

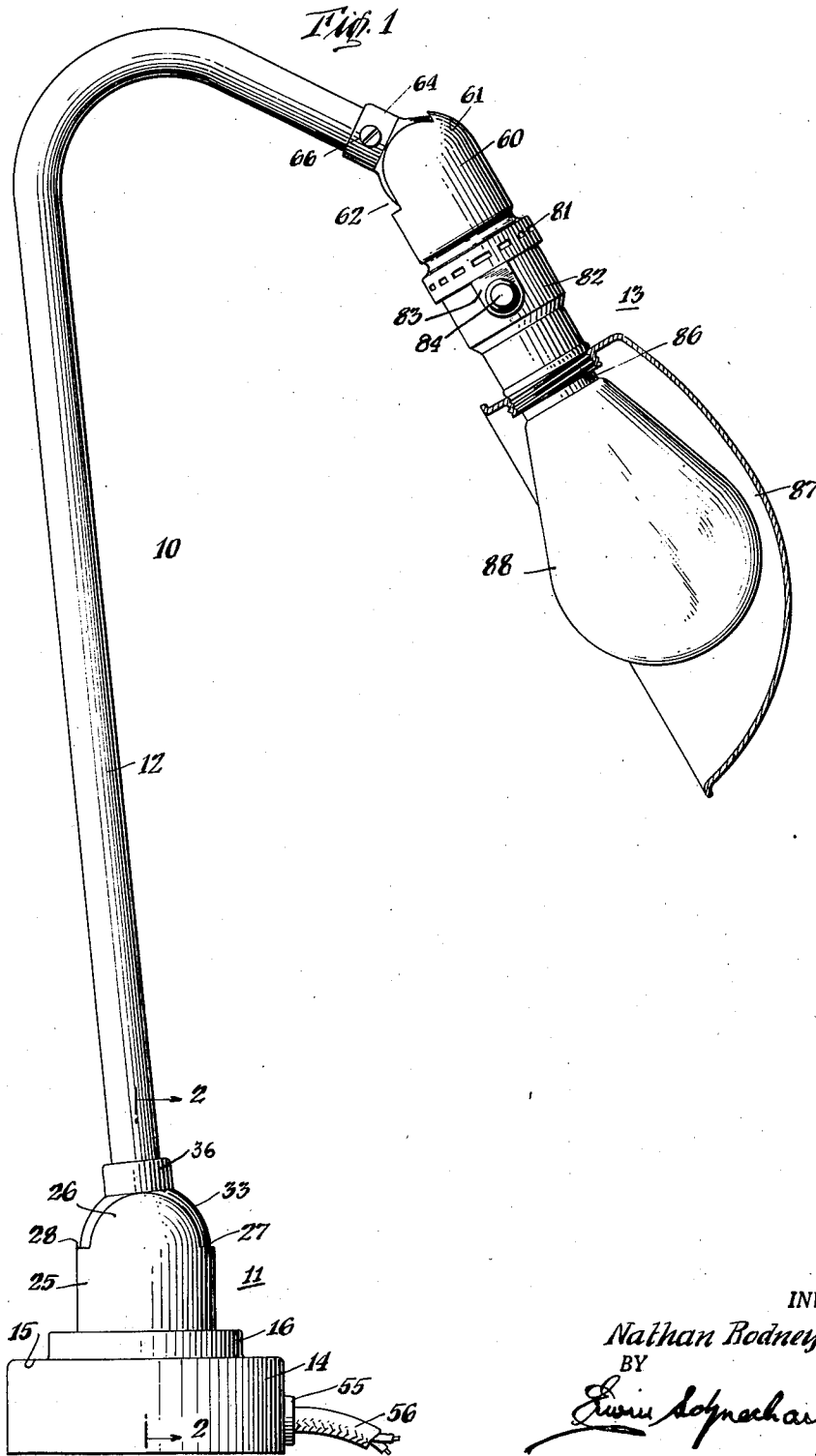
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N. R. SCHWARTZ  
WORK LAMP SUPPORT

2,472,624

Filed July 10, 1943

3 Sheets-Sheet 1



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June 7, 1949.

