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H. A. FRAMBURG

LIGHTING FIXTURE

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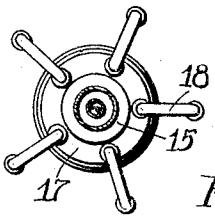


Fig. 6.

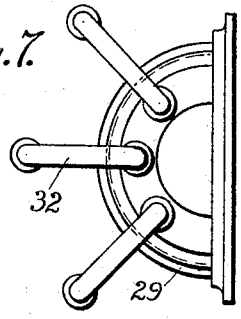


Fig. 7.

Fig. 1.

Fig. 3.

Fig. 2.

Fig. 4.

Fig. 5.

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UNITED STATES PATENT OFFICE.

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LIGHTING FIXTURE.

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To all whom it may concern:

Be it known that I, HENRY A. FRAMBURG, a citizen of the United States, and resident of Berwyn, county of Cook and State of Illinois, have invented certain new and useful Improvements in Lighting Fixtures, of which the following is a specification, and which are illustrated in the accompanying drawings, forming a part thereof.

The invention relates to lighting fixtures and especially to chandeliers and wall fixtures having spaced bracket arms which project vertically and outwardly from a common support. The object of the invention is to provide a lighting fixture of such improved construction as to facilitate the assembling of the parts and effectively prevent relative angular displacement of the bracket arms in service.

In the accompanying drawings;—

Fig. 1 is a central vertical sectional view of a chandelier embodying the features of improvement provided by the invention, some parts being shown in elevation;

Fig. 2 is an inverted detail plan sectional view taken on the line 2—2 of Fig. 1;

Fig. 3 is a plan view showing a centering plate employed in the construction of the chandelier, separated from other parts;

Fig. 4 is similar to Fig. 3, but shows a form of centering plate which may be used in the construction of a wall fixture;

Fig. 5 is a detail sectional view taken on the line 5—5 of Fig. 2;

Fig. 6 is a plan view of the chandelier illustrated in Fig. 1, and

Fig. 7 is similar to Fig. 6, but shows the application of the invention to the construction of a fixture.

The body of the improved chandelier may be constructed in accordance with the usual practice to produce the desired external appearance. As shown, in Fig. 1, the chandelier body is composed of a plurality of ornamental sheet metal shells including the two mating intermediate shells 15, 16, and all of these shells are arranged upon a central supporting frame comprising a section of pipe 10, a rod 11 and a coupling member 12, the last mentioned member having oppositely facing threaded sockets into which the threaded ends of the pipe 10 and rod 11 are entered. The said coupling member 12 is preferably of a familiar form commonly used in the construction of electric chandeliers and has lateral openings 13 for the delivery of the wiring, as 14, into the chamber of the chandelier body.

In the particular design of chandelier body selected for illustration, the shell 15 is formed to provide an upwardly facing flat annular ledge 17, and the bracket arms, as 18, to which the lamps (not shown) are applied, spring from this ledge. For this purpose the ledge 17 is provided at intervals with apertures, as 19, through which the threaded inner ends 20 of the bracket arms 18 are entered, and each bracket arm 18 is formed with an annular shoulder 21 adjacent its threaded end for bearing upon the said ledge about the corresponding aperture.

While the application of a clamping nut, as 22, to the threaded inner end 19 of each bracket arm 18 directly under the ledge 17, would serve, in a measure, to hold the bracket arms in place, the improvement provided by the invention not only insures the original location of the bracket arms in correct angular position but also effectively prevents their subsequent displacement and produces a more rigid construction. As shown, the threaded inner end 20 of each bracket arm is formed with a longitudinal slot 23, at one side, and a stiff sheet metal plate 24 having apertures 25 for receiving the inner ends of the bracket arms and a tongue 26 at the margin of each aperture for entering the corresponding slot 23, directly underlies the ledge 17 within the chamber of the chandelier body. It follows that if the plate 24 is firmly held against the underside of the ledge 17 with its apertures 25 in register with the apertures 19 of the ledge, the inner ends 20 of the bracket arms 18 can only be entered in the apertures 19 when the arms are correctly positioned for the engagement of the tongues 26 with the corresponding slots 23. Likewise, when clamping nuts, as 22, are applied to the threaded ends of the bracket arms 18 below the plate 24, the parts will be firmly held in place and angular displacement of the bracket arms is impossible. Since the usual tapered form of pipe thread will customarily be formed upon the inner ends 20 of the bracket arms 18, the application of the clamping nuts 22 will

