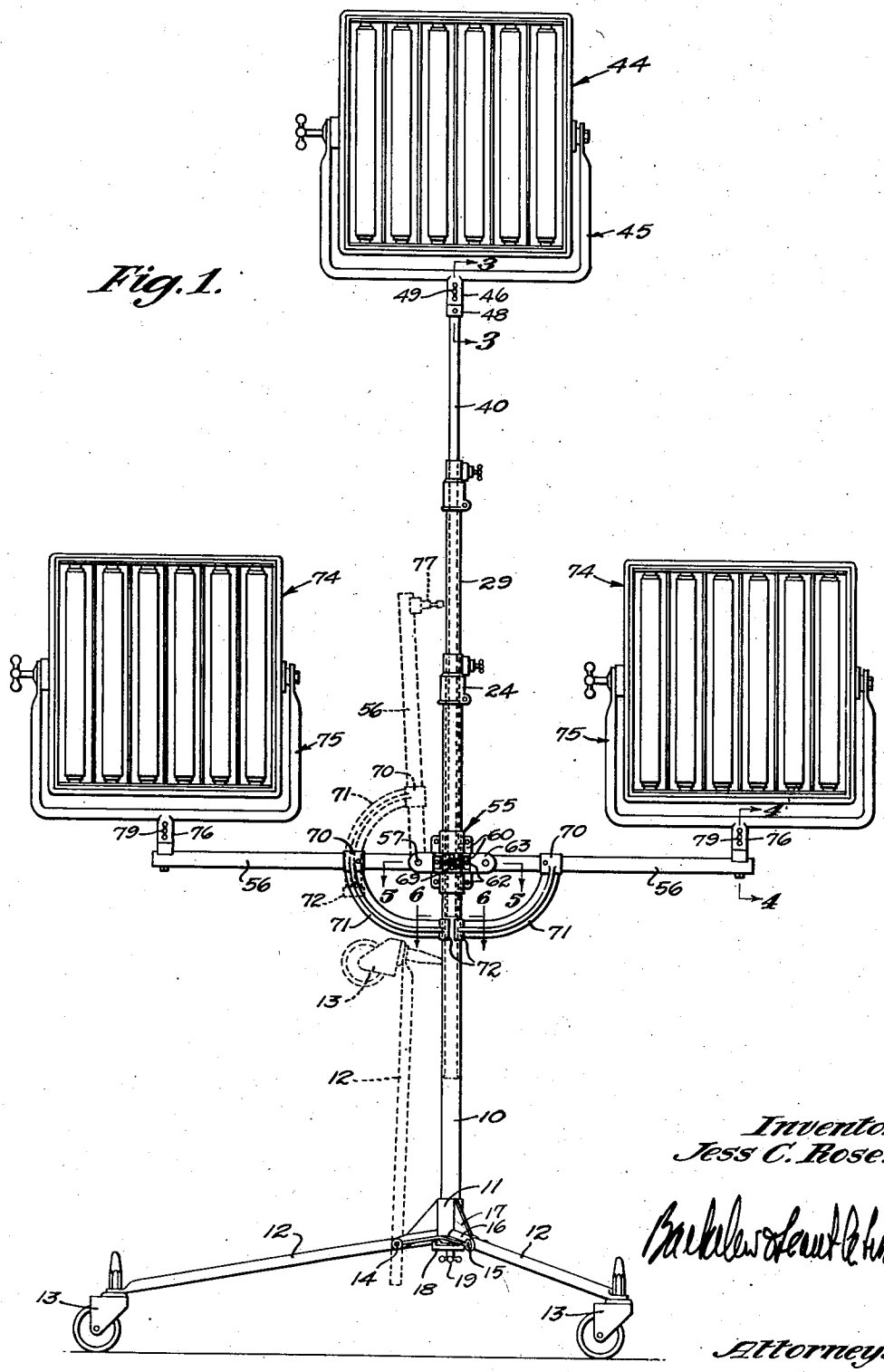
June 27, 1944. J. C. ROSE 2,352,496

COLLAPSIBLE AND VERTICALLY ADJUSTABLE STAND FOR WORK LAMPS

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Fig. 1.



