

P. FRANTZ.  
ADJUSTABLE SUPPORT FOR DROP LIGHTS.  
APPLICATION FILED SEPT. 28, 1907.

921,970.

Patented May 18, 1909.  
2 SHEETS—SHEET 1.

Fig. 1.

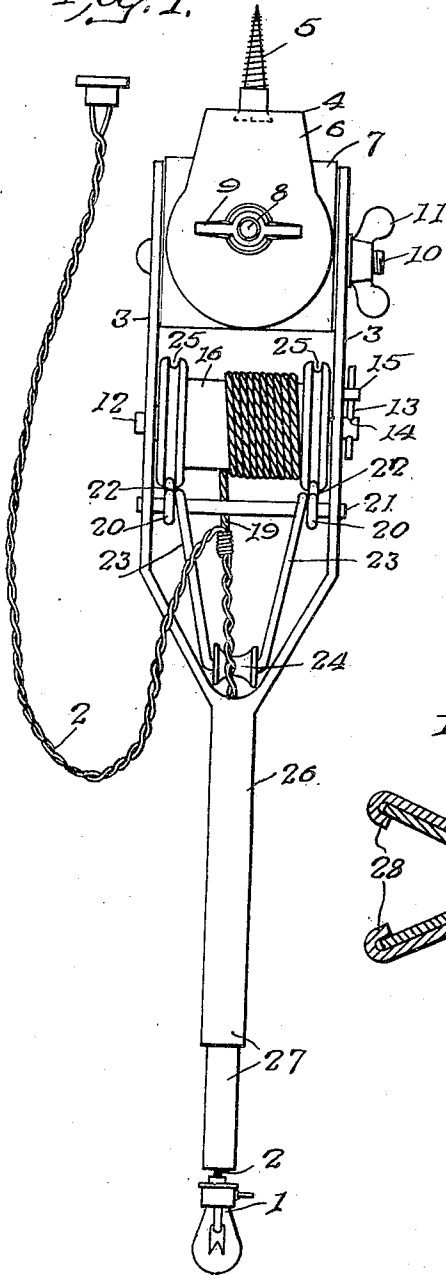


Fig. 2.

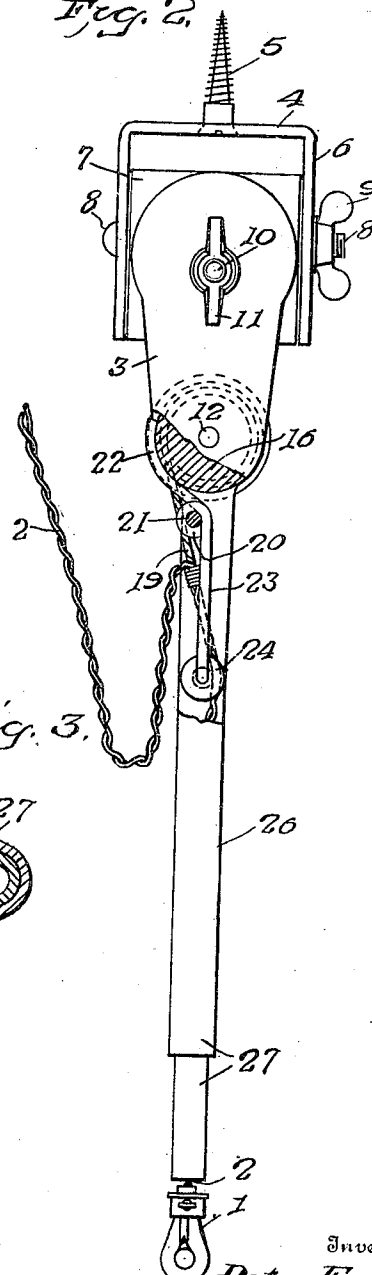
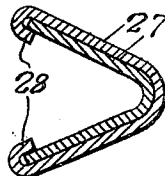


Fig. 3.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 4.

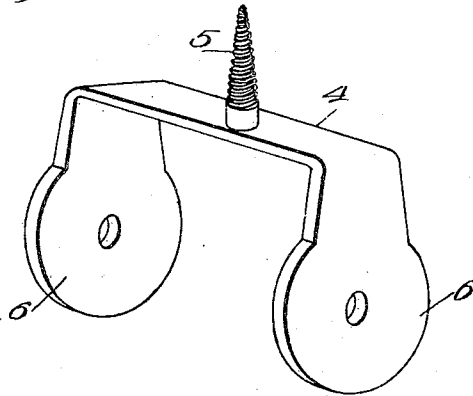


Fig. 5.

