Oct. 4, 1949. L. M. BENSON 2,483,615

DIRIGIBLE LIGHT

Filed May 10, 1945 2 Sheets-Sheet 1

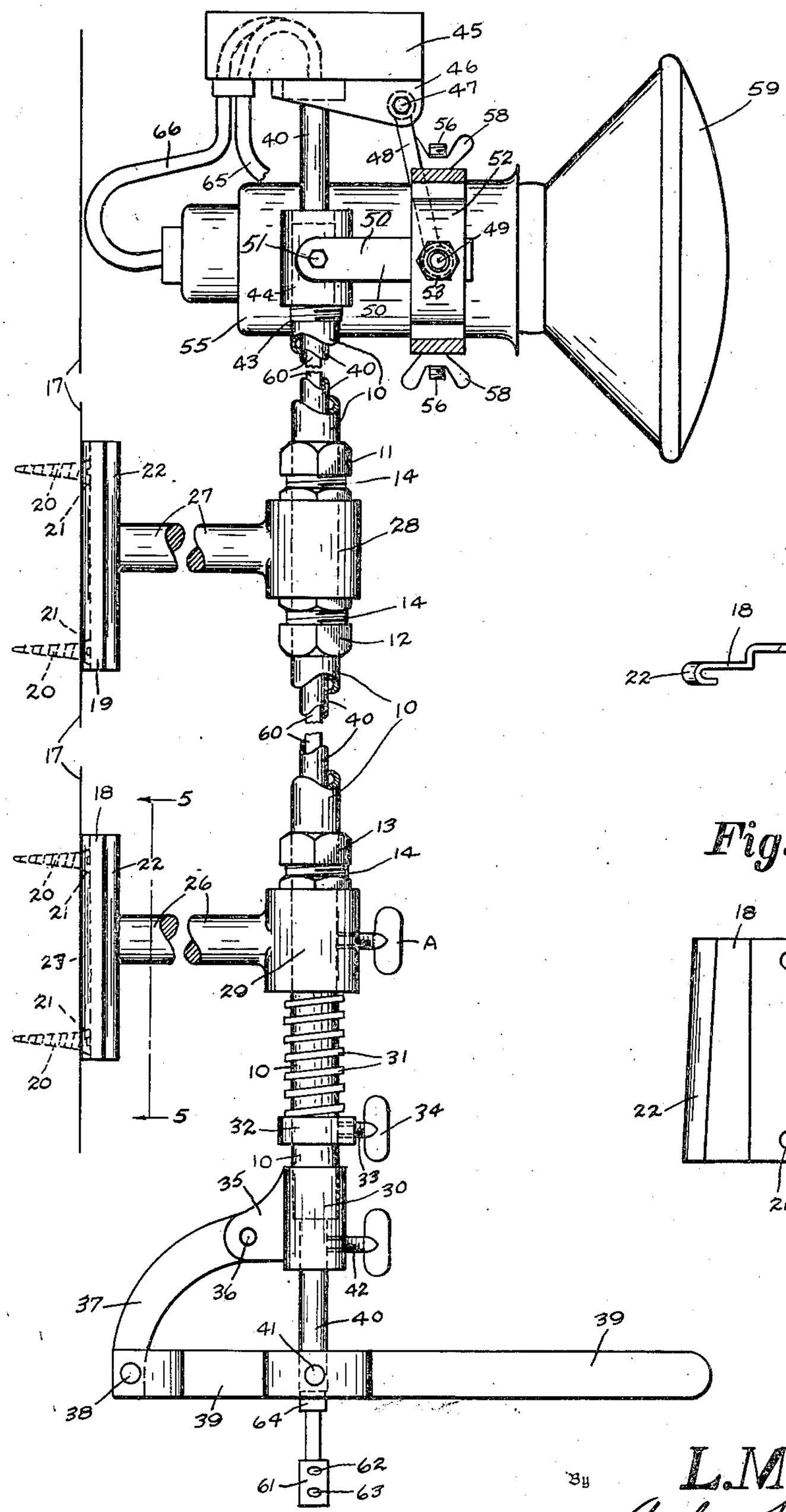

Fig. 1.

