June 7, 1938. V. FOLLET 2,119,987

LAMP JOINT AND ADAPTER

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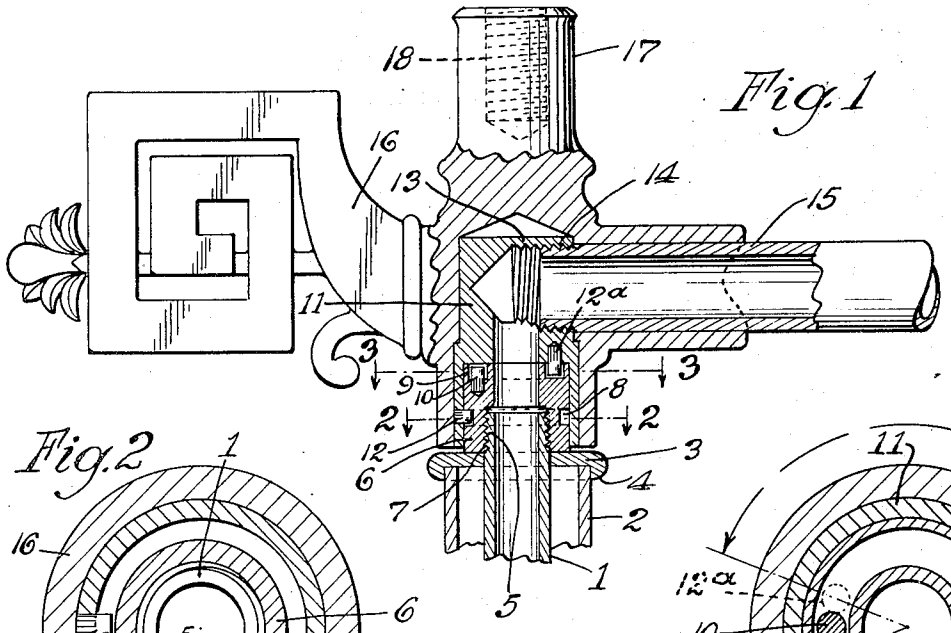


