

W. H. SPENCER.  
ELECTROLIER AND REFLECTOR THEREFOR.  
APPLICATION FILED JUNE 11, 1908.

924,289.

Patented June 8, 1909.

2 SHEETS—SHEET 1.

FIG. 1.

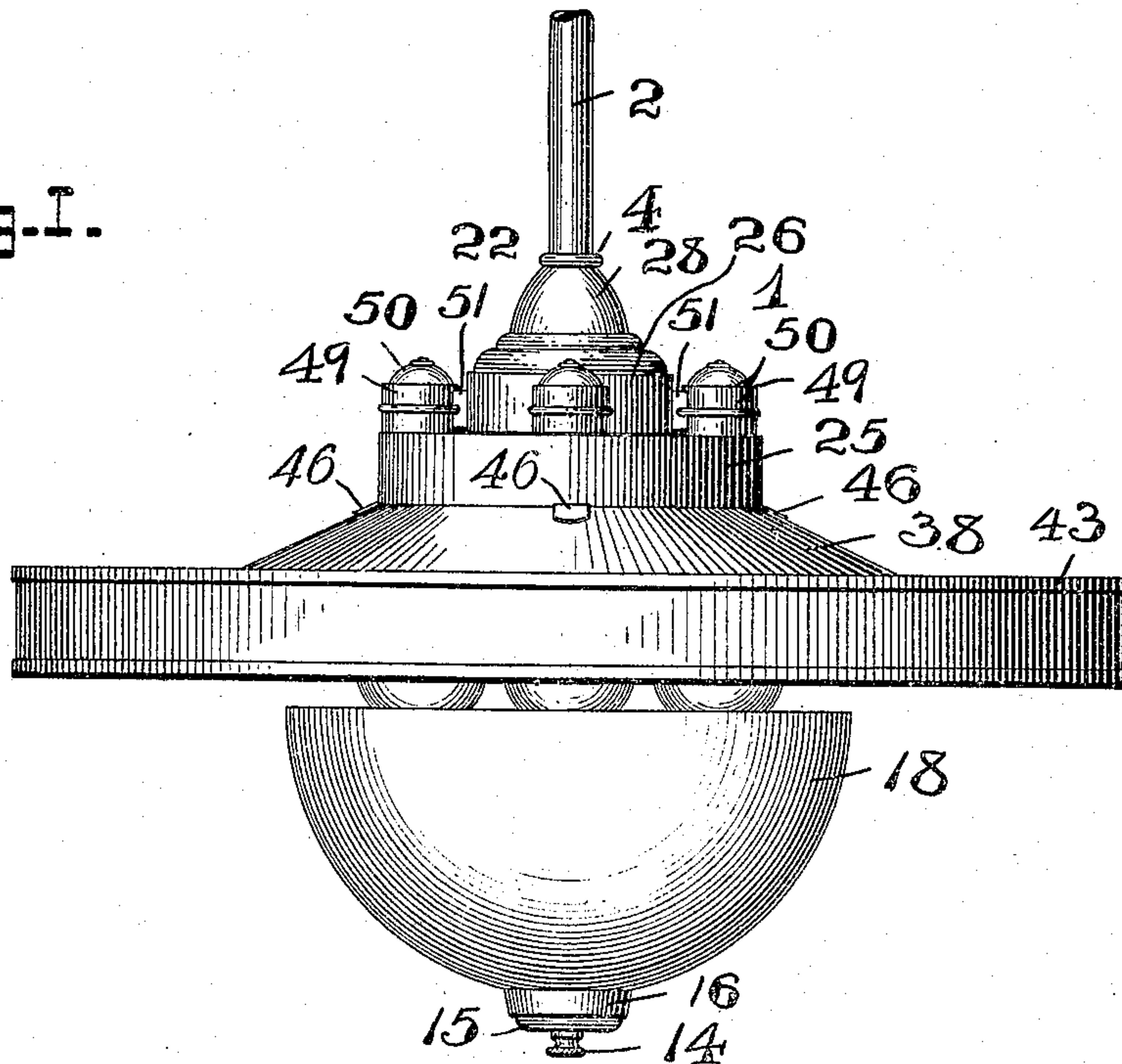
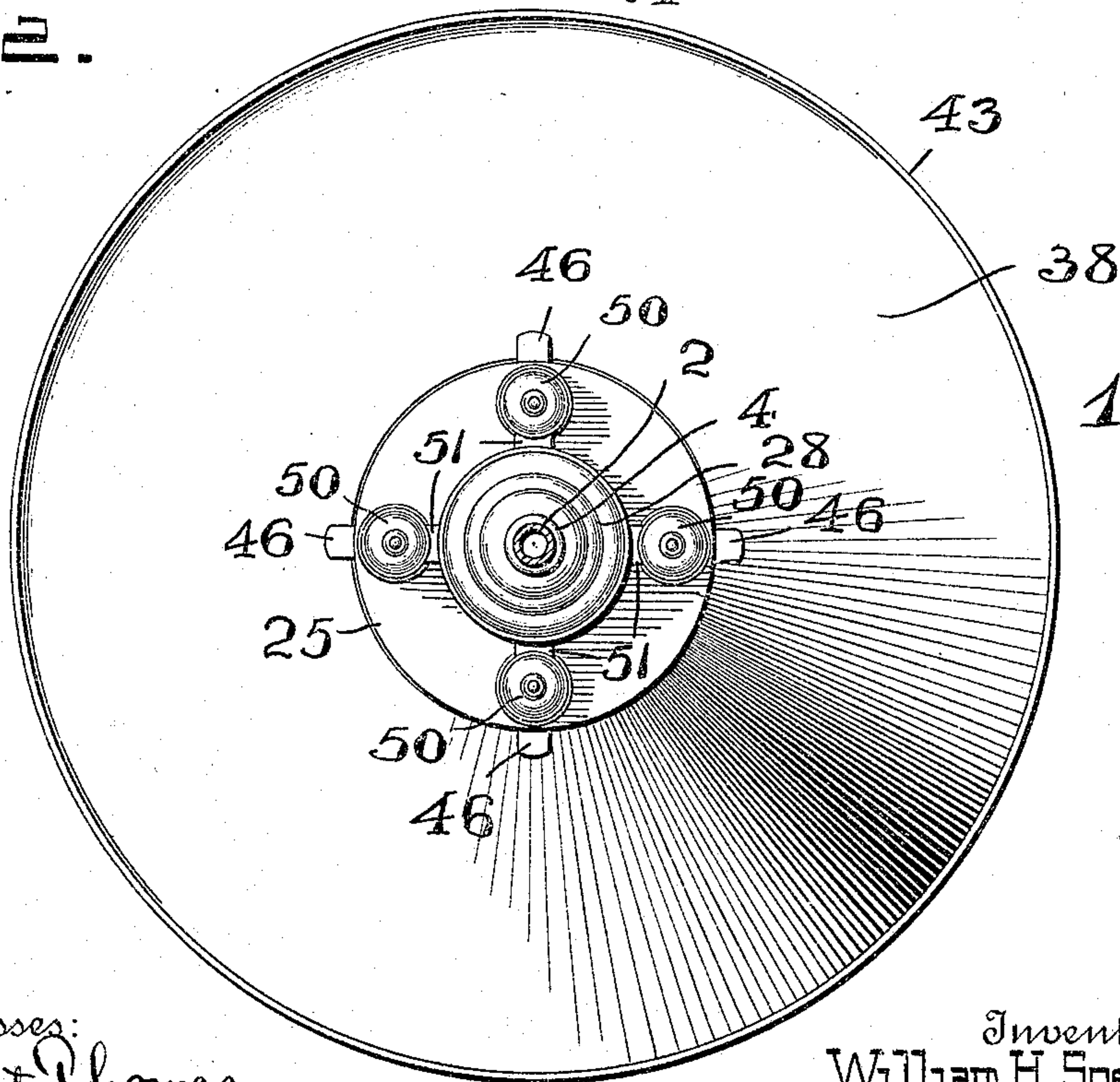


