

[54] **HOLDER FOR DETACHABLY MOUNTING
A GLASS BOWL OF AN ELECTRIC LAMP
FIXTURE**

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[22] Filed: **May 14, 1974**

[21] Appl. No.: **469,916**

[30] **Foreign Application Priority Data**

May 19, 1973 Germany..... 2325588

[52] U.S. Cl..... **240/128; 24/252 R; 240/146**

[51] Int. Cl.²..... **F21V 17/00**

[58] Field of Search 240/100, 128, 131, 133,
240/136, 144, 146, 147, 149; 24/252

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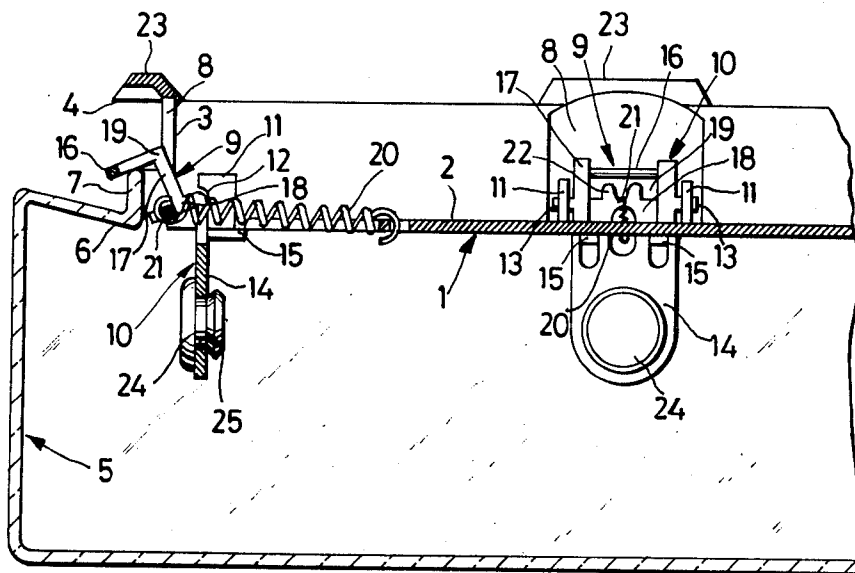
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[57] **ABSTRACT**

A holder for detachably mounting a glass, electric lamp bowl includes a cylindrical wall means on which an opening in the glass bowl is adapted to be received. A plurality of tilting levers each having a clamping arm and an actuating arm are pivotally mounted on the cylindrical wall means and arranged to be actuated by the glass bowl during installation of the latter to clamp the glass bowl in place on the holder. The tilting levers are actuated by the rim of the glass bowl only after the glass bowl has been substantially centered on the cylindrical wall means, thereby insuring that all of the tilting levers are actuated upon installation of the bowl.

