H. J. MOECKEL.

PHOTOGRAPHER'S LAMP.

APPLICATION FILED SEPT. 6, 1921.

1,430,827.

Patented Oct. 3, 1922.

2 SHEETS—SHEET 1.

Fig. 1.

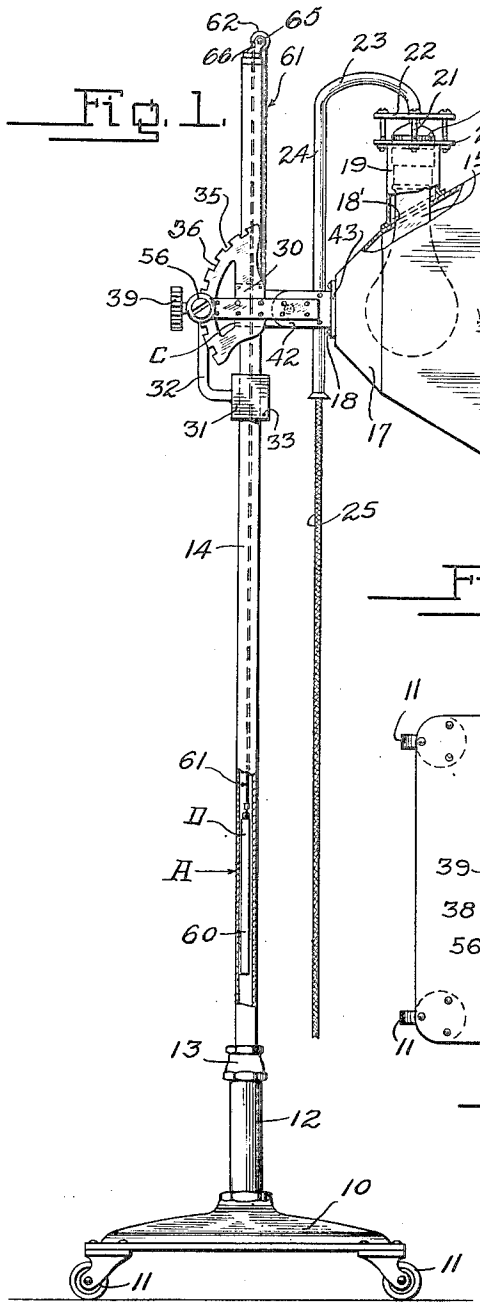


Fig. 3.

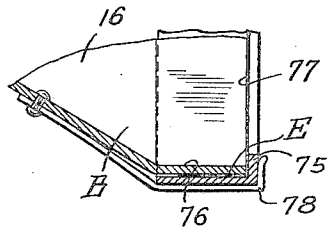


Fig. 4.

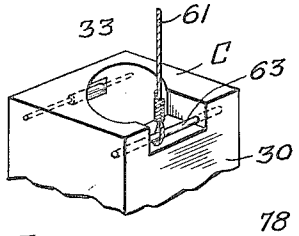
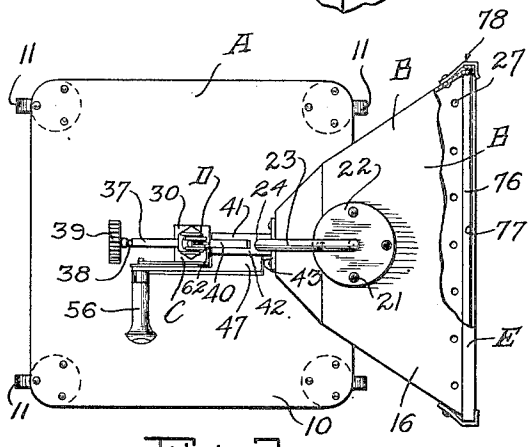


Fig. 2.



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2 SHEETS—SHEET 2.

Fig. 4.