FIG. 2.



Witnesses:  
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Inventor:  
William H. Spencer,  
By his Attorneys,  
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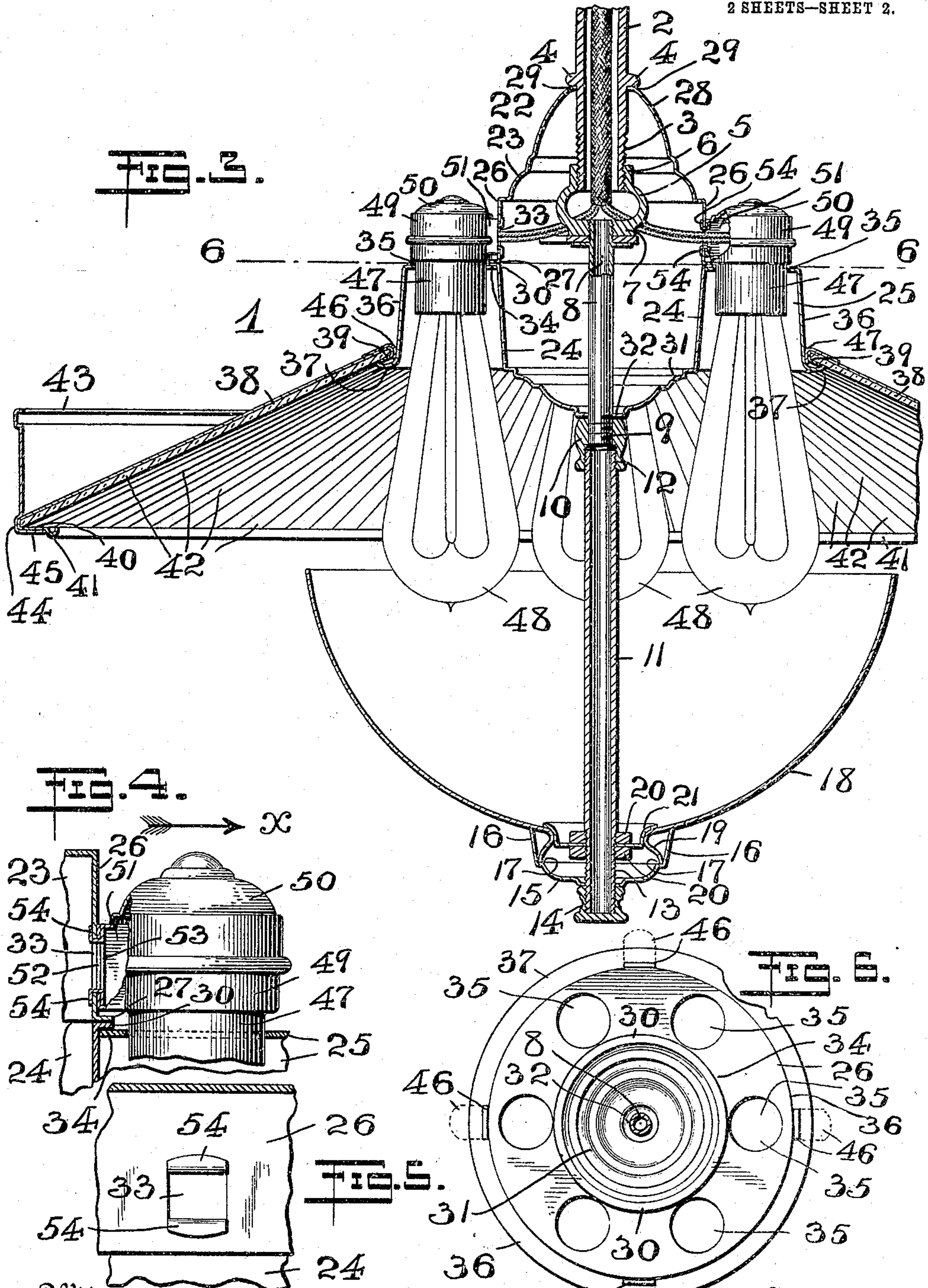


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Inventor:  
William H. Spencer,  
By his Attorney  
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# UNITED STATES PATENT OFFICE.

WILLIAM H. SPENCER, OF BROOKLYN, NEW YORK, ASSIGNOR TO GEORGE FRINK SPENCER,  
OF NEWARK, NEW JERSEY.

## ELECTROLIER AND REFLECTOR THEREFOR.

No. 924,289.

Specification of Letters Patent.

Patented June 8, 1909.

Application filed June 11, 1908. Serial No. 437,811.

*To all whom it may concern:*

Be it known that I, WILLIAM H. SPENCER, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Electroliers and Reflectors Therefor; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to characters of reference marked thereon, which form a part of this specification.

My present invention relates, generally, to that class of reflectors which are employed with an electrolier or cluster of lamps; and, the invention relates, more particularly, to a novel construction of electrolier and reflector therefor, all with a view of providing a neat and simple arrangement of devices and parts, as will hereinafter more fully appear.

The invention has for its principal objects to provide an electrolier in which the cluster-frame and lamps are interchangeable, so that two, three, four, five, six, or more lamps can be used with the same reflector; furthermore, to provide an electrolier from which the reflector or shade can be removed from the cluster for cleaning and repairing purposes, without being compelled to disturb the wiring, and that a larger reflector-body can be readily substituted for a smaller one, and vice-versa.

