J. McGAVIN.

ELECTROLIER.

APPLICATION FILED SEPT. 9, 1908.

933,195. Patented Sept. 7, 1909.

3 SHEETS—SHEET 1.

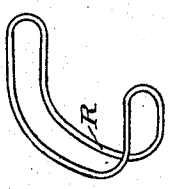

Fig. 8.

Fig. 7.

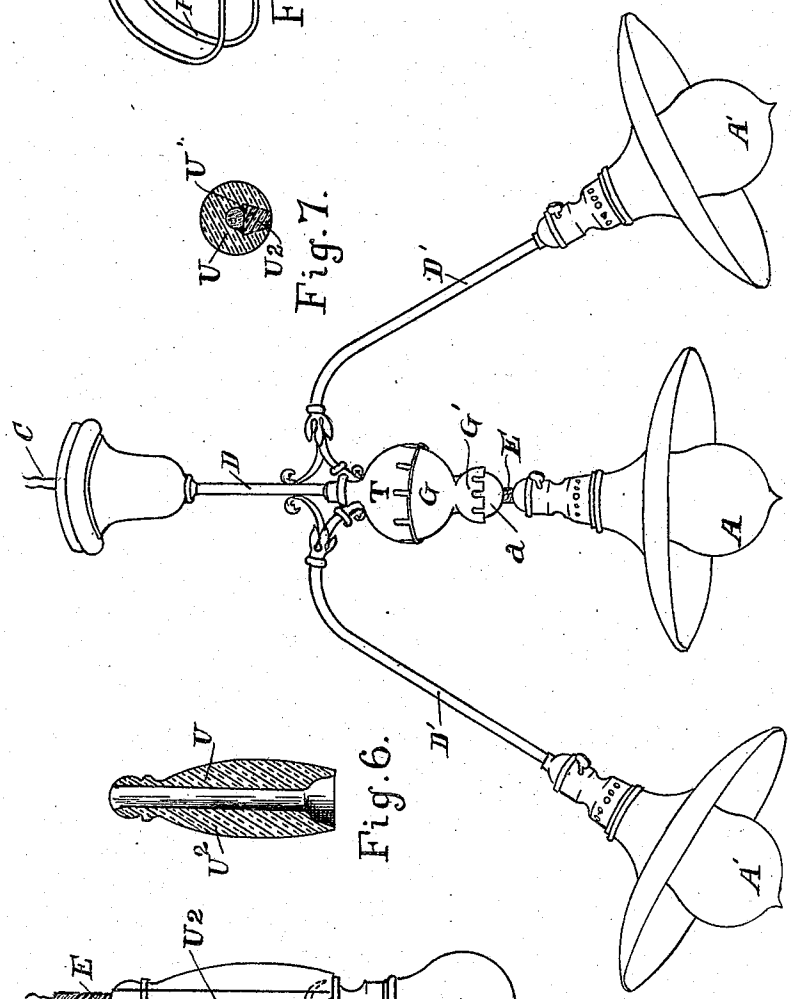

Fig. 1.

Fig. 6.

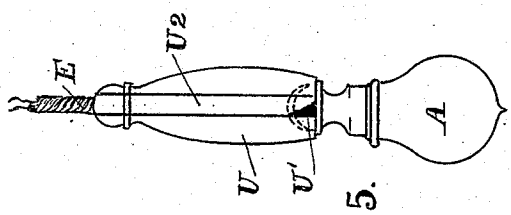

Fig. 5.

Witnesses
O. D. DuBois.
A. R. Livingston.

Inventor.
JAMES McGAVIN.
By Atty N. DuBois.

ANDREW. B. GRAHAM CO., PHOTO-LITHOGRAPHERS. WASHINGTON, D. C.

J. McGAVIN.

ELECTROLIER.

APPLICATION FILED SEPT. 9, 1908.

933,195.

Patented Sept. 7, 1909.

