No. 677,758. Patented July 2, 1901.

H. T. COLDWELL & F. B. SHARPE.

ADJUSTABLE SUPPORTING DEVICE.

(No Model.) (Application filed Nov. 9, 1900.)

Fig. 1.

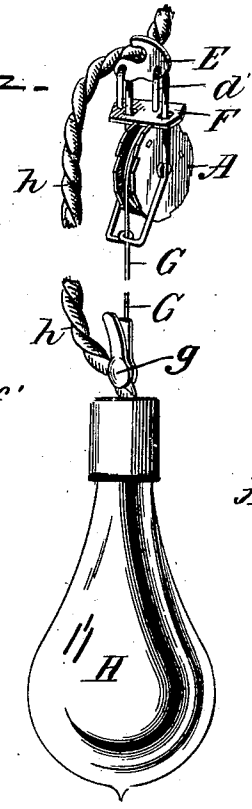


Fig. 2.

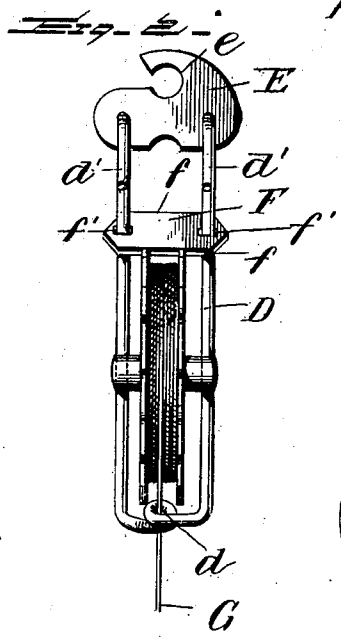


Fig. 3.

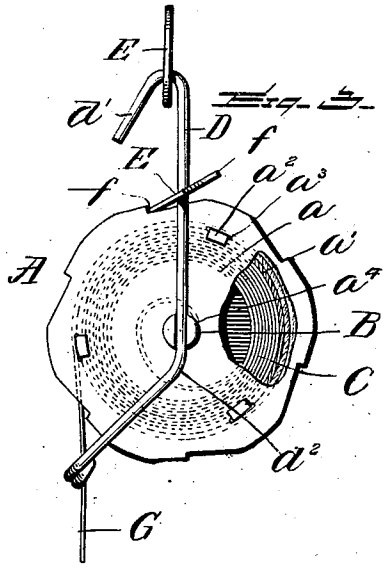


Fig. 4.

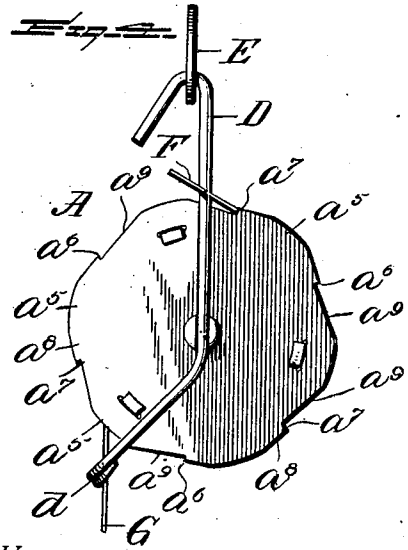
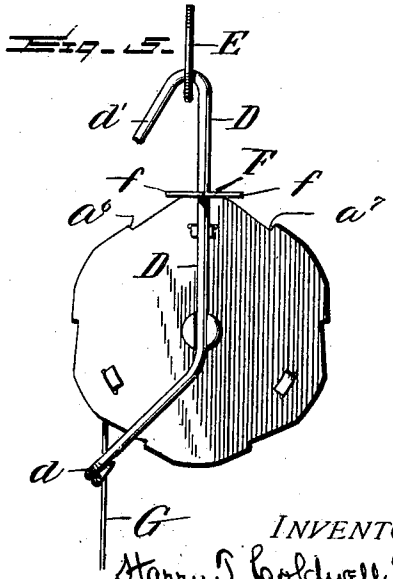


Fig. 5.



