W. V. HEIM.

REEL.

APPLICATION FILED JULY 7, 1917.

1,277,582. Patented Sept. 3, 1918.

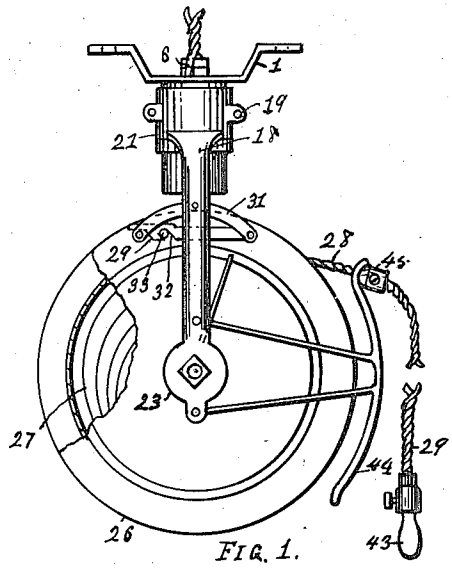


FIG. 1.

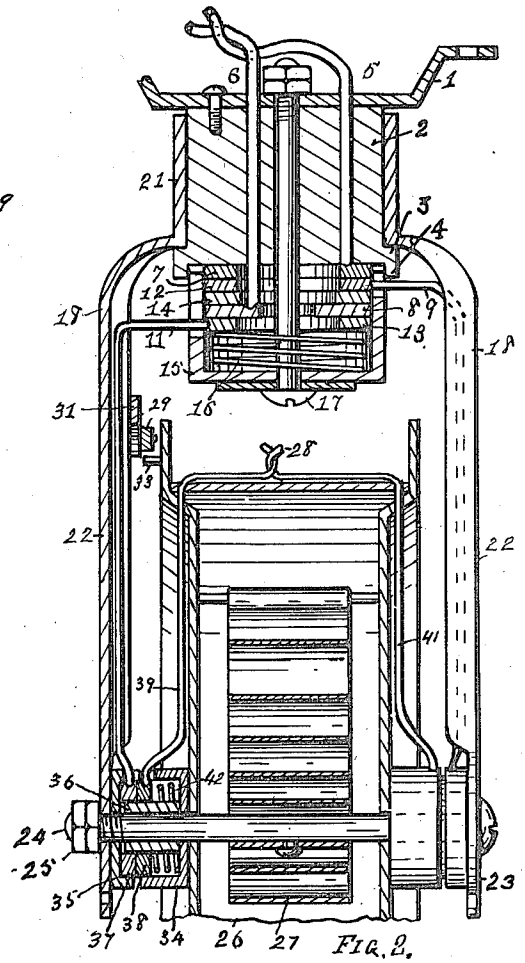


FIG. 2.

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UNITED STATES PATENT OFFICE.

WALTER V. HEIM, OF LIBERTY, INDIANA.

REEL.

1,277,582. Specification of Letters Patent. Patented Sept. 3, 1918.

Application filed July 7, 1917. Serial No. 179,117.

To all whom it may concern:

Be it known that I, WALTER V. HEIM, a citizen of the United States, residing at Liberty, Indiana, have invented a new and useful Improvement in Reels, of which the following is a specification.

My invention relates to reels of the class adapted to the use of extension or drop electric lights or for other suitable purposes, and the objects of my improvements are to provide the reel with swivel connections with a fixed bracket; to provide a spring to automatically turn the reel for winding the electric wire thereon; to provide a guide for directing the winding of the wire properly on the reel and also to coöperate with the wire for turning the reel on the swivel; to provide a stop which may be adjustably secured on the wire to contact with the guide for regulating the length of the drop light portion of the wire; to provide means for automatically locking the reel against the exertion of the actuating spring with the light at different distance relations therefrom; to provide swiveled terminals for electric circuit at the swivel and also at the ends of the reel; to provide protective means for inclosing the swivel terminals with insulating material to conform to the requirements of the underwriters of fire insurance, and to provide simple, compact and durable construction and assemblage of the various coacting members for obtaining facility of operation and efficiency of action. These objects may be attained in the following described manner, as illustrated in the accompanying drawings, in which:

Figure 1 is an end elevation with parts broken away of a reel embodying my improvements, and Fig. 2 a front elevation with parts broken away and parts in vertical diametrical section.

