

H. F. HUTCHINSON.
ELECTROLIER FIXTURE.
APPLICATION FILED JUNE 16, 1909.

969,283.

Patented Sept. 6, 1910.

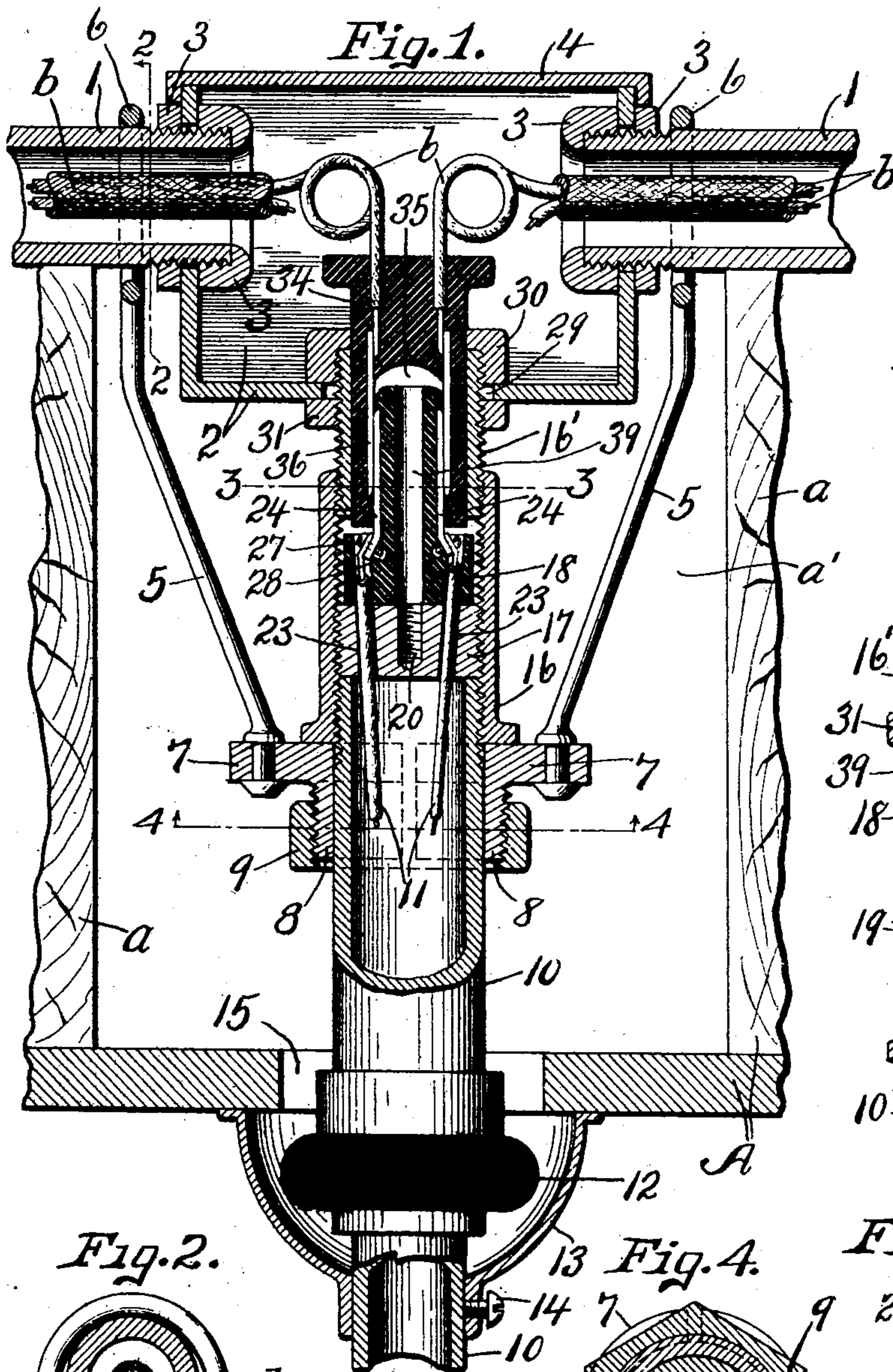


Fig. 6.

