

No. 870,736.

PATENTED NOV. 12, 1907.

H. R. MITCHELL.
ELECTRIC FIXTURE.

APPLICATION FILED FEB. 23, 1907.

2 SHEETS—SHEET 1.

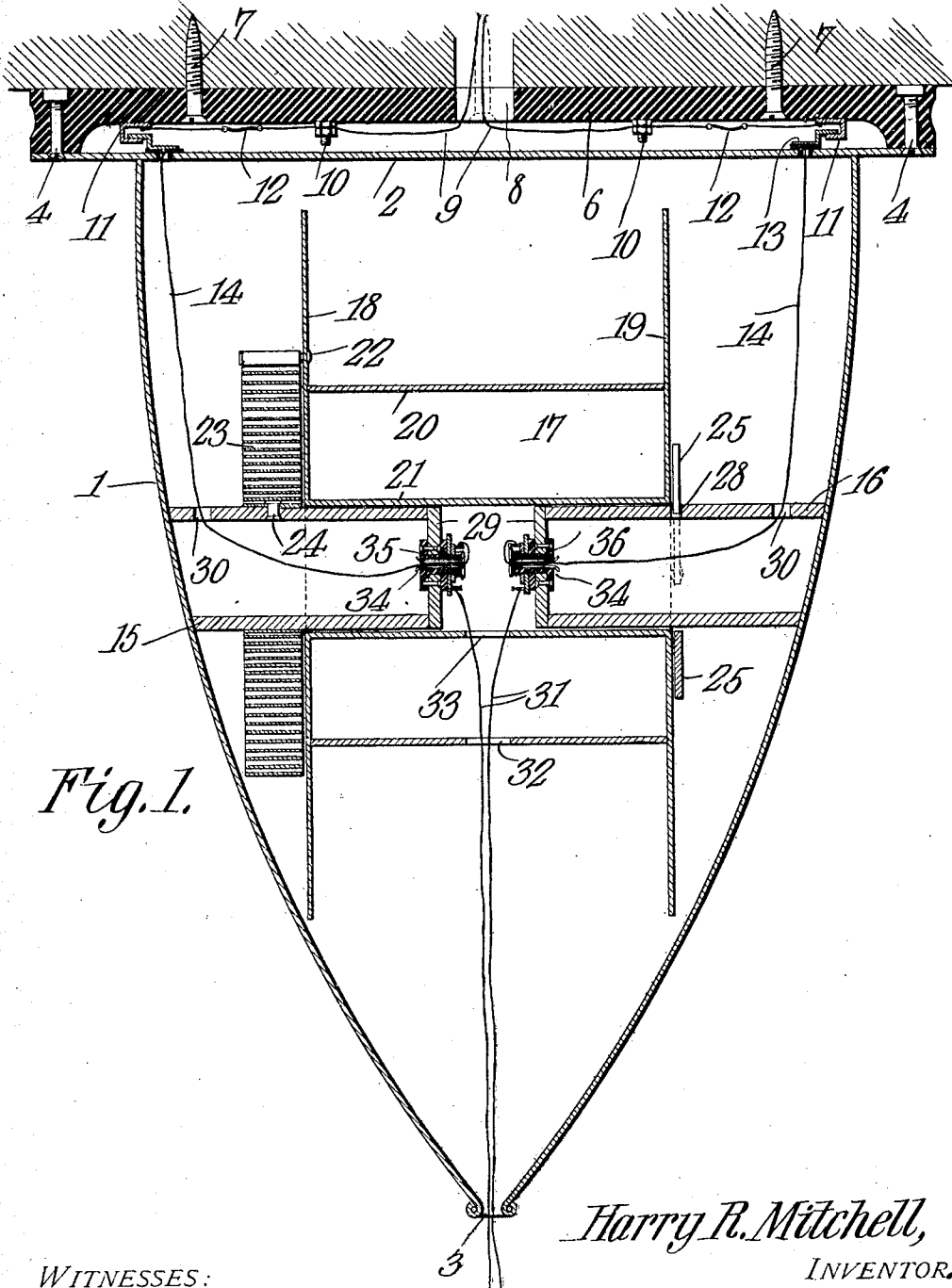


Fig. 1.

WITNESSES:

E. H. Stewart
F. J. Chapman

Harry R. Mitchell,
INVENTOR.

By *C. A. Snow & Co.*
ATTORNEYS

No. 870,736.

PATENTED NOV. 12, 1907.