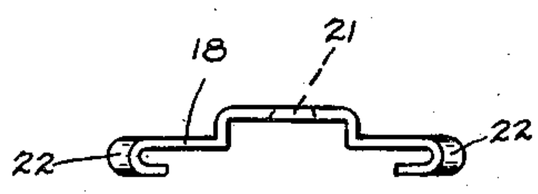

Fig. 2.

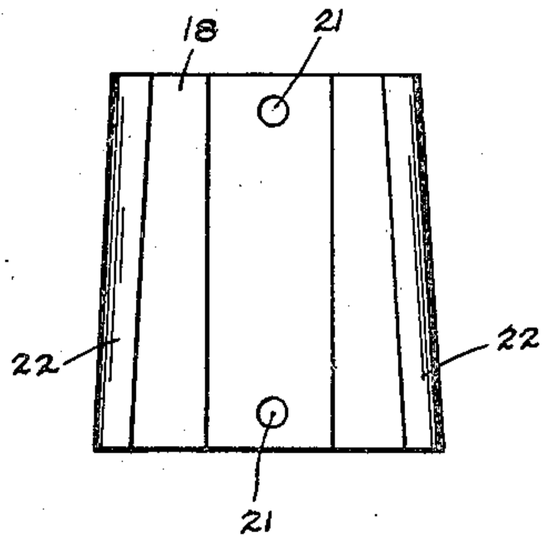

Fig. 3.

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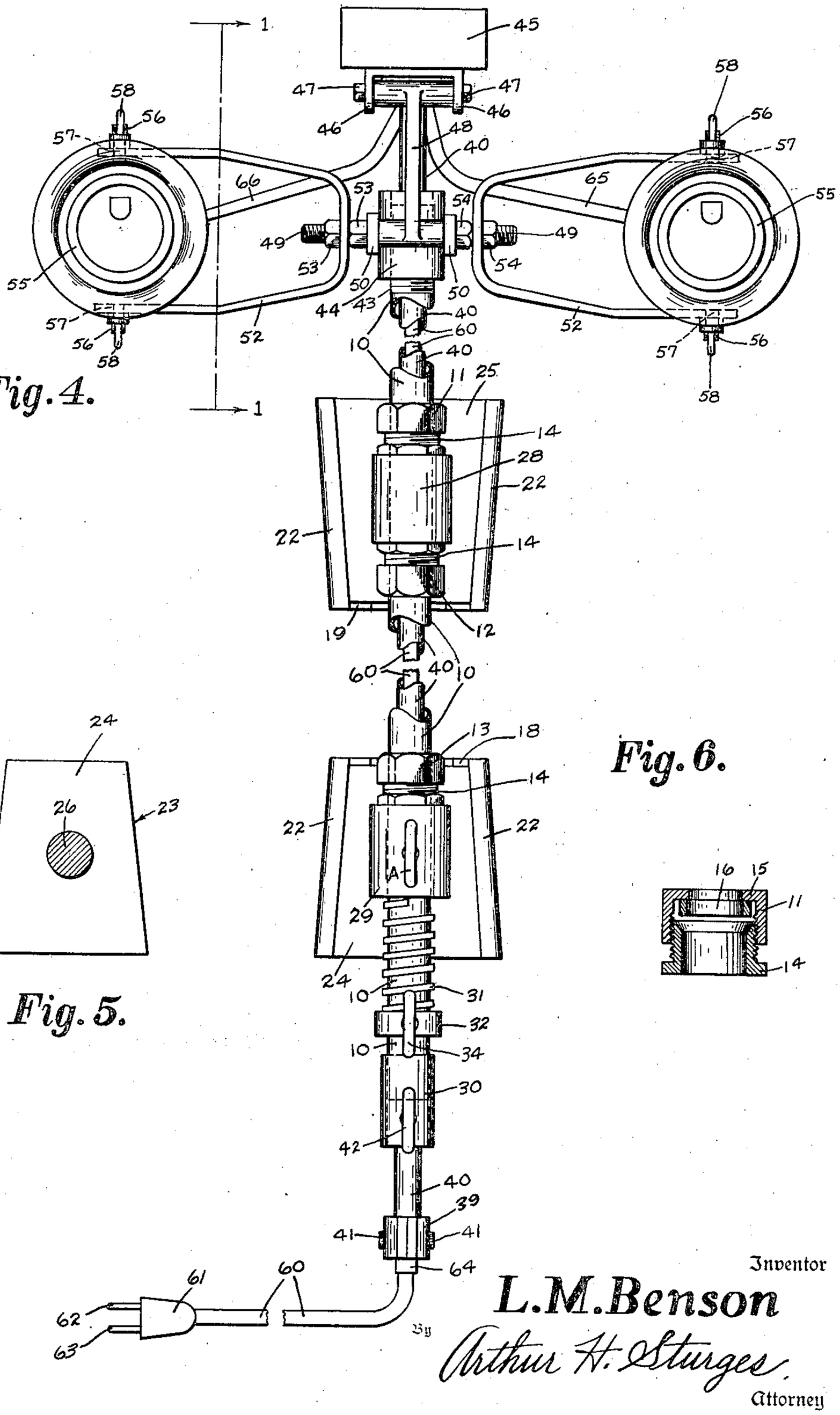