tend to compress the walls of each bracket arm at the two sides of the slot 23, thereby firmly gripping the tongue 26 and imparting increased rigidity to the construction.

When the chandelier is formed with the said central supporting frame, the plate 24 is preferably gripped at its center, as between the adjacent end of the coupling member 12 and a nut 27 applied to the pipe 10 over the plate. Under these circumstances the assembling of the parts is facilitated and the position of the nut 27 upon the pipe 10 may be relied upon to determine the location of plate 24, if the plate is formed with an angular depression 28 for receiving the nut 27 and preventing its rotation.

In assembling such a device, nuts 27 will first be screwed in place, the end of the threads on tube 10 limiting further movement. Pocket 28, which strengthens the plate against buckling, also prevents relative rotation of the plate and tube 10, and these parts are clamped into a rigid unit by coupling 12. As arms 18 penetrate ledge 17 and plate 24, and fastening the arms in place clamps these two parts together, all the upper ornamental shell structure, is also prevented from rotating with respect to tube 10. The top cap 34, therefore screws down into abutment with a fixed and non-rotatable flange and is much less prone to work loose on that account.

It will be apparent that while the thickness of the ornamental upper shell is insufficient for it to stand alone, the stresses adjacent the mountings for arms 18, which are carried primarily by the heavier plate 24, said shell materially contributes to the rigidity of the entire structure by bracing the edges of the plate to the pipe 10.

There is a decided advantage in the use of a stamping such as 24 over cast, turned, or milled parts. This is due, first to cheapness, but also to the much higher degree of uniformity of product thus obtainable. For the trained eye, the beauty and symmetry of such equipment is easily destroyed by errors in alignment. These are automatically avoided even in quantity production by the structure shown. Arms 18 are supported by two annular abutments of ample area in closely spaced parallel planes. The same tightening forcing these abutments into firm contact, also clamps lug 26 to eliminate play by rotation, and binds shell 15 to plate 24 to enable it to brace the plate.

Plate 24 is situated where it has no ornamental significance whatever, and may therefore be made with regard to strength alone. Looked at from below or from a balcony above the fixture, it is completely hidden from view.

In applying the invention to the construction of a wall fixture, as 29, (Fig. 7), a plate 30 (Fig. 4) conforming in shape with the body of the fixture and having apertures 31 equal in number to the number of bracket arms 32 of the fixture is used. The plate 30 will also be formed with tongues 33 at the margins of the apertures 31 and these tongues will have the same function with respect to the bracket arms 32 as the corresponding parts of the chandelier already described.

I claim as my invention:

1. In a lighting fixture, in combination, a chambered body having an axially facing flat annular supporting surface apertured at intervals about the same, a plurality of tubular bracket arms each having a threaded and longitudinally slotted inner end entering the chamber of the body through one of the said apertures, a shoulder formed on each bracket arm bearing on the said flat annular surface of the body about the corresponding aperture, an apertured plate coextensive with the said flat annular surface of the body located within the chamber of the body with its apertures receiving the inwardly projecting ends of the bracket arms, a tongue formed integral with the said apertured plate at the margin of each of its apertures entering the slot of the corresponding bracket arm, and a clamping nut applied to the threaded end of each bracket arm within the chamber of the body beyond the said plate.