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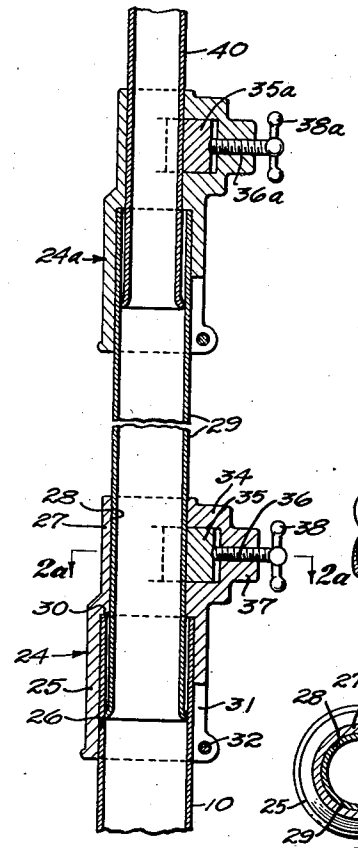


Fig. 2.

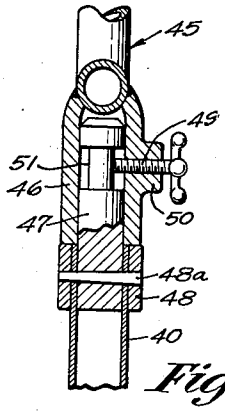


Fig. 3.

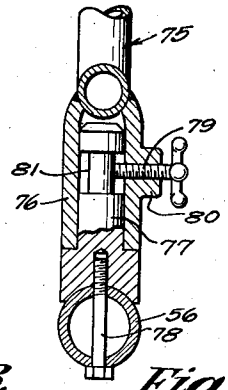


Fig. 4.

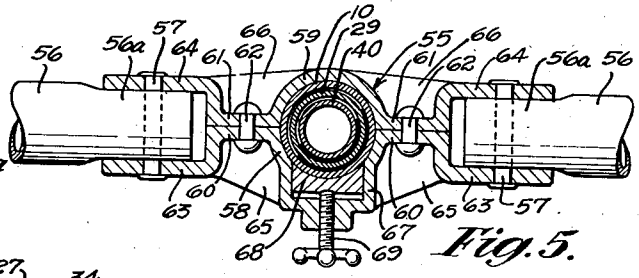


Fig. 5.

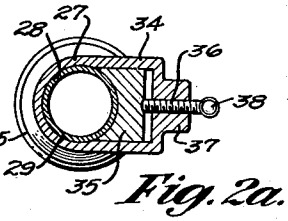


Fig. 2a.

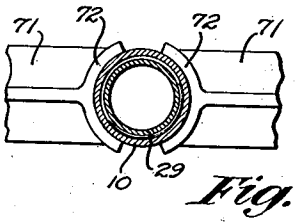


Fig. 6.

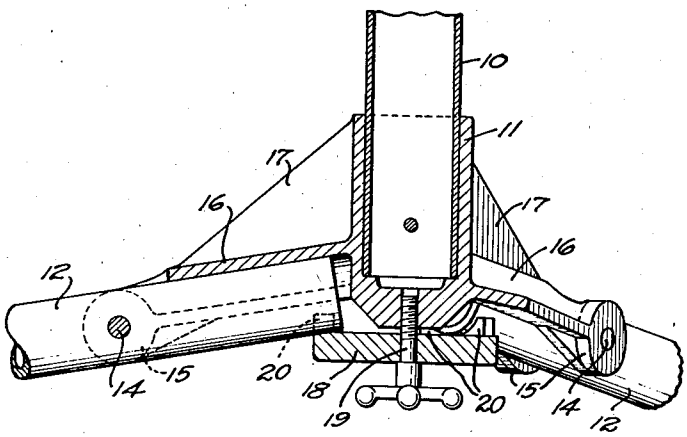


Fig. 7.

