No. 865,377. PATENTED SEPT. 10, 1907.

J. H. GORDON.

AUTOMATIC SUSPENDING REEL FOR ELECTRIC INCANDESCENT LAMPS.

APPLICATION FILED JAN. 11, 1907.

2 SHEETS—SHEET 1.

Fig. 1.

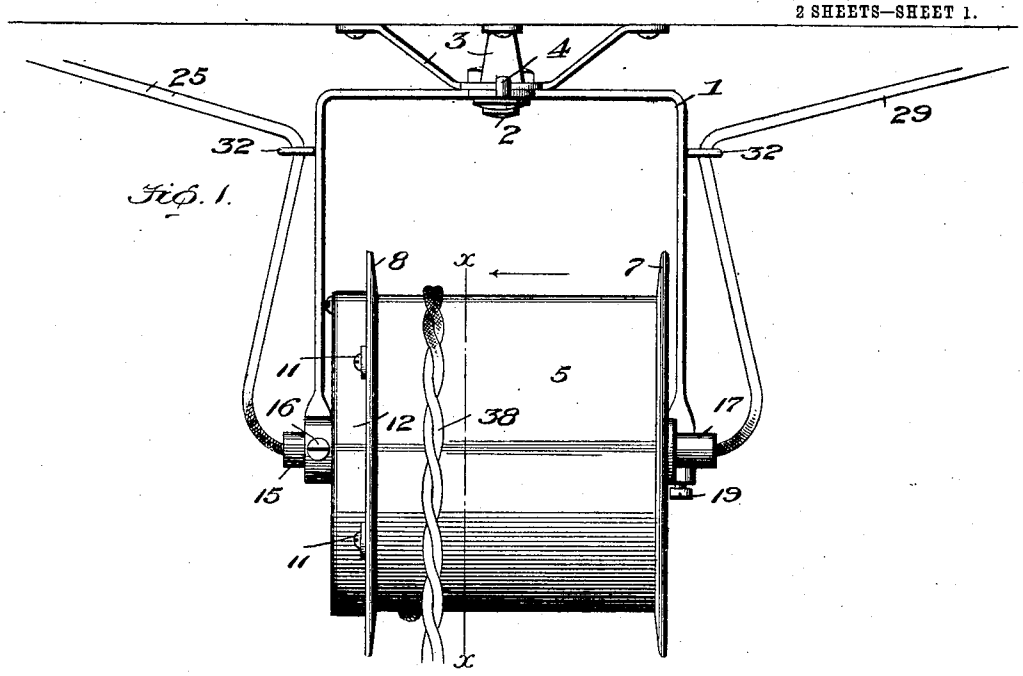


Fig. 1a.

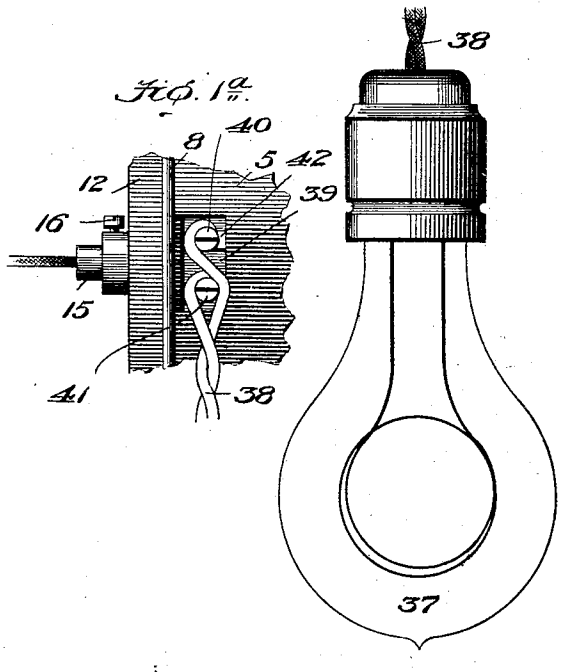
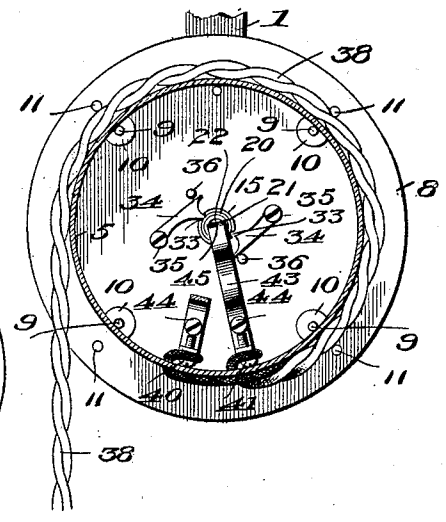