9 Claims, 2 Drawing Figures



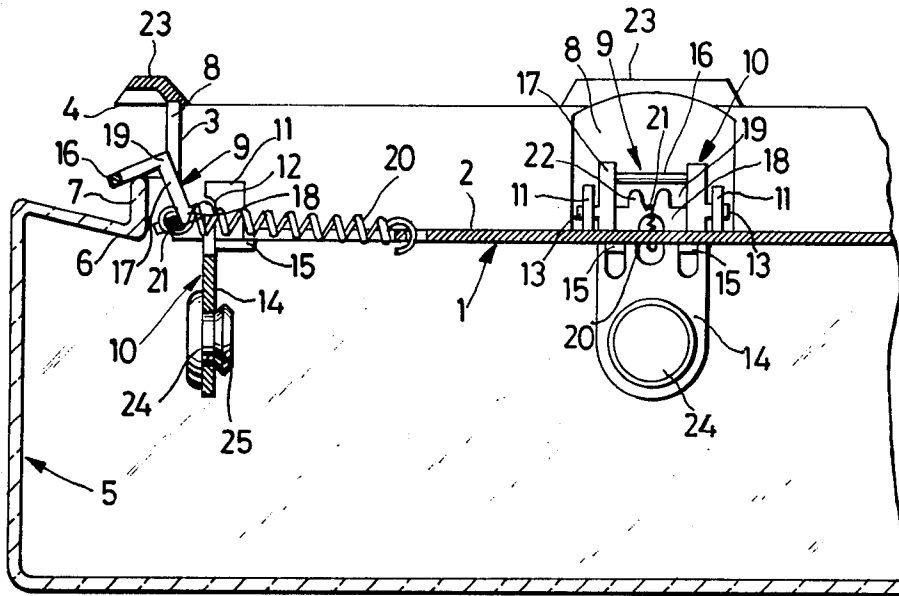


FIG.1

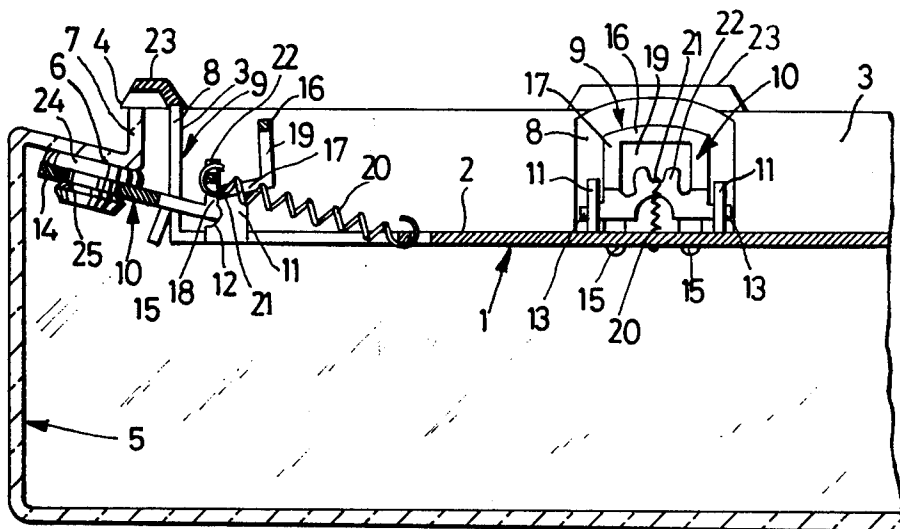


FIG.2

HOLDER FOR DETACHABLY MOUNTING A GLASS BOWL OF AN ELECTRIC LAMP FIXTURE

This invention relates to holders for the detachable mounting of the all glass bowl of electric lamps, which have holding devices each designed as a rocking lever spring mechanism comprising a two armed lever one arm of which is adapted to engage under the edge of the rim of the bowl and press with spring action on the holder, such lever being designed as a two-armed angle lever at the bend of which a pivot arm is located on both sides which is mounted in a cut-out portion in the cylindrical wall of the holder between two lugs cut out of such wall and bent inwards parallel to one another wherein the actuating arm of the angle lever, pressed inwards upon mounting the bowl on the holder, engages one end of a traction spring the other end of which is fixed on the holder and which can move in a slit in the angle lever extending beyond the bend and in a slit-like section in the bottom of the holder such that the angle lever can be brought from its one limit position in which its clamping arm engages under the edge of the rim of the bowl and presses on the holder overcoming the force of the traction spring and the passing through of this traction spring through the said slit into its other limit position in which the clamping arm of the angle lever releases the edge of the bowl.

In such a holding device known from German Pat. Specification No. 1029474 there is due to the shape of the angle lever the possibility that upon placing the glass bowl on the holder — especially in difficult mounting positions, for example, on the ceiling — the bowl is introduced displaced laterally and thereby the edge of the glass bowl does not contact the actuating arm of the angle lever and thus does not bring about tilting over into the holding position. The consequence thereof is a reduced, in most cases only one-sided holding of the bowl which on the one hand brings about the danger of a loosening of the bowl upon being knocked and on the other hand leads to a very undesirable clinking noise.

This circumstance of non-tilting of individual angle levers in their holding position due to laterally displaced introduction of the glass bowl is accentuated when, necessitated due to the large tolerances required in glass making engineering, glass bowls with especially large neck openings are used. Holders are known with two, three, four and six tilting angle levers whereby with larger and heavier glasses holders with more than two tilting angle levers the above mentioned difficulties come especially into effect.

The invention is based on the problem of providing a holder for the detachable mounting of the all glass bowl of electric lamps in which, even in difficult cases of mounting, it is ensured that with the placing on of the bowl all angle levers are pivoted from their released position into their holding position.

For the solution of this problem it is arranged with the device of the abovementioned type according to the invention for the actuating arm to be bent substantially Z-shaped such that the free leg of the operating lever co-operating with the edge of the bowl upon positioning of the bowl comes into engagement with the edge of the bowl only after a centering engaging of the cylindrical wall of the holder. This automatic precentering due to the cylindrical wall of the holder engaging first in the neck opening of the glass bowl prevents the possible lateral introducing of the bowl and thus ex-

cludes individual angle levers not being tilted into the holding position.