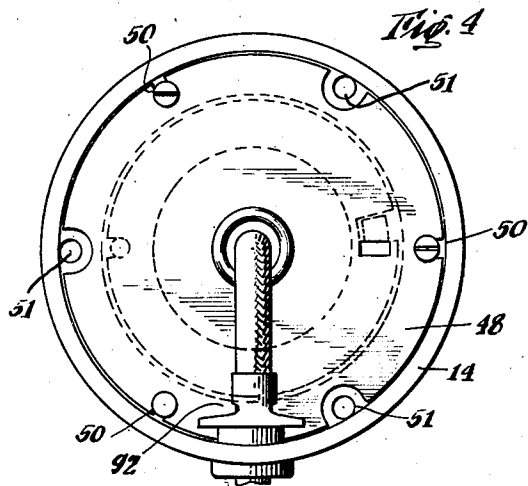
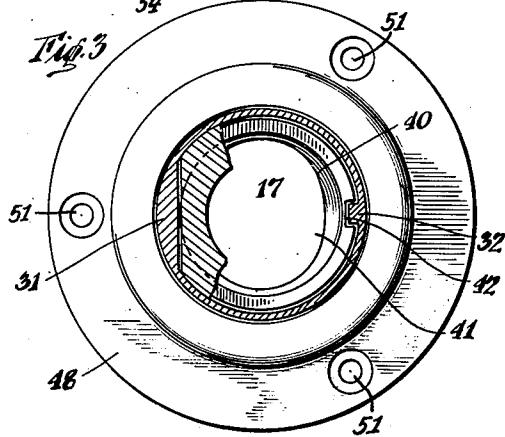
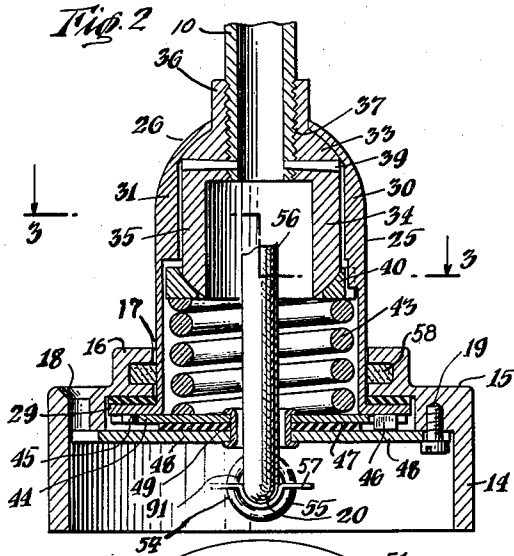
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3 Sheets-Sheet 2



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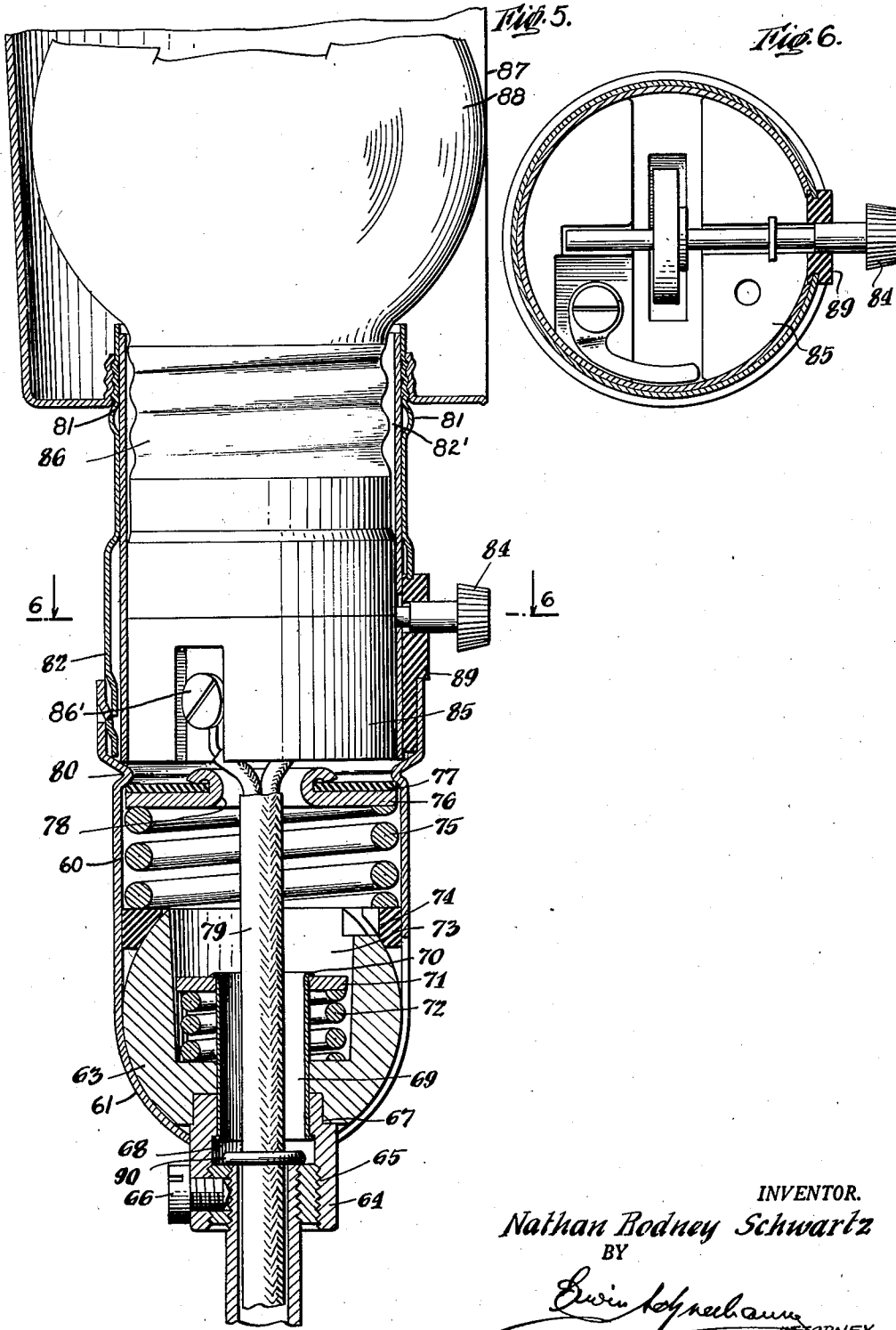
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WORK LAMP SUPPORT

