July 6, 1926. 1,591,901

J. T. WATTS

EXTENSIBLE ELECTRIC LIGHT

Filed Sept. 19, 1921

Fig. 1.

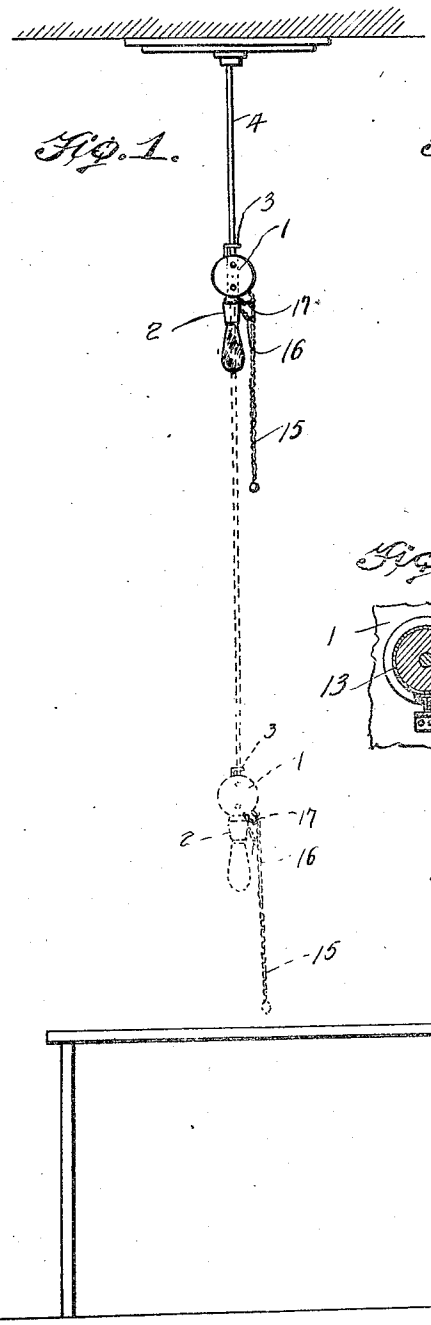


Fig. 2.

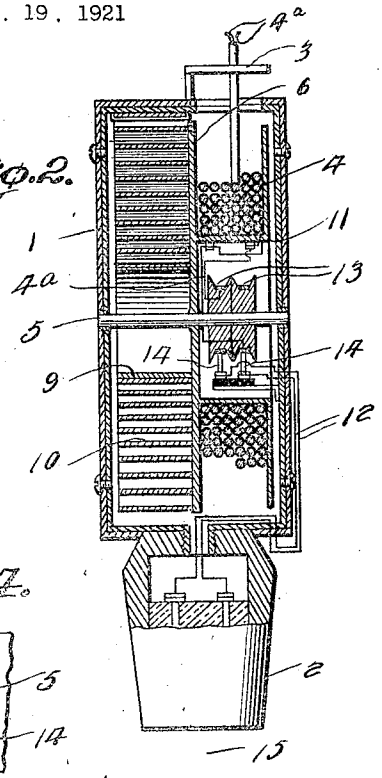


Fig. 4.

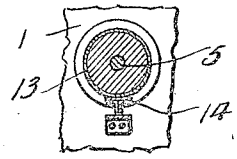


Fig. 3.

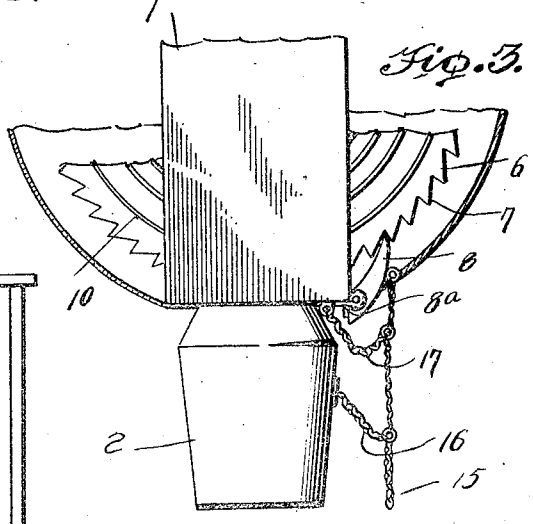
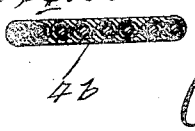


Fig. 5.



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Patented July 6, 1926. 1,591,901

UNITED STATES PATENT OFFICE.

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EXTENSIBLE ELECTRIC LIGHT.

Application filed September 19, 1921. Serial No. 501,681.

The invention relates to electric lights wherein the bulb is attached to a cord and is adjustable to various positions, the purpose being to prevent any slack in the cord and to provide an automatic take up for the same.

Other objects and advantages will be apparent and suggest themselves as the nature of the invention is understood.