3 SHEETS—SHEET 2.

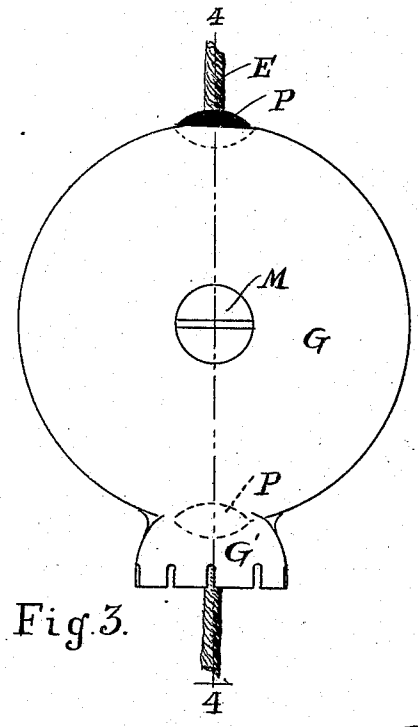

Fig. 3.

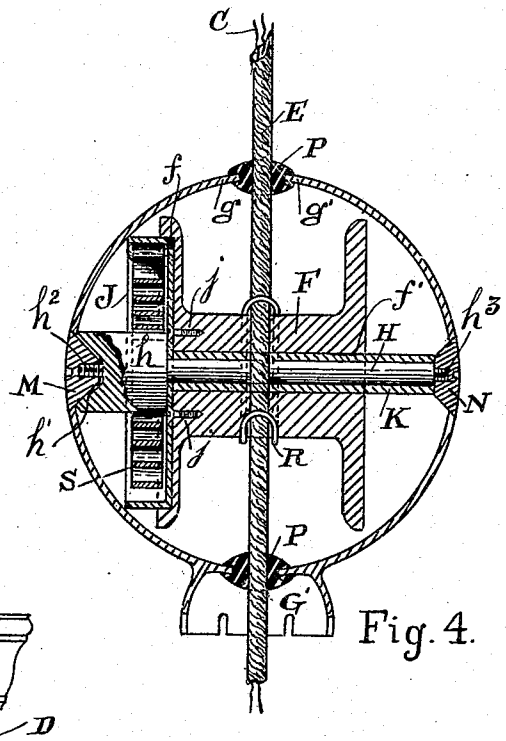

Fig. 4.

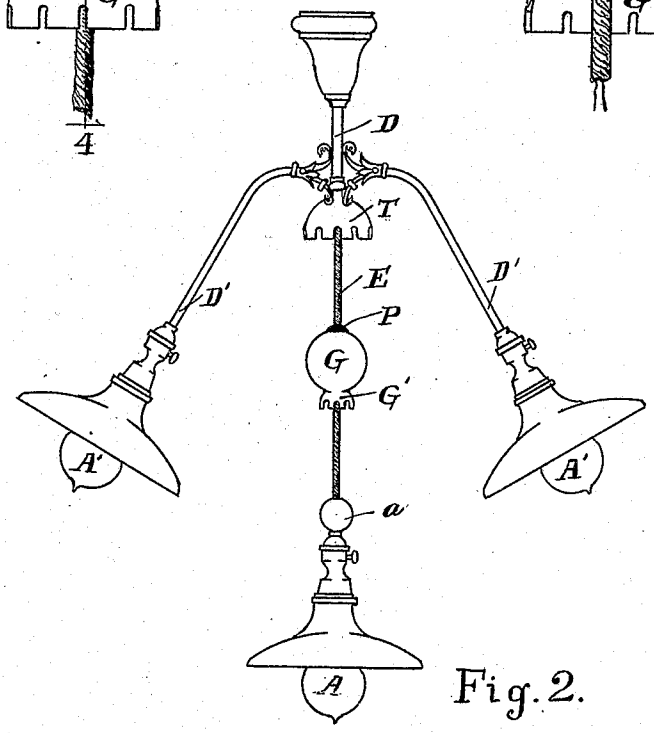

Fig. 2.