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3 Sheets-Sheet 3



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# UNITED STATES PATENT OFFICE

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## WORK LAMP SUPPORT

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2 Claims. (Cl. 248—346)

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This invention relates to industrial or work lamps such as are used in factories, machine shops, work benches, draftsman's desk and in fact wherever directive lighting will aid in better or more rapid production of work.

It is the principal object of the present invention to provide a work lamp comprising an arm mounted at one end on a base and having a lamp secured at its other end, both attachments being so made, that the arm may be turned axially substantially one complete revolution in either direction.

Another feature of this invention lies in the provision of a work lamp of this character where in the arm may be turned at its base angularly up to 90 degrees relative to its normal axis.

And it is yet another purpose of this invention to provide a work lamp the lamp or shade retaining end of which may be rotated axially substantially one complete revolution in either direction.

Another advantage of this invention resides in the provision of means in association with a work lamp of this character, whereby the lamp or shade retaining end may be angularly adjusted up to 90 degrees of its normal axis.

And a still further aim of this invention resides in the provision of means associated with a work lamp of this character, wherein any or all of these adjustments may selectively be made, thus affording an almost unlimited variety of angular adjustments, permitting the casting of light rays from practically every conceivable angle.

And yet another aim of this invention lies in the provision of means to limit the rotative movement of the lamp at the base and at the shade retaining end to slightly less than one complete revolution in either direction, thus preventing the twisting and eventual breaking of the electric cable which would result if the limiting means were not present.

A further aim of this invention resides in the provision of a work lamp which may be adjusted angularly or axially without the necessity of adjusting screws or wing nuts, the adjustment being made merely by turning the arm axially or angularly or both, and by turning the shade retaining end angularly or axially or both, and which is further provided with means for automatically retaining the lamp in any of its adjusted positions.

Another aim of this invention lies in the provision of a work lamp of this character, wherein

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the electric cable is entirely concealed within the device, thus preventing damage thereto.

And a further purpose of this invention resides in the provision of a work lamp of this character so constructed, that no oil or other foreign matter can enter any of the working parts thereof; which is unaffected by machine vibration, which will not work loose or drop its adjusted positions due to such vibrations; and which may readily and easily be secured to any desired surface, such as a work bench, desk, machine, wall or wherever it may be desired.

These and other meritorious objects and advantages, which will become more fully apparent as the description hereof proceeds, are accomplished by the novel construction, combination and arrangement of parts, hereinafter described, and illustrated in the accompanying drawing, forming a material component of this disclosure, and in which:

Figure 1 is an assembly view of a work lamp constructed in accordance with the present invention.

Figure 2 is a cross-sectional view, the section being taken on line 2—2 of Figure 1.

Figure 3 is another cross-section of the device, the section being taken on line 3—3 of Figure 2.

Figure 4 is a bottom view of the base of the lamp.

Figure 5 is a sectional view of the upper or lamp retaining end of the device, drawn to an enlarged scale.

Figure 6 is a modified form of swivel ball, illustrated in a sectional view.