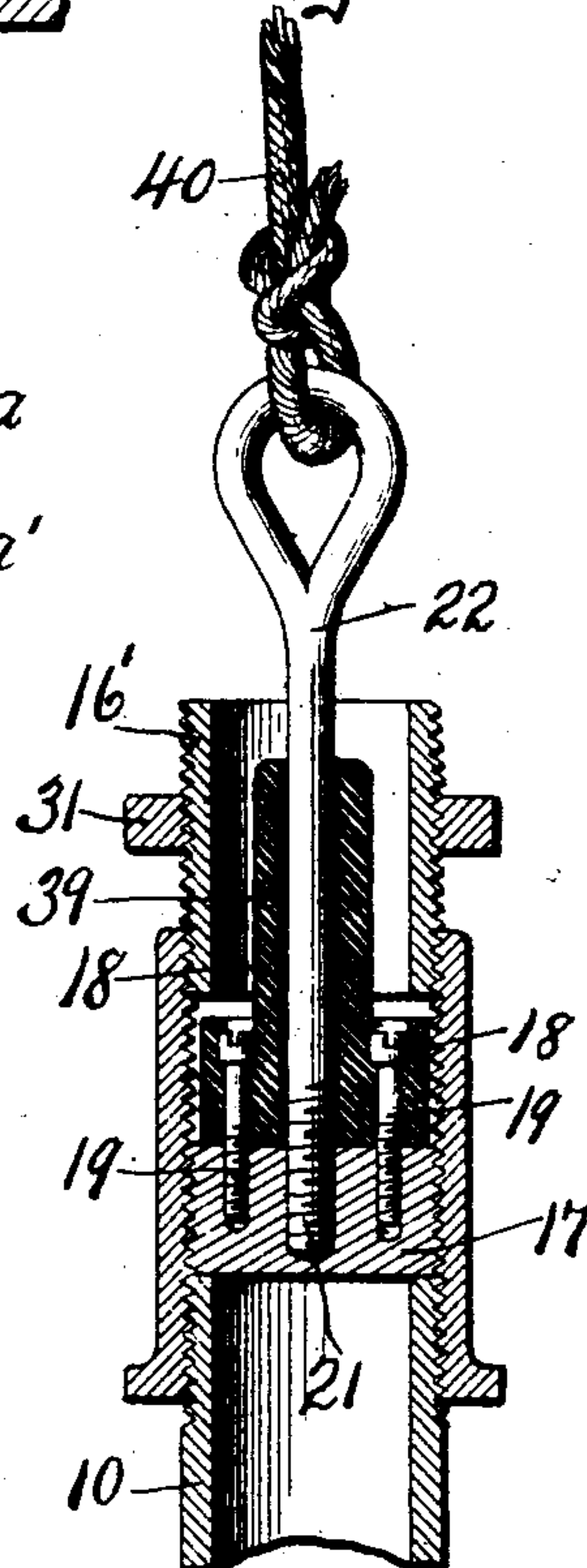
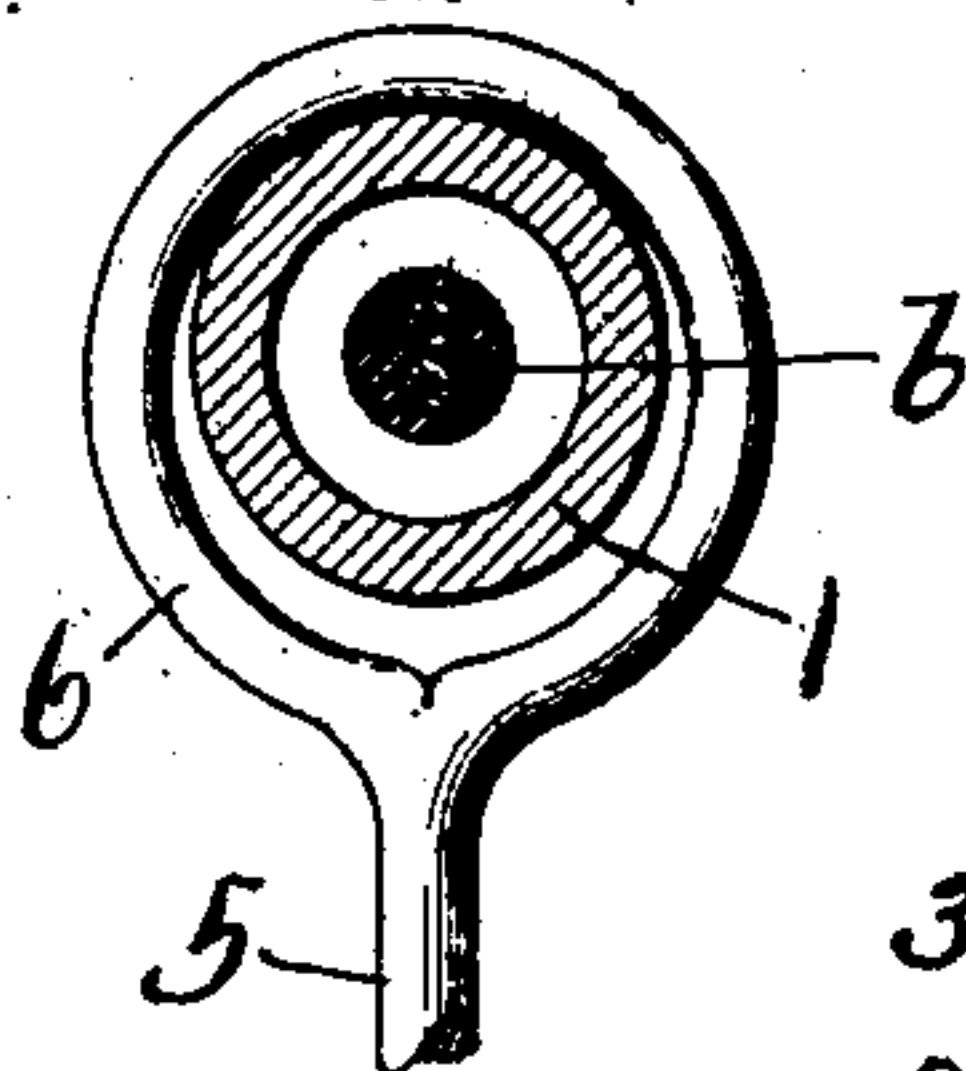


