(No Model.)

L. GODDU.

ADJUSTABLE SUPPORT FOR ELECTRIC OR OTHER LAMPS.

No. 545,485. Patented Sept. 3, 1895.

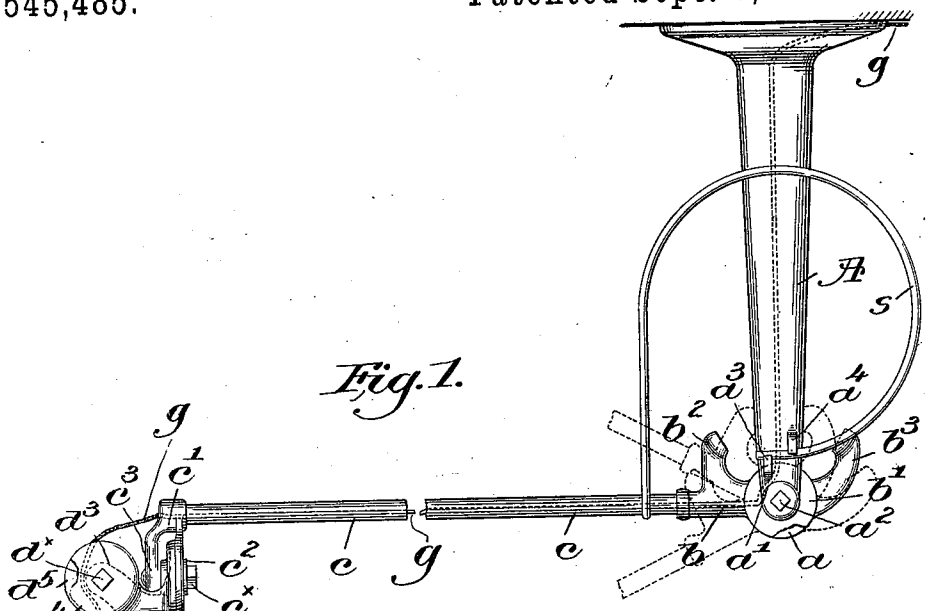

Fig. 1.

Fig. 1a

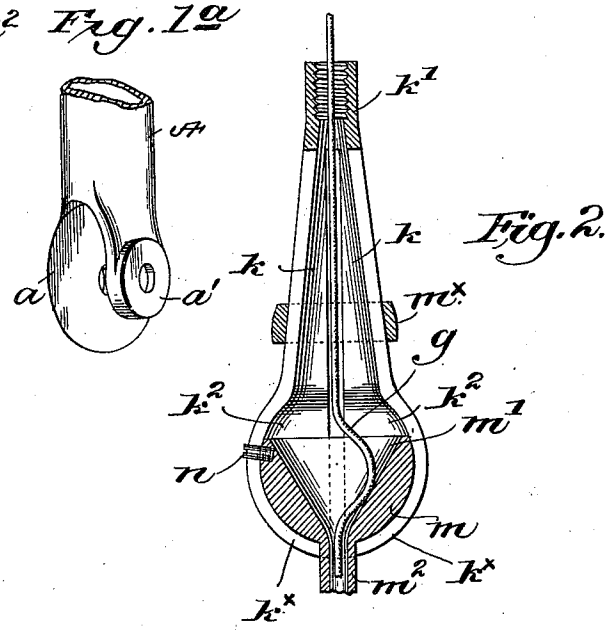

Fig. 2.

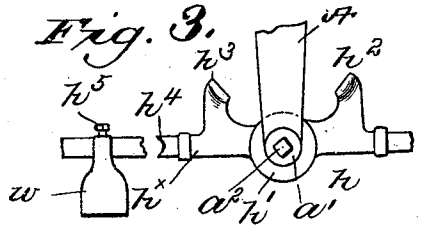

Fig. 3.

Witnesses.
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UNITED STATES PATENT OFFICE.

LOUIS GODDU, OF WINCHESTER, ASSIGNOR TO JAMES W. BROOKS, OF PETERSHAM, AND FRANK F. STANLEY, OF SWAMPSCOTT, MASSACHUSETTS, TRUSTEES.

ADJUSTABLE SUPPORT FOR ELECTRIC OR OTHER LAMPS.

