Dec. 18, 1923. 1,478,009

M. HERSKOVITZ

FLEXIBLE CHAIN FOR ELECTRIC LIGHTING FIXTURES AND PORTABLE LAMPS

Filed Oct. 18, 1920

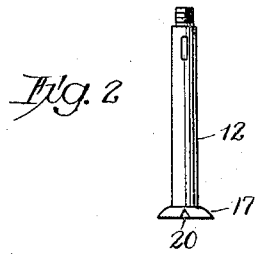


Fig. 2

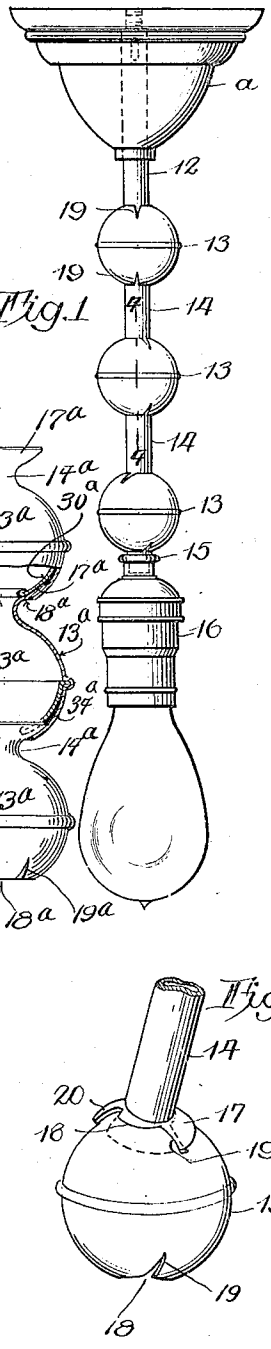


Fig. 1

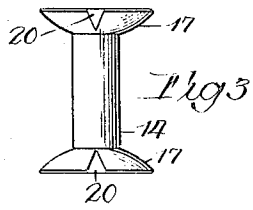


Fig. 3

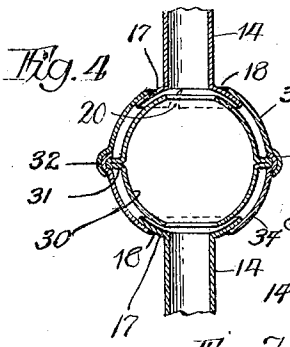


Fig. 4

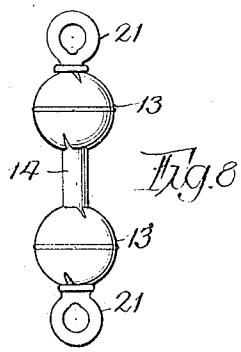


Fig. 8

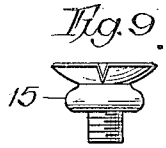


Fig. 9

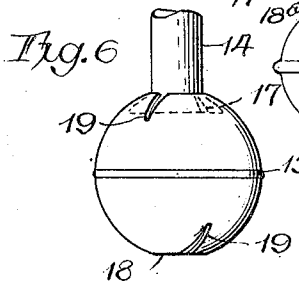


Fig. 6

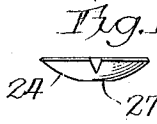


Fig. 10

Fig. 5

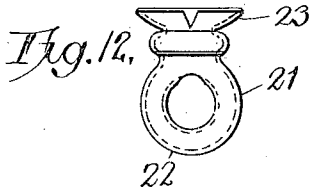


Fig. 12.

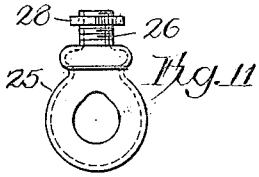


Fig. 11

Inventor
Max Herskovitz
By: Davis & Sherwood Attys.

Patented Dec. 18, 1923. 1,478,009

UNITED STATES PATENT OFFICE.

MAX HERSKOVITZ, OF CHICAGO, ILLINOIS.

FLEXIBLE CHAIN FOR ELECTRIC-LIGHTING FIXTURES AND PORTABLE LAMPS.

Application filed October 13, 1920. Serial No. 417,650.

To all whom it may concern:

Be it known that I, MAX HERSKOVITZ, a citizen of the United States, and a resident of Chicago, Cook County, and State of Illinois, have invented certain new and useful Improvements in Flexible Chains for Electric-Lighting Fixtures and Portable Lamps, of which the following is declared to be a full, clear, and exact description.