While the drawing illustrates an embodiment of the invention it is to be understood that in adapting the same to meet different conditions and requirements, various changes in the form, proportion and minor details of construction may be resorted to without departing from the nature of the invention.

Referring to the accompanying drawing forming a part of the specification,

Figure 1 is a detail view of an electric light embodying the invention, the dotted lines showing the light lowered,

Figure 2 is an enlarged sectional detail,

Figure 3 is an elevational detail showing the parts on a larger scale,

Figure 4 is a detail section showing more clearly the brush contact, and

Figure 5 is a section of a flat form of conductor.

Corresponding and like parts are referred to in the following description and designated in the several views of the drawing by like reference characters.

The numeral 1 designates the frame which is preferably of rectangular form and provided at its lower end with a socket 2 for reception of the electric light bulb in a manner well understood and having a guide 3 at its upper end for the electric cord 4 whereby the lamp and fixture are suspended from a point overhead, as indicated in Figure 1. A relatively transverse shaft 5 is loosely journaled at its ends in the vertical side elements of the frame 1. A wheel 6 is secured to the shaft 5 for rotation therewith and is provided around its outer edge with ratchet teeth 7 adapted to cooperate with a spring actuated dog 8 mounted upon the lower portion of the frame 1, the spring being designated 8^a. The wheel 6 is provided at one side with a drum 9 upon which is mounted a coil spring 10. The inner end of the spring 10 is attached in any manner to the drum 9 and its outer side is made fast to the frame 1. The spring 10 when wound is held under tension by means of the dog 8 engaging one of the ratchet teeth 7. A drum 11 is provided at the opposite side of and integral with the wheel 6 and the lamp cord 4 is wound thereon. One end of the electric cord 4 is attached to the drum 11 and the opposite end is connected to the overhead point of suspension in any determinate way. The intermediate portion of the electric cord 4 passes loosely through the guide 3. The electric cord 4 contains two electrically insulated strands which are electrically connected to circular contacts 13 fixedly mounted upon the shaft 5 to rotate therewith. These strands are indicated at 4^a and the circular contacts 13 with which they are connected are electrically insulated from each other and cooperate with brushes 14 suitably mounted upon the frame 1. Suitable conductors 12 electrically connect the brushes 14 with the terminals of the socket 2 in a manner well understood.

Unwinding of the cord 4 from the drum 11 effects a winding of the spring 10. When the dog 8 is disengaged from the ratchet teeth 7, the wheel 6 is rotated by means of the spring 10 thereby winding the cord 4 upon the drum 11 and elevating the lamp. When the lamp is drawn downward, the cord 4 is unwound from the drum 11, and the spring 10 is wound upon the drum 9.

The lamp cord 4 may be of any construction and may be round or flat as required and according to the particular use and nature of the lamp. The lamp cord 4 in any one of its forms must comprise electrically insulated strands to insure proper supply of the electric current to the lamp. The brush contact illustrated most clearly in Figure 4 or its substantial equivalent is essential to the successful operation of the invention.

A pull chain 15 or like part is connected with the dog 8 and when drawn upon disengages the dog 8 from the ratchet teeth 7 and by deftly manipulating the chain 15 the lamp may be raised or lowered as required. The lamp is held in the adjusted position by permitting the dog 8 to engage one of the ratchet teeth 7. The switch chain 16 may be connected with the pull chain 15 whereby the light may be turned on or off as required simultaneously with the adjusting of the lamp.

From the foregoing it will be understood that the frame 1 bearing the spring actuated drum has the lamp socket 2 attached

directly thereto and these parts may be of any preferred construction best adapted to meet requirements, finish and cost. The pull element 15 may consist of a chain or equivalent part and has connection with the frame 1 in any manner, as indicated at 17, to admit of said frame being raised or lowered as required. A pull on the operating element 15 releases the drum 11 by disengaging the spring actuated dog 8 from the ratchet wheel 6 and by manipulating the pull element 15 the frame 1 and attached lamp may be caused to move up or down as required. When pulling upon the element 15 the switch chain 16 is drawn upon to turn on or off the light. The dog 8 is acted upon by a relatively strong spring and a quick release of the pull element 15 permits the dog to engage the ratchet wheel 6 and hold the lamp in the required adjusted position.

Instead of the usual electric cord 4 it is preferred to employ a conductor 4^b of flat form and appearing as a ribbon or tape. A flat or ribbon conductor of this nature is indicated in Figure 5 and comprises a plurality of strands alternately arranged and electrically insulated. These strands are arranged in two sets, the strands of each set being electrically connected to form a conductor. This ribbon or tape conductor will wind close on the drum and present a neat appearance.

What is claimed is::—

In a take-up mechanism of the character specified, a frame having a socket. a switch in said socket, a spring drum carried by said frame for raising and lowering the frame, a ratchet mechanism including a dog controlling said drum and a pull element having connection with said dog to effect release of the spring drum for raising or lowering the frame, and an operating element common to said switch and to said pull element.

In testimony whereof I affix my signature.

JOHN T. WATTS.