SPECIFICATION forming part of Letters Patent No. 545,485, dated September 3, 1895.

Application filed March 30, 1894. Serial No. 505,747. (No model.)

To all whom it may concern:

Be it known that I, LOUIS GODDU, of Winchester, county of Middlesex, State of Massachusetts, have invented an Improvement in Adjustable Supports for Electric and other Lamps, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object the production of a simple and durable support for electric or other lamps, capable of a variety and great range of adjustment, the support remaining in any position until positively changed without the necessity of fastening or clamping mechanism. When used with electric lamps the circuit-wires are thoroughly protected by the support.

In accordance therewith my invention consists in an adjustable lamp-support of a tubular main stem having one end pivotally connected to a supporting-stand, a tubular carrier-stem and a universal joint connecting the main and carrier stems at their adjacent ends, whereby a loop in the conducting-wires is avoided, combined with means for attaching the lamp to the free end of the carrier-stem, the conducting-wires for the lamp passing through and from one to the other stem at their adjacent open ends, substantially as will be described.

Other features of my invention will be hereinafter described, and particularly pointed out in the claims.

Figure 1, in elevation and partly broken out to save space, represents an adjustable lamp-support embodying my invention. Fig. 1^a is a perspective detail of the bifurcated end of the standard. Fig. 2 is an enlarged sectional detail view of a modified form of ball-and-socket joint or clip for the lamp, and Fig. 3 is a modified form of counterbalancing device for the main stem.

I have herein shown a hollow bracket or stand A, by means of which the support is attached to the ceiling, wall, or other desired part of a room, or to any suitable object, according to circumstances. The outer end of the bracket is bifurcated to form a circular bearing a and an arm a', each having an opening to receive a pivot-bolt or stud a^2, by means of which the arm and circular bearing may be drawn toward each other for a purpose to be described. A casting b, having a circular bearing b', is pivotally supported upon the stud a^2, the face of the bearing b' resting against the bearing a, the friction between them being controlled by the stud a^2, so that the casting may be turned in a vertical plane with the stud as a center. Arms b^2 b^3 on the casting are adapted to bear against the bracket A when the casting b is in its extreme positions, (see dotted lines,) forming limiting-stops therefor. The bracket has, as herein shown, oppositely-turned lugs a^3 a^4 thereon, to receive between them one end of a bent spring s, the other end thereof embracing a preferably tubular main stem c, secured to the casting b and projecting therefrom, the said spring acting as a counterbalance for the stem c and the parts supported thereby. The force of the spring s and the friction between the bearing-surfaces a and b' serve to maintain the main stem c at any angle between the dotted-line positions. A carrier-stem d, also tubular, is connected with the outer end of the stem c by a universal joint, (herein shown as a forked bracket c',) secured to the main stem c at right angles thereto, one arm of the bracket being extended to form a flat circular bearing c^2, against the inner face of which bears the circular base d^2 of a plate d', said base being supported by and rotatable on a stud $c^\times$, extended through the circular bearing c^2, and the other arm c^3 of the bracket c', tightening or loosening of the stud $c^\times$, regulating the friction between the bearing-surfaces c^2 and d^2.

The plate d' is provided with an arm d^3 (see dotted lines) and with a circular enlargement d^4, having a flat inner face or bearing-surface, against which rests a similar surface d^5, forming part of a ring or hub d^6, secured to the end of the stem d, an adjustable stud $d^\times$, passing through the arm d^3 and bearing-surfaces d^4 and d^5 to pivotally support the carrier-stem d, adjustment of the stud regulating the friction between the two bearing-surfaces.

From an inspection of the drawings it will be evident that the carrier-stem d may be moved about the stud $c^{\times}$, as a center in a plane at right angles to the main stem c, and also about stud $d^{\times}$ in a plane parallel to the said main stem c, thereby making the joint universal. By regulating the studs $c^{\times}$ and $d^{\times}$ the friction of the bearing-surfaces can be so adjusted that the carrier-stem d will remain in any position in which it may be placed.

In Fig. 1 I have shown a spring-clip e, having concavities in its ends e', secured by a screw e^2 to the lower end of the stem d to form one part of a ball-and-socket joint, the ball-like portion e^3 being secured to the lamp-holder f, (herein shown as the socket of an incandescent electric lamp B,) whereby the latter may be moved in various directions. The conducting-wires for the lamp are herein shown as inclosed in a single insulating-cover g, and they are led through the top of the hollow bracket A and out between the arm a' and bearing a, and thence, as shown, by dotted lines into the open end of the hollow stem c, the remainder of its course being clearly shown.