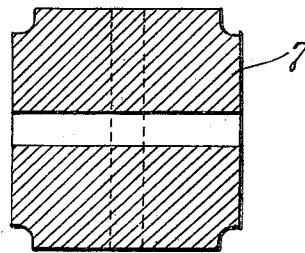


Fig. 6.

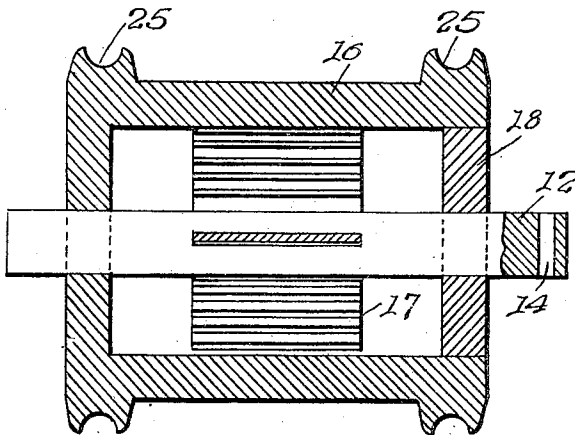
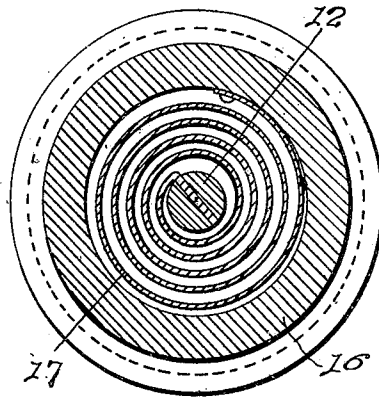


Fig. 7.



Witnesses

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# UNITED STATES PATENT OFFICE.

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## ADJUSTABLE SUPPORT FOR DROP-LIGHTS.

No. 921,970.

Specification of Letters Patent.

Patented May 18, 1909.

Application filed September 28, 1907. Serial No. 394,990.

*To all whom it may concern:*

Be it known that I, PETER FRANTZ, a citizen of the United States, residing at Dixon, in the county of Lee and State of Illinois, have invented certain new and useful Improvements in Adjustable Supports for Drop-Lights, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to adjustable supports for drop lights, and the object of the invention is to provide a support designed more particularly for incandescent electric lights which can be readily adjusted either  
15 vertically or laterally to bring the light to any desired position and which will be provided with means for supporting the light in the adjusted position, thereby enabling the  
20 position and adapting the same particularly for use on a work bench or on a machine, such as a lathe, which requires that the light be supported in a large number of different positions, according to the work being done; and  
25 a further object of the invention is to provide such a device which will be simple of construction, thereby rendering the same easy of operation and enabling it to be produced at a low cost.

30 With these objects in view, my invention consists in certain novel features of construction and in certain parts and combinations hereinafter to be described, and then more particularly pointed out in the claims.

35 In the accompanying drawings, Figure 1 is a front elevation of a support embodying my invention; Fig. 2 is a side elevation of the same; Fig. 3 is a transverse sectional view of the extensible arm; Figs. 4 and 5 are detail  
40 views of the universal joint, by means of which the device is supported; Fig. 6 is a longitudinal sectional view of the spring-actuated drum; and Fig. 7 is a transverse sectional view of the same.

45 In these drawings I have illustrated my invention in its preferred form and have shown the same as supporting an ordinary incandescent electric light comprising the lamp 1 and the usual flexible conductor wires 2. A supporting frame or bracket 3 is secured to the  
50 ceiling, or other suitable support, in any desired manner which will permit of the lateral adjustment thereof. I have here shown the supporting frame 3 as secured to the ceiling  
55 by means of a universal joint, comprising a