Fig. 2.



WITNESSES.

A. C. Thomas
W. E. Chase

Fig. 3.

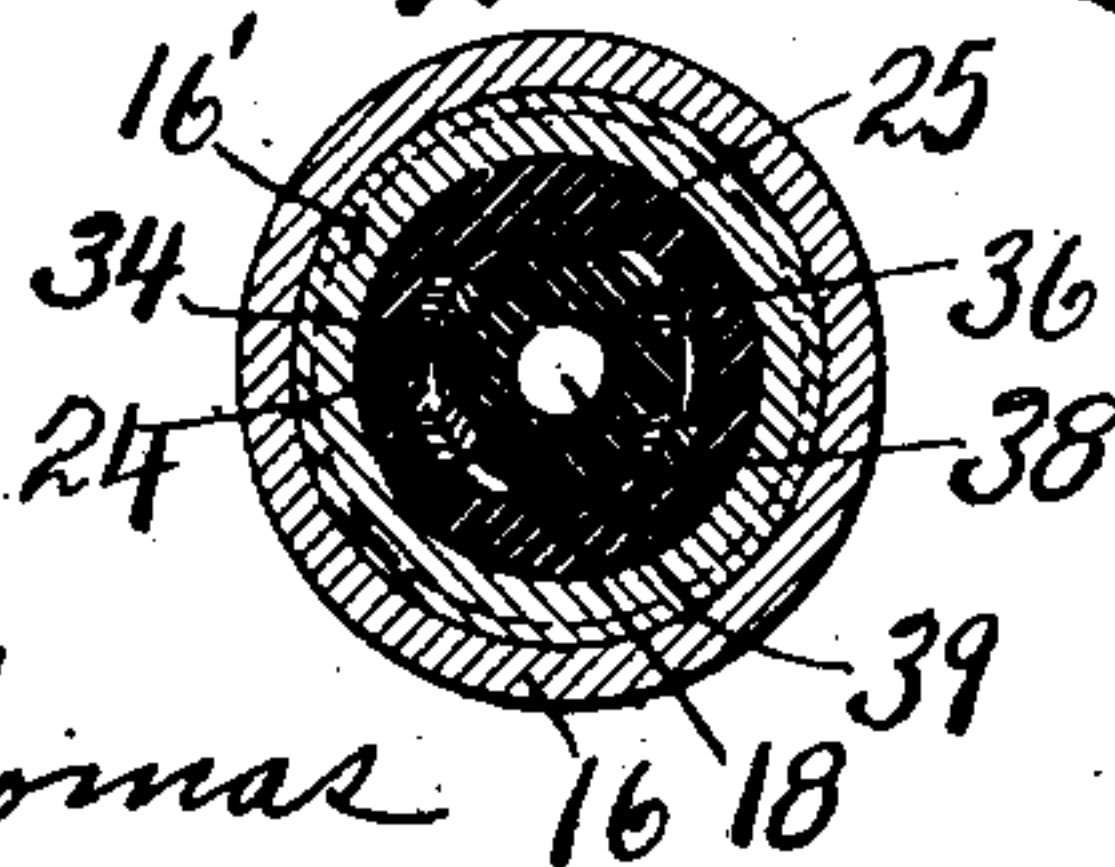


Fig. 4.