H. R. MITCHELL.
ELECTRIC FIXTURE.
APPLICATION FILED FEB. 23, 1907.

2 SHEETS—SHEET 2.

Fig. 2.

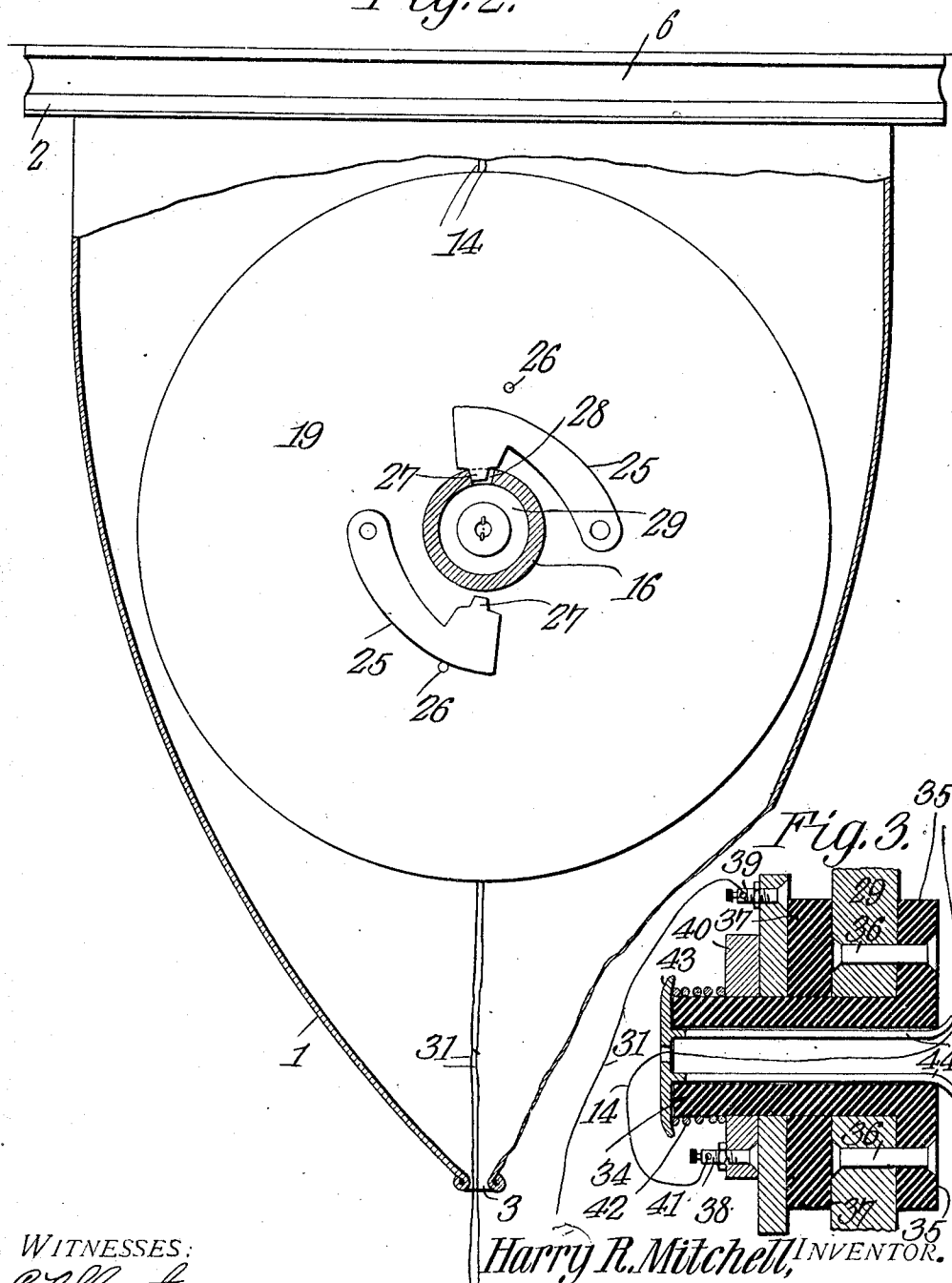
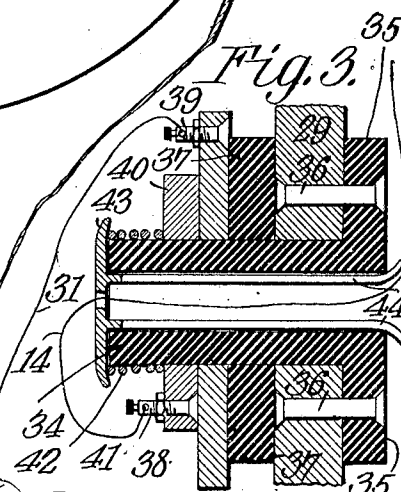


Fig. 3.