In the drawings 1 represents a bracket adapted to be secured at a fixed point, 2 a journal of insulating material depending therefrom and formed with an annular shoulder 3 having a depending flange 4. Wires 5 and 6 of an electric circuit are extended through the journal 2 and are connected to the respective terminal metal rings 7 and 8. Corresponding wires 9 and 11 are secured to the similar terminal metal rings 12 and 13. The ring 14 of insulating material is interposed between the metal rings 8 and 12. The circular cap 15 of insulating material telescopes at its edge within the flange 4 and serves to completely inclose and protect the aforesaid insulating and terminal rings. A coiled spring 16 may be inserted within the said cap and the axial bolt 17 serves to move and maintain the cap with the spring under the proper exertion for maintaining both metal terminal rings within the cap in contact under a yielding pressure as desired.

The yoke preferably consists of two similar members 18 of stamped sheet metal connected together by rivets 19 to form the circular bearing 21 for the journal 2 and is movably supported thereon by means of the annular shoulder 3. The depending legs 22 of the yoke are semi-circular in cross section wherein the respective wires 9 and 11 may be concealed and protected. Said legs terminate in circular feet 23 wherein the axle 24 may be adjustably secured by means of the adjusting nuts 25.

The hollow drum or spool 26 is mounted to turn on the axle 24 between the legs of the yoke and the coil spring 27 therein is arranged to automatically turn it in the proper direction to wind the wires 28 thereon. The gravity latch 29 pivotally connected to the bar 31 which is secured on one leg of the yoke is formed with an inclined notch 32 adapted to automatically engage with the catch or pin 33 which projects in the path thereof from the adjacent end of the drum. The inclined notch 32 is so constructed and arranged that it will only engage with the pin 33 when the drum turns slowly but escapes the pin when it turns rapidly. The operator may control the winding speed of the drum by means of the free end 29 of the wires.

Cup-shaped washers 34 and 35 formed of insulating material—such as fiber—encircle each end portion of axle 24 and contact respectively with the ends of the drum and the corresponding feet of the yoke, and insulating sleeves 36 encircle the portions of the axle between the washers. Metal rings or flat washers 37 and 38 inclosed within said cups serve as frictional terminals for the wires 11 and 39 and also the wires 9 and 41. Coiled springs 42 inclosed within the cup-shaped washers adjacent to the ends of the drum are adjustable by means of the nuts 25 on the axle and serve to maintain the said metal terminals in contact under a yielding pressure. The said wires 39 and 41 may be extended radially on the ends of

the drum to its periphery and then twisted together for any desired length and provided at their ends with the lamp 43.

The guide 44 for directing the wires toward the periphery of the drum is secured to the legs of the yoke and the stop 45 adjustably secured on the end portion 29 of the wires by contact with the guide serves to control the length of the unwound or drop portion thereof.

In operation, the swiveled terminals for the yoke permits it to be turned on the depending journal, and the swiveled terminals on the axle permits the drum to be turned thereon without breaking the electric circuit to the lamp. The caps of insulating material serve to inclose and protect the terminals to conform to the requirements of fire underwriters.

Having fully described my improvements, what I claim as my invention and desire to secure by Letters Patent of the United States is:

An extension light reel comprising a swiveled yoke provided with a gravity latch, a hollow drum journaled therein and provided with a catch adapted to engage with the latch, an actuating spring within the drum, wires provided with a lamp and wound on the drum by the exertion of the spring, said wires with the lamp being in circuit with an electric current and provided with frictional terminals concentric with the axes of the yoke and the drum, and caps formed of insulating material for inclosing and protecting said terminals from being tampered with from the outside.

WALTER V. HEIM.

Witnesses:
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