Fig. 1

Fig. 2

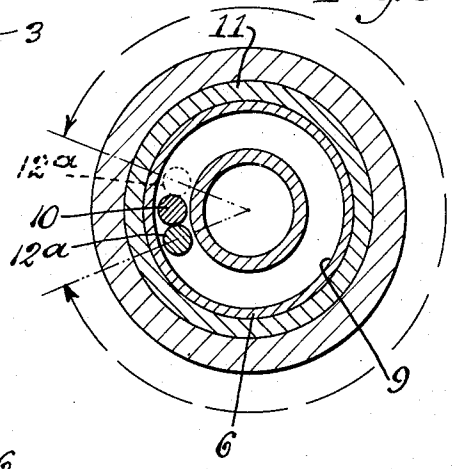


Fig. 3

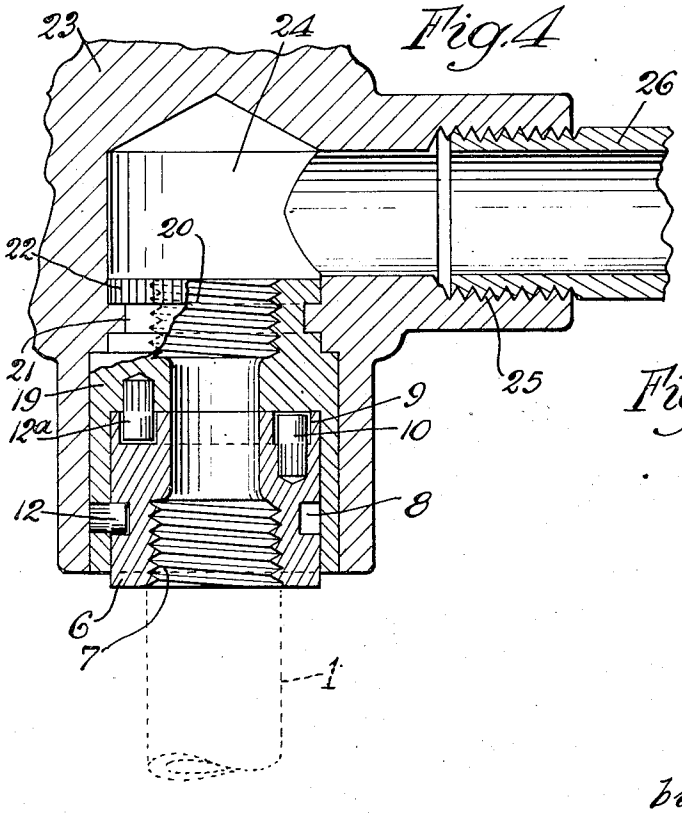


Fig. 4

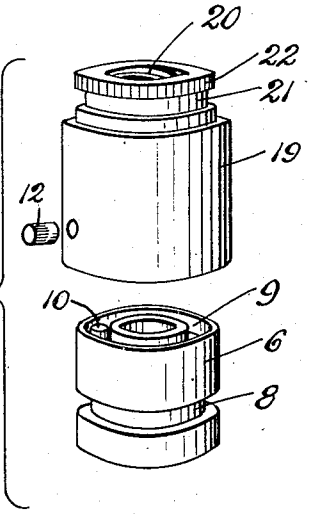


Fig. 5

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Fig. 6

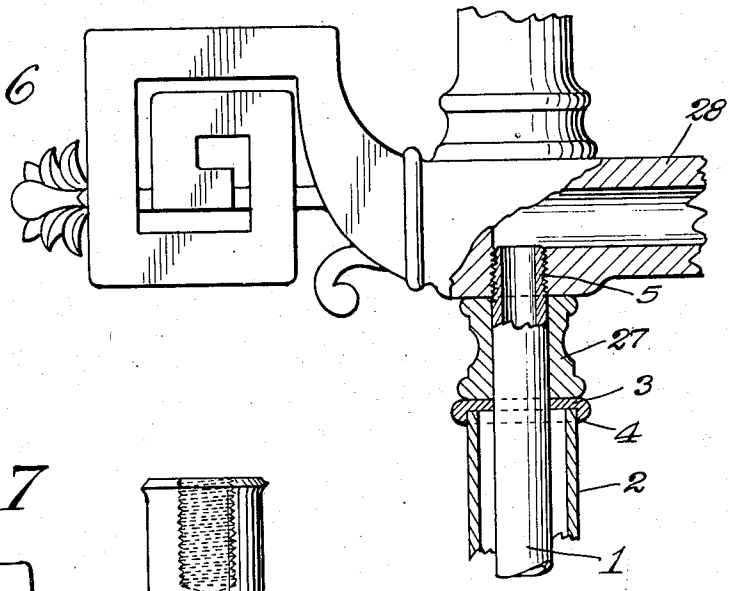


Fig. 7

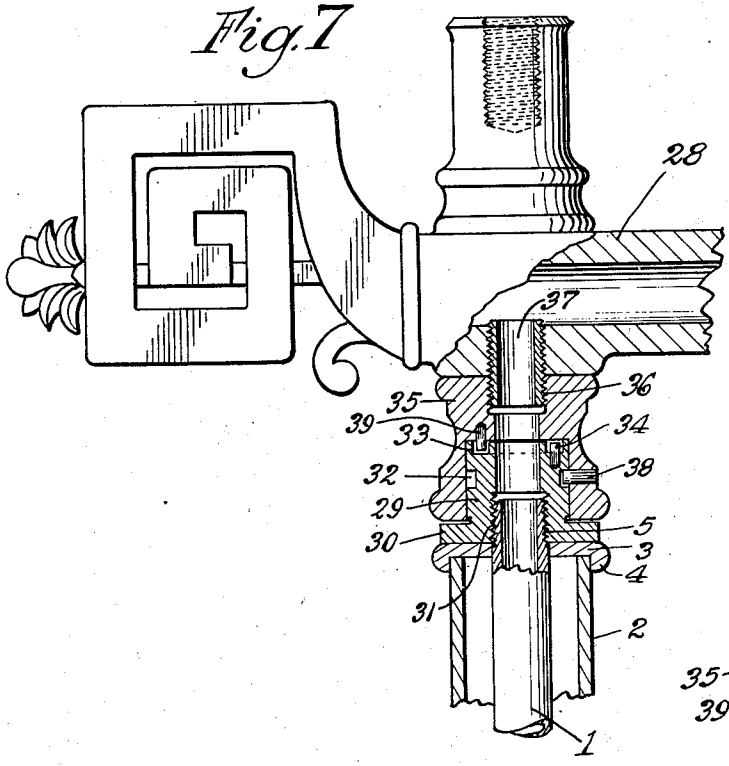
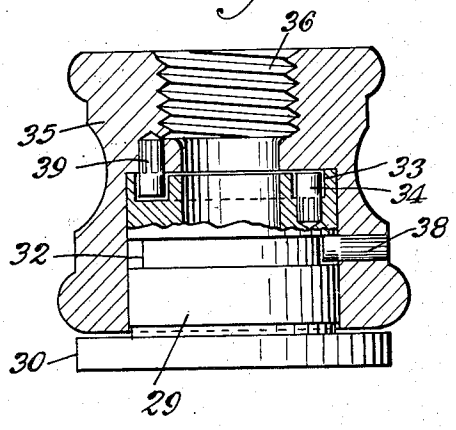


Fig. 8



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UNITED STATES PATENT OFFICE

2,119,987

LAMP JOINT AND ADAPTER

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Application March 10, 1937, Serial No. 129,979

2 Claims. (Cl. 285—1)

This invention relates to a joint or connection primarily intended for use with electric lamps or in connection with fixtures through which an electric conduit or cord passes.

It has for one object to provide in such a joint means for preventing excess rotation which should be harmful to the electric wires. It has for another object to provide a joint, cheap and easy of assembly. It has for another object to provide a joint which, having once been assembled, cannot thereafter be disassembled except by destruction.

It has for another object to provide a joint of this general type particularly adaptable for use where the members of the joint, after having been made, are cast into or surrounded by an outer coating or member which may have an ornamental appearance.

Another object is to provide in connection with such joints an adapter unit by means of which one or more of the objects above mentioned may be attained in connection with a joint which originally was not a swinging joint.