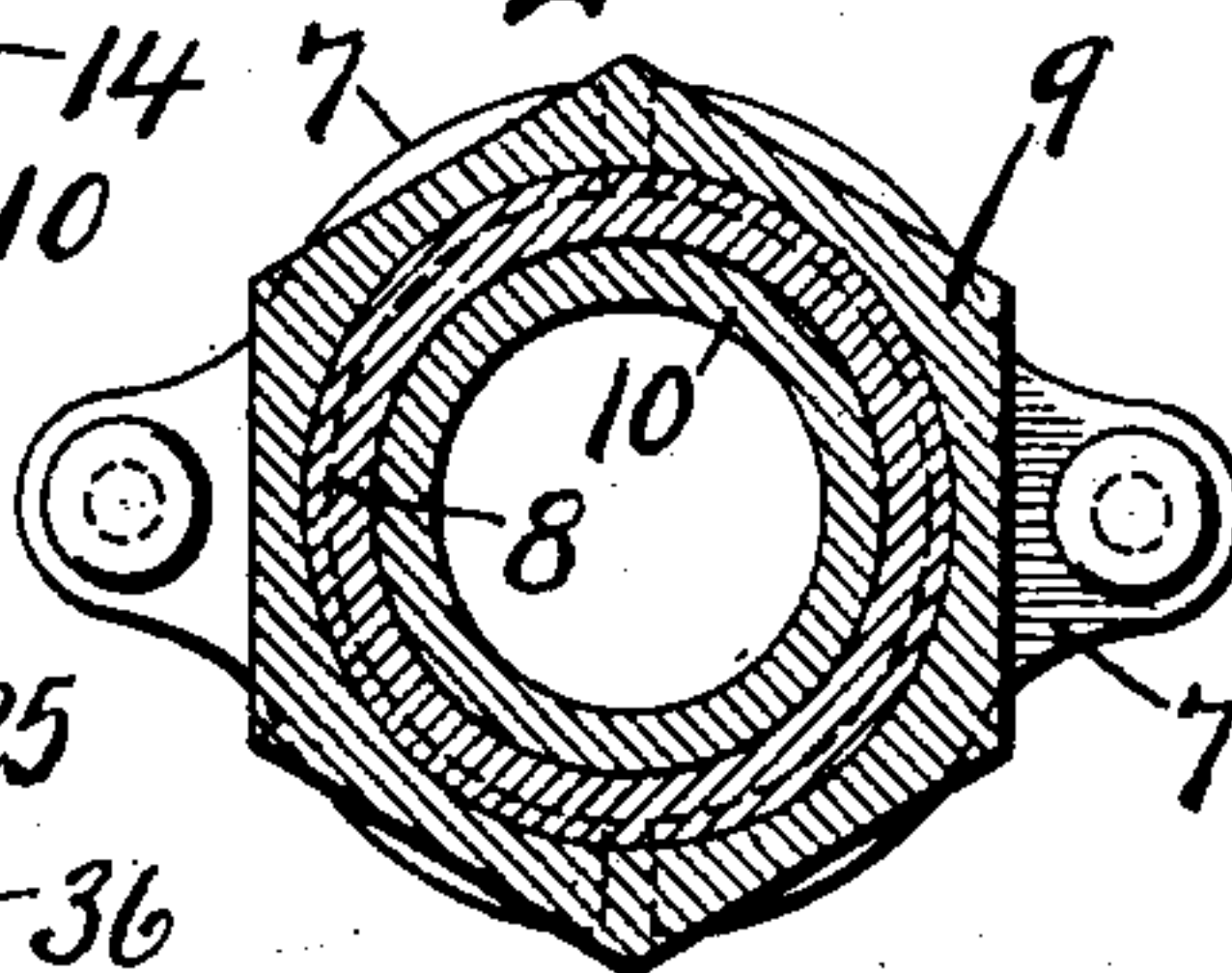