stirrup or yoke 4 pivotally secured to the ceiling by means of a screw 5 extending through the same and having mounted between its downwardly extending arms 6 a block 7, to which it is secured by means of a bolt 8 extending through the arms 6 and the block 7  
60 and provided with a thumb nut 9 on the outer end thereof, whereby the tightening down of the nut 9 will cause the arms 6 to frictionally engage the ends of the block 7  
65 and hold said parts against movement. The block 7 is mounted between the upper ends of the side members of the frame 3 and the sides of said block, alternate with those engaged by the arms 6 of the yoke 4, are engaged by said side members and are secured  
70 thereto by a bolt 10 and thumb nut 11. Thus, it will be seen that it can be adjusted laterally in any direction and that, when so  
75 adjusted, it will be held in its adjusted position until it is positively moved therefrom. A shaft 12 is mounted in the side members of the supporting frame 3 and is held against  
80 rotation therein by means of a pin 13, extending through an aperture 14 in one end of said shaft, which extends beyond the side  
members of the frame 3, and engages a suitable fixed part of said supporting frame, such as the lug or projection 15. A suitable hollow  
85 drum 16 is journaled on the shaft 12 and a suitable spring 17 is coiled about said shaft with one end secured thereto and the opposite end secured to the inner surface of said  
drum. The hollow drum is preferably provided with a removable head 18, whereby  
90 access may be had to the interior thereof to insert or adjust the spring 17.

The lamp 1 is supported from the drum 16 in any suitable manner, preferably by means of suitable flexible supporting means which  
95 are here shown as comprising a flexible member or cord 19 wound about the drum 16 and having one end connected to the lamp 1, preferably by securing the same to the conductor wires 2 at a point a suitable distance  
100 above the lamp 1, the cord 19 and that portion of the wires 2 lying between the cord 19 and the lamp forming the supporting means for the lamp.

Suitable means are provided for controlling the rotation of the drum 16 and these means preferably consist of one or more  
105 brake levers 20, pivotally supported near the opposite ends of the drum 16, preferably by mounting the same upon the shaft 21 mount-  
110

ed in the side members of the supporting frame 3. One end of each of the levers 20 extends above the shaft 21 and forms an arm 22 adapted to engage the drum 16, as shown, while the opposite ends 23 of the levers 20 are bent downwardly at an angle to the arms 22 so that, when the arms 22 are in engagement with the drum 16, the arms 23 will be extended substantially vertical or parallel to the side members of the frame 3. The lower ends of these arms are provided with a suitable guide, preferably a roller journaled between the arms, as shown at 24.

In the preferred construction, as herein shown, the two brake levers are formed of a single piece of resilient wire journaled on the shaft 21 by coiling the same thereabout and provided with a horizontal portion between the lower ends thereof, upon which the roller 24 is journaled. The cord 19 extends downwardly from that side of the drum 16 which is engaged by the arms 22 and over the opposite side of the guide or roller 24, thus causing the weight of the lamp which is supported by the cord 19 to rest upon the arms 23 of the brake levers, thereby moving the same about their pivotal centers and bringing the arms 22 thereof into frictional engagement with the drum 16 which is preferably provided with grooves or guideways 25 near the opposite ends thereof to receive the arms 22. The tension of the spring 17 is so proportioned relatively to the weight of the lamp that, when the weight of the lamp rests upon the brake levers 20 to move the arms 22 into engagement with the drum, the pressure of said arms against said drum will be sufficient to prevent the spring from rotating the drum. Neither is the weight of the lamp sufficient to rotate the drum in the opposite direction against the tension of the spring. Thus, it will be seen that the lamp is normally supported in a fixed position with the weight of the lamp resting upon the brake levers 20. When it is desired to lower the lamp, a direct pull upon the same or upon the supporting cord 19 overcomes the frictional engagement between the brake levers and the drum, and the drum is rotated against the tension of the spring and the lamp lowered. When it is desired to raise the lamp to a higher position, the same is lifted, thus removing the weight from the brake levers and permitting the spring to rotate the drum and wind up the cord 19. When the cord has been wound up to a sufficient extent to raise the lamp to the desired position, the lamp is released and the weight allowed to rest upon the brake levers, thus securing the lamp in its adjusted position.