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UNITED STATES PATENT OFFICE

2,352,496

COLLAPSIBLE AND VERTICALLY ADJUSTABLE STAND FOR WORK LAMPS

Jess C. Rose, Los Angeles, Calif., assignor to Bardwell & McAlister, Inc., Los Angeles, Calif., a corporation of California

Application February 10, 1942, Serial No. 430,224

2 Claims. (Cl. 211—174)

This invention relates generally to vertically adjustable stands for lamps, and more particularly to vertically adjustable stands for work lamps such as may be utilized in factories for the illumination of the work on which an individual workman may be engaged.

An object of the invention is the provision of an adjustable stand for work lamps, adapted to support a plurality of work lamps in vertically adjustable positions from which light may be projected onto the work from both sides as well as from over the head of the workman.

A further object is the provision of a vertically adjustable lamp stand of the character mentioned which is of simple and inexpensive construction and which also is adapted to be collapsed for convenience in packing and shipping.

Other objects, features and accomplishments of the invention, not mentioned in the foregoing, will appear and be described in the course of the following detailed description of one present preferred illustrative embodiment thereof, reference for this purpose being had to the accompanying drawings, in which:

Fig. 1 is an elevation of a lamp stand in accordance with the invention, the stand being shown in unfolded condition in full lines, and indicating the collapsed position of the arms and legs of the stand in dotted lines;

Fig. 2 is an enlarged view, in vertical medial section, of a portion of Fig. 1;

Fig. 2*a* is a detail section taken on line 2*a*—2*a* of Fig. 2;

Fig. 3 is a detail section taken on line 3—3 of Fig. 1;

Fig. 4 is a detail section taken on line 4—4 of Fig. 1;

Fig. 5 is a detail section taken on line 5—5 of Fig. 1;

Fig. 6 is a detail section taken on line 6—6 of Fig. 1; and

Fig. 7 is an enlarged view similar to a portion of Fig. 1, but showing certain parts in section.

In the drawings numeral 10 designates generally the stationary outside supporting tube of the stand, said stand being pinned or otherwise secured at its lower end within a socket 11 to which are pivotally connected three supporting legs 12, the latter being furnished with casters 13. The legs 12 are preferably and here shown as tubular in form, and their upper or inner end portions are pivotally connected by means of pivot pins 14 to ears 15 formed at the outer ends of semi-cylindric wall members 16 extending outwardly and downwardly at a small angle from socket 11 (Fig. 7), the members 16 being braced by webs 17. In unfolded or operative position, the end portions of the legs 12, inwardly of the pivot mountings, engage these semi-cylindric wall members 16, in the manner clearly illustrated in Fig. 7. In collapsed position, the legs 12 are folded upwardly, as to the position indicated in dotted lines in Fig. 1, the pivot mountings of the legs being sufficiently advanced beyond the ends of the wall members 16 to permit such action. The legs 12 being in the outwardly extended position of Figs. 1 and 7, they are braced in such position by means of a frog 18 engaging their undersides and supporting them firmly against the wall member 16, a central manually operable screw 19 threaded into the lower end of socket 11 being set up to support the parts firmly in the described position. As here shown, the frog 18 is provided with pairs of spaced legs 20 adapted for engagement with the undersides of the several legs 12. It will of course be understood that the screw 19 and frog 18 are removed to permit collapsing of the legs 12 to the upper folded position indicated in dotted lines in Fig. 1.

