Nov. 27, 1928. 1,693,443

D. HOLT

LIGHTING FIXTURE AND THE LIKE

Filed May 23, 1927. 2 Sheets-Sheet 1

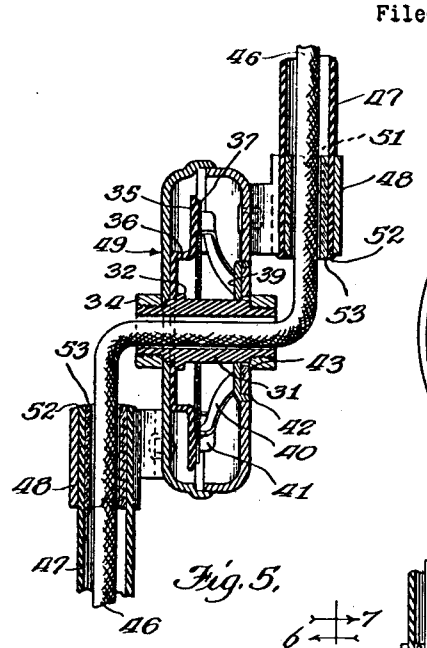


Fig. 5.

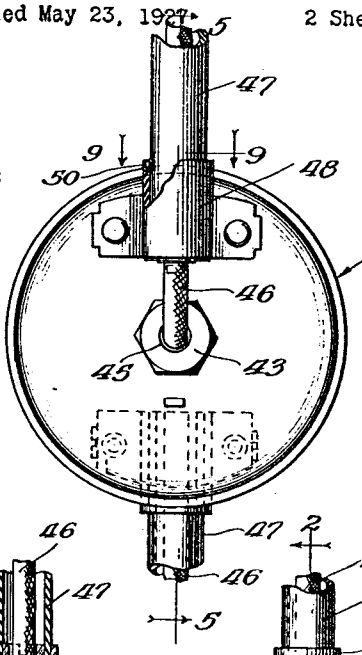


Fig. 4.

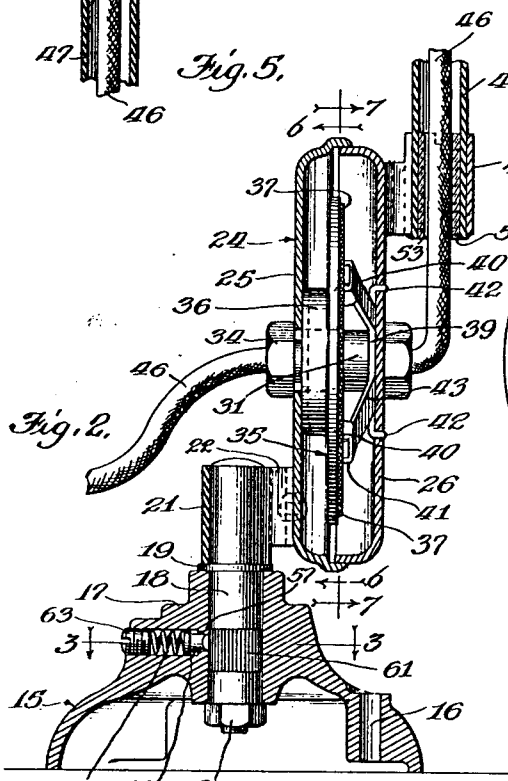


Fig. 2.