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HARRY T. COLDWELL, OF NEWBURGH, NEW YORK, AND FRED B. SHARPE, OF PORTLAND, MAINE.

ADJUSTABLE SUPPORTING DEVICE.

SPECIFICATION forming part of Letters Patent No. 677,758, dated July 2, 1901.

Application filed November 9, 1900. Serial No. 35,938. (No model.)

To all whom it may concern:

Be it known that we, HARRY T. COLDWELL, residing at Newburgh, in the county of Orange and State of New York, and FRED B. SHARPE, residing at Portland, in the county of Cumberland and State of Maine, citizens of the United States, have invented certain new and useful Improvements in Adjustable Supporting Devices; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention is an adjustable support for electric lights and other articles; and it consists in the novel features hereinafter described, reference being had to the accompanying drawings, which illustrate one form in which we have contemplated embodying our invention, and our invention is fully disclosed in the following description and claims.

Referring to the drawings, Figure 1 represents our improved support applied to an electric lamp. Fig. 2 is an edge view of the device. Fig. 3 is a side view partly broken away. Figs. 4 and 5 are side views showing the retaining-pawl in different positions.

In the drawings, A represents a flanged drum, which is formed, preferably, of two stamped side plates a a and a cylindrical portion a', provided with laterally-projecting lugs a^2, which are passed through apertures a^3 in the side plates and bent or clenched to hold the parts of the drum together. Each of the side plates a is provided with a central bearing-aperture a^4, through which passes a stationary shaft B, and C represents a coiled spring having one end connected to the shaft B and the other to the drum, so that when the drum is turned in a direction to wind up the spring the said spring will exert a tension in the opposite direction upon the drum.

The side plates a a of the drum project beyond the cylindrical portion, forming lateral flanges, and said plates are each provided with portions a^5 at intervals at a greater distance from the axis of the drum than any other portions of the plate. These parts a^5 we term for convenience of reference the "pawl-disengaging parts" of the plates. On opposite sides of these pawl-disengaging parts of each plate are oppositely-faced ratchet-teeth a^6 and a^7, all the teeth a^6 of each disk facing in one direction and all the teeth a^7 facing in the opposite direction. The teeth a^6 and a^7 are located nearer the axis of the drum than the pawl-disengaging portions a^5, and inclined faces a^8 and a^9 extend from the teeth up to the said pawl-disengaging portions.

D represents the frame or bail in which the drum is mounted. This frame or bail consists in this instance of a single piece of wire having its central part bent into a spiral loop d and the parts on each side of the loop bent into a substantially parallel position and carried upwardly and having the ends bent over at d' d' to form a double hook. The frame is also given a bend at d^2 between the loop d and the hooks d' d', and above this bend the shaft B is secured to the frame, preferably as shown, by notching the ends of the shaft B, as shown at b, and springing the shaft into the frame, so that the parallel portions thereof lie in said notches. This makes a cheap and serviceable construction. The hooks d' d' are passed through two apertures in an attaching device E, consisting in this instance of a piece of rubber, wood fiber, wood, or other non-conducting material provided with an attaching hook or projection e.

F represents a double-acting pawl, which consists of a flat plate of sheet metal having parallel edges f f, adapted to engage the opposite ratchet-teeth of the drum, and having also two slots f' f', which engage loosely the vertical portions of the frame above the drum, which form vertical guides for the frame, so that the pawl rests upon the flanges of the drum and is free to take any position angularly to the frame as the drum is rotated beneath it.

G is a cord, chain, or other flexible connection, which is secured to the drum A and is wound thereon, so that when it is drawn away from the drum it will wind up the spring. The core G is provided at its outer end with an attaching device g, such as a spring-clasp of any ordinary form, as shown, although we may use some other form of attaching device. When the string is drawn off of the drum with considerable rapidity,