Fastened on the upper end of tube 10 is a fitting 24 having a lower tubular portion 25 formed with a bore 26 receiving the upper end portion of tube 10 and formed with an upper reduced tubular portion 27 formed with a bore 28 which slidably receives a second tube 29 which is adapted for telescopic reception within tube 10. The juncture of bores 26 and 28 affords a downwardly facing annular shoulder 30 which seats on the upper end of tube 10, and the lower tubular portion 25 of the fitting is longitudinally split at 31, and provided with a clamping screw at 32, by which the fitting may be tightly clamped onto tube 10. The lower end of tube 29 is flanged outwardly slightly, so as to be engageable with the downwardly facing shoulder 30, which thus affords a stop to prevent accidental withdrawal of the tube 29 entirely from the fitting 24. The upper portion 27 of the fitting 24 is formed with a box 34 enclosing an arcuately faced shoe 35 which engages the side of tube 29, being pressed thereagainst by means of a screw 36 threaded through a boss 37 formed on the outer wall of box 34, and furnished with a handle 38 by which it may be conveniently manipulated. It will be understood that the screw 36 is loosened to relieve the pressure of the shoe 35 against the tube 29 when it is desired to effect vertical adjustment of the latter, and is again set up to secure said tube against vertical displacement when the adjustment has been accomplished.

Though the described second tube 29 might directly carry the upper lamp, and such an arrangement comes within the broad scope of the invention, I here show a preferred arrangement in which a third supporting tube 40 is employed, being telescopically receivable within the first and second tubes, and being extensible to desired heights from the latter. Accordingly, there is fastened on the upper end of second tube 29, a fitting 24a, which is in all respects similar to the previously described fitting 24 mounted on the upper end of the first tube 10, and hence need not be described in detail. Suffice it to say that the third tube 40 is slidably fitted within the fitting 24a, and is adapted to be clamped in vertically adjusted position by a shoe 35a set up by means of a manually operable screw 36a.

The upper end of the upper, inner, telescoping tube 40, in this instance the third tube, carries a work lamp 44, which may be of any desired type. In the present instance, this lamp 44 is typically illustrated as a fluorescent tube lamp, of conventional design, trunnioned on a horizontal axis between the arms of a yoke 45. The yoke 45 may be demountably supported on the upper end of the tube 40 in any suitable manner, though that detailed in Fig. 3 is simple and preferred. As there shown, a socket 46 welded to and extending downwardly from the yoke slips on over a pin 47 mounted in and extending upwardly from the upper end of tube 40, the lower end of the socket 46 engaging and being supported by a collar 48 mounted on the upper end of tube 40. A taper pin 48a is here shown as securing the pin 47, collar 48 and tube 40 in assembly. A manually operable screw 49 threaded through a boss 50 formed on the side of socket 46 is engageable in an annular groove 51 formed near the upper end of pin 47 to secure the socket 46 against rotation, as well as against accidental separation from the pin 47 and supporting tube 40.

A mounting 55 for two oppositely extending side lamp supporting arms 56 surrounds and is vertically slidable for adjustment purposes on the lower, outside tube 10 of the stand. This mounting 55 comprises forward and rearward castings providing semi-cylindric wall portions 58 and 59, respectively, which together define a sleeve surrounding and slidably embracing the tubular member 10, the two castings being provided with abutting flanges 60 and 61 on opposite sides of such sleeve, secured together as by rivets 62. Extending from flanges 60 and 61 are ears 63 and 64, respectively, suitably braced by webs 65 and 66, and spaced apart for reception of the slightly flattened inner end portions 56a of the two normally horizontal tubular arms 56. Pivot pins 57 serve to pivotally connect the arms 56 to the ears 63 and 64, in the manner clearly illustrated in Fig. 5. A box 67 formed on casting 58 encloses an arcuately faced shoe 68 which engages tube 10, being set up to clamp the mounting 55 in vertically adjusted position by means of manually operable screw 69 threaded through the outer wall of said box, all as will be clear from Fig. 5.

Embracing and pinned to arms 56, at points suitably spaced from the pivotal connections of said arms with the vertically slidable mounting 55, are sleeves 70, from which bracing arms 71 extend downwardly and inwardly to engage the lower tube 10 of the stand at a point spaced somewhat below the mounting member 55. As shown in Fig. 6, the lower ends of said arms 71 are formed with arcuate seats 72 adapted to engage and be supported by opposite sides of tube 10. These seats 72 slide easily on the tube 10 during vertical adjustment of the mounting 55 and side lamps carried thereby.

