Feb. 7, 1928. 1,658,694

W. H. STURGE

AUTOMATIC WINDING DEVICE FOR CABLES AND THE LIKE

Filed July 24, 1926

Fig. 1.

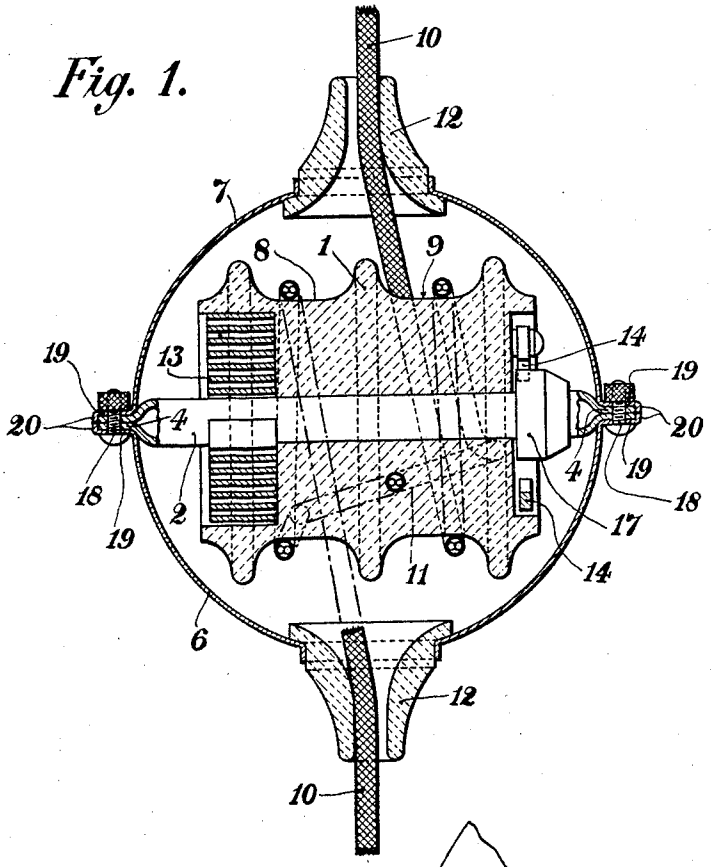
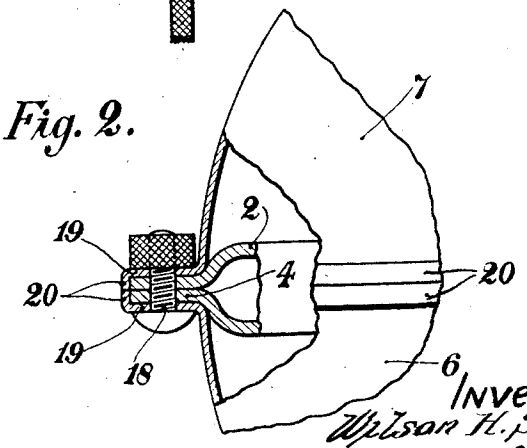


Fig. 2.



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UNITED STATES PATENT OFFICE.

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AUTOMATIC WINDING DEVICE FOR CABLES AND THE LIKE.

Application filed July 24, 1926. Serial No. 124,694.

This invention relates to automatic winding and slack absorbing devices for electric and other cables, cords and the like, such devices being of that type comprising a spring-controlled drum or member around which the cable or cord is wound, the said drum being rotatably mounted upon a relatively fixed part or spindle supported within a two-part shell or casing which encloses the drum, the arrangement being such that when the cable or cord is unwound the drum is rotated and the spring wound up, the said spring causing the drum or member to turn in the opposite direction when the cable is released, or the pull on the cable is lessened, so that the latter is automatically wound up and the slack in the cable absorbed. Such automatic winding or slack absorbing devices are usually employed for suspending electric lamps for the purpose of admitting of the height of the lamp being adjusted as required, and it is to devices used for this purpose that the invention particularly relates, although it may obviously be applied to devices of the type in question when used for other purposes.

The object of the present invention is to provide improved and simplified means for supporting and fixing the spindle within the outer shell or casing.

According to the invention, the ends of the spindle are clamped or secured between the two parts of the shell or casing, the ends of the spindle being flattened and clamped between flanges on the abutting edges of the said two parts of the casing; and bolts, screws or the like are passed through the two flanges and the flattened ends of the spindle.