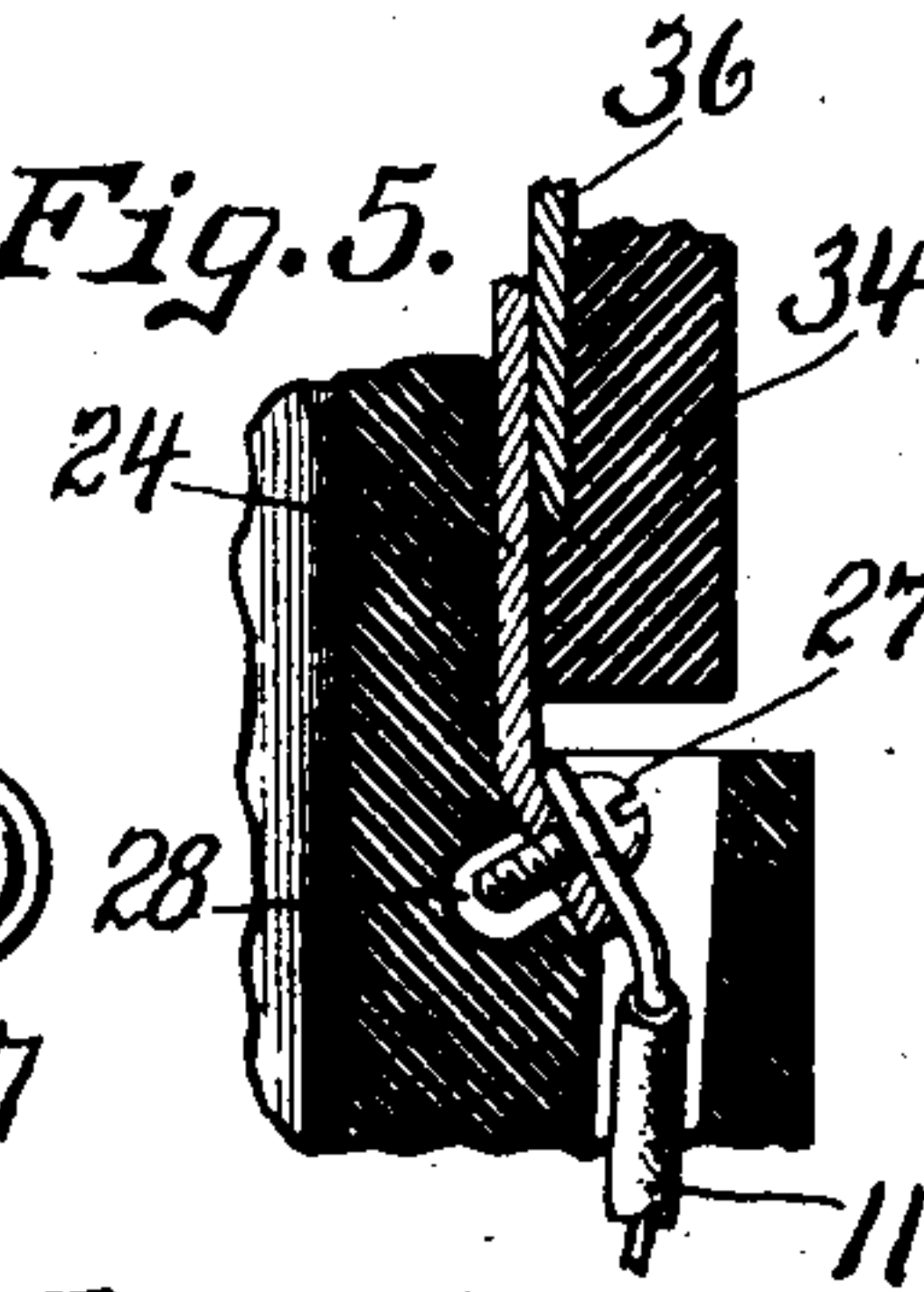


Fig. 5.