A further object of this invention is to provide a reflector-construction of the general character hereinafter more particularly set forth in which the reflector-body is detachably secured about the lamp-containing or supporting-shell, frame, or element, and can be quickly disconnected and removed by simply raising a set of holding or retaining clips or clamps, so that the reflector-body can be removed without disturbing the other devices and parts of the electrolier.

A further object of this invention is to provide an electrolier having a stem for supporting a globe, which may be made of opal, ground, or special glass, according to the degree and quality of the light desired, the stem being detachably connected with the electrolier and globe, so that a long or short stem can be quickly secured in place,

to vary the distance at which the globe may be located beneath the reflector-body, so that the direct glare of the lamps can be cut off from any point, depending, as will be understood, upon the size of the room, the height of ceiling, and the like. And, furthermore, this invention has for another object to arrange the globe in such a manner with relation to the reflector, that it permits the full benefit of the reflected light to escape, while the globe in its proper position screens the direct light from the eye.

Another object of this invention is to provide in connection with lamp-containing or supporting frame, shell or element, a lamp-receiving socket and means for securing it to said frame, shell or element of such a construction, so that the lamp-sockets can be attached to and made to lie much closer to the surface of the frame or shell, thereby allowing for the arrangement of a larger number of lamps to be more closely arranged within the reflector-body than is now ordinarily the case; and, also bringing the lights of the cluster of lamps in much closer relation to one another, to concentrate the light and also to use a smaller screening bowl or globe.

Other objects of this invention not at this time more particularly enumerated will be clearly evident from the following detailed description of the same.

With the various objects of my present invention in view, the same consists in the novel electrolier and reflector hereinafter set forth; and, the invention consists, furthermore, in the various novel arrangements and combinations of devices and parts, as well as in the details of the construction of the same, all of which will be more fully described in the following specification, and then finally embodied in the clauses of the claims which are appended to and which form an essential part of this specification.

The invention is illustrated in the accompanying drawings, in which:—

Figure 1 is an elevation; and Fig. 2 a top or plan view of an electrolier and reflector made according to and embodying the principles of this invention. Fig. 3 is a transverse vertical section of the same, said section being made on an enlarged scale. Fig. 4 is a detail view, partly in elevation and partly in section, of a portion of one of the lamp-receiving sockets and part of the



supporting frame or shell, illustrating the manner of attaching the socket to the frame or shell; and Fig. 5 is a face view, looking in the direction of the arrow  $x$  in said Fig. 4. Fig. 6 is a horizontal section taken on line 6—6 in said Fig. 3, showing a top or plan view of the lamp-supporting frame, shell or element, the lamp-sockets and the reflector-body, however, being omitted from this view, and said frame or shell being shown provided with six holes for the reception of six lamp-sockets.

Similar characters of reference are employed in all of the above described views, to indicate corresponding parts.

Referring now to the several figures of the drawings, the reference-character 1 indicates the complete electrolier and reflector illustrating one embodiment of my present invention. The same comprises a hollow or tubular stem 2 which has a screw-threaded end-portion 3 and is preferably made with an annular bead or shoulder 4, forming a retaining stop. Suitably secured upon the screw-threaded end-portion 3 is a suitably constructed and hollow connecting device, as 5, having an upper screw-threaded receiving socket 6 for attachment to the said end-portion 3, as stated, and provided also with a lower screw-threaded receiving portion 7 for the screwing therein of the upper screw-threaded end-portion of a rod or stem 8. The lower end-portion of said rod or stem 8 is also provided with a screw-thread 9 for the securing thereon of an ornamental nut or union, as 10. Detachably connected with said nut or union is the upper screw-threaded end-portion 12 of a suitable rod or stem 11, the lower end of which is also provided with a screw-threaded part 13, as shown. Suitably mounted upon said screw-threaded part 13, and suitably held therein by means of an ornamental nut or screw-cap 14 is an ornamental supporting-member or element, as 15, which is made of sheet-metal, and is preferably made with an annular flange 16 and an annular shoulder 17, which forms a suitable seat for the reduced open end-portion 19 of a bowl or globe 18, substantially in the manner as clearly shown in Fig. 3 of the drawings. The said bowl or globe is held in its fixed position, against accidental displacement, by means of a pair of nuts 20 and a sheet-metal and cup-shaped clamping or holding element, as 21, in the manner clearly illustrated in Fig. 3 of the drawings. The cluster or lamp-supporting frame is indicated by the reference-character 22, and as will be seen more especially from an inspection of said Fig. 3, consists, preferably, of two main body-members or sections 23 and 24, and a socket-receiving member or section 25 which is concentric with the member or section 24, and all of said members or sections

23, 24 and 25 being preferably pressed out of sheet-metal.