the drum will be caused to rotate so rapidly that only the pawl-disengaging portions a^5 of the drum will engage the pawl and the pawl will be held up out of engagement with the ratchet-teeth, as shown in Fig. 5. The drum can be rotated rapidly in either direction by pulling on the string or cord and then releasing it without having the pawl engage the ratchet-teeth. If, however, the operator hold the cord, so as to allow it to wind up very slowly on the drum, the pawl will drop into the position shown in Fig. 3 and will catch the first ratchet-tooth facing to the rear. It will thus be seen that the cord can be pulled quickly to any desired point and then by slowly allowing a minute portion of it to rewind the pawl will catch and lock the drum. Should the weight of the article suspended from the device be greater than the resistance of the spring will overcome, it would of course have a tendency to pull slowly down on the spring after the cord and drum have been adjusted; but in such case the pawl will slip over the next disengaging portion and drop into the next ratchet facing forward, as shown in Fig. 4, thus holding the article securely in spite of the fact that it is heavier than the spring. It will thus be seen that the device is capable of holding any object which the cord is strong enough to sustain irrespective of the strength of the spring.

Our improved support is very advantageous as a support for incandescent lights. In using it for such purpose the non-conducting hook E is placed over the insulated wire h, leading to the lamp, at any desired place between the ceiling and the lamp, and will securely hold the device without danger of short-circuiting the lamp. The clasp or attaching device g is then made to engage the wire at a point very close to the lamp, as shown in Fig. 1. To adjust the lamp, it is only necessary to pull it down enough to bring one of the pawl-disengaging portions a^5 beneath the pawl, when the lamp can be rapidly raised or lowered to the desired position. When adjusted to the desired position, the pawl will drop into one of the rearwardly-facing teeth of the drum and hold it. If a shade or globe is placed on the lamp, the combined weight of lamp and shade would probably overcome the tension of the spring; but even in this case the pawl would drop into one of the forwardly-facing teeth of the drum after the lamp had been adjusted to the required height and the lamp and shade would be held securely.

It is obvious that the device may be used for supporting adjustably other objects besides electric lights, and we do not limit ourselves to its use in this connection.

What we claim, and desire to secure by Letters Patent, is—

1. In an adjustable supporting device, the combination with a spring-actuated drum, provided with a series of ratchet-teeth rigidly connected therewith and facing in one direction and a series of ratchet-teeth rigidly connected with said drum and facing in the opposite direction, of a double-acting pawl, having portions for engaging either series of ratchet-teeth, to positively hold the drum against movement in either direction and a flexible connection wound on said drum, substantially as described.

2. In an adjustable supporting device, the combination with the spring-actuated drum provided with a series of ratchet-teeth facing in one direction, a series of ratchet-teeth facing in the opposite direction, and a series of pawl-disengaging projections, of a double-acting pawl having portions to engage either of said series of said ratchet-teeth and portions adapted to be engaged by said projections and a flexible connection wound upon said drum, substantially as described.

3. In an adjustable supporting device, the combination with a spring-actuated drum provided with a series of ratchet-teeth facing in one direction, a series of ratchet-teeth facing in the opposite direction and a series of pawl-disengaging projections, of a pawl capable of moving bodily up and down, and having opposite edges for engaging the teeth of said opposite series of ratchet-teeth, vertical guides engaging said pawl between its edges and a flexible connection wound on said drum, substantially as described.

4. In an adjustable support, the combination with the spring-actuated drum, provided with lateral flanges having oppositely-facing ratchet-teeth and a series of pawl-disengaging projections alternating with said teeth and a frame having vertically-disposed guiding portions, of a double-acting pawl having opposite edges adapted to engage the said ratchet-teeth and having between said teeth-engaging edges parts loosely engaging the guiding portions of said frame and a flexible connection wound upon said drum, substantially as described.

5. In an adjustable support, the combination with the frame provided with vertical guiding portions, and an attaching device, of a spring-actuated drum mounted in said frame and having flanges provided with oppositely-facing ratchet-teeth and pawl-disengaging projections, a double-acting pawl having central portions loosely engaging said vertical guiding portions and having edges on opposite sides of said central portion to engage said ratchet-teeth, a cord wound upon said drum, and an attaching device secured to said cord, substantially as described.

In testimony whereof we have affixed our signatures in the presence of witnesses.

HARRY T. COLDWELL.
FRED B. SHARPE.

Witnesses to Harry T. Coldwell:
WILLIAM J. WYGANT,
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M. H. PURRINGTON,
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