In the modification shown in Fig. 2 the socket is shown as composed of a series of spring-arms k, extended from a threaded hub or base k, whereby it is attached to the carrier-stem d, the outer ends of the arms being concaved, as at k^2, to form a socket for the ball-like portion m of the joint.

The ball m is hollowed out, as at m', to leave ample space for the conducting-wires which are extended through a hollow stem m^2, to which the lamp socket or holder f is attached in any desired manner. A plug n is inserted in the ball and projects into the space between two of the spring-arms k, to prevent rotation of the ball and consequent twisting of the conducting-wires, but permitting movement of the ball from right to left, viewing Fig. 2, the edges $k^{\times}$ of the arms k forming limiting stops for the stem m^2. The spring-arms are tightened or loosened by a sleeve or collar $m^{\times}$, embracing and adapted to be moved up or down on the outer conical surface of the said arms. Thus the conducting-wires are thoroughly protected from injury, without in the least impeding the freedom of movement of the apparatus or diminishing its range of adjustability. By the construction herein shown the lamps may be so placed that the light will be directed upon the desired object from any angle, the friction of the various parts maintaining the lamp in place. While it is preferable to make the stem tubular, as herein shown, to thereby fully protect the conducting-wires of the lamp, it is obvious that such stems could be made solid and the conducting-wires secured to the exterior thereof, if desired.

My invention is not restricted to the specific construction and arrangement of parts as herein shown, as the same may be changed or rearranged without departing from the spirit of my invention.

The free end of the spring s surrounds the stem c loosely, and as the said stem is drawn down from the position, Fig. 1, said spring slides a little on said stem toward its pivotal point, such movement lessening the effective force of the spring as is required when the stem is more nearly perpendicular, such movement of the spring enabling the lamp to be kept wherever left.

The pivotal centers of the universal joint connecting the carrier-stem and the stem c are so located and combined that movement of the joint, one part or the other, does not pull on and strain the electric wires.

The enlargement m' in the ball m prevents pulling or straining the wire as the ball is swiveled. If the ball had simply a cylindrical straight hole, the wires would be pulled and soon worn and abraded, and therefore useless.

I have herein shown the stems and the lamp counterbalanced by or through the spring s, and while its use is attended with great advantage, yet this invention is not in all instances limited to the use of the spring shown, as I may employ instead other forms of counterbalancing devices. In Fig. 3 one such form is shown wherein a casting h, having a circular bearing h' and limiting-stops h^2 h^3, is provided with a socket $h^{\times}$ at its rear end to receive a rod h^4, on which a counterbalancing-weight w can be adjustably secured by means of a suitable set-screw h^5, the effect of the weight being equivalent to that of the spring s shown in Fig. 1.

I claim—

1. In an adjustable lamp support, a tubular main stem having one end pivotally connected to a supporting stand, a tubular carrier stem, and a universal joint connecting the main and carrier stems at their adjacent ends, whereby a loop in the conducting wires is avoided, combined with means for attaching the lamp to the free end of the carrier stem, the conducting wires for the lamp passing through and from one to the other stem at their adjacent open ends, substantially as described.

2. A main stem pivotally supported at one end, a transverse bearing surface rigidly secured to its outer end, and a plate pivoted thereto at its base and provided with a friction bearing, at right angles to the plate combined with a lamp-carrying stem, a bearing surface rigidly secured thereto and pivoted to the plate to co-operate with its friction bearing surface, and a counterbalancing spring to control the main stem, substantially as described.

3. A standard, a main stem pivoted thereto, and limiting stops therefor, combined with a lamp-carrying stem, a universal joint connecting said stems at their adjacent ends, and a counterbalancing spring to act upon and

maintain the main stem in position relative to the standard, substantially as described.

4. A standard, a stem pivoted thereto, and limiting stops therefor, combined with a lamp supported by the stem, and a counter-balancing spring to act upon the said stem, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LOUIS GODDU.

Witnesses:
GEO. W. GREGORY,
M. J. SHERIDAN.