This invention relates to flexible chain for electric lighting fixtures and portable lamps, and its principal object is to provide an arm or other support of improved appearance and construction, which is light, substantial, flexible, and comparatively inexpensive in construction and assemblage. Another object is to provide a flexible supporting connection for electric light fixtures and portable lamps, in which the conductor cords are entirely concealed. Another object is to provide a flexible connection for electric light fixtures and portable lamps which may be easily and quickly assembled and wired. Another object is to provide a flexible connection for electric light fixtures and portable lamps capable of being constructed of light gauge sheet metal. Another object is to provide novel, flexibly connected members that may be readily assembled into various flexible arms or stems for use in electric lighting fixtures or portable lamps or other electric devices. Other objects and advantages will appear in the course of the present specification and with said objects and advantages in view, this invention consists in the several novel features hereinafter after fully set forth and claimed.

The invention is clearly illustrated in the accompanying drawing, in which:

Fig. 1 is a side elevation of an electric lighting fixture embodying a simple form of the present invention; Fig. 2 is a side elevation of the pendant stem portion of the fixture; Fig. 3 is an enlarged side elevation of one of the stems or spindles of which the fixture is constructed; Fig. 4 is an enlarged, detail, longitudinal, fragmental section taken on the line 4—4 of Fig. 1; Fig. 5 is a perspective view of a fragment of a stem and an ornamental ball member which connects the stems, the view illustrating the manner in which the two are joined; Fig. 6 is a side elevation of the parts seen in Fig. 5, but showing them fully coupled together; Fig. 7 is a view, partly in side elevation and partly in central longitudinal section of a modified form of the invention; Fig. 8 is a side elevation of an ornamental fixture member made up of a stem, two ball members and two loop members; Fig. 9 is a side elevation of a coupling member, sometimes used in the construction of the fixture; Fig. 10 is a side elevation of a flange member; Fig. 11 is a side elevation of a loop coupling member and Fig. 12 is a side elevation of a loop member sometimes used in the construction of the fixture.

Referring to said drawing and first to Figs. 1 to 6, inclusive, the reference character 12, designates the pendant stem which is provided with attachment means at one end, for securing the fixture to the ceiling or wall or other base. In its present form it is screw threaded at said end and screws into a suitable support (not shown) fastened to the ceiling or wall. The usual canopy, *a*, surrounds the upper portion of the pendant stem as is customary. 13 designates ball members or other ornamental fixture members, and 14 designates necks, stems or other connecting members therebetween, which are joined to the ball members 13 by flexible joints, whereby the fixture is made flexible as will be presently set forth. Any desired number of necks, stems or other connecting members and ball members may be used to make up the fixture, depending upon the length of fixture desired. At the end a coupling 15 (see Fig. 9) of any desired type is employed for the attachment of the electric light socket 16 or other fixture member. The pendant stem 12, ball members 13, connecting members 14, and coupling 15 are made hollow to receive the conductor cords, and are preferably made of light gauge sheet metal formed up into the desired shapes.

The exact form of joint between the several members is not material to this invention, broadly considered, but it is simple in construction, and provides a simple means for easily and readily connecting together the several members of the fixture. In the form shown, the stems, necks or other connecting members 14 are formed with flanges 17, preferably convex in shape, so as to fit in and against the concave inner faces of the ball members as clearly seen in Fig. 4 and Fig. 6. The ball members 13 are formed

with holes 18 for the reception of the stem 12 and connecting members 14, the holes being preferably placed diametrically opposite each other, as shown, whereby the stems and ball members may be aligned to provide a flexible fixture having a continuous passage therethrough for the conductor cords.

To enable the several members to be readily assembled, slits 19 are made in the shells of the ball members, which slits extend back from the holes 18, and slits 20 are made in the flanges 17, of the stem 12 and connecting members 14, there being one slit at each hole 18 and one in each flange 17. In assembling a stem or connecting member and a ball member, the flange 17 of the stem or connecting member is inserted into the hole 18 and slit 19, as seen in Fig. 5, and the stem or connecting member is turned around, bringing the remainder of the flange into the hollow of the ball member through the slit. When the slit of the stem or connecting member passes the slit of the ball member, the entire flange is contained in the hollow of the ball member, and the two parts are thereby flexibly connected. In this manner the entire length of fixture may be easily assembled, and the coupling 15 attached in the same manner. The wires or conductor cords may be inserted through the stem 12, connecting members 14 and ball members 13, as the parts are being assembled, or after the entire length of fixture has been made up, after which the wires are connected to the socket 16, and the latter secured to the coupling 15.

To make the flexible fixture more rigid so that it will maintain any shape into which it is bent, I provide inner friction flange holding members, as seen in Fig. 4, which friction members may comprise a tubular or spherical shell 30 contained in the ball members and fastened thereto, as for instance by a web 31 that runs from the shell 30 to the seam 32 between the two halves 33, 34, of which the ball member may be formed. The shell 30 has holes at its top and bottom through which the conductor cords pass, and it is spaced away from the inner face of the ball member far enough to permit the flange of a stem or connecting member to be inserted between it and the ball member. The shell covers the slit flanges and takes up the slack in the ball chain and also prevents chafing of the conductor cords.