Fig. 4.

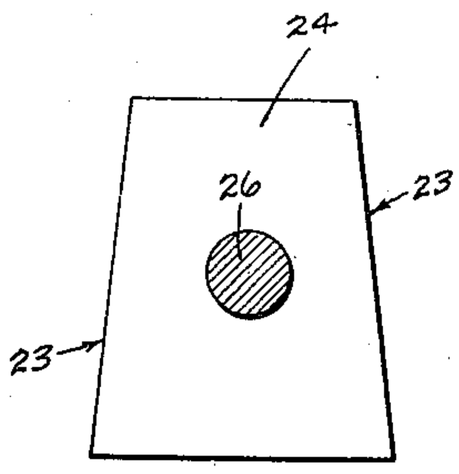

Fig. 5.

Fig. 6.

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DIRIGIBLE LIGHT

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2 Claims. (Cl. 248—224)

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The present invention relates to electrical illumination and more particularly to electrical fixtures.

It is an object of the invention to provide a dirigible light so constructed that it is particularly adapted for out-of-door use.

Another object of the invention is to provide a lighting fixture which may be transported from place to place about the yard or dwelling of a user, selectively attached to a tree, the wall of a barn or the like, for illuminating a desired area whereby the owner may work at chores during the night time as well as during day light.

A further object of the invention is to provide a device for the above stated purposes which is so constructed that the incandescent lamps thereof are disposed ten to fourteen feet above the ground and adjustable, while the operator is standing upon said ground, for directing rays of light in selected horizontal and vertical directions for illuminating selected areas.

A still further object is to provide a dirigible, electrical lighting device so constructed that rain, snow or the like does not effect the operativeness thereof.

Other and further objects and advantages of the invention will be understood from the following detailed description thereof.

In the drawings:

Figure 1 is a side elevation of the new device, certain portions thereof being broken away and others showing in section, the section being taken approximately on line 1—1 of Figure 4.

Figure 2 is an end view of a clamp employed.

Figure 3 is a front or plan view of the clamp shown in Figure 2.

Figure 4 is a front elevation of the new device shown in Figure 1, the incandescent lamps thereof being removed from their respective electrical sockets.

Figure 5 is a plan view of a cleat employed, the arm portion of the cleat showing in section, the section being taken substantially on line 5—5 of Figure 1.

Figure 6 is a sectional view of a clamp-nut employed.