Witnesses.
C. D. DuBois,
A. R. Livingston.

Inventor
JAMES McGAVIN.
By Atty N. DuBois.

ANDREW. B. GRAHAM CO., PHOTO-LITHOGRAPHERS, WASHINGTON, D. C.

J. McGAVIN.

ELECTROLIER.

APPLICATION FILED SEPT. 9, 1908.

933,195. Patented Sept. 7, 1909.

3 SHEETS—SHEET 3.

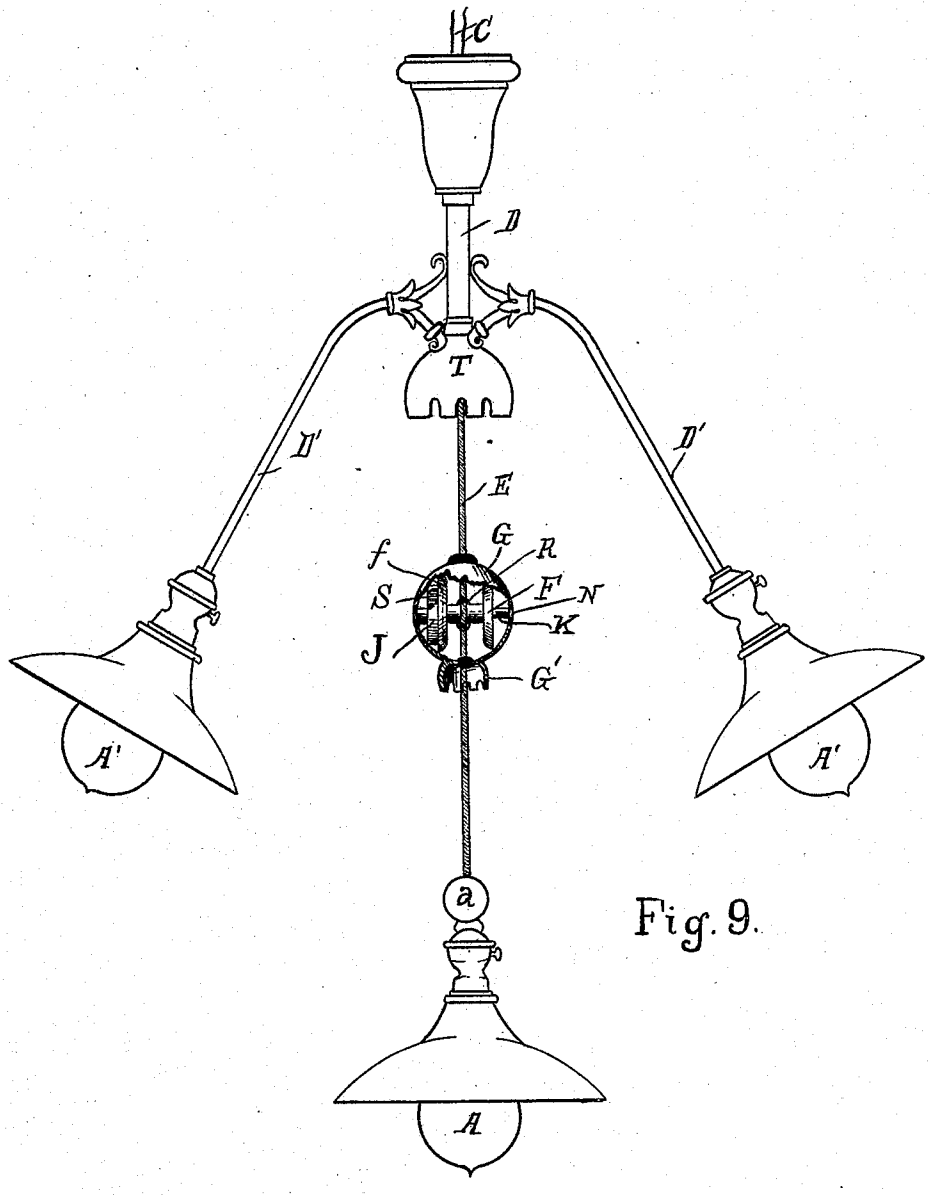

Fig. 9.