In a further development of the invention it may be arranged that the middle portion and the free end portion of the actuating arm have a recess extending beyond the bend for the traction spring.

Instead of the bore in the actuating arm, provided in the known arrangements for the connection of the traction spring, the traction spring may be capable of being connected advantageously in a groove on a projecting portion of the actuating arm whereby it engages through the aforesaid recess. This renders possible among other things a favourable construction of the tilting joint by arrangement of the groove on a suitable dimensioned projection of the clamping lever of the actuating arm.

In the known holder, the tilting angle lever is, for the damping of the striking action, pasted over with a strip of foamed material which however has the drawback that the adhesive coating under the influence of temperature of the lamps in operation dissolves and, especially with lamps in lengthy use, the strips of foamed material fall down. In addition such strips of foamed material are very much compressed due to the continuous pressure on the edge of the glass in the holding position of the tilting angle lever and thus lose their damping effect. An improved device for the damping of the striking action can be achieved on a further construction of the invention in that in the clamping arm there is provided an aperture for the non-detachable fixing of a striking buffer made of temperature stable and elastic shape stable material formed like a push through button. For increasing the shape elasticity there may be provided additionally on the engaging face of the stop buffer raised portions. The device according to the invention may be formed advantageously such that glass bowls may also be used with larger neck openings as are practically constructionally provided. For this purpose the bottom edge of the holder on which the edge of the bowl is to be pressed should be bulged in the region of the positions of the tilting lever so that correspondingly larger sections may be provided and thus also the free end portions of the actuating arms of the angle levers may be formed longer in order in every case to ensure an engaging over of the edge of the bowl. Without these bulgings the height of the cylindrical wall of the holder must be suitably enlarged in order to be able to provide the large sections for the pivoting through of the actuating arms of the angle levers at the same time however thereby the holder would project correspondingly further into the bowl which is to be avoided since the holder must project as little as possible into the inside of the bowl.

An embodiment of the invention is by way of example hereinafter more fully described with reference to the accompanying drawing, in which:

FIG. 1 shows a partial section through a holder and one of its holding devices before engagement of the glass bowl, and

FIG. 2 shows a partial section corresponding to FIG. 1 after the tilting of the angle lever into the holding position to secure the glass bowl.

The all glass bowl for electric lamps shown has a circular holder 1 with a base 2, a cylindrical wall 3 and a base edge 4 and such glass bowl 5 has an inwardly bent edge part 6. The edge part 6 of the bowl 5 has a cylin-

drical neck 7 which surrounds the cylindrical wall 3 of the holder 1 with ample clearance.

At four places distributed equidistantly around its periphery, the cylindrical wall 3 has recesses 8 for accommodating actuating arm 9 of the respective two-armed angle levers 10, this recess 8 extending beyond the junction between the wall and the base and a little way into the base 2 of the holder 1. Laterally, next to the recess 8 in the base 2, there are provided two upwardly bent lugs 11 with bearing grooves 12 for the pivot leg 13 of the angle lever 10 the clamping arm 14 of which serves for the clamping of the bowl 5 onto the base edge 4 of the holder 1 and can be displaced between vertically downwards extending position shown in FIG. 1 and the clamping position shown in FIG. 2. Stop lugs 15 bent out of the clamping arms 14 of the angle levers fix the angle levers 10 in the released position shown in FIG. 1.

The actuating arm 9 of the angle lever 10 is formed substantially Z-shaped with a free end portion 16, a centre portion 17 and a projecting portion 18 connected to the clamping arm 14. The free end portion 16 and the centre portion 17 have a slot 19 extending beyond the connecting bend and through which the traction spring 20 can extend in the clamping position (FIG. 2), which traction spring is connected at one end to the base 2 of the holder 1 and is capable of being connected at its other end in a groove 21 of an extension 22 of the clamping lever portion 18.