WITNESSES:

E. J. Stewart
J. T. Chapman

Harry R. Mitchell, INVENTOR.

By *C. A. Snow & Co.*
ATTORNEYS

UNITED STATES PATENT OFFICE.

HARRY R. MITCHELL, OF NORTH YAKIMA, WASHINGTON.

ELECTRIC FIXTURE.

No. 870,736.

Specification of Letters Patent.

Patented Nov. 12, 1907.

Application filed February 23, 1907. Serial No. 358,881.

To all whom it may concern:

Be it known that I, HARRY R. MITCHELL, a citizen of the United States, residing at North Yakima, in the county of Yakima and State of Washington, have invented a new and useful Electric Fixture, of which the following is a specification.

This invention has reference to improvements in electric drop fixtures intended more particularly to be fastened to a ceiling but which may be otherwise fastened if desired, and its object is to provide a means whereby a flexible conductor for transmitting current may be withdrawn into a protecting casing when not in use, or withdrawn therefrom when an electric translating device connected to the said flexible conductor is to be moved from place to place within the space limited by the length of said conductor.

The invention consists essentially of a spring-controlled reel in a suitable protecting casing and means whereby current may be transmitted from a fixed contact to contacts rotating with said reel so as to bring no strain upon the flexible conductor and to avoid any liability of twisting the latter so as to break the same.

The invention also consists in a certain construction of current transmitting devices whereby the current is safely carried from a stationary contact to a movable contact, so that reliability of contact is maintained under the varying conditions of use.

All this will be fully set forth in the following description illustrated by the accompanying drawings, in which,—

Figure 1 is a longitudinal vertical section through a ceiling fixture constructed in accordance with my invention; Fig. 2 is a longitudinal section, partly in elevation, taken to one side of the reel for the flexible conductor and centrally through the casing; and Fig. 3 is a central section through one of the rotary couplings for transmitting the current.

Referring to the drawings, there is shown a casing 1 of appropriate shape and having a wider portion covered by a plate 2 and the other and narrower portion terminating in a small opening 3 centrally located. The plate 2 projects at each end beyond the casing and is there secured by bolts 4, or otherwise, in an insulating ceiling plate 6 which, in turn, is secured to the ceiling or wall by screws 7. The plate 6 has a central perforation 8 through which come conductors 9 spreading apart to diametrically oppositely located binding posts 10, between which and U-shaped clips 11 near the margins of the plate 2 are located fuses 12. Mounted upon the plate 2 are fingers 13, suitably insulated therefrom and arranged to engage in the U-shaped clips 11 and make good electrical contact therewith, and from each finger 13 there extends a conductor 14 into the interior of the casing. Located about mid-

way between the top and bottom ends of the casing are two inwardly-projecting sleeves 15—16 fast at their outer ends to the casing and separated for a distance at their inner contiguous ends. These two sleeves constitute the supporting axis of a drum 17 comprising two end plates 18 and 19 and two concentric cylindrical portions 20 and 21. To the end plate 18 is secured, by means of a stud 22, one end of a spring 23, the other end of which is connected by a stud 24 to the cylindrical sleeve 15. To the sleeve 16 are secured at diametrically opposite points two gravity dogs 25—25 limited in their movement outward by stops 26 and each having formed on one side of its head a tooth 27 arranged to engage in a slot 28 formed in the sleeve 16 in the path of these two teeth 27—27. This structure is most clearly shown in Fig. 2.

The contiguous ends of the sleeves 15—16 are closed by an end plate 29, and this end plate is centrally perforated for the passage of conductors in a manner to be presently described.

The conductors 14 enter the sleeves 15—16 through perforations 30 and extend to and make connection with other conductors 31 which, in practice, will be inclosed in suitable insulating material and be formed into a flexible conducting cord to the free end of which will be attached an electric translating device to which this fixture is designed to transmit current. The flexible conducting cord 31 is designed to be rolled upon the cylindrical portion 20 of the reel and passes through a suitable perforation 32 therein and through another perforation 33 in the inner cylindrical portion of the reel and is put into electrical connection with the conductors 14 through a structure which I will now proceed to describe, having more especial reference to Fig. 3 where the structure is shown on an enlarged scale.