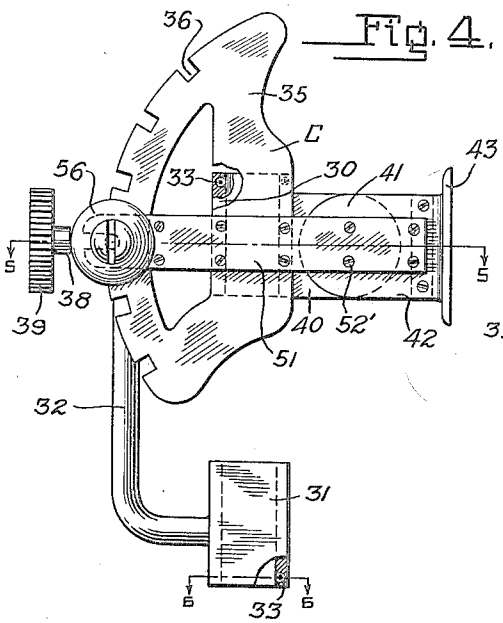


Fig. 5.

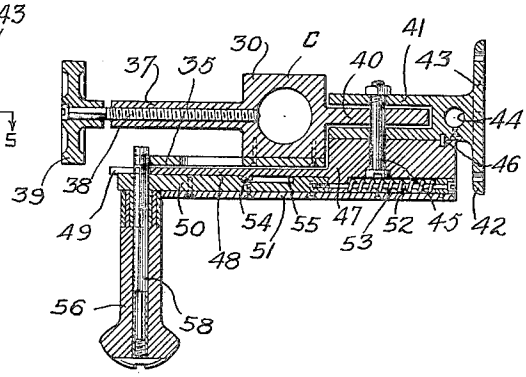


Fig. 6.

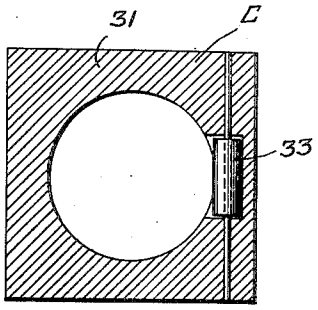
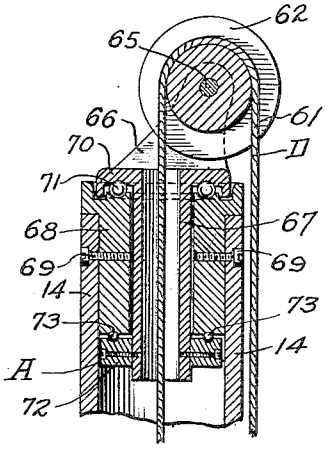


Fig. 7.



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UNITED STATES PATENT OFFICE.

HARTMANN JOHN MOECKEL, OF ST. LOUIS, MISSOURI.

PHOTOGRAPHER'S LAMP.

Application filed September 6, 1921. Serial No. 498,601.

To all whom it may concern:

Be it known that I, HARTMANN J. MOECKEL, a citizen of the United States, residing at St. Louis, in the county of St. Louis and State of Missouri, have invented certain new and useful Improvements in Photographers' Lamps, of which the following is a specification.

This invention relates to lighting devices for photographic and other studios, and the primary object of the invention is to provide an improved electric lighting device, so constructed as to permit the light rays therefrom to be trained upon a desired object to the best advantage, and which will eliminate the necessity of providing a skylight in buildings for photographic purposes, thereby reducing the insurance rates on such buildings.

Another object of the invention is to provide a novel electric lamp for use in photographers' studios embodying a supporting standard, a reflector for receiving the electric lamp, and a novel means for mounting the reflector upon the standard, whereby the reflector can be readily and easily moved to any desired position on the standard and held in position against accidental displacement.

A further object of the invention is the provision of a novel electric lamp in which the means for mounting the reflector upon the standard permits the reflector to slide thereon without binding and allows the reflector to be swung at various angles in relation to the horizontal in a convenient and expeditious manner.

A still further object of the invention is to provide an improved electric lamp for use in photographic and other studios of the above character, which will be durable and efficient in use, one that will be simple and easy to manufacture, and one which can be placed upon the market at a reasonable cost.

With these and other objects in view, the invention consists in the novel construction, arrangement and formation of parts, as will be hereinafter more fully described, claimed and illustrated in the accompanying drawings, forming a part of this specification, in which drawings:

Figure 1 is a side elevation of the improved electric lighting device, showing parts thereof in section.

Figure 2 is a top plan view of the improved lighting device showing the portions of the reflector and diffusing frame in section.