A further object is, therefore, to provide an adapter unit complete in itself and available for insertion into a lamp to adapt or convert it from a non-swinging to a swinging lamp.

Other objects will appear from time to time in the specification and claims.

The invention is more or less diagrammatically illustrated in the accompanying drawings, wherein:—

Figure 1 is a section through one form of lamp embodying my joint;

Figure 2 is a transverse section taken at line 2—2 of Figure 1;

Figure 3 is a transverse section taken at line 3—3 of Figure 1;

Figure 4 is a fragmentary sectional view generally similar to Figure 1, showing a modified form of joint;

Figure 5 is a view in elevation showing the members of the joint of Figure 4 separately;

Figure 6 is a sectional view of a form of rigid lamp in which no swinging of the arm or bracket can occur;

Figure 7 is a similar sectional view showing the lamp after conversion into a swinging arm lamp by the insertion of the adapter;

Figure 8 is a longitudinal sectional view on an enlarged scale showing the adapter or converter unit of Figure 7.

Like parts are designated by like characters throughout the specification and drawings.

1 indicates a column or pipe which forms a part of a lamp standard and through which a wire or conduit, not shown, passes from a current source to a lamp.

2 is an ornamental outer tube or jacket and 3 is a collar which may have a down-turned flange 4. This collar fits snugly about the tube 1 and positions and secures in place the outer tube 2. As shown in the several figures the tube 1 is preferably threaded as at 5 at its upper end.