Figure 1 of the accompanying drawings represents a vertical section through an automatic cable winding device constructed in accordance with this invention.

Figure 2 is a section through one end of the spindle and through the adjacent part of the casing, upon a larger scale.

Referring to Figures 1 and 2 of the drawings, the improved cable winding device, as described as used for suspending an electric lamp, comprises a wooden or other drum 1 rotatably mounted upon a transverse horizontal spindle 2 the ends of which extend beyond the drum and are supported by an outer shell or drum made in two separable halves or parts 6, 7, which serve to enclose the drum. The periphery of the drum 1 may be formed with two circumferential grooves 8 and 9 which may be shaped as shown, the cable 10 by which the electric lamp is suspended being engaged around the groove 8 and threaded through an oblique passage 11 through the drum by which the two grooves are connected, the cable being then passed around the groove 9 in the opposite direction. The arrangement is such that the ends of the cable come upon opposite sides of the drum and extend in opposite directions, as illustrated, the drum being arranged at a suitable distance between the lamp and the ceiling. The said ends of the cable are preferably passed through nipples 12 secured within central apertures in the upper and lower halves 6 and 7 of the shell or casing. On rotating the drum 1 in the one direction the cable 10, as will readily be seen, will be wound around the drum, thus shortening the effective length of the cable and consequently varying the height of the lamp, whilst by turning the drum 1 in the opposite direction the cable 10 will be more or less unwound and the lamp lowered. The drum is adapted to be rotated in a direction to wind up the cable by means of a volute spring 13, in the known manner, the spring being anchored at its one end to the relatively fixed spindle 2 and connected at its opposite end to the drum 1, the spring being housed with in a recess in the one end of the drum, as shown. Thus by pulling the lower end of the cable 10 downwards the said cable will be unwound from the drum causing the latter to rotate against the action of the spring 13 which is automatically wound up, the said spring causing the drum to turn in the opposite direction to wind up the cable 10 when the latter is released. In order to prevent the drum from winding up the cable immediately it is released, unless it is so desired, a pair of pivoted gravity-catches 14 may be provided. These catches are mounted upon the one end of the drum and arranged to co-operate with recesses 16 formed in the periphery of a boss 17 rigidly on the fixed spindle 2 the said catches moving outwards under centrifugal action when the drum winds up the cable at a fast rate but

engaging with the recesses when the drum is revolved slowly, in the known manner.

For the purpose of attaching the spindle 2 to casing, both ends of the spindle, which is of a tubular construction, are flattened, each flattened end 4 having a hole to receive a screw or bolt 18 which serves to secure the two halves 6 and 7 of the outer shell or casing together. Each half of the latter is formed with an annular flange 19 having a turned up outer edge 20, the two flanges 19 being opposed to one another so that the edges 20 come together and being each formed with bolt holes at diametrically opposite points to receive the bolts 18. To assemble the parts, the flattened ends of the spindle 2 are engaged with the flange 19 of the one half of the casing when the other half is superimposed, the holes in the two flanges 19 and in the respective ends of the spindle being arranged to register with one another. The bolts or screws 18 are then passed through the holes thus securing the parts together.

Although the improved device is particularly adapted for use with electric lamps, as described, for winding up the cable to raise or lower the lamp, it may, if desired, be used for other purposes, such as for winding or for absorbing the slack in cords or cables generally or for winding flexible tubes.

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

1. An automatic winding device for cables and the like comprising a stationary spindle, a cable-carrying drum rotatably mounted on the spindle, a casing for housing the drum formed of two parts, said parts having opposed peripheral flanges between which the ends of the spindle are engaged, and securing devices extending through the said flanges and ends of the spindle for clamping the said ends between the flanges.

2. An automatic winding device for cables and the like comprising a stationary spindle, a cable-carrying drum rotatably mounted on the spindle, a casing for housing the drum formed in two hemispherical parts each having an outwardly-extending peripheral flange, said parts having their peripheral flanges in opposed relation with the ends of the spindle therebetween and said flanges having their edges turned toward and meeting one another, and fastening means engaging said flanges and ends of the spindle for securing the parts of said casing together and said spindle against rotation.

Signed at Birmingham, in the county of Warwick, England, this 12th day of July, A. D. 1926.

WILSON HENRY STURGE.