In Fig. 3 the end plate 29 of the sleeve 16 is shown as centrally perforated and through this perforation extends an insulating sleeve 34 having formed thereon, so as to rest against the inner face of the head 29, a flange 35 through which by means of rivets, screws, or bolts 36 the sleeve 34 is made fast upon the head 29. Surrounding the sleeve 34 upon the side of the head 29 opposite the flange 35 there is an insulating washer 37, and resting against this washer is a metallic plate 38 carrying near its periphery a binding post 39. This plate 38 is intended to revolve upon the sleeve 34 between the insulating washer 37 and another metallic plate 40, which latter carries near its periphery a binding post 41. This plate 40 is of less diameter than the plate 38 and is held against the same by a spring 42 bearing against a head 43 arranged against and having a peripheral extension around the end of the sleeve 34 and provided with legs 44 extending through the entire length of the sleeve 34 and up-turned at the ends, as

shown, to hold this head 43 against the contiguous end of the sleeve 34. The conductor 14 coming from the interior of the casing through the sleeve 15 or 16, as the case may be, is connected to the binding post 41 by the plate 40, and one of the two conductors of the flexible cord conductor 31 is connected to the binding post 39 by the plate 38. Now, this plate 38 is held frictionally between the washer 37 and the plate 40, and, therefore, there is a large rubbing contact between the plates 38 and 40 and good electrical connection at this point is thus assured. When the reel is rotated in either direction the plate 38 is carried around by the conductor 31 because of the rotation of the reel 17 and the space between the contiguous ends of the two sleeves 15 and 16 permits the conductor 31 to make complete rotation with the reel. Any tendency of the plate 40 to rotate will be prevented not only by the spring 42 but by the conductor 14 which is connected to the binding post 41 and carried thereby.

It will be seen that with this fixture, which is designed to carry on the reel a sufficient length of flexible conducting cord, the latter may be pulled out to any extent and locked in the extended position by means of one of the dogs 25, this pulling out of the cord at the same time winding up the spring 23. If, now, it is desired to cause the cord to be retracted into the casing, it is only necessary to pull the cord sufficiently to release the engaged dog 25 when the action of the spring will cause a rapid rotation of the drum and a throwing out of the dogs to the outer limit of their travel by centrifugal force. Whether the cord is being drawn into or pulled out of the casing, good contact is always maintained between the plates 38 and 40 and the continuity and safety of the circuit is thus at all times assured.

It will, of course, be understood that the outer casing 1 may be varied in shape in accordance with the desires and esthetic tastes of the manufacturer.

I claim:—

1. In an electric fixture, an insulating sleeve, a plate rotatably mounted thereon and connected to a movable electric conductor, another plate mounted directly on the insulating sleeve and in rubbing contact with the rotatable plate and in electrical connection with a fixed conductor, a removable head carried by the said insulating sleeve, and a spring interposed between said removable head and the fixed plate.

2. In an electric fixture, a fixed insulating sleeve, a rotatable plate mounted thereon and constituting the terminal of an electric circuit, another plate mounted upon said sleeve in contact with the first-named plate and constituting the terminal of a fixed electric circuit, a removable head for said sleeve having legs extending there-through and bent to hold said head in place, and a spring interposed between the outer edge of said head where it extends beyond the sleeve and said fixed plate.

3. An electric fixture comprising a reel, flexible conductors designed to be rolled thereon, hollow supports for said reel entering the same from the two ends and having their inner ends contiguous but out of contact, fixed terminals for an electric circuit mounted on said contiguous ends of the reel support, and movable terminals for the flexible conductors also mounted upon said inner ends of the reel support and making contact with the fixed terminals.

4. An electric light fixture comprising a suitable casing, a spring-controlled reel therein, gravity clutch devices for said reel, fixed supports for the reel entering the same from opposite ends and having their contiguous ends separated, fixed plates upon the said contiguous ends of the reel support connected to the terminals of an electric circuit, and movable plates in contact with the fixed plates and also supported by the contiguous ends of said reel support and connected to the terminals of a flexible cord conductor designed to be rolled upon said reel.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

HARRY R. MITCHELL.

Witnesses:

FRED H. MCCOY,
G. C. MITCHELL.