Witnesses.
E. Clark Willey.
Kathryn Nelson.

Inventor.
James McGavin,
By Atty. N. DuBois.

ANDREW. B. GRAHAM CO., PHOTO-LITHOGRAPHERS, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JAMES McGAVIN, OF SPRINGFIELD, ILLINOIS.

ELECTROLIER.

933,195. Specification of Letters Patent. Patented Sept. 7, 1909.

Application filed September 9, 1908. Serial No. 452,318.

To all whom it may concern:

Be it known that I, JAMES McGAVIN, a citizen of the United States, residing at Springfield, in the county of Sangamon and State of Illinois, have invented certain new and useful Improvements in Electroliers, of which the following is a specification.

The purpose of this invention is to provide an electrolier with an adjustable light which, when pulled down, may be used as a drop light, and when raised may form one of a group of lights of the electrolier, and to provide certain novel and useful features of construction, hereinafter set forth, shown in the drawings, and finally recited in the claims.

This invention is a modification and improvement of the invention set forth in United States Letters Patent, Number 875,280, for adjustable hanger for electric lights, granted to me Dec. 31, 1907.

Referring to the drawings in which similar reference letters and characters designate like parts in the several views: Figure 1 is a perspective view of an electrolier embodying my improvements and showing the adjustable light grouped with the other lights of the electrolier; Fig. 2 is a side elevation on a reduced scale of the same electrolier showing the adjustable light pulled down for use as a drop light; Fig. 3 is an enlarged side elevation of the hanger supporting the adjustable light; Fig. 4 is a vertical axial section through the hanger on the line 4. 4. of Fig. 3; Figs. 5, 6 and 7 are respectively an enlarged side elevation, a vertical axial section and transverse section of a counterpoise usable as a substitute for the lamp shade when a light without a shade is used; Fig. 8 is an enlarged detached perspective view of the means for connecting the cable with the spool so that the spool may be adjusted upon the cable, and Fig. 9 is a side elevation of the electrolier showing the adjustable light pulled down, the shell inclosing the winding mechanism being shown as broken away to expose the inclosed parts.

The electrolier shown in Figs. 1 and 2 comprises a central adjustable light A and lateral fixed lights A′. Conducting wires C, contained within the vertical main pipe D and the lateral pipes D′, supply current to the lamps A and A′. The wires C running to the lamp A are inclosed in a cable E and the central part of the cable is connected with the spool F, as hereinafter described.

The spool F is mounted within a spherical shell G of light sheet metal comprising two semi-spherical members, g and g', connected together by a single bolt H. The spool F is preferably of wood and has in one end a circular recess f, accommodating a circular spring barrel, J, which is connected with the spool by screws j. The spool F has a central hole f' accommodating a pipe K fitting tightly in the hole. The bolt H has at one end an enlarged head h having in its end a tapering recess h' and an integral screw h^2. A conical nut M screws on to the screw h^2 and fits in the recess h'. At the other end of the bolt H is a screw h^3. The stem of the bolt H extends through the pipe K. A conical nut N fits on the screw h^3, and when the parts are assembled as described and the nuts M and N are screwed down tight, the bolt H will hold the members g and g' of the shell firmly together. Insulators P fit in suitable openings in the shell members and insulate the cable from the shell.

The cable E is connected with the spool F by a wire loop R of substantially the form shown in Fig. 8 and adapted to fit around the body of the spool as shown, so that the loop will normally hold the cable upon the spool; but if it be desired to change the position of the spool on the cable, that part of the cable between the ends of the loop may be pulled through the loop to give the spool the desired adjustment on the cable, and the loop will hold the spool in position and prevent it from slipping on the cable.