The supporting frame 3 is horizontally adjustable in all directions about the universal joint, by means of which it is supported. In order to support the lamp 1 in

the desired position when the frame 3 has been adjusted laterally, I provide the frame 3 with a suitable arm 26 extending downwardly therefrom and adapted to support the lamp 1 at its outer end. The arm 26 is preferably an extensible one and, as here shown, comprises a plurality of telescoping V-shaped sections 27 adapted to fit one within the other, the inner section being held within the outer section by bending inwardly the edges of the outer section, as shown at 28. The frictional contact between the telescoping sections is such as to prevent their movement relatively one to the other from gravity alone, some positive force being necessary to adjust the same. The flexible support for the lamp extends down through the hollow portion of said V-shaped member and is engaged by the lower end of the arm. Thus, the frame 3 with its arm 26 may be turned to any desired angle and extended to bring the light into any desired position, and the lamp will be supported at the outer end of the arm 26. The frame 3 and the arm 26 may be rotated about a vertical axis owing to the pivotal connection between the member 4 and the ceiling, thereby enabling the closed side of the V-shaped member to be brought into engagement with the flexible support in whatever position the arm may be.

The operation of the device will be obvious from the foregoing description, and it will be apparent that I have produced a device of this character which can be readily adjusted either vertically or laterally, and which, when so adjusted, will be retained in its adjusted position until positively moved therefrom; and further, that I have provided such a device which is simple in its construction, easy of operation and which can be constructed and placed on the market at a small cost.

I wish it to be understood that I do not desire to be limited to the exact details of construction shown and described, for obvious modifications will occur to a person skilled in the art.

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

1. In a device of the character described, the combination, with a supporting frame movable about a plurality of transverse axes, a spring-actuated drum journaled in said frame, a lamp, flexible means for supporting said lamp from said drum, and an arm carried by said frame and adapted to support said lamp when said frame is moved about a transverse axis, of a brake member supported on said frame and having a longitudinally curved portion adapted to frictionally engage the periphery of said drum, and a guide connected to said brake member and adapted to be engaged by said flexible support for controlling the movement of said brake member.

2. In a device of the character described, the combination, with a supporting frame movable about a plurality of transverse axes, a spring-actuated drum mounted in said frame, a lamp, flexible means for supporting said lamp from said drum, and an arm carried by said frame and adapted to support said lamp when said frame is moved about a transverse axis, of a brake lever pivotally mounted near said drum, having one end curved and adapted to frictionally engage the adjacent end of said drum, and a guide connected to the opposite end of said lever and adapted to be engaged by the flexible supporting means for said lamp.

3. In a device of the character described, the combination, with a supporting frame movable about a transverse axis, a spring-actuated drum journaled in said frame, a lamp, and flexible means for supporting said lamp from said drum, and an arm carried by said frame and adapted to support said lamp when said frame is moved about its transverse axis, of a shaft mounted in said frame, levers pivotally mounted on said shaft intermediate their ends, one arm of each lever being curved and adapted to frictionally engage said drum, and a guide carried by the other arm of said lever and adapted to be engaged by the flexible support for said lamp.

4. In a device of the character described, the combination, with a supporting frame, a spring-actuated drum mounted thereon and having peripheral grooves near the opposite ends thereof, a lamp having flexible conductor wires, and flexible means for supporting said lamp from said drum, of a pair of brake levers pivotally mounted near the opposite ends of said drum, each having one arm curved and adapted to engage the groove in

the adjacent end of said drum, and a guide carried by said levers at the opposite ends thereof and adapted to be engaged by the flexible supporting means for said lamp.

5. In a device of the character described, the combination, with a support, a frame, pivotally connected thereto and movable about a horizontal axis, a spring-actuated drum mounted within said frame, and a hollow arm depending from said frame, of a lamp having flexible conductor wires extending through said hollow arm, flexible means for supporting said lamp from said drum, a brake member mounted on said frame in frictional contact with said drum, and means adapted to be engaged by said flexible support for controlling the movement of said brake member.

6. In a device of the character described, the combination, with a support, a frame pivotally connected thereto, and movable about a plurality of transverse axes, a spring-actuated drum mounted within said frame, and an extensible arm depending from said frame, of a lamp having flexible conductor wires adapted to be supported by said arm, flexible means for supporting said lamp from said drum, brake levers pivotally mounted near the opposite ends of said drum and having curved arms adapted to engage the periphery of said drum, a guide connected to said brake levers and adapted to be engaged by said flexible support for controlling the movement of said brake levers.

In testimony whereof, I affix my signature in presence of two witnesses.

PETER FRANTZ.

Witnesses:

MARTHA REED,  
WM. BUCKLEY.