Referring now to the drawings for a more particular description, the new device includes a length of pipe 10 which, in practice, is ten to fourteen feet long. The pipe extends through the medial portions of three like clamp-nuts 11, 12 and 13. Each of the clamp-nuts includes a threaded bushing portion 14 to which the said nuts are respectively threadedly engaged. Referring to Figure 6, the clamp-nut 11 is provided

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with an inner annular shoulder 15 and an annular ring of soft metal 16 abuts the shoulder 15, whereby at times when the bushing 14 is threadedly engaged with the nut 11 and the parts 14 and 11 are screwed together sufficiently, the soft metal ring 16 is caused to expand for providing the ring 16 of a snug fit against the pipe 10. The bushings 14 of the nuts 12 and 13 may similarly be caused to be of snug fit with respect to the pipe 10 after the new device is adjusted with respect to other of its parts and prior to use as later described herein.

Referring to Figure 1, the line 17 represents the outer surface of a vertically disposed object such as the wall of a barn, tree, pole or the like.

In use of the device, a pair of clamps 18 and 19 are employed. The clamps are disposed approximately twelve feet apart and secured to the surface 17 in vertical alignment with respect to each other and for this purpose, screws or similar keepers 20 are employed, as shown in Figure 1.

The clamp 18 is formed of metal by means of a punch press operation and provided with two screw holes 21. The screw holes are disposed through the main body portion of the clamp as shown in Figure 3.

The converged side edges of each clamp are bent upon themselves to provide oppositely disposed hooks 22 for receiving therebetween the oppositely disposed edges 23 of a cleat 24.

As shown in Figure 3, the edge hooks 22 of the clamp 18 are disposed convergently towards each other in one direction and the opposite edges 23 of the cleat 24 are of complemental convergence, whereby the edges 23 may be wedged within and between the hooks 22 snugly.

Referring to Figure 4, the upper clamp 19 is so disposed and secured against the surface 17 that its edge hooks 22 converge towards each other downwardly and the lower clamp 18 is so disposed that its hook edges 22 converge towards each other upwardly for purposes later described.

Referring to Figure 4, the upper cleat 25, at times when it is placed in its socket or clamp 19, slides downwardly until the opposite side edges of the cleat 25 fit snugly between the wings or side edge hooks 22 of the upper clamp 19 and in a manner whereby the upper cleat 25 must be manually moved upwardly to free it from the upper clamp 19 in this manner a disengageable securing means is provided for attaching the arms 26 and 27 to the surface 17 and said means preferably includes the clamps 18 and 19 and the cleats 24 and 25.

The lower cleat 24 is provided with an arm 26

which is welded thereto and in use, the arm 29 is disposed horizontally. The upper cleat 25 is similarly provided with a horizontally disposed arm 27, as shown in Figure 1.

The upper arm 27 is provided with an apertured bushing 28, the bore of which is disposed at a right angle with respect to the arm 27 and the bushing 29 of the lower arm 26 is similarly provided with a bore. The above mentioned pipe 10 extends through the bores of the bushings 28 and 29.

As best shown in Figure 1, the threaded bushing 14 of the nut 13 rests upon the upper side of the bushing 29 of the arm 26 and the bushing 14 of the nut 12 abuts the lower surface of the upper bushing 28 of the upper arm 27. The bushing 14 of the nut 11 rests upon the upper surface of the bushing 28 of the upper arm 27. The nuts 11, 12 and 13 are compacted, as above described, after the parts are fitted together in a manner whereby the pipe 10 is free to have horizontal turning movements. The pipe 10 is prevented from vertical sliding movement through the bushings 28 and 29 by means of the nuts 11, 12 and 13.

As shown in Figure 1, the pipe 10 extends below the lower arm 26 and at the lower end of the pipe 10, a sleeve 30 is welded or otherwise suitably secured thereto. Between the bushing 29 and the sleeve 30, a coiled spring 31 is disposed about the pipe 10.