Referring in greater detail to the accompanying drawings, the numeral 10 designates in general a work lamp constructed in accordance with the present invention, comprising broadly a base 14, an arm 12 and an upper or lamp retaining end 13.

Referring now in greater detail to the several basic parts of the lamp, the base 14 comprises, as is here illustrated, a circular, hollow cylindrical base or foot member 14 having a horizontal upper surface 15 raised at its center to form a neck portion 16. Neck portion 16 is provided with a circular bore 17; the horizontal surface 15 has a plurality of openings 18 therefor for the passage of screws or other desirable retaining means therethrough, as indicated at 19; and the cylindrical portion 14 of the base is provided with a circular opening therethrough, as at 20 for a purpose to be presently described.

For angular or rotative adjustment of a lamp mounted thereon, base or foot member 14 has

a swivel unit retained therein. This swivel unit comprises a hollow housing cast of steel or any other desirable material, said housing, identified by the numeral 25, having a cylindrical outer surface merging at its top into a rounded upper portion 26 of spherical contour.

Extending from the top to points therebelow, at opposite sides thereof are two substantially rectangular cut-outs 27—28, extending downwardly an equal distance as is illustrated in the drawing.

At its lower end, housing 25 is turned outwardly throughout its periphery to form a flared portion 29. At its upper rounded portion, in the interior thereof and intermediate the cut-outs 27—28, the housing has cast integrally therewith two flats 30—31, one of said flats having a narrow, downreaching extension 32, substantially rectangular in cross-section, the purpose of which will be presently made clear.

In the upper, rounded portion of housing 25 is a swivel member 33, substantially spherical in contour and of hollow interior, having two substantially flat sides 34—35, its upper end having preferably formed integrally therewith a nipple 36 provided with internal threads 37, said nipple extending upwardly beyond the housing. The diameter of nipple 36 is equal to the width of cut-outs 27—28 in which it is adapted to be entered. Centrally near their upper ends, flat sides 34—35 each have a small opening for the passage of pins 39 or other retaining means therethrough, said openings extending through the sides and through nipple 36.

Swivel member 33 seats on a concavely shaped washer 40, circular in cross-section, and having a substantially oval opening 41 in its center. At its outer periphery, washer 40 is provided with a substantially rectangular recess 42 in which extension 32 is adapted to engage to prevent washer 40 from rotating in the housing.

Swivel member 33 is urged upwardly within the housing by a coiled compression spring 43, seating on washer 44, circular in cross section and provided centrally thereof with a circular opening. Washer 44, at opposite points near its outer periphery is provided with a relatively small opening and a relatively larger opening, both extending vertically through said washer, the smaller opening adapted to receive lug 45 and the larger opening adapted to receive lug 46.

Friction washer 47, of smaller diameter than the diameter of washer 44 is positioned between washer 44 and a larger closure washer 48, the fibre washer being circular in cross-section and being provided centrally thereof, with a circular opening extending vertically through said washer, washer 48 also being provided with a circular opening, all three central openings being of equal diameter. A grommet or eyelet 49 joins the three washers at their central openings, both for greater ease in assembling the device and to ground the device thereby. Along its outer edge, washer 48 is provided with a plurality of small cut-outs 50 for the passage of screws or other means therethrough and in corresponding openings in the interior of base member 14 whereby washer 48 is secured to the base, and the larger cut-outs 51 to permit screws or other fastening means passing through opening 18 to clear the washer. Foot member 14 is provided with an opening 54 through which passes a grommet 55 and, in order to prevent excessive strain upon cable 56, a strain relief 57 is employed in the most advantageous position.

Arm 12, provided with external threads at its lower end is screwed into nipple 36 which has internal threads 37, and pin 39 is passed through the opening in swivel member 33 provided for that purpose so as to secure arm 12 to the nipple, hence to the swivel member.

Arm 12 may be of any desired material and may be formed in any desired shape. It is here illustrated as being substantially vertical in its normal position, and having a substantially U-shaped upper end, but the curve may be greater or less than here illustrated, or need not be present at all.

At its upper end, arm 12 has a lamp-retaining swivel unit attached thereto, the swivel unit being constructed in the following manner:

A thin-walled metallic housing 60, forming the outer body of the unit, is of a hollow cylindrical nature, merging at its top into a rounded upper surface of spherical nature, as at 61. At one side, housing 60 is provided with a recess, extending from the top to a point therebelow, as is shown by the numeral 62. Housing 60 may be provided with flats similar to flats 30—31 shown in Figure 2 of the drawing and for the same purpose.

