

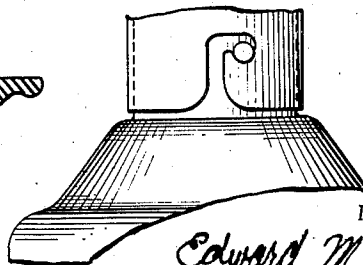
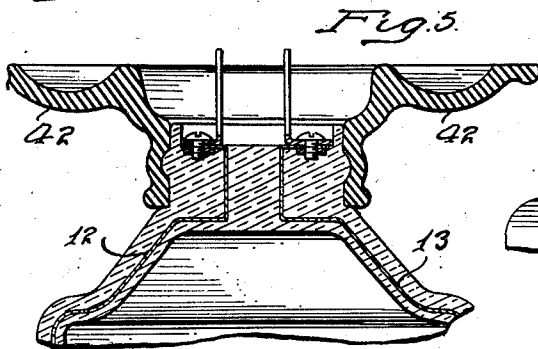
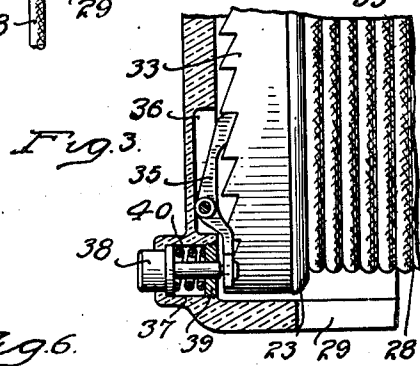
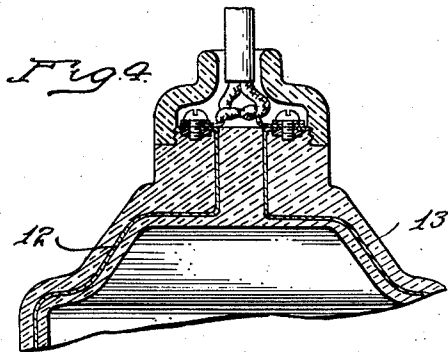
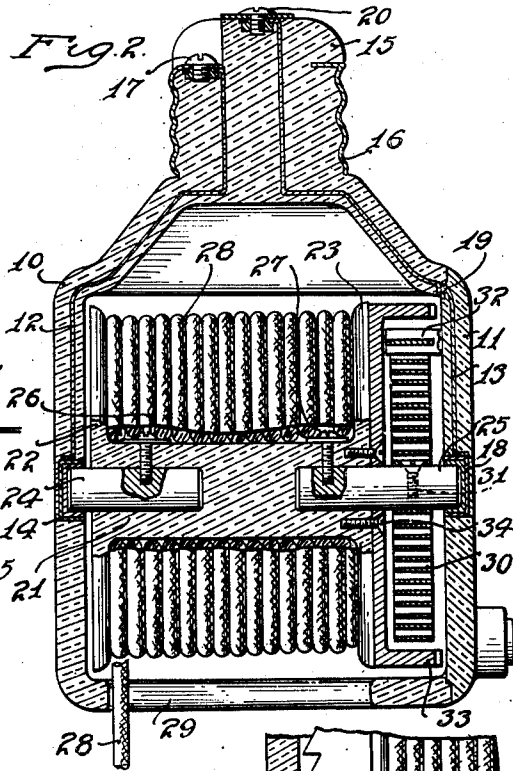
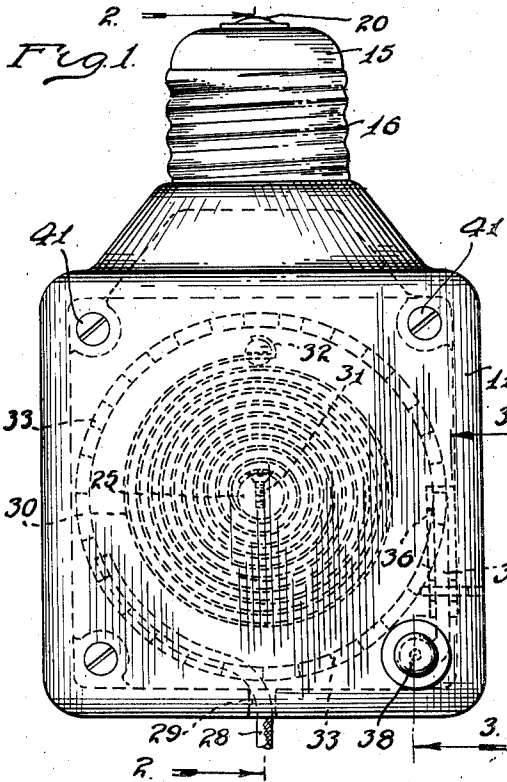
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ELECTRIC CORD EXTENSION DEVICE