In the form of Figures 1, 2 and 3, the joint comprises an inner section 6, hollow and internally threaded at 7 to engage the threads 5 of the tube 1. An annular groove 8 is cut in the exterior of the member 6. An annular groove 9 is cut in one end, in this case the upper end, of the member 6, and in it a pin 10 is seated.

An outer or surrounding hollow member 11 is shaped on its interior to fit snugly about the member 6. It is provided with a pin 12 which passes through a suitable perforation in its wall and penetrates into the groove 8 in the member 6. At the time of assembly this pin is positioned within it and is preferably driven into the perforation in the wall of the member 11 so as to fit permanently therein. Its outer end may be knurled, threaded or otherwise shaped to engage tightly and permanently in the wall. The exterior of the wall and the surface of the outer end of the pin 12 are continuous in contour. The member 11 also carries a pin 12*a*, permanently secured in it and so positioned as to fit into the groove 9 when the parts are assembled and to prevent excess rotation. Relative rotation of the parts is thus limited by the contact of the pins 10 and 12*a*. The upper end of the outer member 11 may be closed as at 13 or left open if desired. An interiorly threaded, laterally directed opening 14 may be made in the wall of the member 11 as shown in Figure 1 and may receive the correspondingly threaded end of a hollow arm or bracket 15 which carries the lamp in any manner desired.

Surrounding the joint members above described is cast an ornamental portion 16 which may, for example, be of white metal or other metal, and may be die cast or otherwise made. In the particular form shown in Figure 1 this member 16 has an upwardly extending ornamental member 17 which may have an interiorly threaded, upwardly facing hollow portion 18 to receive another ornament.

In the modified form shown in Figure 4 the internal member of the joint is the same as that shown in Figure 1. The external member is

substantially the same except that it is shortened. There is thus an external member 19 which surrounds and fits snugly about the member 6 just as does the external member 11 in Figure 1, but instead of being closed at its upper end it may be provided with an interiorly threaded opening 20. It may have an external groove 21 adjacent its upper end and may be knurled as at 22. As in the form shown in Figure 1 an additional and preferably metallic member 23 is cast or otherwise formed about the joint. It has provided within it a cavity 24 which may be internally threaded as at 25 to receive the correspondingly threaded end of a pipe or tube 26 which carries the lamp.

From the above it is clear that the internal construction of the joint is the same, whether in the form of Figure 1 or of Figure 4. The difference is primarily that of length of the outer or enclosing part.

As shown in Figure 6, the lamp standard is the same as that shown in and described in connection with the other figures, except for the fact that the tube 1 may extend upwardly beyond the outer tube 2 somewhat farther. An ornamental member 27 may be positioned about the upper end of the tube 1 and upon the upper surface of the member 3. A hollow lamp arm or bracket 28 is suitably threaded to engage the threaded upper end 5 of the tube 1 and when screwed into place holds the parts as shown. No provision is made for rotation.

When it is desired to convert the device into a rotary or swinging lamp the arm 28 is removed, the ornamental member 27 is removed and the central tube is preferably threaded from its end to a point adjacent the upper surface of the member 3. It may then be cut off to the length shown in Figure 7 and the adapter or converter unit is put in place. This unit comprises parts generally similar in their interior design and construction to those shown and described in connection with the preceding figures. Their exterior contour may differ. Thus there is a lower and interior member 29 having a laterally extending flange 30 which contacts the upper surface of the member 3. The interior of the member 29 may be threaded as at 31 to engage with the threading 5 of the pipe or tube 1. An annular groove 32 is formed about the exterior of the member 29. A second annular groove 33 is formed in its upper end and a pin 34 is secured in the member 29 so as to project into this groove. An outer or surrounding member 35 fits snugly upon and about the member 29 and may be provided as shown with an ornamental exterior. It is hollow and its upper end is preferably threaded as at 36 to receive a portion of the exteriorly threaded section 37 which may be that cut off from the pipe 1. A pin 38 is seated in a suitable perforation in the exterior of the member 35 and projects into the groove 32 to prevent separation of the parts. Its outer end is shaped to conform to the contour of the exterior of the member 35. A second pin 39 is positioned within the member 35 and so as to extend into the groove 33 and to contact the pin 34 so as to limit relative rotation of the two parts.