As shown the upper body-member or section 23 comprises a cylindrically or other suitably shaped portion 26, having a lower marginal and outwardly extending flange 27. The upper part of said portion 26 has an ornamental dome, as 28, which is provided in the top with a suitable opening through which the lower end-portion of the rod or stem 2 extends, with the annular bead or shoulder 4 resting upon the upper portion 29 of said dome, substantially as shown in Figs. 1 and 3 of the drawings. The lower body-member or section 24 is made with an upper marginal and outwardly extending flange 30 which registers with the flange 27, the said flanges being suitably secured together without the use of solder or other fastening devices, as will presently appear. The lower part of said member or section 24 has an ornamental closing portion, as 31, which has a perforated part 32 for arranging it upon the rod or stem 8, with the nut or union 10 screwed up against said part 32, so that the said two connected main body-members or sections 23 and 24 will be positively fixed and held between the bead or shoulder 4 and the nut or union 10, as will be clearly seen from an inspection of said Fig. 3 of the drawings. The portion 26 of the said body-member or section 23 is made with suitably disposed openings, as 33, for the purposes to presently more fully appear. The socket-receiving member or section 25 consists, essentially, of a main portion or disk-like member having its inner marginal edge-portion 34 fitted directly beneath the flange 30 of the member or section 24, and suitably secured thereto by means of solder, or other suitable fastening means.

As shown, the body of the socket-receiving member or section 25 is provided with any suitable number of holes or openings 35, and from its outer marginal edge-portion extends downwardly an annular flange or wall 36 terminating at the bottom in an outwardly extending marginal supporting member or flange 37.

The reflector-body or shade consists, essentially, of a member or element 38, made of sheet-metal and in the manner of a truncated cone, the said member or element being made at the top with an inwardly projecting retaining bead, as 39, and at the bottom being formed with an inwardly extending annular flange 40 formed usually with a marginal reinforcing or strengthening bead 41, which may serve also as an ornament, as will be clearly evident.

The usual reflector-sections or glasses 42 are arranged upon the inner face of said member or element 38, by having their lower ends resting upon the flange 40 and having



their upper ends held by the clamping or retaining bead 39. If desired, an ornamental frame, as 43, may be provided, said frame having the parts 44 and 45 which are fitted  
 5 around the lower edge of the member or element 38 and suitably secured to the annular flange 40. As clearly illustrated in said Fig. 3 of the drawings, the said reflector-body or shade is fitted directly over the socket-receiving member or section 25, so that the upper  
 10 open part of the body or shade which is bounded by the said bead 39 will rest directly upon the outwardly extending marginal supporting member or flange 37, with the marginal edges of the flange 37 and the bead 39 preferably registering with each other, sub-  
 15 stantially as shown, without the use of any solder or other permanently secured fastening devices, except an arrangement of suitably disposed clips or clamps, as 46, which  
 20 extend from the annular flange or wall 36 of the member or section 25 and are bent over into holding engagement with reflector-body, substantially in the manner illustrated  
 25 in Figs. 1, 2 and 3, of the drawings.

It will thus be seen, that when it is desired to remove the reflector-body for any purpose whatsoever, all that is necessary is to raise the free ends of said clips or clamps 46, and  
 30 the reflector-body can be lifted from its supported position upon the member or flange 37, without having to disturb or disconnect any of the other devices and parts of the electrolier.

35 The lamp-receiving sockets each comprise a suitably formed sheet-metal shell or body 47 in which is arranged the usual porcelain connection, not here shown, to which the electric wires lead and are attached thereto,  
 40 and to which connection the electric light bulb 48 is attached in the usual manner. The said shell or body 47 is made with an enlarged portion 49 with which is connected a detachable closing cap or end-piece, as 50.  
 45 The enlarged portion of each socket is made with an outwardly extending depressed portion 51, preferably of a rectangular conformation, each portion 51 being made with a rectangular or other suitably formed hole  
 50 or opening 52 conforming to the correspondingly formed holes or openings 33 of the portion 26 of the section or member 23, as clearly illustrated in Figs. 3, 4 and 5 of the drawings.