Due to the substantially Z-shaped form of the actuating arm 9 compared with the previously known arrangement in which the actuating arm is formed only by the (correspondingly lengthed) leg 18, a considerable mounting advantage results. Upon placing on the bowl 5, namely before the striking of the neck 7 on the free end portion 16 of the actuating arm 9, the cylindrical wall 3 of the holder 1 engages first of all in the neck opening of the bowl 5 whereby the danger is excluded that due to lateral displaced introduction of the bowl 5 individual angle levers will not be tilted and consequently besides a worse mounting of the bowl an increased clanking of the glass results. The bulges 23 of the base edge 4 of the holder 1 in the region of the angle lever 10 render possible lengthening of the recesses 8 and consequently a correspondingly longer construction of the free end portion 16 of the actuating arms 9 so that bowls can also be fastened to a certain holder 1 with neck openings larger than for which it was constructionally provided. The alternative instead of these bulges is to enlarge suitably the height of the cylindrical wall which is not applicable since then as can be seen the distance of the base edge 4 from the base would be enlarged and thus the holder would have to penetrate further into the bowl, which in any case is to be avoided.

For avoiding damaging the glass bowl 5 there are provided on the clamping arms 14 of the angle levers 10 striking buffers 24 which consist of a temperature stable and elastic shape stable material and are formed knob-like and inserted non-detachably through corresponding apertures 25 in the clamping arms 14 so that the sticking on of stop buffers on the clamping arms 14 hitherto provided can be dispensed with, which because of the considerable heating in operation practically unavoidably leads after a lengthy time to a destruction of the adhesive connection.

What we claim is:

1. A holder for detachably mounting a glass, electric lamp bowl of the type having a rim surrounding an opening, the combination comprising a cylindrical wall means having a bottom edge, said opening of said glass bowl being adapted to be received on said cylindrical wall means, a plurality of cutouts in said cylindrical wall means, tilting lever mechanisms pivotally mounted in each of said cutouts, spring means biasing said tilting lever mechanisms, each of said tilting lever mechanisms including a clamping arm and an actuating arm, each of said actuating arms and said clamping arms being pivotal between a first position and a second position, said spring means biasing said arms in said first and said second positions, each of said actuating arms in said first position extending outwardly from said cylindrical wall means at an elevated location above the bottom edge of said cylindrical wall means and being adapted to be actuated by the rim of the glass bowl as the latter is being installed to effect pivoting of each of said actuating arms and said clamping arms to said second position, each of said clamping arms having a substantially L-shaped configuration having a first leg operable to clampingly engage said glass bowl and a second leg having mounting means for mounting said spring means, said actuating arm extending laterally from said second leg of said clamping arm and projecting upwardly from said second leg when in said second position to thereby dispose each of said actuating arms in said elevated location, each of said clamping arms upon being pivoted from said first position to said second position clampingly engaging the inside of the glass bowl at a position underlying said rim to thereby retain said glass bowl in position, said glass bowl having an inner rim diameter slightly larger than the outer diameter of said cylindrical wall means, each of said actuating arms when in said elevated location being disposed sufficiently above said bottom edge of said cylindrical wall means such that it is necessary that the entire circumference of the cylindrical wall means by received in the rim of said glass bowl before any one of said actuating arms can be actuated, thereby insuring that the glass bowl is substantially centered on the cylindrical wall means before actuation of any of said actuating arms by said rim of said glass bowl and consequently insuring that all of the actuating arms are actuated upon installation of the glass bowl.

2. A holder according to claim 1 wherein said actuating arm and said clamping arm have a continuous slot, said spring means traversing said slot upon pivotal movement of said arms between said first and second positions.

3. A holder according to claim 1 wherein said clamping arm has a projecting portion having a groove, said spring means being engaged in said groove.

4. A holder according to claim 1 in which said cylindrical wall means includes a base edge on which the edges of the glass bowl are adapted to be pressed, said base edge having in the area thereof adjacent said cutouts an upwardly directed bulge.

5. A holder according to claim 1 wherein said clamping arms are each provided with apertures, a buffer element non-detachably fixed in each of said apertures, said buffer element being made of a temperature stable and elastic shape stable material.

6. A holder according to claim 5 wherein said buffer element has an engaging face which engages said glass bowl, said engaging face being a raised portion.

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7. A holder according to claim 1 wherein said tilting lever mechanism is pivotal about a pivotal axis, said actuating arm when in said second position being disposed substantially above said pivotal axis.

8. A holder according to claim 1 wherein pivotal means pivotally support said clamping arm substantially at the juncture between said two clamping arm legs, said mounting means for mounting said spring being spaced from said pivotal means, said actuating

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arm extending from said second leg of said clamping arm at a location between said pivotal means and said mounting means.

9. A holder according to claim 1 wherein said actuating arm has a first leg extending from said clamping arm and a second leg extending transversely from said first leg.

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