March 13, 1934. R. GIBSON 1,951,330

REEL FOR EXTENSION LIGHTS

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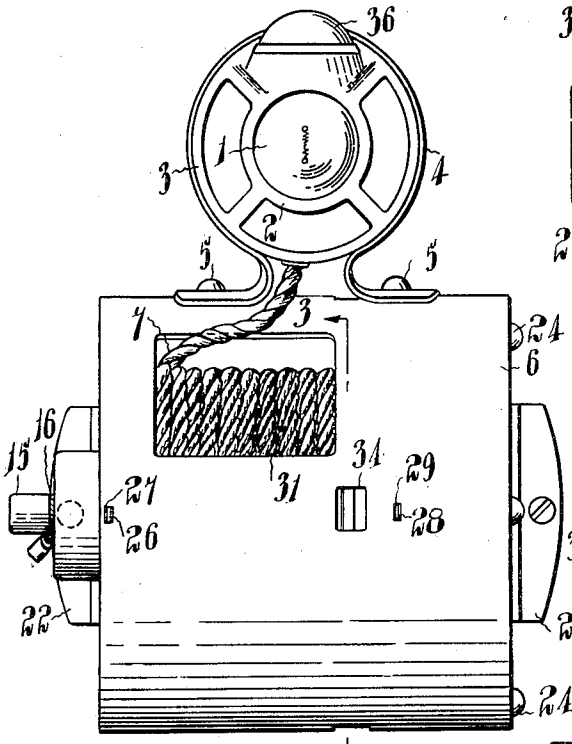


Fig. 1.

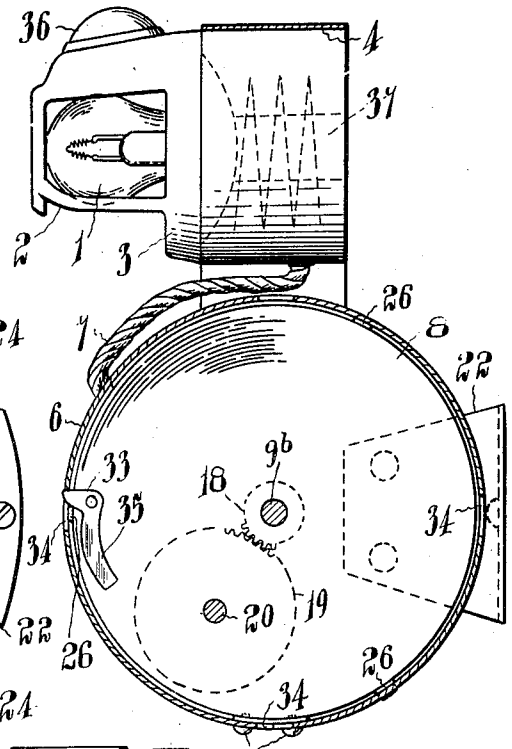


Fig. 3.

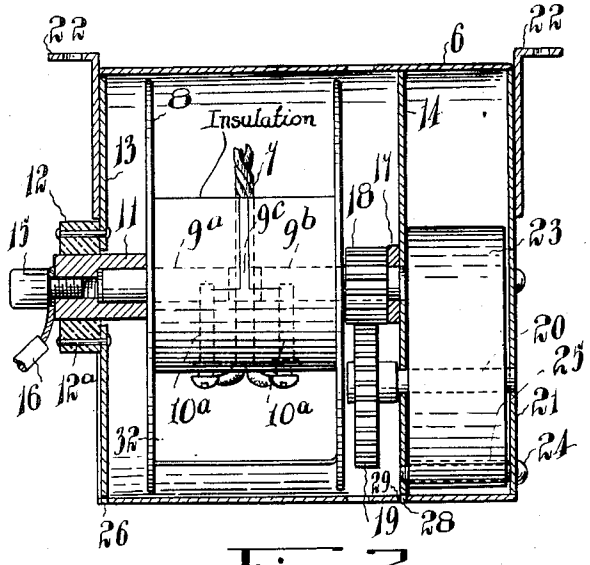


Fig. 2.

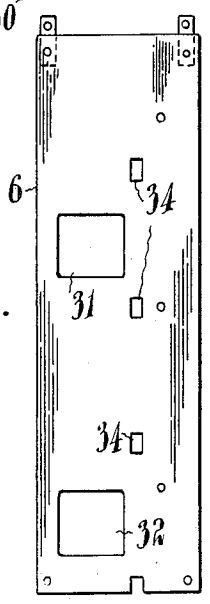


Fig. 4.

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REEL FOR EXTENSION LIGHTS

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7 Claims. (Cl. 242—109)

This invention relates to reels for extension lights for use on automobiles or other places where a light of this kind is useful.

My object is to devise a reel for extension light of simple construction which is automatically retained in any one of a plurality of extended positions and may be attached and will operate satisfactorily when attached to the dashboard of a motor car, to a ceiling, wall or floor, or in any other desired position; and may be used as a stationary light when not extended.

