones merging into each other so as to form a continuous illuminating surface.

2. A mechanism for diffusing light comprising a revoluble frame, and a plurality of elongated illuminating members mounted thereupon, each of said illuminating members extending in a direction crossing its general direction of rotation for the purpose of producing apparently an illuminating zone of considerable width, said illuminat-

ing members being so distributed as to cause one zone to merge into another, thus producing a continuous illuminating surface.

3. A mechanism for diffusing light comprising a plurality of arms arranged in pairs and spaced apart, means for connecting said arms together in the form of a framework, mechanism for turning said framework, a plurality of plates disposed between different pairs of said arms and thus caused to brace said framework, lamp receptacles mounted upon said plates, incandescent lamp bulbs mounted within said receptacles, and means for supplying current to said lamp receptacles and said bulbs.

4. An apparatus for diffusing light comprising a revoluble framework, lamps mounted thereupon, the said lamps being spaced at unequal distances from the center of rotation and arranged to form illuminating zones merging into each other, and a weight carried by said framework and adjustable relatively thereto for the purpose of steadying the rotation thereof.

5. A mechanism for diffusing light, comprising a revoluble framework, a plurality of lamp sockets carried thereby, a weight fitted into one of said lamp sockets, electric lamp bulbs mounted in the other lamp sockets, the lamps being located at unequal dis-

tances from the center of rotation of said framework, and the said weight balancing said lamps and thus steadying the rotation of said framework, means for distributing currents to the lamp sockets carrying the lamp bulbs while said framework is turned, and means for turning said framework.

6. An apparatus for diffusing light, comprising a fixed support provided with a bearing, a shaft mounted to turn in said bearing, a collector drum mounted rigidly on said shaft and provided with collector rings insulated from the collector drum and from each other, a framework, means for securing said framework at its middle portion to the bottom of said collector drum, electric lamps carried by said framework and so spaced from the center of rotation as to form illuminating zones merging into each other, electrical connections between the collector rings and the said lamps, means for supplying current to said collector rings, and means for turning said shaft.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

VICTOR EMANUEL ESLON.

Witnesses:

CHAS. BEDFORD,
CARL OLSEN.