The use and operation of my invention are as follows:

The parts of the joint, whether in the long form of Figure 1 or the shorter form of Figure 4, or in the form of the adapter of Figures 6, 7 and 8, generally have their internal arrangements the same. There is an inner part and an outer part, and an outwardly projecting pin in the opposing face of each of the members. Thus in one form of the invention there is an upwardly projecting member extending toward the opposing surface of the outer member and there is a downwardly projecting pin or part on the opposite surface of the outer member. Whether there is a groove or not and no matter what the particular construction of these parts is, they are in effect stop members and are arranged to contact each other upon sufficient relative rotation of the parts and to limit this rotation and prevent the occurrence of rotation beyond that of 360°. In practice the possible rotation is slightly less than a full circle.

Some form of groove or other depression is ordinarily formed in the outer surface of the inner member and a pin or analogous member projects inwardly from the inner surface of the outer member into this groove. The pin permits rotation but prevents separation of the parts and is preferably driven into place so that it cannot be removed except by destroying the parts. Ordinarily its outer end is shaped to conform to the contour of that part of the outer member around it and frequently its location cannot be detected by any but the most minute inspection of the joint as a whole.

The joint is thus made so that it cannot be taken apart except by destruction, to prevent tampering with it. In practice it has been found that joints that are readily separable are sometimes taken apart by inexperienced people and reassembled unsatisfactorily, with the result that short circuits and other damages occur. Hence it is desirable to make the joint so that it cannot be taken apart and reassembled.

In the form of the joint shown in the first five figures after the assembly of the joint is completed it has cast about it a suitable housing or ornamental part which encloses and conceals it and thus further prevents its being taken apart. This ornamental housing or enclosure may also support a bracket or tube and may, if desired, have cast in it members such as sockets and the like to receive still further ornamentation or apparatus.

As above noted, the internal details of the adapter are preferably the same as those of the joint. When the adapter is to be used, a lamp which is not swinging or rotary is partially disassembled and the adapter is inserted between the lamp column or base and the lamp arm. It is preferably screwed onto the top of the inner tube of the lamp column but may be secured otherwise. Once it has been secured in place, for example as shown in Figure 7, the arm or bracket may swing within the limits of the adapter just as would have been possible had the arm originally been made for swinging.

The present invention thus comprises both the joint by itself and the provision of an adapter as an article of commerce embodying the joint details.

I claim:

1. A swivel joint comprising a cylindrical part having a circumferential groove in its exterior surface and an annular groove in one end, an obstruction within said annular groove, a second part having a cylindrical recess receiving said first mentioned part, said second part having an annular shoulder formed within it and against which the grooved end of said first mentioned part abuts, an obstruction formed on said shoulder and penetrating within said annular groove and adapted to contact said first men-

tioned obstruction to limit the extent of relative rotary movement between the first and second mentioned parts, a pin carried by said second mentioned part and extending within the cylindrical recess thereof and penetrating the circumferential groove in said first mentioned part, said pin permitting rotation of the parts and holding them against axial separation, and a metal envelope cast over and around said second mentioned part and covering the region thereof which supports said pin whereby to prevent access thereto from the exterior of the joint.

2. A swivel joint comprising an inner member and an outer member surrounding said inner member throughout the major portion of the length of said inner member, said outer member having an inner shoulder against which the upper end of said inner member abuts, said shoulder and the upper end of the inner member having opposed bearing surfaces, one of said surfaces being provided with a circular channel, stops penetrating said channel from each of said members, whereby relative rotation of said members is limited to a predetermined arc, a channel in the outer face of said inner member, a stop in said outer member, penetrating said channel, and means for preventing exterior access to said stop.

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