I attain my object by enclosing a drum on which the extension light cord is wound and a spring adapted to cause the drum to rotate, in a cylindrical casing having an opening for the cord on opposite sides thereof and being provided with suitably positioned supporting brackets and a bracket to support the light when in its contracted position. A stop device adapted to engage slots in the casing for retaining the light in its extended position is provided and is so arranged that it will operate in any position in which the light may be mounted.

My invention is hereinafter more particularly described and illustrated in the accompanying drawing in which

Fig. 1 is a front elevation;

Fig. 2 a horizontal section;

Fig. 3 a vertical section on the line 3—3 in Fig. 1, and

Fig. 4 a development of the casing.

In the drawing like numerals of reference indicate corresponding parts in the different figures.

The electric lamp 1 may be provided with any suitable guard 2 and a base 3 adapted to fit into a bracket 4 which is secured by means of bolts or rivets 5 to any convenient part of the cylindrical casing 6. The light cord 7 is wound on a drum 8. The drum 8 is constructed of insulating material and is mounted on a split shaft comprising two parts 9^a and 9^b separated at 9^c by an air space or suitable insulating material. The drum shaft is of suitable conducting material, and two bolts 10^a, 10^b pass through the drum into the shaft part 9^a and 9^b respectively. One of the wires in the cord 7 is connected to one of these bolts, the other is connected to the other bolt. The shaft end 9^a rotates in a metal bearing 11 which is supported by an annular insulating hub 12 which is secured to the cover plate 13 by means of bolts 12^a. A terminal screw 15 secures the lead wire 16 in electrical contact with the bearing 11. The axle end 9^b rotates in a bearing 17 secured to the cover plate 14. Mounted on the axle end 9^b between the drum 8 and the bearing 17 is a pinion 18 which meshes with a gear wheel 19 which is mounted on a shaft 20 which rotates on bearings in the cover plates 14 and 21. The bearing 17 and the cover plates 14 and 21 are made of metal and the shaft 9^b and the shaft 20 are not insulated therefrom, so that electric current operating the light passes in through the lead wire 16, through the bearing 11, the shaft end 9^a, the bolt 10^a and the cord 7 to the light and back again to the bolt 10^b, through the shaft end 9^b, and from thence through the cover plate 14 or 21 to the outer casing 6 and the supporting brackets 22 and thence to the ground. This electrical connection is particularly applicable for low voltage light, as, for example, on an automobile where the device is mounted on a metal part and grounding is readily effected to the automobile frame. And when the device is used with high voltage power, provision is made for a return wire, and provision may also be made for concealing and protecting terminals in any suitable manner.

A coil spring 23 is secured at one end to the shaft 20 and at the other end to a bolt 24 which passes through the cover plate 21 and is screwed into the cover plate 14 and is provided with a spacer collar 25. Two other similar sets of bolts and spacer collars are provided to retain the cover plates 21 and 14 in suitably spaced relationship.

Lugs 26 are secured to the cover plate 13 and extend beyond the periphery thereof and are adapted to engage openings 27 in the casing 6. Similar lugs 28 are secured to the cover 14 and extend through similar openings 29 in the casing 6. In assembling the device the cover plates 13, 14 and 21 are arranged in their co-acting positions and the casing 6 is then applied. The ends of the casing are clamped together by suitable bolts 30.

In the casing at diametrically opposite points are two openings 31 and 32 through which the cord 7 may pass. These openings are arranged at suitable positions relative to the supporting bracket 22 so that it is possible to use the device in a number of different positions without detaching the supporting bracket 22 from the casing or changing its position on the casing relative to said openings, for example, on the wall, ceiling or floor, or the dashboard of a car, where it is necessary for the cord to pass out

of the casing at different positions for satisfactory operation. With the provision of the two openings one casing will serve without alteration no matter at what radial angle the casing may be mounted.

It is necessary to provide a lock or stop device for the drum to prevent its rotation when the cord is pulled out and the lamp is in use as an extension light. A dog or pawl is pivoted to the drum 8 near the periphery thereof and is adapted to engage one of four slots 34 in the casing 6. The pawl comprises an engaging portion or nose 33 and a tail 35, which swings outwardly with centrifugal force when the drum is rapidly rotated and withdraws the pawl 33 from engagement with the slots 34, thus permitting the cord to be wound on the drum and the lamp 1 retracted. However, if the drum rotates slowly to wind up the cord the pawl will engage one of the slots 34 and stop or lock the drum, until the drum is again pulled forward and then allowed to rotate rapidly when the tail will swing out and withdraw the pawl, thus permitting the rotation of the drum.

The tail 35 of the dog or pawl is heavier than the nose 33, consequently it tends to hang perpendicularly by force of gravity but it is swung out by centrifugal force when the drum is rapidly rotated and the nose 33 is drawn inwardly. The nose 33 extends outwardly at substantially right angles to the tail 35 and its slot engaging face is flat while its back is rounded. Thus, if when the drum is being rotated to uncoil the cord the rounded back of the nose 33 contacts with the edge of one of the slots 34, it does not catch or engage owing to its rounded form. However, if the drum is slowly rotated in the opposite direction to coil the cord the tail tends to fall inwardly by force of gravity in the uppermost positions of the dog so that in one position of the pawl (illustrated in Fig. 3) the nose projects outwardly substantially horizontally so that its flat side engages the edge of the slot which is located at or substantially at the left end of a horizontal line through the axis of the reel.