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UNITED STATES PATENT OFFICE.

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ELECTROLIER-FIXTURE.

969,283.

Specification of Letters Patent.

Patented Sept. 6, 1910.

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To all whom it may concern:

Be it known that I, HAROLD F. HUTCHINSON, of Rochester, in the county of Monroe, in the State of New York, have invented new and useful Improvements in Electrolier-Fixtures, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to certain improvements in hangers for electroliers and similar lighting fixtures for churches and other auditoriums where a large number of lamps are supported upon a single hanger and suspended from the ceiling high above the floor. In the installation of these electroliers the feed wires are usually brought through suitable conduits in the loft or attic of the building into a suitable outlet or junction box where they are connected to conductors extending downwardly through the tubular hanger to the several lamps on the fixture, and my main object is to provide a hanger which will securely retain the fixtures in operative position and at the same time permit such fixture to be readily lowered at any time when it may become necessary to replace the burned lamps with new ones, or to otherwise repair or clean such fixture or lamps. In other words I have sought to provide a hanger for droplighting fixtures such as electroliers which will not only render the fixture and attachments safe against fire from short circuits and similar causes, but will enable such fixture to be readily detached from the hanger and lowered to within easy reaching distance from the floor when necessary.

Other objects and uses relating to specific parts of the device will be brought out in the following description:

In the drawings—Figure 1 is a sectional view partly in elevation of my improved hanger and adjacent portion of a floor or ceiling from which it is suspended. Figs. 2, 3 and 4 are sectional views taken respectively on lines 2—2, 3—3 and 4—4, Fig. 1. Fig. 5 is an enlarged detail sectional view of the lower end of one side of the insulator sleeve to which the ends of the wires from the electroliers are attached showing portions of the sliding contacts and one of the binding posts or screws. Fig. 6 is a detail sectional view of the upper portion of the hanger shown in Fig. 1 illustrating the manner of attachment of the I-bolt to such fixture for raising and lowering the same.

—A— represents the floor or ceiling of a building, usually the attic or loft floor, and —a— the floor joists which are spaced apart forming an intervening chamber —a'— through which portions of the hanger presently described are to extend.

The feed wire conduits, as —b—, which are usually led to the loft or attic are passed through suitable pipes or conduits —1—, the latter resting upon, and preferably secured to, the upper side of the floor or joists —a— preferably from opposite sides of the opening —a'— where they terminate some distance apart in a suitable outlet box —2—. This outlet box is secured to the inner ends of the pipes —1— by suitable nuts —3— and is provided with a cap —4— to properly inclose the connections between the feed wires —b— and the conductors which lead into the fixture.

Two or more hanger arms —5— are provided at their upper ends with eyes or rings —6— which are loosely fitted over and upon the inner ends of the pipes —1—, preferably just outside of the adjacent ends of the outlet box —2—, said hanger arms extending downwardly into the space —a'— between the joists —a—, their lower ends being secured to opposite semi-annular clamping bars —7—. These semi-annular clamping bars are provided with externally threaded nipple sections —8— adapted to be engaged by a nut —9— for clamping the sections —7— upon and around a pipe section —10—. This pipe —10— constitutes a part of the fixture which the hanger is adapted to support and affords a common conduit for the wires, as —11—, which lead from the pipe —10— to the several lamps (not shown) of said fixture. These pipes —10— are usually provided with an insulating joint —12— which, in this instance, is located just below the ceiling —A— and is inclosed by a suitable rosette or casing —13—, the latter being secured in its adjusted position against the under side of the ceiling —A— by suitable fastening means, as a set screw —14—, Fig. 1. This pipe —10— is passed through an opening —15— in the ceiling and is threaded externally at its upper end for receiving one end of a threaded sleeve or metal coupling section —16—, said sleeve being preferably threaded internally throughout its length for receiving an externally threaded metal bushing —17— and a pipe nipple —16'—, the metal section —17— being

screwed into the coupling section —16— some distance beyond its upper end and against the upper end of the pipe —10— so as to occupy a position substantially midway between the ends of the coupling —16—.