A collar 32 is slidably disposed on the pipe 10 below the spring 31. The collar is provided with a set-screw 33 having wings 34, whereby the operator may manipulate the set-screw for disposing the collar 32 in a selected position on the pipe 10 for governing the tension or urge of the spring 31.

The sleeve 30, at the lower end of the pipe 10, is provided with an outwardly disposed arm portion 35, having a pivot-pin 36 which is employed for attaching a lever-link 37 thereto. The lower end of the lever-link 37 is provided with a pin 38 for pivotally attaching an elongated lever 39 thereto.

A push-pull pipe 40 is employed having a lower end which is provided with two outwardly disposed stub-pins 41. The pins 41 are disposed at each side of the pipe 40 and through the lever 39 for providing a pivotal attachment between said lever and said pipe.

At times when the operator moves the lever 39 up or down, the push-pull pipe 40 is provided with a corresponding movement since the lever-link 37 swings slightly on its pivot 36 to permit the same.

The sleeve 30, at the lower end of the pipe 10, is provided with a set-screw 42 having an inner end which bears against the push-pull pipe 40, whereby the operator may lock the push-pull pipe 40 to the sleeve 30 after he has made a suitable adjustment of the lever 39 for preventing longitudinal movement of the pipe 40 for purposes later described.

As best shown in Figure 1, the upper end of the outer pipe 10 is provided with screw threads 43, having a threaded engagement with a cylindrical member 44.

The push-pull pipe 40 extends through the elongated pipe 10 and cylindrical member 44. The upper end of the pipe 40 is disposed above the member 44, as shown in Figure 1, and a junction box 45 is welded or otherwise suitably secured to the pipe 40.

The bottom of the junction box is provided with two oppositely disposed ears 46 and a bolt 47

extends through and between the spaced-apart ears 46. The bolt 47 provides a pivotal mounting for a link 48, the latter extending downwardly and having a pivotal connection, by means of a pin 49, with a pair of arms 50. The arms 50 are disposed one at each side of the cylindrical member 44, being pivotally connected thereto by means of suitable keepers 51, as shown in Figure 1.

It will be seen that at times when the handle of the lever 39 is moved upwardly, the push-pull pipe 40 is provided with a corresponding upward movement for raising the ears 46 and the junction box 45 upwardly. Said upward movement applies an upward movement to the link 48 and to those ends of the arms 50 which are pivotally connected to the link 48 for purposes later described.

As best shown in Figure 4, the pin 49 not only provides a pivotal connection between the link 48 and the arms 50, but also provides a mounting for the U-shaped supports 52, respectively disposed at the ends of the pin 49 and between their respecial pairs of nuts 53 and 54, said nuts being threadedly engaged with their respective ends of the pin 49 for clamping the U-shaped members therebetween. The outer ends of the U-shaped members 52 each support an incandescent light socket 55.

Referring to Figure 1, the socket 55 is provided with oppositely disposed pins 56 which extend through suitable apertures 57 provided through the outer ends of the arms of the U-shaped support for said socket. The pins 56 are provided with screw threads having threaded engagement with the wing-nuts 58 for locking the socket 55 to its support. The other socket is provided with the same arrangement of threaded studs and wing-nuts.

By manipulation of the wing-nuts 58, the sockets 55 may be disposed and maintained in parallelism with each other or inclinedly with respect to each other for causing the incandescent light bulbs 59 to converge their rays of light upon a selected area. For normal use, said sockets are disposed and maintained in approximate parallelism with respect to each other.

As best shown in Figure 4, an insulated electric light cord 60 extends through the push-pull pipe 40. The lower end of the cord is provided with a push-in plug 61 having two electrodes 62 and 63. An insulator 64 encircles the cord 60, being disposed against the lower end of the push-pull pipe 40. The upper end of the cord 60 is bifurcated, whereby the branch 65 of said cord extends to a socket 55 and the other branch 66 extends to the other socket.

It will be seen that at times when the electrodes of the push-in plug 61 are engaged in an electrically energized receiver socket of an electrical circuit that said energy is communicated through the cord 60 to the sockets 55 respectively for correspondingly energizing the filaments within the bulbs 59, whereby beams of light emanate from the transparent envelopes of said bulbs 59.