The tail 35 is preferably slightly curved inwardly on its edge adjacent the casing so that it will not catch in the slots 34 as the drum rotates when the cord is being wound.

The slots 34 are equally spaced on the periphery of the casing 6, so that no matter in what position the device is mounted, the pawl will tend to engage one of the slots. This makes it possible to use this device when the casing is mounted with its axis substantially horizontal no matter at what radial angle it is mounted, as previously described.

The slots 34 are sufficiently long to permit sufficient play of the dog in the slot to allow a limited rotation of the drum without releasing the dog.

The lamp 1 is provided with a coloured bull's eye 36 supported by the guard 2 so that it may be used as a tail light when applied to a motor car. The lamp 1 is also provided with an electro-magnet 37, mounted in the base 3 of the lamp, so that it may be retained on any metal portion of the car.

Preferably, for use in motor cars about twenty feet of electric cord 7 is wound on the drum, and I use a strong spring 23 such as is ordinarily used to operate gramophone motors.

It will be seen from the above description that the objects of this invention have been achieved.

What I claim as my invention is:

1. A reel for a lamp end comprising a spring rotated drum; a cylindrical casing for the drum; a slot in the casing; and a dog pivoted to the drum near the periphery thereof and adapted to engage the slot in the casing, the weight of said dog being greater on one side of its pivot point than on the other whereby the heavier end drops by force of gravity when the drum is rotating slowly causing the dog to engage in the slot and whereby said heavier end swings outwardly by centrifugal force when the drum rapidly rotates withdrawing the dog from engagement with the slot.

2. A reel for a lamp end comprising a spring rotated drum; a cylindrical casing for the drum; a slot in the casing; and a dog pivoted to the drum near the periphery thereof, said dog comprising a tail portion and a nose portion, the weight of the tail being greater than the weight of the nose, whereby the tail normally drops by force of gravity causing the nose to engage in the slot and swings outwardly when the drum is rapidly rotated and throws the nose out of engagement with the slot.

3. A reel for a lamp end comprising a spring rotated drum; a cylindrical casing for the drum; a slot in the casing; and a dog pivoted to the drum near the periphery thereof, said dog comprising a tail portion and a nose portion extending outwardly at substantially right angles to said tail portion, the weight of the tail being greater than the weight of the nose, whereby the tail normally drops by force of gravity causing the nose to engage in the slot and swings outwardly when the drum is rapidly rotated and throws the nose out of engagement with the slot.

4. A reel for a lamp end comprising a spring rotated drum; a cylindrical casing for a drum; a slot in the casing; and a dog pivoted to the drum near the periphery thereof, said dog comprising a tail portion slightly curved inwardly on its edge adjacent the casing and a nose portion extending outwardly at substantially right angles to said tail portion, the weight of the tail being greater than the weight of the nose, whereby the tail normally drops by force of gravity causing the nose to engage in the slot and swings outwardly when the drum is rapidly rotated and throws the nose out of engagement with the slot.

5. A reel for a lamp end comprising a spring rotated drum; a cylindrical casing for the drum; a bracket for supporting the casing; a dog pivoted to the drum near the periphery thereof, and having a nose and a weighted tail normally adapted to drop by force of gravity and to swing out by centrifugal force when the drum is rotated rapidly to wind up the cord; and a plurality of circumferentially spaced slots in the casing so arranged relative to the bracket that when the casing is mounted with its axis substantially horizontal the nose of the dog may engage one or more of said slots no matter at what radial angle the casing is mounted.

6. A reel for a lamp end comprising a spring rotated drum; a cylindrical casing for the drum; a bracket for supporting the casing; a dog pivoted to the drum near the periphery thereof, the weight of said dog being greater on one side of the pivot point than the other whereby the heavy end normally drops by force of gravity and swings out by centrifugal force when the drum is rotated rapidly to wind up the cord; and a plurality of circumferentially spaced slots

in the casing so arranged relative to the bracket that when the casing is mounted with its axis substantially horizontally the dog may engage one or more of said slots no matter at what radial angle the casing is mounted.

7. A reel for a lamp end comprising a spring rotated drum; a cylindrical casing for the drum; a slot in the casing; and a dog pivoted to the drum near the periphery thereof and adapted to engage the slot in the casing, the weight of said dog being greater on one side of its pivot point than on the other whereby the heavier end drops by force of gravity when the drum is rotating slowly causing the dog to engage in the slot and said end swings outwardly by centrifugal force when the drum rapidly rotates withdrawing the dog from engagement with the slot and the said slot being sufficiently long to permit sufficient play of the dog in the slot to allow limited rotation of the drum without releasing the dog.

RONALD GIBSON.