5 A porcelain sleeve —18— is secured by suitable fastening screws —19— to the upper end of the bushing —17—, as best seen in Fig. 6. This bushing —17— is provided with a centrally threaded aperture or socket 10 —20— for receiving the lower threaded end —21— of an I-bolt —22—, and is also provided with openings —23— through which the wires —11— from the electroliers are 15 passed.

Secured to the outer upright sides of the insulator sleeve —18— is a plurality of, in this instance, four metal contact bars or conductors —24—, the number depending upon 20 the number of wires which lead into the pipe —10—, each of said conductors being, in this instance, beveled transversely and fitting into corresponding beveled grooves —25— in the outer face of the insulator sleeve —18— so as to hold the conductors 25 against lateral movement. The lower ends of these conductors are preferably deflected downwardly and outwardly and are provided with threaded apertures for receiving 30 binding screws —27— by which the upper ends of the wires —11— are electrically connected to the conducting bars —24—, said screws being of sufficient length to enter sockets —28— in the adjacent sides of the 35 insulator sleeve and thereby prevent endwise displacement of the conductor bars —24—.

The nipple —16'— is threaded at both ends and has its lower end screwed into the upper end of the coupling section —16— 40 above the bushing —17— with sufficient clearance between to receive the lower enlarged end of the insulating sleeve —18—. The upper end of the nipple —16'— is passed through the aperture —29— in the bot- 45 tom of the outlet box —2— and is engaged by a threaded cap —30— and lock nut —31—, the cap —30— being screwed against the upper face of the bottom of the outlet box —2— while the lock nut —31— is se- 50 cured against the lower face of said bottom, thereby firmly clamping the nipple —16— to the bottom of the outlet box, which, being mounted upon the inner ends of the pipes —1— affords additional support for the en- 55 tire fixture. Such fixture is supported mainly by the clamps —7— and hanger arms —5—. These clamps —7— fit snugly around the pipe —10— just below the lower end of the coupling —16— which rests upon 60 the upper face of the clamping section —7— when the latter is clamped in position upon the pipe —10—, thereby holding the pipe and fixture attached thereto against downward movement.

65 The nut —30— is provided with a central

opening alined with that in the nipple —16'— for receiving an insulating cap —34— of porcelain or equivalent material, said cap being passed through the opening 70 in the nut —30— and into the nipple —16'— and is provided with a central socket —35— of sufficient diameter to receive the upper portion of the insulating sleeve —18—. Secured to the interior walls of the socket —35— is a series of, in this instance, four 75 metal contact bars or conductors —36— arranged to conform to the position of the conducting bars —25— with which they are adapted to have sliding contact, said conducting bars —36— being permanently and 80 electrically connected to the wires —b— which are preferably embedded in the insulator cap —34—, as best seen in Fig. 1. The conducting bars —36— are also beveled in cross-section and fit in corresponding 85 beveled grooves —38— in the walls of the socket —35— so as to hold them against lateral movement.

The cap —34— with its conducting bars —36— constitute a plug adapted to be in- 90 serted into and removed from the nipple —16'—, the bars —36— having sliding contact with the corresponding bars —24— on the insulating sleeve —18— so as to establish electrical connection between the feed 95 wires —b— and the wires —11— which lead to the fixture of which the pipe —10— is a part.

The insulator sleeve —18— is provided with a central lengthwise opening —39— 100 therethrough and alined with the threaded socket —20— for receiving the I-bolt —22— when it is desired to raise or lower the fixture, it being understood that when the I-bolt —22— is to be secured into the socket 105 —20— through the aperture —39— in the sleeve —18—, the insulator cap or plug —34— is removed, thereby electrically disconnecting the wires —b— from the wires —11— which lead to the lamps of the fix- 110 ture.