55 Resting within the rectangularly formed recess of each portion 51 is a correspondingly formed plate 53 out of which has been forced a pair of clamping or holding tongues 54 which are inserted into and through the reg-  
 60 istering holes or openings 33 and 52 and are bent over into holding engagement with the inner surface portions of the portion 26 of the member or section 23, in the manner shown. These various parts are thereby  
 65 connected and secured in rigid and fixed

relation to each other, each shell or body 47 extending in a downward direction into and through a hole or opening 35 of the socket-receiving member or section 25, in the man-  
 70 ner clearly shown in Fig. 3 of the drawings, and for the purpose of connecting the light-bulbs with said sockets. A cheap and simple fastening device for attaching the lamp-receiving sockets to the supporting-frame 22,  
 75 so as to provide the proper cluster, has thus been produced, the lamp-sockets being located much closer to the center of the electrolier, than is the case with the constructions of these lighting devices now in ordinary use,  
 80 thus obtaining better lighting effects, and many other advantageous results which it is not necessary to enumerate here.

The method of and manner of leading the electric wires into and through the stem 2, and connecting them with the connections  
 85 contained within the lamp-receiving sockets is clearly self-evident from an inspection of Fig. 3 of the drawings, and need not be further described at this time.

From the foregoing description of my pres-  
 90 ent invention and from the drawings, it will be clearly seen, that the various parts are easily disconnected and separated without disturbing the electric wires, and in case of any  
 95 difficulty in wiring, the sockets are readily accessible, so that the end-caps of the sockets can be quickly removed to permit the workman to get at the socket-terminals from the outside of the electrolier and its reflector or  
 100 shade. It will also be evident, that on account of the separably connected parts, and especially of the stem or rod upon which the bowl or globe is mounted, this stem or rod can be quickly detached and a longer or  
 105 shorter stem or rod fastened in place, so that the position of the bowl or globe can be varied with relation to the reflector-body, to permit the full benefit of the reflected light to escape, and at the same time screening the direct light from the eye. The sepa-  
 110 rable connection of the said sections or members 23 and 24 is such that by unscrewing the nut or union 10, whereby the stems or rods 8 and 11 are disconnected, the section or element 23 may be easily separated from the  
 115 sections or elements 24 and 25, by lifting the section 23 from its position upon the section 24, and then replacing the said several sections by others which are provided with a greater or smaller number of socket-receiv-  
 120 ing-holes, as may be desired. An electrolier and reflector is thus provided in which the cluster-bearing elements are interchangeable, so that the reflector-body can be used with a  
 125 smaller or larger cluster of lights, without much delay and annoyance in making specially constructed parts and corresponding sizes of parts to suit the number of lamps desired in each cluster.

I am aware that some changes may be 130



made in the arrangements and combinations of the devices and parts, as well as in the details of the construction of the same, without departing from the scope of my present invention as described in the foregoing specification and as defined in the appended claims. Hence I do not limit my invention to the exact arrangements and combinations of the devices and parts as described in the foregoing specification, nor do I limit myself to the exact details of the construction of any of the said parts, as illustrated in the accompanying drawings.

I claim:—

1. An electrolier comprising a central supporting stem, said stem being provided with a retaining stop, a rod connected with said stem, a nut screwed upon said rod, and a lamp-socket supporting means comprising a multiplicity of separably connected sections encircling said rod and said supporting stem, said nut serving as a support for said lamp-socket supporting means, and said sections being held in place by means of the retaining stop upon said central stem and the nut on said rod, another rod connected with and extending downwardly from said nut, and a globe mounted upon said rod.

2. An electrolier comprising a central supporting stem, said stem being provided with a retaining stop, a rod connected with said stem, a nut screwed upon said rod, and a lamp-socket supporting means comprising a multiplicity of separably connected sections encircling said rod and said supporting stem, said nut serving as a support for said lamp-socket supporting means, and said sections being held in place by means of the retaining stop upon said central stem and the nut on said rod, and a reflector-body removably supported upon a portion of one of said sections, another rod connected with and extending downwardly from said nut, and a globe mounted upon said rod.

3. An electrolier comprising a central supporting stem, said stem being provided with a retaining stop, a rod connected with said stem, a nut screwed upon said rod, and a lamp-socket supporting means comprising an upper and a lower shell-like section, said sections encircling portions of said rod and said stem, and said nut serving as a support for said sections, said sections being provided with outwardly extending annular flanges, and the upper section being made with openings, and a third lamp-socket supporting shell-like section concentrically disposed about said lower section, said last-mentioned section being provided with socket-receiving openings, substantially as and for the purposes set forth.