The outer ends of the arms 56 demountably carry the two side lamps 74, here illustratively shown as of the same conventional fluorescent tube type as the previously described upper fluorescent lamp 44. The two side lamps 74 are spaced apart in a lateral direction by a distance sufficient to give room for a workman to stand therebetween without interfering with the light thrown forwardly from said lamps. Each of the lamps 74 is shown as trunnioned between the two arms of a yoke 75, the later being provided at the bottom with a socket 76 adapted to be slipped over a pin 77 mounted on and extending upwardly from the outer end of the corresponding arm 56 (see Fig. 4). As there shown, the pin 77 may be secured to the arm 56 by means of a screw 78, while a manually operable screw 79 threaded through a boss 80 formed on the side of socket 76 is engageable with an annular groove 81 formed around the upper end of pin 77 to secure the socket 76 and lamp carried thereby against rotation and against accidental separation from mounting pin 77.

The lamp stand as now described has many advantages. As previously stated, the two side lamps 74 are spaced apart laterally a sufficient distance to permit a workman to stand therebetween, while the upper lamp 44 is vertically adjustable to an elevation above the head of the workman. The two side lamps are vertically adjustable by moving the mounting member 55 up and down on the lower, outside tube 10 of the stand. The side lamps 74 and overhead lamps 44 are individually adjustable about their respective horizontal trunnion axes in all vertical positions. These described adjustments permit extraordinary flexibility of adjustment and adaptability to various lighting problems encountered in practice. The stand has the further advantage that it is very readily collapsible into a small sized unit for shipment or storage purposes. The lamps themselves are very readily demounted, simply by loosening the clamp screws 49 and 79 and lifting the lamp-carrying yokes from the supporting pins. Thereafter, the two upper tubes 29 and 40 may be telescoped into lower tube 10, side-lamp carrying arms 56 may be collapsed into the position indicated in dotted lines in Fig. 1, and finally, after removal of the bracing frog 18, the legs 12 may be collapsed into the position also indicated in dotted lines in Fig. 1. As so telescoped and collapsed, the stand is reduced to small size and compact arrangement, convenient for shipment purposes, as well as requiring but little space for storage. In addition to the advantages already pointed out, the stand as described is relatively simple and inexpensive in construction, though of rugged and well braced design, and is at the same time exceptionally convenient to manipulate or adjust, as well as to assemble and disassemble.

It will be understood that the drawings and description are for illustrative purposes only, and that various changes in design, structure and arrangement may be made without departing from the spirit and scope of the invention or of the broader claims appended hereto.

I claim:

1. In a lamp stand, the combination of a vertical tube, a tube telescopically receivable within the first mentioned tube and adapted to support a lamp, means for clamping the second men-

tioned tube in selected positions of vertical adjustment, a mounting vertically slidable on the outside of the first tube, means for clamping said mounting to said first tube in selected positions of vertical adjustment, oppositely projecting lamp supporting arms pivotally connected to said mounting, and bracing means connected to said arms at points spaced outwardly from the pivotal connections of the arms and extending downwardly to engage opposite sides of said first mentioned tube at a point below said pivotal connections, said bracing means when in engagement with said first tube supporting said arms in outwardly extended positions, and said arms being collapsible in an upward direction by pivotal action at said pivotal connections.

2. In a lamp stand, the combination of a vertical tube, a second vertical tube telescopically receivable within the first tube, a third vertical tube telescopically receivable within the second tube, means on the first and second tubes for clamping the second and third tubes, respectively, in positions of vertical adjustment, a mounting vertically slidable on the outside of the first tube, means for clamping said mounting to said first tube in selected positions of vertical adjustment, oppositely projecting lamp supporting arms pivotally connected to said mounting, and bracing means connected to said arms at points spaced outwardly from the pivotal connections of the arms and extending downwardly to engage opposite sides of said first mentioned tube at a point below said pivotal connections, said bracing means when in engagement with said first tube supporting said arms in outwardly extended positions, and said arms being collapsible in an upward direction by pivotal action at said pivotal connections.

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