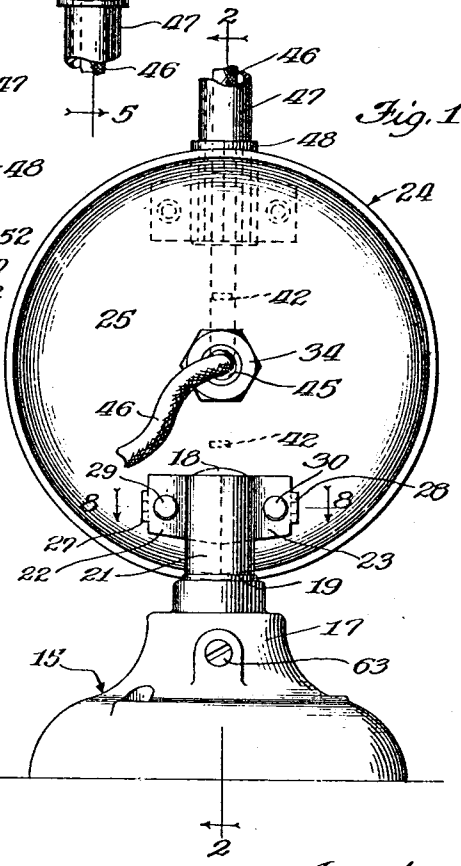


Fig. 1.

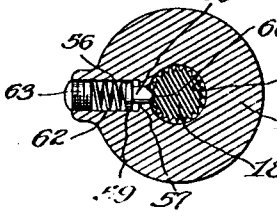


Fig. 3.

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1,693,443

LIGHTING FIXTURE AND THE LIKE

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2 Sheets-Sheet 2

Fig. 6.

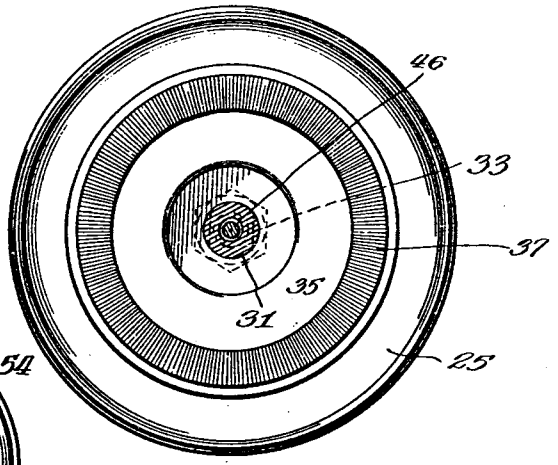
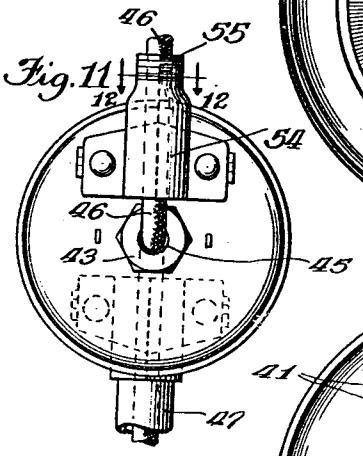


Fig. 11.



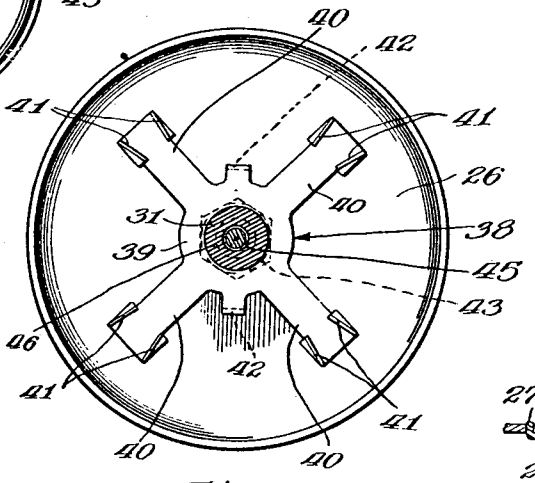
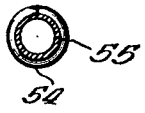


Fig. 7.

Fig. 12.



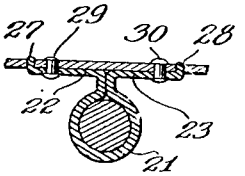


Fig. 8.