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ELECTRIC CORD EXTENSION DEVICE

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3 Claims. (Cl. 173—367)

This invention relates to devices for the extension of electric cords, and particularly to the automatic rewinding type of such devices wherein the moving parts are all enclosed within a housing.

The principal object of the invention is the provision of a device of the character referred to wherein the bearings and the supporting shafts for the cord carrying spool co-act as conductors through which an electric circuit is completed.

Another object of the invention is the provision of a device of the character referred to wherein the cord supporting spool and the housing for the entire assembly are in themselves electric insulators.

Another object of the invention is to provide a device of the character referred to having improved means adapted to secure the device to a source of electric current.

Another object of the invention is to provide a device of the character referred to which will be compact, of minimum weight, simple in construction and easy to assemble.

The foregoing and other objects of the invention will become more apparent from an examination of the following specifications, reference being made to the accompanying drawing, wherein:

Fig. 1 is a side elevational view of the device embodying our invention.

Fig. 2 is a front sectional view of the device showing the relative position and arrangement of parts.

Fig. 3 is a fragmentary sectional view of the device taken on line 3—3 of Fig. 1 showing the locking means to secure the spool against rewinding.

Fig. 4 is a sectional view of a modified form of attachment for the device.

Fig. 5 is a sectional view of another modified form showing the use of a male plug member surrounded by a vacuum cup for securing the device to a conventional wall socket.

Fig. 6 is a modified form of attachment for securing the device to a conventional automobile lamp socket.

Referring now to the drawing, the shell 10 and the cover plate 11, comprising the housing of the device, are preferably molded of any substantial electric insulating material. Embedded in and insulated by the shell 10 and cover plate 11 are leads 12 and 13.

The lead 12 attaches, by any suitable means, at one end to a bearing insert 14 positioned on the inside wall of shell 10 and extends upward through

the head 15, where its free end is secured to the ferrule 16 by means of the screw 17.

The lead 13 attaches at one end to the bearing insert 18 positioned near the center of the inside face of the cover plate 11, and said lead 13 extends upward to the edge of the cover plate 11 where it is broken, as at 19, yet adapted to make an electric contact between its parts. The lead 13 extends beyond the break, as at 19, through the center of the reduced head 15 of the housing 10 and contacts with the head screw 20.

The leads 12 and 13 serve as electrical conductors and reinforce the molded shell 10 and head 15.

The cord carrying member of our improved device comprises a spool 21, preferably molded of a suitable electric insulating material, having heads 22 and 23 formed integral therewith. Pivots 24 and 25, preferably made of contact bronze or other hard conductive material, are positioned in the opposite ends of the spool 21 and are adapted to engage the bearing inserts 14 and 18, which said pivots and bearing inserts are adapted to act as supports for the said spool and conductors for an electric current. It is evident that the pivots 24 and 25 are insulated one from another for the reason that the spool 21 is formed of an insulating material. Extending part way through the spool 21 and at right angles to the axis thereof and adapted to contact the pivots 24 and 25, are screws 26 and 27, to which the ends of the extension cord 28 are secured. The screws 26 and 27 serve the dual purpose of locking the pivots 24 and 25 against rotation in the spool, and at the same time act as electric conductors. The free end of the cord 28 extends through a slot 29 positioned in the bottom of the shell 10.