Figure 3 is an enlarged fragmentary sectional view through the reflector and diffusing frame taken on the line 3—3 of Figure 1, illustrated the means of connecting the frame to the reflector.

Figure 4 is an enlarged side elevation of the sliding head utilized for carrying the reflector and extension cord tube, portions of the head being shown in section.

Figure 5 is a section taken on the line 5—5 of Figure 4 through said head.

Figure 6 is an enlarged transverse section through one of the sliding sleeves of the head utilized for connecting the head to the standard taken on the line 6—6 of Figure 4.

Figure 7 is an enlarged fragmentary vertical section through the upper end of the supporting standard illustrating the means of connecting the counterbalancing tape for the counterbalancing weight and the reflector, so as to readily permit the reflector to be swung around the standard as a pivot.

Figure 8 is a fragmentary detail perspective view of the upper sliding sleeve, which forms a part of the head.

Referring to the drawings in detail, wherein similar reference characters designate corresponding parts throughout the several views, the letter A indicates the base of the improved electric lighting device; B, the reflector; C, the novel means for connecting the reflector with the base; D, the counterbalancing means for the reflector and connecting means, and E the diffusing frame for the reflector.

The base A includes a lower frame or bed plate 10, to which can be secured in any preferred manner rollers 11, whereby the improved lighting device can be readily moved to any desired point in the studio. The lower frame or bed plate 10 supports at the central portion thereof an upstanding tube 12, to which may be secured by a suitable reducing nipple 13, a hollow upstanding standard 14, to which is adapted to be connecting by the novel connecting means C

the reflector B which will now be described.

The reflector B, in which is adapted to be positioned an electric lamp 15 of the desired candle power, can be formed of any desired material and size, but as shown the same is of a substantially frusto-pyramidal construction and includes the inclined side walls 16. The inner end of the frusto-pyramidal construction has formed integral therewith and secured thereto in any preferred manner, a second pyramidal shaped body, the walls 17 of which have a greater pitch than the walls 16 of the first mentioned portion of the reflector. The walls 17 carry a rear wall or attaching plate 18, which is to be bolted or otherwise secured to the connecting means C as will be hereinafter described.

The base portion of the lamp 15 is extended through a relatively large opening 18', in the upper wall 16 of the reflector B, and this wall forms means for permitting the escape of the heat generated within the reflector. This opening is surrounded by a suitable heat conveying tube 19, which has secured at its upper end an annular connecting ring 20, which may be bolted by suitable stove bolts 21 to an attaching plate 22, which is carried by the goose neck portion 23 of the protecting tube 24 of an extension electric cord 25. This extension electric cord 25 is connected in any preferred manner to the terminals of the socket 26 of the electric lamp 16. This socket is connected to the attaching plate 22 and the goose neck portion 23 of the protecting tube 24. It can be seen that the heat generated by the lamp 15 may escape up through the enlarged opening 18' and through the conducting tube 19. If desirable, the upper and lower walls of the reflector B can also be provided with suitable escape openings 27 for the heated air.