Assuming now that it is desired to lower the fixture for any purpose, as, for example, replacing burned-out lamps, or for cleaning the various parts of the fixture; 115 the plug or cap —34— is first withdrawn by hand upwardly and laid one side, the adjacent ends of the feed wires —b— being sufficiently flexible to permit this movement, whereupon the I-bolt —22— is then inserted 120 through the opening —39— and screwed into the threaded socket —20— of the bushing —17—; and the cable, as —40—, which is attached to the eye of the bolt, may then be passed around any suitable sheave or 125 housing device (not necessary to herein illustrate or describe), whereupon the cable is tightened and fastened sufficiently to hold the fixture against downward movement. The cap nut —30— is then unscrewed from 130

the upper end of the nipple —16'— where-
upon the operator may grasp the end of the
cable —40— in one hand and then with the
other hand reach down into the opening
5 —a'— and unscrew the nut —9— from the
clamping sections —7—, allowing the lat-
ter, together with the hanger arms —5—,
to rock laterally away from the pipe —10—
and out from under the lower end of the
10 coupling —16—, whereupon the entire fix-
ture, together with the coupling —16—, nip-
ple —16'—, bushing —17—, sleeve —18—
and the lock nut —31—, may be lowered any
distance desired; and after the repairs are
15 completed such parts may be again raised
and reclamped in place by bringing the sec-
tions —7— together against the pipe —10—
and directly under the overhanging coupling
—16—, the nut —9— being screwed upon
20 the lower ends of the coupling sections —7—
to hold them in place, while the cap nut
—30— is similarly screwed upon the upper
end of the nipple —16'— and against the
upper face of the bottom of the outlet box
25 —2—, after which the I-bolt —22— may be
unscrewed and withdrawn and the plug
—34— re-inserted into the socket —35— to
establish electrical connection between the
feed wires —b— and wires —11— leading
30 to the lamps of the fixture.

What I claim is—

1. A drop light fixture for electric lamps
comprising a fixture pipe, fixed supports,
movable means mounted on said fixed sup-
35 ports and operatively connected to the fix-
ture pipe to support the same, and means
operatively connected to, but removable
from, the pipe for receiving a cable by
which the fixture may be raised and lowered.
40 2. A drop light fixture comprising a fix-
ture pipe, a clamp movable into and out of
engagement with the pipe, means for sup-
porting the clamp, a shoulder on the pipe
resting on said clamp, and means for at-
45 tachment to a cable operatively connected
to the fixture pipe, whereby said fixture
pipe and fixture may be raised and lowered
when the clamp is detached from said pipe.

3. An electric light fixture comprising a
50 fixture pipe, a hanger movable into and out
of engagement with the pipe for supporting
and releasing the same, and means for at-
tachment to a cable movable into and out of
operative connection with the pipe for sup-
55 porting the same independently of the

hanger and permitting said pipe and fixture
to be raised and lowered when the hanger is
released from engagement with the pipe.

4. An electric light fixture comprising a
fixture pipe, a metal threaded member oper- 60
atively secured to the fixture pipe and pro-
vided with a threaded socket, a hanger
movable into and out of engagement with
the pipe for holding and releasing the fix-
ture, and a screw threaded member screwed 65
into said socket and provided with means
for attachment to a cable whereby the fix-
ture may be raised and lowered when the
hanger is moved from its holding position.

5. In combination with the supporting 70
pipe of an electrolier, electric wires passing
through said pipe, contact terminals elec-
trically connected to said wires, an insulat-
ing sleeve operatively connected to the pipe
and supporting said terminals, feed wires 75
having contact terminals electrically con-
nected thereto and adapted to contact with
the first named terminals, an insulator sup-
port for the second contact terminals mov-
able relatively to said sleeve for bringing 80
the contact terminals into sliding contact
with each other, pipes inclosing the feed
wires, and hangers mounted on the feed
wire pipes and movable into and out of
engagement with the fixture pipe for sup- 85
porting and releasing the same.

6. In combination with the supporting
pipe of an electrolier fixture, a coupling
secured to the pipe, a bushing secured with-
in the coupling and provided with a cen- 90
trally threaded socket, a fixture support
movable into and out of engagement with
the pipe and forming a seat for the coupling
when in operative position, an outlet box
above the coupling, a nipple connecting said 95
outlet box and coupling, an insulating
sleeve secured to the bushing and provided
with a central aperture, and a threaded
member passed through said sleeve and en-
gaged with said threaded socket and pro- 100
vided with means for attachment to a cable
whereby the fixture may be raised and
lowered when the supporting means is dis-
engaged from the pipe.

In witness whereof I have hereunto set 105
my hand this 9th day of June, 1909.

HAROLD F. HUTCHINSON.

Witnesses:

WM. H. BEACH,
RAIMAN HARRIS.