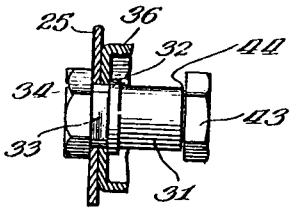


Fig. 10.

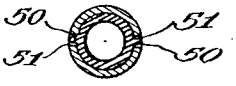


Fig. 9.

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Patented Nov. 27, 1928. 1,693,443

UNITED STATES PATENT OFFICE.

DONALD HOLT, OF CHICAGO, ILLINOIS.

LIGHTING FIXTURE AND THE LIKE.

Application filed May 23, 1927. Serial No. 193,555.

This invention has to do with certain improvements in lighting fixtures. The lighting fixtures herein disclosed are of that general type in which use is made of a bracket arm provided with proper supporting means whereby one end is supported upon or attached to any suitable article of support such as a desk, table, wall, machine tool, lathe, or other support whatsoever.

The features of the invention have reference particularly to the construction of the bracket arm, and the manner in which the various sections thereof are related to each other and retained in proper harmonious relationship. The invention also relates to the manner in which the different sections of the arm are connected or joined together; and more particularly, to the construction disclosed whereby said sections are provided with the necessary co-operation to insure the desired amount of resistance between them to retain them in whatever relative position may be decided upon.

A further feature of the invention relates to the provision of a construction such that the various sections may be adjusted with respect to each other without an excessive amount of binding between them, and constructions such that sections will remain securely set in whatever relative positions may be decided upon.

A further feature of the invention relates to the provision of a structure of such form that it can be readily made up from sheet metal stampings or punch press parts; and also of such construction that the parts may be very cheaply manufactured in quantities and may be readily assembled at a very low labor cost. A further object of the invention is to provide a structure which will be very durable and well adapted to withstand the relatively rough service which is often encountered by devices of this kind.

Other objects and uses of the invention will appear from a detailed description of the same which consists in the features of construction and combinations of parts hereinafter described and claimed.

In the drawings:

Figure 1 shows a side elevation of the pedestal unit and the pedestal joint of a structure embodying the features of the present invention;

Fig. 2 shows a cross section on the line 2—2 of Fig. 1 looking in the direction of the arrows;

Fig. 3 shows a horizontal section on the line 3—3 of Fig. 2, looking in the direction of the arrows;

Fig. 4 shows a side view of one of the intermediate joints, the attached tube arms being broken away so as to shorten up the figure;

Fig. 5 shows a cross section on the line 5—5 of Fig. 4 looking in the direction of the arrows;

Fig. 6 shows a face view of the serrated disk of one of the joint members, being in effect a section on the line 6—6 of Fig. 5, looking in the direction of the arrows;

Fig. 7 shows a face view of the serration claws of one of the joint members, being in effect a section on the line 7—7 of Fig. 5 looking in the direction of the arrows;

Fig. 8 shows a fragmentary horizontal section on the line 8—8 of Fig. 1 looking in the direction of the arrows;

Fig. 9 shows a fragmentary horizontal section on the line 9—9 of Fig. 4 looking in the direction of the arrows;

Fig. 10 shows a fragmentary view of the pivotal stud of one of the joint sections, showing the cup and the serrated disk plate also in fragmentary section;

Fig. 11 shows a detailed elevation of a joint section having attached thereto a nipple for supporting a lamp socket; and

Fig. 12 shows a fragmentary section on the line 12—12 of Fig. 11 looking in the direction of the arrows.

The pedestal 15 is of suitable construction for application to a table, desk, lathe, machine tool, or other article to which the device is to be attached. In some cases the attachment will be made by means of screws passed through holes 16 in the pedestal member, whereas in other cases the pedestal itself will be made of sufficient size and shape to properly support the device without the necessity of such screws.