In operation, the clamp 18 being secured to the wall or object 17 so that the hooks 22 of the clamp converge upwardly and the upper clamp 19 being disposed in position with its side walls converging downwardly, the other parts of the device being assembled as above described, the operator then causes the upper cleat 25 to become engaged in its socket 19 and he then moves the lower cleat 24 under the socket 18 and for this purpose, he must manually compress the spring 31 since the bushing 29 must be moved downwardly for said purpose at this time.

Then the bushing 29, arm 26 and lower cleat 24 are released, thereby permitting the spring 31 to move the cleat 24 upwardly and into engagement with its socket or clamp 18.

The set screw "A" is now employed for causing the bushing 29 to become locked to the outer pipe 10 at desired times, whereupon the device is in operative position and it will be seen that the device may be readily moved from one location to another as may be desired, provided each new location is equipped with further clamps like the clamps 18 and 19, said duplicate further clamps being secured to the side walls of selected buildings, trees, posts or the like.

In order to move the device from one location to another, the set screw "A" is released and the arm 26 moved downwardly, against the urge of the spring 31, for releasing its cleat 24 from the the lower clamp 18, whereupon the device may be moved upwardly for releasing the upper cleat 25 from its holder or clamp 19.

At times when the new device is in position, as shown in Figure 1, and at times when the set-screw 42 is released, the lever 39 may be manipulated for causing the sockets 55 to be swung in vertical directions and to a selected position, simultaneously the set screw "A" being released, the lever 39 may be manipulated for turning the sockets 55 in a horizontal direction until the beams of light from the light bulbs 59 converge upon work such as a pile of wood to be chopped or the like. At times when the set screws "A" and 42 are disposed inwardly sufficiently, the sockets 55 are not movable vertically or horizontally.

From the foregoing description, it is thought to be obvious that a dirigible light constructed in accordance with my invention is particularly well adapted for use by reason of the convenience and facility with which it may be assembled and operated, and it will also be obvious that my invention is susceptible of some change and modification without departing from the principles and spirit thereof and for this reason, I do not wish to be understood as limiting myself to the precise arrangement and formation of the several parts herein shown in carrying out my invention in practice, except as claimed.

I claim:

1. In a dirigible lighting device; two spaced apart bushings; a pipe disposed through said bushings; means for preventing longitudinal sliding movements of the pipe with respect to one of said bushings, the other bushing being slidable on said pipe, the latter being transversely rotatable with respect to said bushings; two cleats of wedge shape in plan; two arms, ends of said arms being secured to said bushings and cleats respectively; two clamps having hook edges of U-shape in cross section and of complemental wedge shape in plan with respect to said cleats; means for securing said clamps to an extraneous surface in a manner whereby the clamps are vertically aligned, the hooks of the lower clamp disposed upwardly convergent and the hooks of the upper clamp downwardly convergent; said cleats being so arranged on their respective arms that one is adapted to engage the upper clamp for supporting said pipe in a vertical direction, the cleat carried by the arm of the slidable bushing being adapted to engage the lower clamp for preventing movement of the pipe away from said extraneous surface; and spring means for urging the last mentioned cleat toward the other cleat.

2. In a dirigible lighting device; two spaced apart bushings; a pipe disposed through said bushings; means for preventing longitudinal sliding movements of the pipe with respect to one of said bushings, the other bushing being slidable on said pipe, the latter being transversely rotatable with respect to said bushings; two arms having ends secured to said bushings; disengageable means secured to an extraneous surface and attached to the other ends of said arms for removably attaching said arms to said surface, said disengageable means being such that said pipe will be rigidly held to said extraneous surface at times when said bushings are urged toward each other; and spring means for urging said bushings toward each other so that when said bushings are manually separated against the urge of said spring means, said disengageable means may be released.

LLOYD M. BENSON.

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