The connecting means or head C includes a pair of spaced sleeves 30 and 31, which are connected together by means of a rigid rod 32, which constitutes a handle portion. The sleeves 30 and 31 are disposed in vertical alignment and are mounted upon the standard 14 for both sliding and rotary movement. In order to permit the easy sliding of the sleeves 30 and 31 on the standard 14, the opposite ends of these sleeves are provided with anti-friction rollers 33 as can be readily seen by referring to Figures 4 and 8 of the drawings. One face of the upper sleeve 30 has connected thereto by a suitable machine screws or the like, a sector plate 35, the rear edge of which is provided with a plurality of equi-distantly spaced locking notches 36. The rear face of the upper sleeve 30 supports a rearwardly extending internally threaded sleeve 37, for the reception of the locking screw 38, which is provided with a suitable operating handle 39. It can be seen that by operating the screw 38, the inner end of the same can be moved into engagement with the standard 14 and thereby effectively prevent the sliding or turning movement of the head upon the standard. The forward face of the upper sleeve 30 supports an outwardly extending lug 40, which is received in the bifurcated portion 41 of a block 42, the outer face of which has formed integral therewith an attaching plate 43. This attaching plate 43 is adapted to abut the rear wall or the attaching portion 18 of the reflector B, and is adapted to be connected thereto by means of suitable attaching bolts or the like. The block 42 is also provided with a vertically extending way 44, through which the protecting tube 24 of the extension electric cable 25 is adapted to extend. This tube is held in position in the way 44 by means of a suitable set screw or the like. The block 42 is connected to the lug 40 by means of a suitable pivot bolt 45, which extends through the lug 40 and the bifurcated portion 41 of the block. One side face of the block 42 has connected thereto by means of the pivot bolt 45 and a dowel pin 46, a guide block 47, which is provided with a rearwardly extending relatively thin arm 48. The outer end of this arm 48 is notched as at 49, and this notched portion is adapted to be brought into alignment with any one of the notches 36, when the block 42 is swung on the pivot bolt 45. This guide block 47 supports a sliding latch 50 which is held in a grooved portion of the guide block by means of a cover plate 51, which can be connected to the guide block by suitable screws or the like. The inner end of the sliding latch 50 is provided with a reduced rod 52, around which is coiled a tension spring 53. One end of this tension spring 53 engages a washer carried by the rod, and the other end a rigid portion of the guide block 47. The latch 50 is limited in its sliding movement by means of an integral lug 54, which is formed on the guide block 47 and is received in a guide screw 55 formed in the inner face of the latch. The outer end of the latch has connected thereto an outwardly extending operating handle 56. This handle 56 has extending therethrough a locking bolt 58, which is adapted to fit in the notch 49 formed in the portion 48 of the guide block 47, and is adapted to fit in any one of the notches 36 formed in the sector plate 35, in order to hold the attaching plate 43 and consequently the reflector B in any preferred adjusted position. It can be seen that by moving the handle 56 rearwardly, the latch 50 will be moved rearwardly against the tension of the coil spring 53, and the locking bolt 58 will be moved out of the locking notch 36, thus permitting the block 42 and its attaching plate 43 and reflector B to be swung on the pivot bolt 45.

By merely releasing the handle 56, the locking bolt 58 will be returned to its normal position in one of the locking notches 36, by means of the coil spring 53.

By this construction, it can be seen that the reflector B can be swung at any desired angle in relation to the horizontal and swung around in a horizontal plane on the standard 14.

In order to facilitate the raising and lowering of the connecting means on the head C and the reflector B, the counterbalancing means D is provided. This counterbalancing means D consists of a weight 60, which is slidably mounted within the hollow standard. The upper end of this weight has connected thereto a suitable tape or cable 61, which is trained about a pulley wheel 62. The opposite end of the cable is connected to a transversely extending bolt 63 carried by the upper sleeve 30. This bolt 63 is arranged directly opposite the antifriction roller 33 carried by the upper sleeve. The cable receiving pulley 62 is rotatably mounted upon a pivot pin or bolt 65 carried by a pair of upstanding ears 66, which are formed on a rotatable sleeve 67. This sleeve 67 is positioned in a cap 68 which is connected to the upper end of the standard 14 by means of suitable screws or the like 69. The upper end of the sleeve 67 has formed thereon a flange 70, and the cap 68 and the flange 70 has interposed therein a race way in which is interposed a plurality of roller or ball bearings 71. The lower end of the sleeve has detachably secured thereto an annular washer or ring 72, and this washer and the lower end of the cap 68 has interposed therebetween a plurality of ball or roller bearings 73. This permits the ready rotation of the sleeve and allows the connecting member or head C of the reflector to be readily rotated around the standard.

In order to diffuse the light, the frame E is provided. This frame E is of a substantially open rectangular construction and has formed on its outer edge an inwardly extending retaining flange 75. The frame is adapted to receive a locking frame 76, which is also of substantially rectangular construction. This frame 76 is adapted to slide in the first mentioned frame and to abut against the inwardly extending flange 75. A suitable piece of fabric, such as tracing cloth or the like is arranged between the frames, and the frames serve to hold the same in position. The frame E is adapted to abut the outer edge of the reflector B and is held thereon against accidental displacement by means of suitable resilient clamps 78.