There is a boss 17 reaching centrally upwards from the pedestal. A pin 18 reaches vertically through said boss, the pin being pivotally mounted within the boss. This pin is provided with a flange 19 establishing a shoulder which rests against the top surface of the boss; and a nut 20 threaded onto the bottom end of the pin is drawn tightly against a shoulder on the lower end of the pin before the nut binds against the pedestal. Consequently, the pin is effectively held in place but is allowed to turn freely.

A clip 21 is placed around the upper end of

the pin 18, said clip firmly engaging the pin and being locked thereon. This clip has a pair of ears 22 and 23 which are extended straight out from the position of the pin and are then folded outwardly at right angles to the extension and thus into parallel with each other as clearly evident from Fig. 8.

The pedestal joint member 24 includes a pair of cups 25 and 26. These cups are slightly telescoped together as clearly shown in Fig. 2. The lugs 22 and 23 of the clip 21 have their extreme ends turned outwardly at right angles as shown at 27 and 28 and also of reduced size as clearly shown in Fig. 1. These portions are then extended through suitable holes in the cup 25 and then are riveted or expanded so as to lock the clip to the cup 25. In addition to the foregoing, rivets 29 and 30 may be passed through the ears 22 and 23 and through the cup 25 so as to still more securely lock the parts together.

A stud 31 (see Fig. 10 for the detailed construction thereof) has a flange 32 adjacent to one end, which end is preferably either squared or provided with flattened surfaces as shown in Fig. 10. This squared or flattened end of the stud 31 is then passed through a hole in the cup 25 having corresponding shape so that the stud cannot rotate with respect to said cup. A lock nut 34 is threaded onto the stud so as to draw the flange 32 up solid and thus lock the stud to the cup.

Before setting the stud through the cup 25, a flange member 35 is set in place within the cup. Said flange member has its central portion 36 dished out or offset to establish a hub which sets behind the flange 32 of the stud as clearly shown in Fig. 10, so that when the nut 34 is drawn up solid said flange is locked in place.

The peripheral outwardly facing portion 37 of the flange 35 is serrated as clearly shown in Figs. 2 and 6; and due to the offset hub portion 36 this serrated surface is brought substantially to the medial plane of the structure.

A claw member 38 (best shown in Figs. 2 and 7) is secured to the central portion of the cup 26. Said member includes a central hub 39 which is perforated to receive the stud 31, together with a series of radial arms 40, said arms being deflected outwards away from the central hub portion 39 as clearly shown in Fig. 2. The outer ends of these arms are provided with sidewise reaching claws 41 which are adapted to engage the serrations of the serrated plate 35, and due to the presence of the arms 40 which are made of springy metal, the engagement with the serrations will be of such a nature that the parts will stay in whatever position is desired with a considerable amount of resistance, but nevertheless the parts can be turned with respect to each other upon the application of considerable force.

The hub portion 39 is provided with a pair of backwardly reaching fingers 42 (see Fig. 2) which pass through corresponding perforations in the cup 26. Consequently the claws are compelled to turn back and forth in harmony with the cup 26.

A lock nut 43 is threaded onto the projecting end of the stud 31 and is drawn solidly against the shoulder 44 on the end of said stud so as to lock the two cups together.

Preferably, the stud is centrally bored or perforated as shown at 45 so as to allow the wires 46 to be passed through the joint member.

Two or more of said joint members may be connected together by means of tubular extensions such as 47, by the use of clips 48 similar to the clip 21 already described; and other joint members 49 may be located intermediate between the pairs of tubular arms so as to permit said arms to be readily turned with respect to each other. I do not deem it necessary however to explain all of these structures in detail inasmuch as they constitute largely a repetition of the structures already explained.

I will state however that in attaching each of the clips 48 to the end portion of its tubular arm 47 I prefer to pinch or otherwise upset the metal of the arm at one or more points close to the position of the clip 48 (as shown at 50 in Fig. 4), the ears thus established setting down into small notches 51 in the end of the clip, all of which will be best understood in examination of Figs. 4 and 9. The end portions of the tubular extensions 47 may also be upset or riveted as shown at 52 so as to lock the clips 48 in place.