2. In a lighting fixture, in combination, a bracket arm having a threaded inner end formed with a laterally opening socket and a shoulder at the base of the thread, a chambered fixture body having an aperture in its wall to receive the said threaded inner end of the bracket arm, a reenforcing plate lying against the said wall of the fixture body upon the inside of the same, a tongue carried by the last mentioned plate entering the said laterally opening socket of the bracket arm, and a clamping nut applied to the threaded end of the bracket arm within the chamber of the fixture body beyond the said plate.

3. In a chandelier, in combination, a pendant central supporting spindle threaded at its lower end, a base plate having a series of apertures adjacent its rim, clamping nuts applied to the threaded lower end of the said spindle gripping the base plate between them, means preventing relative rotation of the base plate and the upper one of the two clamping nuts, a chambered shell having a flat apertured marginal portion resting on the marginal portion of the base plate and a bulging intermediate portion covering the intermediate portion of the base plate and the adjacent portion of the spindle, a set of bracket arms having threaded inner ends entering the apertures

of the said marginal portions of the shell and base plate and clamping nuts applied to the said threaded ends of the bracket arms under the base plate.

4. In a chandelier, in combination, a pendant central supporting spindle threaded at its lower end, a base plate having a series of apertures adjacent its rim, clamping nuts applied to the threaded lower end of the spindle gripping the base plate between them, means preventing relative rotation of the base plate and the upper one of the two nuts, a chambered shell having a flat apertured marginal portion resting on the marginal portion of the base plate and a bulging intermediate portion covering the intermediate portion of the base plate and the adjacent portion of the spindle, a set of bracket arms having threaded and longitudinally slotted inner ends, entering the apertures of the said marginal portions of the shell and base plate, a tongue formed integral with the base plate at the margin of each of its apertures entering the slot of the corresponding bracket arm and clamping nuts applied to the threaded ends of the bracket arms under the base plate.

5. In a chandelier, in combination, a pendant central supporting spindle threaded at its lower end, a base plate having a series of apertures adjacent its rim, clamping nuts applied to the threaded lower end of the said spindle gripping the base plate between them, a chambered shell having a flat apertured marginal portion resting on the marginal portion of the base plate and a bulging intermediate portion covering the intermediate portion of the base plate and the adjacent portion of the spindle, a set of bracket arms having threaded inner ends entering the apertures of the said marginal portions of the shell and base plate and clamping nuts applied to said threaded ends of the bracket arms under the base plate.

6. In a lighting fixture, in combination, a support, a bracket arm having a threaded end entering said support, a retaining nut on said end to hold the parts in place, said threaded end being slotted beyond said nut, and a projection on said support entering said slot to prevent rotation of the arm.

7. In a lighting fixture, in combination, a support, a bracket arm having a pipe-threaded end entering said support, a retaining nut on said end to hold the parts in place, said threaded end being slotted beyond said nut and resilient, and a projection on said support entering said slot to prevent rotation of the arm, said projection being large enough to be gripped by the walls of said slot when the nut is tightened.

8. In a lighting fixture, in combination, a horizontal supporting plate, bracket arms rising upwardly from said plate and curved outward to support individual lights, an ornamental shell completely overlying said plate and apertured to permit passage of said bracket arms, enlargements on said arms contacting the upper surface of the shell, and fastening means below the plate to clamp all the parts securely together.

9. In a lighting fixture, in combination, a stamped supporting plate having apertures to receive and support bracket arms, and tubular bracket arms received in said apertures, said apertures having stamped irregularities of contour lying in the plane of the plate, and said arms having registering irregularities to lock the parts against relative rotation.

10. In a lighting fixture, in combination, a horizontal supporting plate, bracket arms rising upwardly from said plate and curved outward to support individual lights, an ornamental shell completely overlying said plate and apertured to permit passage of said bracket arms, enlargements on said arms contacting the upper surface of the shell, and fastening means below the plate to clamp all the parts securely together, said arms and plates having registering irregularities of contour for preventing turning of the arms with respect to the plate.

HENRY A. FRAMBURG.