In the upper, rounded portion of housing 60 is a swivel member 63 having a central vertical bore extending vertically therethrough. Swivel member 63 has two substantially flat sides, such as are indicated at 34—35 of Figure 2. Swivel member 63 is completely enclosed in housing 60, and has entered in its vertical bore a conductor comprising an upper portion or nipple 64 having internal threads 65 and provided near its upper edge with a circular opening for the passage of a set screw 66 or other fastening means therethrough. Extending vertically throughout nipple 64 is a bore, which is reduced at its inner end portion to form a shoulder 67. Said conductor further comprises a sleeve member 69, which enters the central bore of said nipple 64, the upper end of said sleeve member being formed with a head 68 which seats on shoulder 67. Sleeve member 69 is also provided with a central vertical bore. The lower end of sleeve member 69 is flared as at 70 to form a seat for washer 71 upon which rests a coiled compression spring 72 to retain the conductor in frictional engagement in the swivel member. At its base, swivel member 63 is provided, at opposite sides with two substantially rectangular cut-outs 73 whose purpose will presently be made known.

Swivel member 63 seats upon a concavely curved fibre washer 74, which is urged upwardly in housing 60 by a coiled compression spring 75 seated upon a washer comprising two substantially thin discs, the upper one of which, 77, is made of fibre or any other insulating material, and the lower or strengthening disc 76 made of steel or any other suitable material. Both discs are provided with a circular opening in their center, where they are joined by an eyelet 78 made of any desirable tubing to form a unit. Washer 71 is also formed with a circular opening in its center, so that cable 79, leading to the bulb may pass through the conductor, the several washers and springs. In order to retain the several members heretofore described in their respective operating positions within housing 60, the said housing is knurled throughout its periphery, as at 80, washer 77 seating on the indentation thus created. Below the knurled portion 80, housing 60 is provided with a plurality of inreaching teeth 81 for engagement with one end of a conventional cy-

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lindrical metallic sleeve member 82 having a substantially U-shaped cut-out 83, extending from the other end of sleeve member 82 to a point thereabove to accommodate the knob 84 of a conventional switch which is part of a porcelain socket 85 having a terminal 86 for one of the wires of cable 79, the other terminal being indicated at 86'. Between socket 85 and sleeve 82 there may be inserted a paper-shell sleeve 82' of standard construction, having a U-shaped cut-out identical with cut-out 83.

At its lower end, sleeve member 82 is provided with external threads for engagement with internal threads of a conventional lamp shade 87, and a conventional incandescent light bulb 88 is screwed into socket 85 in a conventional manner.

In order to prevent the disengagement of sleeve member 82 from socket 85, socket 85 at the point of knob 84 is provided with a flat, substantially U-shaped fibre inlay 89, the inlay having a recess substantially midway the thickness of member 89 extending at the outer edge thereof, in which the edges of sleeve member 82 will engage at 83.

Excessive strain upon cable 79 may be avoided by placing a strain relief at the most advantageous places, such as at 90, 91 and 92.

The operation of the work lamp here described and illustrated will be understood from the several views of the drawing and it will be clear that the lamp illustrated in Figure 1 can be turned at the base rotatively until lugs 45 and 46 abut, at which point the rotative movement in that direction will obviously be stopped. A similar condition prevails at the shade retaining end of the lamp.

Many modifications of the device are apparent, and many more will be apparent during the use of the device. The means illustrated in Figure 5 for preventing the disengagement of the lamp socket from its sleeve can be modified by the use of a separate U-shaped inlay, not associated with the socket, which otherwise may be constructed as the one illustrated in the drawing.

There has thus been illustrated and described a practical and highly efficient work lamp, but it is to be understood that the disclosure here presented is to be regarded as illustrative and descriptive of the best known embodiment of the invention, and not as restrictive or limitative to the exact details shown, and applicant reserves

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the right to make such changes in the construction of the device as may come within the scope of the appended claims without departure from the spirit and scope of the present invention.

Having thus described the invention, what is claimed as new and desired to secure by Letters Patent, is:

1. In a lamp base comprising a hollow base, a cylindrical housing, a spherical member therein and a closure washer for the base, said spherical member seated on a washer, a slot in said washer, means integral with said housing and enterable in said slot preventing said washer from rotating, and means cooperating between said closure washer and said housing limiting the rotative movement of said housing.

2. In a lamp base comprising a hollow base, a cylindrical housing, a spherical member therein and a closure washer for the base, a washer, said spherical member seated thereon, said washer provided with a slot, a downwardly pointed finger integral with said housing, said finger enterable in said slot, and means extending upwardly from said closure washer and downwardly from said housing whereby the rotative movement of said housing is limited.

NATHAN RODNEY SCHWARTZ.

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