From the foregoing description, it can be seen that an improved electic lamp has been provided of exceptionally simple and durable construction, which is particularly adapted for photographic work, owing to the means for permitting the reflector of the lamp to be readily adjusted to any desired position and that the rays of light from the lamp will be diffused over a relatively large area, and thereby rendering the use of the lamp similar to the natural daylight.

The use of the tracing cloth or linen as a diffusing medium for the reflector has been found to be very satisfactory, as the rays of light are not only diffused, but are given a natural tone and the glare is eliminated, thus simulating natural daylight.

Changes in details may be made without departing from the spirit or scope of this invention; but,

I claim:

1. A lamp for photographic purposes comprising a base, a vertically disposed standard carried by the base, a head slidably and rotatably mounted upon the standard, means carried by said head for locking the head upon the standard for sliding or rotary movement, a reflector carried by the head, a lamp arranged in the reflector, a counter-balancing weight disposed within the standard, and a cable connected to said weight and to said head.

2. A lamp for photographic purposes comprising a standard of hollow construction, a pulley wheel carried by the upper end of the standard and arranged to rotate about said standard, a head rotatably and slidably mounted upon the standard, a reflector secured to the head, a lamp arranged within the reflector, a counter-balancing weight slidably mounted within the standard, and a cable arranged over said pulley and having its opposite end arranged respectively to the weight and to said head.

3. In a lamp for photographic purposes, a standard, a head arranged upon the standard including a pair of spaced sleeves rotatably and slidably mounted upon the standard, a U-shaped handle connecting said sleeves together, a set screw carried by one of the sleeves for engaging the standard to prevent movement of the sleeves upon said standard, a block, means pivotally connecting the block to said head, a reflector secured to the block, a lamp disposed within said reflector, and locking means carried by the sleeves for engaging said head to hold the block against swinging movement.

4. In a lamp for photographic purposes, a standard, a head including a pair of spaced sleeves, and a rigid handle connecting the sleeves, a sector plate secured to said head having a plurality of locking notches formed therein, means carried by one of the sleeves for engaging said standard to prevent movement of the head upon the standard, a block, means pivotally securing the block to the head, an attaching plate carried by the block, a sliding latch carried by

said block, an outwardly extending handle secured to said latch, a locking bar carried by the handle arranged to engage in any one of the locking notches formed in said sector plate.

5. A lamp for photographic purposes comprising a standard, a head including a pair of spaced sleeves rotatably and slidably mounted upon said standard, a rigid handle connecting the sleeves together, a locking member carried by one of the sleeves for engaging the standard to prevent movement of the head thereupon, a block, means pivotally securing the block to the head, a pivot bolt connecting the block to said head, a sector plate having a plurality of notches therein rigidly secured to said head, a locking handle slidably carried by the block arranged to engage in any one of said notches, a goose neck tube carried by the block, a reflector rigidly secured to the block, a lamp socket carried by the tube, a lamp fitted within said socket and disposed within the reflector, and an extension electric cord disposed in said goose neck tube and electrically connected to said lamp socket.

6. In a lamp for photographic purposes, a reflector having an opening formed in the upper end, an air escape tube connected to the upper end of the reflector and disposed about said opening, an electric wire carrying tube disposed above said reflector, a lamp socket carried by said tube, an attaching plate connected to said tube, an attaching ring secured to the hot air conveying tube, and bolts connecting the attaching plate and the attaching ring together.

7. In a lamp for photographic purposes, a hollow standard, a head including a pair of spaced sleeves, a rigid handle connecting said sleeves, the sleeves, being mounted upon the standard for rotary and sliding movement, anti-friction rollers carried by the opposite ends of the sleeves for engaging said standard, a reflector carried by the head, a counterbalancing weight disposed within the standard, a pulley carried by the upper end of the standard, one of the sleeves having a notch formed therein, a connecting pin secured to the last mentioned sleeve and disposed in said notch, and a connecting cable disposed over said pulley and secured to said counterbalancing weight and to said pin.

8. In a lamp for photographic purposes, a hollow standard, a head rotatably and slidably mounted upon the standard, a reflector pivotally secured to the head, a hollow cap secured to the upper end of the standard, a sleeve rotatably mounted in said cap, a pulley rotatably mounted in said sleeve, a weight slidably mounted within said standard, a cable disposed about said pulley and secured to the weight and to said head.

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