Fig. 2.



Witnesses.

Inventor.

John H. Gordon

By Henry N. Cobb

his Atty.

THE NORRIS PETERS CO., WASHINGTON, D. C.

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2 SHEETS—SHEET 2.

Fig. 3.

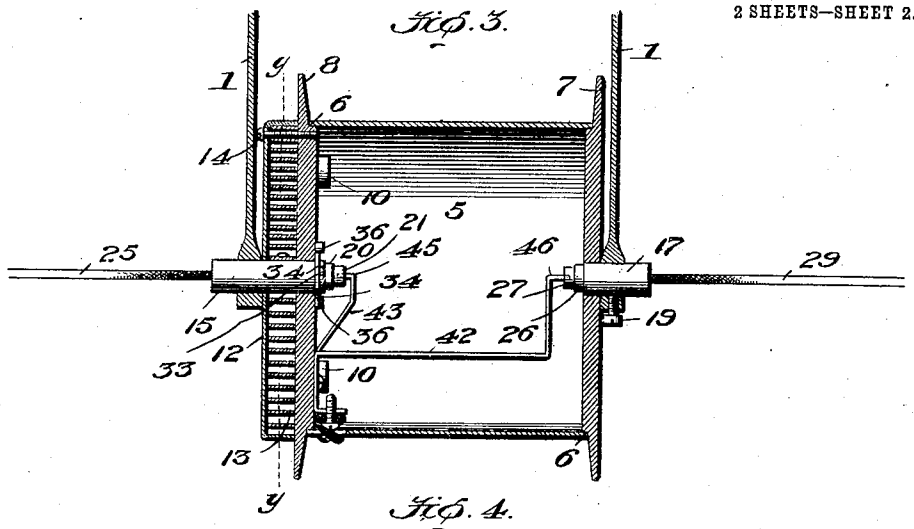


Fig. 4.

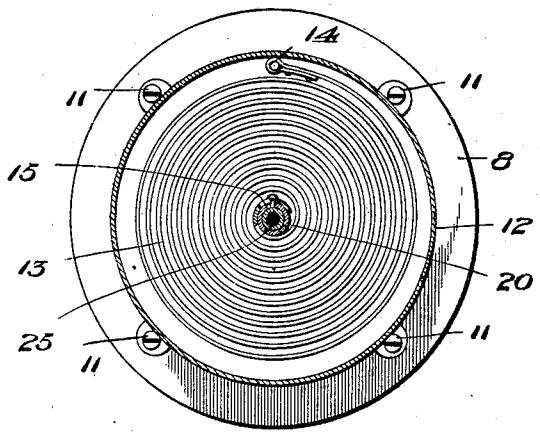


Fig. 5.