4. An electrolier comprising a central supporting stem, said stem being provided with a retaining stop, a rod connected with said stem, a nut screwed upon said rod, and a

lamp-socket supporting means comprising an upper and a lower shell-like section, said sections encircling portions of said rod and said stem, and said nut serving as a support for said sections, said sections being provided with outwardly extending annular flanges, and the upper section being made with openings, a third lamp-socket supporting shell-like section concentrically disposed about said lower section, and provided with socket-receiving openings, said lamp-socket supporting shell being also provided with an annular flange, and a reflector-body removably supported upon said flange, substantially as and for the purposes set forth.

5. An electrolier comprising a central supporting stem, said stem being provided with a retaining stop, a rod connected with said stem, a nut screwed upon said rod, and a lamp-socket supporting means comprising an upper and a lower shell-like section, said sections encircling portions of said rod and said stem, and said nut serving as a support for said sections, said sections being provided with outwardly extending annular flanges, and the upper section being made with openings, a third lamp-socket supporting shell-like section concentrically disposed about said lower section, and provided with socket-receiving openings, said lamp-socket supporting shell being also provided with an annular flange, a reflector-body removably supported upon said flange, and clamps extending from said section in holding engagement with the reflector-body to prevent accidental displacement of the same.

6. An electrolier comprising a central supporting stem, said stem being provided with a retaining stop, a rod connected with said stem, a nut screwed upon said rod, and a lamp-socket supporting means comprising an upper and a lower shell-like section, said sections encircling portions of said rod and said stem, and said nut serving as a support for said sections, said sections being provided with outwardly extending annular flanges, and the upper section being made with openings, a third lamp-socket supporting shell-like section concentrically disposed about said lower section, and provided with socket-receiving openings, another rod connected with and extending downwardly from said nut, and a globe mounted upon said rod, substantially as and for the purposes set forth.

7. An electrolier comprising a central supporting stem, said stem being provided with a retaining stop, a rod connected with said stem, a nut screwed upon said rod, and a lamp-socket supporting means comprising an upper and a lower shell-like section, said sections encircling portions of said rod and said stem, and said nut serving as a support for said sections, said sections being pro-



vided with outwardly extending annular flanges, and the upper section being made with openings, a third lamp-socket supporting shell-like section concentrically disposed  
5 about said lower section, and provided with socket-receiving openings, said lamp-socket supporting shell being also provided with an annular flange, a reflector-body removably supported upon said flange, another  
10 rod connected with and extending downwardly from said nut, and a globe mounted upon said rod, substantially as and for the purposes set forth.

8. An electrolier comprising a central supporting stem, said stem being provided with a retaining stop, a rod connected with said stem, a nut screwed upon said rod, and a lamp-socket supporting means comprising  
15 an upper and a lower shell-like section, said sections encircling portions of said rod and said stem, and said nut serving as a support for said sections, said sections being provided with outwardly extending annular flanges,  
20 and the upper section being made with openings, a third lamp-socket supporting shell-like section concentrically disposed about said lower section, and provided with socket-receiving openings, said lamp-socket supporting shell being also provided with an  
25 annular flange, a reflector-body removably supported upon said flange, and clamps extending from said section in holding engagement with the reflector-body to prevent accidental displacement of the same, another rod  
30 connected with and extending downwardly from said nut, and a globe mounted upon said rod, substantially as and for the purposes set forth.

9. An electrolier comprising a central supporting stem, said stem being provided with a retaining stop, a rod connected with said stem, a nut screwed upon said rod, and a lamp-socket supporting means comprising  
40 an upper and a lower shell-like section, said sections encircling portions of said rod and said stem, and said nut serving as a support for said sections, said sections being provided with outwardly extending annular flanges, and the upper section being made  
45 with openings, a third lamp-socket supporting shell-like section concentrically disposed about said lower section and provided with socket-receiving openings, combined with lamp-receiving sockets, each socket comprising  
50 a shell formed with an outwardly depressed part, a plate within said depressed part and clamping tongues upon said plate, said tongues extending into and through an opening in said upper section and bent  
55 around the marginal edge-ports of the opening, and the said shell having a portion extending downwardly into and through a corresponding opening in said concentrically disposed section, substantially as and for the  
60 purposes set forth.