A flat coil spring 30 is secured at its inner end to the pivot 25 by the screw 31, and at the other end to a split stud 32 extending inward from the cover plate 11, which spring is adapted to rewind the spool 21 when the cord 28 is extended. To hold the spool 21 in any desired position, a ratchet wheel 33 is secured to the spool 21 by means of screws 34. The ratchet wheel 33 is adapted to engage a pawl 35, which is pivoted within a recess 36 in one of the lower corners of the cover plate 11. Positioned within an offset 37 in the cover plate 11 is a push button 38 adapted to motivate the pawl 35. Between the push button 38 and the stop washer 39 is a spiral spring 40, adapted to hold the push button 38 in a normally extended position, and the pawl 35 in a normally engaged position with the ratchet wheel 33. This invention also contemplates the use of

a spring assembly, such as used in window shades, the use of which spring assembly would eliminate the necessity of the push button control.

To assemble and use our device the ends of the two wires comprising the cord 28 are secured to the screws 26 and 27. The cord 28 is then wound upon the spool 21 and the free end of the cord 28 is extended through the slot 29 in the shell 10. The ratchet wheel 33 is then affixed to the spool 21. The spring 30 is secured to the pivot 25 and coiled in extended position. The assembly is then placed within the shell 10, care being taken that the pivot 24 properly engages the bearing insert 14. The free end of the spring 30 is then hooked into the split stud 32 on the cover plate 11, and the cover plate 11 is placed in position so that the pivot 25 properly engages the bearing insert 18, and in such manner that proper contact is made between the broken parts of the lead 13. The cover plate 11 is then secured to the shell 10 by means of screws 41, and the device is ready to be attached to a source of electric current.

The free end of the cord 28 may be connected to a light socket or other electric device, and when properly connected an electric circuit is completed through the device. The cord 28 may be extended at will. As the cord 28 is unwound the spring 30 is contracted, and at the same time the pawl 35 engages the teeth on the ratchet wheel 33, preventing the spring 30 from rewinding the cord 28. The cord 28 is held in extended position until the pawl 35 is manually released by the push button 38, whereupon the cord 28 is automatically rewound upon the spool 21.

In Figures 4, 5 and 6 we disclose certain modified forms of attachments for securing our device to a source of electric current, their purposes being self-evident. We wish to call particular attention to the modification disclosed in Fig. 5, wherein we use a vacuum member 42 around the reduced head 15 to secure the device to a flat surface.

Having thus described our invention, what we claim and desire to secure by Letters Patent, is:

1. In a device of the character described, the combination of a housing, a reduced integral head on said housing, electric conductive reinforcing elements imbedded in said housing and extending through and beyond said head, a removable cover plate for said housing, electric conductive reinforcing elements imbedded in said cover plate and arranged to make contact with one of said first named electric conductive ele-

ments, a non-conductive spool pivoted in said housing and said cover plate, a flexible electric cord carried by said spool and electrically connected through said pivots to said first and second named conductive elements, a flat spring fixed at one end to one of said pivots and at the other end to said cover plate and adapted to rotate said spool and locking elements on said cover plate for limiting the rotation of said spool.

2. In a device of the character described, the combination of a housing, a reduced integral head on said housing, electric conductive reinforcing elements imbedded in said housing and extending through and beyond said head, a removable cover plate for said housing, electric conductive reinforcing elements imbedded in said cover plate and arranged to make contact with one of said first named electric conductive elements, a non-conductive spool pivoted in said housing and said cover plate, a flexible electric cord carried by said spool and electrically connected through said pivots to said first and second named conductive elements, a flat spring fixed at one end to one of said pivots and at the other end to said cover plate and adapted to rotate said spool, and a suction cup secured at its base to the reduced head of said housing and arranged to resiliently affix the device to a surface adjacent an electric outlet.

3. In a device of the character described, the combination of a housing, comprising a substantially square body portion, having a reduced head and a removable side wall, co-operating electric conductive elements imbedded in said body said removable side wall and said reduced head, a spool rotatably pivoted in bearings positioned in said body and said removable side wall, a flexible cord carried by said spool and electrically connected, through said pivots and said bearings to said first named electric conductive elements, a spring means positioned between said spool and said removable side wall for rotating said spool, locking elements co-acting between said spool and said removable side wall for limiting the rotation of said spool, electric conductive elements extending outwardly from said reduced head and a suction cup secured to said reduced head concentric with said last named electric conductive elements, and arranged to provide a resilient attachment for the device to a surface adjacent an electric outlet.

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