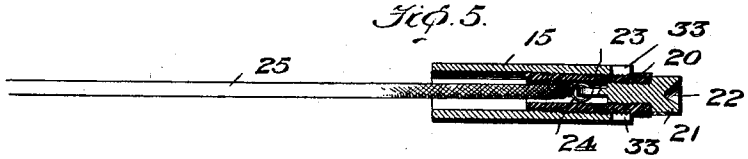
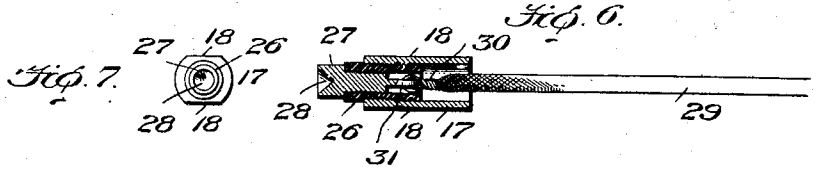


Fig. 6.

Fig. 7.



Witnesses.

John H. Gordon Inventor

by Henry N. Copp his Attty.

THE NORRIS PETERS CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOHN H. GORDON, OF SNOQUALMIE, WASHINGTON.

AUTOMATIC SUSPENDING-REEL FOR ELECTRIC INCANDESCENT LAMPS.

No. 865,377. Specification of Letters Patent. Patented Sept. 10, 1907.

Application filed January 11, 1907. Serial No. 351,807.

To all whom it may concern:

Be it known that I, JOHN H. GORDON, a citizen of the United States, residing at Snoqualmie, county of King, and State of Washington, have invented certain new and useful Improvements in Automatic Suspending-Reels for Electric Incandescent Lamps, of which the following is a specification.

My invention relates to automatic suspending reels for electric incandescent lamps.

The object of the present invention is the provision of an automatic suspending reel which will comprise few parts, will be compact, durable, easily taken apart, well insulated, afford superior electrical contacts, and which will be adaptable to swing or turn to different angles and will automatically hold the lamp at the desired height and be adapted for taking up or letting out of the lamp cord.

The invention is set forth fully hereinafter and the novel features are recited in the appended claims.

In the accompanying drawings:—Figure 1 is a side elevation; Fig. 1ª, a detail of the connections for the lamp-cord; Fig. 2, a section on line *x*—*x* of Fig. 1; Fig. 3, a vertical section of Fig. 1, with certain parts in full lines; Fig. 4, a section on line *y*—*y* of Fig. 3; Fig. 5, a longitudinal detail section of one of the stationary contacts; Fig. 6, a longitudinal detail section of the other stationary contact; and Fig. 7, an end view of Fig. 6 and also showing the form of the concavity of the contact of Fig. 5.

The reel is suspended by an inverted U-shaped metal frame 1, which is swiveled by a bolt 2 to a multi-armed spider 3 provided on one of its arms with a depending lug or pin 4 adapted to limit horizontal swinging of the frame 1.

The drum of the reel is composed of a hollow metal cylinder 5, overlapping shoulders 6 on end pieces or heads 7 and 8 which are of insulating material and secured thereto by screws 9 passing through ears 10 on the drum 5.

Secured by screws 11 to the head 8, is a casing 12 which contains a clock-spring 13, one of whose ends is secured by a screw 14 to the head 8, while its inner end is secured to a cylindrical metal axle 15 which extends through a circular opening in one of the arms of the frame 1 and is rigidly clamped to said arm, so as to be stationary, by a screw 16. The axle 15 extends through the head 8 in a loose fashion so that the reel can turn on said axle. At the other side of the reel there is a tubular metal axle 17 which is flat on both sides 18 (Figs. 6 and 7) and is received in an opening in the arm of frame 1, which conforms to the exterior of the said axle. The axle is secured rigidly to the arm of the frame by a screw 19. The axle 17 extends loosely through the head 7. With the construction described, it will be seen that the entire reel and the casing 12 are adapted to rotate on stationary axles 15 and 17 and in so rotating the clock-spring 13 is put under tension or allowed to relax, according to the direction in which the drum is turned, thus the said spring is under a certain amount of tension at all times.