If desired also fibre or other bushings 53 will be driven into the end portions of the tubular extensions so as to provide a satisfactory finish and lining and also to prevent unnecessary wear on the wires and the danger of short circuits.

As shown in Figs. 11 and 12 a specially formed clip 54 may be connected to one of the joint members, said clip being provided with an extension 55 of slightly reduced size and circular form, which extension may be threaded to receive a suitable lamp socket or other fixture. As also shown in Figs. 11 and 12 this special clip 54 is made of a single piece of metal folded into the desired shape.

In order to retain the pin 18 against free rotation the boss 17 may be provided with an inwardly reaching socket 56, the inner end of which terminates at a shoulder 57 (see Figs. 2 and 3). A small pin 58 is set into the socket 56 and has a flanged head 59 which may come to bear against the shoulder 57 so as to prevent the pin from being forced inwardly an extreme distance.

The inner end of the pin is preferably beveled as shown at 60 to engage the serration 61 on the pin 18; and a spring 62 set into the socket 56 normally presses the pin against

said serrations. A stud screw 63 is threaded into the outer end of the socket 56 so as to retain the spring therein and force the pin against the serrations under the desired amount of spring pressure.

While I have herein shown and described only a single embodiment of the features of my present invention still I do not intend to limit myself to the same except as I may do so in the claims.

I claim:

1. In a device of the class described the combination with a pedestal member, of a vertical pin pivotally mounted and extending through the pedestal member, means for securing said pin in place while permitting free rotation thereof with respect to the pedestal member, the central portion of said pin being serrated, there being a transversely extending socket in the pedestal member having its inner end communicating with the serrated portion of said pin, a pin within said socket, a spring tending to force said pin inwardly against the vertical pin aforesaid, the inner end of said pin being relatively sharpened to engage the serrations aforesaid and thereby resist the rotation of the pin with respect to the pedestal while permitting such rotation under applied force of sufficient magnitude, a shoulder on said spring pressed pin, an abutment on the pedestal member serving as a stop for said shoulder to limit inward movement of the spring pressed pin, and suitable joint and extension members supported by the upper end of said pin, substantially as described.

2. In a device of the class described the combination with a suitable pedestal member, of a pin pivoted with respect to the same for rotation on a vertical axis, a pedestal joint member comprising a pair of companion disks in close proximity to each other, a stud extended through said disks, a rigid connection between said stud and one of the disks, a serrated disk, between the two disks and rigidly connected to the stud, a claw member non-rotatably connected to the other disk, and having a series of outwardly and inwardly reaching claw members of springy material in engagement with the peripheral portion of the serrated disk, a pivotal connection between the disk to which is attached the claw member, and the stud, and suitable connections between the disks and the pedestal member and the other member, substantially as described.

3. In a device of the class described the combination with a pedestal member and an extension member, of a joint member intermediate between these two, said joint member comprising a pair of companion casing disks, a stud extending through both of the disks, means for securing the stud rigidly to one disk, a pivotal connection between the stud and the other disk, a serrated disk rigidly connected to the stud and first mentioned disk, and having in its peripheral portion a series of serrations facing towards the other disk, a claw member intermediate between the serrated face aforesaid and said other disk and non-rotatably connected to said other disk, and including a pair of outwardly and forwardly reaching arms of springy material having their end portions provided with claws in engagement with the series aforesaid, substantially as described.

4. As a new article of manufacture a nipple member adapted to receive a lamp socket or the like, said nipple member comprising a single piece of sheet metal folded into circular form and provided with a pair of forwardly and outwardly reaching ears for attachment to the disk, and the circularly folded portion having its end of contracted size and threaded, to receive a lamp socket or the like, substantially as described.

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