A helical spring S has one end secured to the shell J and its other end secured to the head h of the bolt H, in such manner that when the spool is turned on the bolt the turning of the spool in one direction will coil the spring; and the spring will act to turn the spool in the opposite direction.

At the lower end of the pipe D is an approximately semi-spherical cup T accommodating the shell G when the lamp is raised as shown in Fig. 1. Connected with the shell G is a similar cup G′ accommodating a ball, a, at the juncture of the cable E with the lamp A. The cups T and G′ are of light metal and are a little more than hemispheres, and the lower parts of the cups are expansible, so that under slight pressure the shell G will enter the cup T, and the ball, a, will enter the cup G′ and the shell and the ball will be held in the cups by the frictional contact of the walls of the cups

with the shell and the ball respectively; so that normally the cups will act to support the lamp in its raised position, but when the lamp is pulled downward, the cups will release the shell and the ball and permit downward movement of the lamp.

Ordinarily a shade will be used on the adjustable lamp the same as on other lamps of the electrolier, the shade of the central lamp being of such weight that it will serve as a counter-poise to prevent sudden raising of the lamp by sudden action of the spring.

The counter-poise U is preferably in the form of a handle adapted to fit around the cable above the lamp A and having its upper end shaped to fit in the cup G'. In case a shade is not used with the adjustable light, I employ a counterpoise U substantially of the form shown in Figs. 5 and 6. The counter-poise U has a longitudinal channel U' through which the cable may be inserted. A dove-tailed wedge U^2, of the same material, fits in the longitudinal channel U' and binds the counter-poise on the cable.

The tension of the spring S is such that it will act to keep the lamp and shade in the position in which it is adjusted, and if the lamp be pulled downward the cable will unwind from the spool, and if it be pushed upward the cable will wind on to the spool; or if a lamp without a shade is used the counter-poise U will be placed upon the cable and will serve to balance the action of the spring to keep the lamp in any position in which it may be set.

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

1. In an electrolier, the combination of a main structure, a springy cup on said main structure, a cable supported on said main structure, a lamp supported on said cable, a spherical shell adapted to fit within said cup, winding mechanism within said shell adapted to wind said cable, a springy cup on said shell and a counter-poise on said cable adapted to fit within the cup on said shell.

2. The combination of hemispherical shell members, a bolt connecting said shell members to form a spherical shell, a spool mounted to revolve on said bolt within said shell, a cable extending through said shell, a loop supporting said spool adjustably on said cable, a spring within said shell effective to rotate said spool on said bolt, a stationary structure supporting said cable and a springy cup on said stationary structure adapted to receive and support said shell.

3. In an electrolier the combination of hemi-spherical shell members, a bolt having at one end an enlarged head provided with a tapering recess and a screw central to said recess and having at its other end a screw coaxial with said bolt, a pipe mounted to revolve on said bolt, a spool fixed on said pipe, a loop fitting around the body of said spool, a cable extending through said loop and around said spool, conical nuts fitting tapering seats in said shell-members and screwing on the screws respectively, at the ends of said bolt, a spring barrel secured on said spool and a helical spring having one end connected with the head of said bolt and the other end connected with said spring barrel and effective to rotate said spool on said bolt to wind said cable on said spool.

4. In an electrolier the combination of a fixed main structure, a springy cup on said main structure, a cable supported on said main structure, a lamp supported on said cable, a shell adapted to fit within said springy cup to support said shell on said main structure and adapted to house a spool and means for rotating said spool, a spool mounted to rotate within said shell, means for connecting said spool with said cable, to support said spool on said cable, means for rotating said spool to wind said cable on said spool, a springy cup on said shell and a counter poise on said cable between said lamp and said shell and adapted to fit in the springy cup on said shell to support said lamp.

In witness whereof I have hereunto subscribed my name, at Springfield, Illinois, this 31st day of July, 1908.

JAMES McGAVIN.

Witnesses:
A. R. Livingston,
W. J. Aurelius.