In place of making the stems, necks or other connecting members 14 separate from the ball members 13, they may be made integral therewith or a permanent part thereof, as shown in Fig. 7. In this figure each ball member 13^a is illustrated as having at one end a short neck 14^a formed as a permanent part of the ball member, the neck terminating in a slitted concavo-convex flange 17^a. Opposite the neck the ball member is formed with a hole 18^a and the wall of the ball member contains a slit 19^a as in the form heretofore described. To give a certain amount of rigidity to the flexible fixture, or arm made up of the connected ball members, I provide friction members inside the ball members for frictionally holding the fixture or arm in any shape that may be given to it by bending it, and said friction members may comprise a hollow, hemispherical shell 30^a secured to the outer ball shell, as for instance by securing it in the seam between the two members 33^a, 34^a, thereof. Said shell 30^a has a hole of smaller size than the hole 18^a of the ball shell, through which the conductor cords pass.

The form of the invention illustrated in Fig. 7 provides an article that may serve as a fixture, or as a flexible arm for use in portable lamps, or wherever a flexible casing is needed for electric conductor cords.

The stems, necks or connecting members 14 and ball members 13, having the flexible joints described, provide simple means whereby ornaments may be made up for use in connection with lighting fixtures. Such an ornament is shown in Fig. 8, and comprises two ball members 13, a connecting stem 14, and loop members 21. One of the loop members is shown in Fig. 12 and comprises a ring or loop portion 22 and a convex slitted flange 23. The flanges of the loop members 22 are inserted into the outer holes of the ball members, and the loop portions 22 may be connected to chains or spindles as is common in electric lighting fixtures.

In place of the form of loop members shown in Fig. 12, a loop member may be made up from separate parts comprising a concavo-convex slitted flange 24, as shown in Fig. 10, and a loop member 25, as shown in Fig. 11, said loop member 25 having a threaded stud 26 which is inserted through a hole 27 in the flange 24, and being provided with a nut 28 that may be turned down on the flange 24 to secure it to the loop member 25.

With the several parts above described, various forms of fixtures or portable lamps may be constructed besides the ones illustrated. For instance, the loop member 21, or the one made of the parts 24, 25, may be secured in the lower ball member 13 of the fixture seen in Fig. 1, in which case the lower end of the fixture will appear as shown in Fig 8 to which a socket may be attached. Other designs may be readily made up to suit the taste.

More or less variation of the exact details of construction is possible without departing from the spirit of this invention; I desire, therefore, not to limit myself to the exact form of the construction shown and

described, but intend, in the following claims, to point out all of the invention disclosed herein.

I claim as new and desire to secure by Letters Patent:

1. A flexible chain for electric lighting fixtures and portable lamps comprising ball members, each of which at one end is concavo-convex and formed with a hole and a slit extending back from said hole and each of which has connected therewith at its opposite end a neck portion, said neck portions each having a slit concavo-convex flange, said flange being insertable into an adjacent ball member through the hole and slit thereof to flexibly connect said ball members together.

2. A flexible chain for electric lighting fixtures and portable lamps, comprising ball members, each of which at one end is concavo-convex and formed with a hole and a slit extending back from said hole and each of which has connected therewith at its opposite end a neck portion, said neck portions each having a slit concavo-convex flange, said flange being insertable into an adjacent ball member through the hole and slit thereof to flexibly connect said ball members together, and friction elements, one secured in each ball member and frictionally bearing against the flange held therein.

3. A flexibly chain for electric lighting fixtures and portable lamps, comprising ball members, each of which at one end is concavo-convex and formed with a hole and a slit extending back from said hole and each of which has connected therewith at its opposite end a neck portion, said neck portions each having a slit concavo-convex flange, said flange being insertable into an adjacent ball member through the hole and slit thereof to flexibly connect said ball members together, and hollow hemi-spherical shells, one secured in each ball member and frictionally engaging the flange held therein, to keep said members from longitudinal movement with respect to each other.

4. In a flexible chain for electric lighting fixtures and portable lamps, hollow necks formed with slitted flanges on their ends, hollow ball members in which said flanges are seated, and open ended shell secured in said ball members and covering said slitted flanges.

5. A hollow connecting member having a slit concavo-convex flange, and a hollow ball member having a hole in one end and a slit extending back from said hole, said flange being insertable into said ball member through the hole and slit thereof.

MAX HERSKOVITZ.