10. An electrolier comprising a central supporting stem, said stem being provided with a retaining stop, a rod connected with said stem, a nut screwed upon said rod, and a lamp-socket supporting means comprising  
70 an upper and a lower shell-like section, said sections encircling portions of said rod and said stem, and said nut serving as a support for said sections, said sections being provided with outwardly extending annular  
75 flanges, and the upper section being made with openings, a third lamp-socket supporting shell-like section concentrically disposed about said lower section, and provided with socket-receiving openings, said lamp-socket  
80 supporting shell being also provided with an annular flange, and a reflector-body removably supported upon said flange, combined with lamp-receiving sockets, each socket comprising a shell formed with an outwardly  
85 depressed part provided with an opening, a plate within the depressed part, and clamping tongues upon said plate, said tongues extending into and through an opening in said upper section and bent around the marginal  
90 edge-ports of the opening, and the said shell having a portion extending downwardly into and through a corresponding opening in said concentrically disposed section, substantially as and for the purposes  
95 set forth.

11. An electrolier comprising a central supporting stem, said stem being provided with a retaining stop, a rod connected with said stem, a nut screwed upon said rod, and  
100 a lamp-socket supporting means comprising an upper and a lower shell-like section, said sections encircling portions of said rod and said stem, and said nut serving as a support for said sections, said sections being provided  
105 with outwardly extending annular flanges, and the upper sections being made with openings, a third lamp-socket supporting shell-like section concentrically disposed about said lower section and provided with  
110 socket-receiving openings, said lamp-socket supporting shell being also provided with an annular flange, a reflector-body removably supported upon said flange, and clamps extending from said section in holding engagement  
115 with the reflector-body to prevent accidental displacement of the same, combined with lamp-receiving sockets, each socket comprising a shell formed with an outwardly depressed part provided with an  
120 opening, a plate within the depressed part, and clamping tongues upon said plate, said tongues extending into and through an opening in said upper section and bent around the marginal edge-ports of the opening,  
125 and the said shell having a portion extending downwardly into and through a corresponding opening in said concentrically disposed section, substantially as and for the purposes set forth.



12. An electrolier comprising a central tubular supporting stem, a rod connected with said stem, a lamp-socket supporting means mounted upon said stem and rod, a  
5 second rod detachably connected with said first-mentioned rod, a reflector-body suspended from said lamp-socket supporting means, and a globe mounted upon the lower portion of said second mentioned rod, sub-  
10 stantially as and for the purposes set forth.

13. An electrolier comprising a central tubular supporting stem, a rod connected with said stem, a lamp-socket supporting means mounted upon said stem and rod, a  
15 second rod detachably connected with said first-mentioned rod, a reflector-body suspended from said lamp-socket supporting means, said second-mentioned rod having a lower screw-threaded portion, a screw-cap  
20 upon the lower end of said rod, an ornamental member mounted upon said rod and supported upon said screw-cap, said member being provided with an annular shoulder, a globe supported upon said shoulder, a  
25 pair of nuts upon the screw-threaded portion of said rod, and a cup-shaped clamping element held upon said rod between and by means of said nuts, said clamping element being in holding engagement with said  
30 globe, substantially as and for the purposes set forth.

14. An electrolier comprising a central tubular supporting stem, a rod connected with said stem, a lamp-socket supporting  
35 means mounted upon said stem and rod, said rod having a lower screw-threaded portion, a nut on said screw-threaded portion of said rod, a second rod having an upper screw-threaded portion screwed into said nut

for detachably connecting said second rod 40 to said first-mentioned rod, a reflector-body suspended from said lamp-socket supporting means, and a globe mounted upon the lower portion of said second-mentioned rod, sub-  
45 stantially as and for the purposes set forth.

15. An electrolier comprising a central tubular supporting stem, a rod connected with said stem, a lamp-socket supporting means mounted upon said stem and rod,  
50 said rod having a lower screw-threaded portion, a nut on said screw-threaded portion of said rod, a second rod having an upper screw-threaded portion screwed into said nut for detachably connecting said second  
55 rod to said first-mentioned rod, a reflector-body suspended from said lamp-socket supporting means, said second-mentioned rod having a lower screw-threaded portion, a screw-cap upon the lower end of said rod,  
60 an ornamental member mounted upon said rod and supported upon said screw-cap, said member being provided with an annular shoulder, a globe supported upon said shoulder, a pair of nuts upon the screw-threaded  
65 portion of said rod, and a cup-shaped clamping element held upon said rod between and by means of said nuts, said clamping element being in holding engagement with said globe, substantially as and for the  
70 purposes set forth.

In testimony, that I claim the invention set forth above I have hereunto set my hand this 8th day of June, 1908.

WILLIAM H. SPENCER.

Witnesses:

F. C. PATTERSON,  
ALEXANDER NEINETH.