The axle 15 has screwed into its interior a sleeve or bushing 20 of insulating material and into this sleeve or bushing is screwed, at the inner end thereof, a metal contact 21 which has a conical concavity 22. Formed integral with the contact 21 is an eye 23, through which the bare wire 24 of the insulated conductor 25 is passed and twisted.

The axle 17 has screwed thereinto an insulating sleeve or bushing 26 into which is screwed a metal contact 27 having a conical concavity 28, while 29 represents an insulated conductor whose conducting wire 30 is passed through an ear 31 integral with the contact 27, and twisted. The conductors 25 and 29 pass through eyes 32 on the frame 1.

The inner end of the axle 15 is provided with diametrically opposite notches 33 adapted to engage dogs 34 pivoted at 35 to the head 8 and whose outward swinging is limited by pins 36 on head 8. This arrangement causes the action to be very similar to that of an ordinary shade roller when the reel is turned.

To permit the electrical current to be conveyed to the incandescent lamp 37, said lamp is provided with a lamp-cord 38 which is adapted to wind on the drum 5 and has its respective strands led through an opening 39 (Fig. 1ª) of the drum and connected to binding posts 40 and 41 of metal strips 42 and 43 which are secured to the head 8 by screws 44. The metal strip 43 is provided with a pointed bent end 45 which is received in the concavity 22 and bears against the contact 21 by the springy action of said strip 43 which may be termed a terminal. The strip or terminal 42 extends nearly across the interior of drum 5 and terminates in a bent end which has a point 46 received in the concavity 28 and bearing against the contact 27. The manner in which the insulating bushings and contacts carried by the axles 15 and 17 are adjustable, renders it an easy matter to adjust the contacts so that a most excellent contact is had between the terminals and said contacts 21 and 27 and inasmuch as the terminals 41 and 43 are carried with the rotary drum, while the axles 15 and 17 are stationary, a scraping contact is obtained which insures the best conductivity at these terminals.

Upon pulling on the lamp or the cord, the drum is rotated against the action of the clock-spring, which tends to wind up the lamp-cord, but on account of the employment of the dogs 34, the rotation of the drum or reel is arrested at the desired point, in a well-known manner. The swiveling of the frame 1 permits of moving the lamp to any desired position.

The various parts being adjustable and detachable and on account of the adaptability of the axles 15 and 17 for removal, the reel may be quickly taken apart whenever desired.

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

1. In an automatic suspending reel, the combination with a rotary reel or drum, of electrical contacts disposed substantially at the axis of rotation of the drum, resilient electrical contacts carried by the drum and each bearing yieldingly against the respective electrical contacts aforesaid, and electrical conductors leading to the respective electrical contacts, one set of electrical conductors being adapted to wind on the drum.

2. In an automatic suspending reel, the combination with a rotary reel or drum, of stationary axles constituting a support for said drum, electrical contacts carried by said stationary axles and adjustable lengthwise thereof, yieldable electrical contacts carried by the drum and bearing against the respective electrical contacts aforesaid, and electrical conductors leading to the respective electrical contacts, one set of electrical conductors being adapted to wind on the drum.

3. In an automatic suspending reel, the combination with a rotary reel or drum, of electrical contacts disposed substantially at the axis of rotation of the drum and adjustable axially of themselves on being turned, said electrical contacts having eyes, electrical conductors attached to said eyes, electrical contacts carried by the drum and bearing against the electrical contacts aforesaid, and electrical conductors connected to the drum contacts and adapted to wind on the drum.

4. In an automatic suspending reel, the combination with a rotary reel or drum, of independent electrical contacts carried by the drum, electrical conductors connected to said electrical contacts and adapted to wind on the drum, stationary hollow axles on which said drum turns, electrical contacts carried by said hollow axles and bearing against the respective independent electrical contacts aforesaid, and electrical conductors attached to said electrical contacts last named.

In testimony whereof, I hereunto affix my signature in presence of two witnesses.

JOHN H. GORDON.

Witnesses:
CLARK KINSEY,
OTTO REINIG.