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UNIVERSAL TYPE SWIVEL FITTING FOR AN ELECTRICAL FIXTURE

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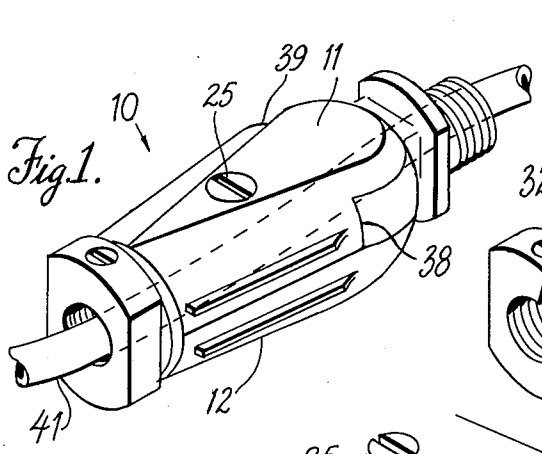

Fig. 1.

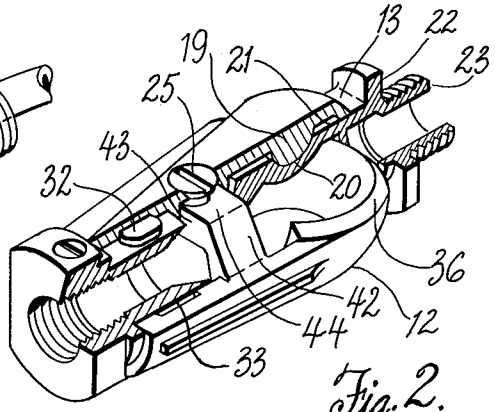

Fig. 2.

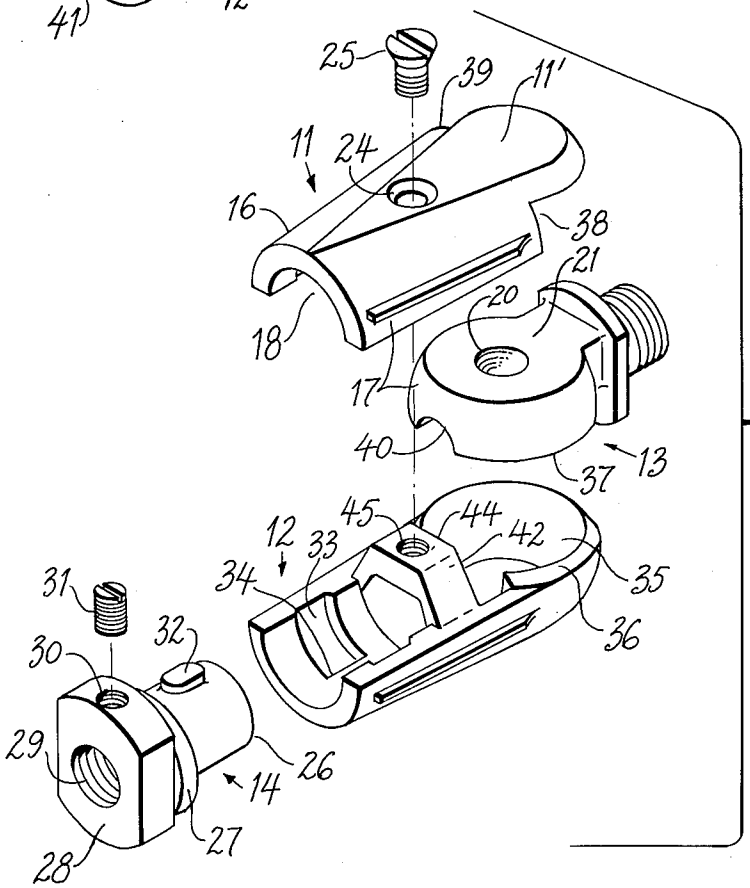

Fig. 3.

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UNIVERSAL TYPE SWIVEL FITTING FOR AN ELECTRICAL FIXTURE

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This invention relates to a clevis and swivel fitting. More particularly, it relates to a unit which is used for an electrical lighting fixture whereby the unit permits the movement of the electric light fixture at any angle short of 360 degrees.

More specifically, the invention relates to a device which contains several connectable parts used as a unit for an electrical fixture and through which electrical conducting wires can be passed without said wires being fouled in the unit as the electrical fixture is rotated around the unit.

With the above in view, it is an object of the present invention, therefore, to provide a universal type of swivel and clevis unit in which there is no fouling of electrical conducting wires during the rotation of an electrical fixture attached to said unit.

It is another object of the present invention to provide a device for an electrical fixture wherein the parts of the device can be readily connected or disconnected and in which both ends of the device can be swivelled or rotated, without fouling the wiring going through the device.

It is another object of the present invention to provide a device for the passage therethrough of electrical wires and in which the parts are uniformly made so that one part mates with the other part when joined together.

A more specific object of the present invention is to provide an assembly comprising a male and female part, a swivel and a clevis, through which electrical wiring can be extended without fouling therein and which parts can be easily connected.

Other objects and features of the present invention will become apparent from the herein following description taken in conjunction with the accompanying drawings wherein:

FIG. 1 is a perspective view of a preferred assembled embodiment of the invention;

FIG. 2 is a partly broken away sectional view of FIG. 1, and

FIG. 3 is an exploded view of the disassembled parts comprising the embodiment shown in FIGS. 1 and 2.

Referring now specifically to the drawings wherein like numbers refer to like parts throughout, it will be noted that the invention comprises an assembly **10**, containing a female shell **11**, a male shell **12**, a clevis **13**, a swivel **14** and a collar **15**.

Said female shell **11**, as shown, is provided with a flat face **11'** and curved sides **16** and **17** forming a hollow **18** coextensive with the outside **11'** and curved sides **16** and **17**. Said shell **11**, as shown, is provided in the interior with a pivot or a bump **19** which is adapted to fit in a corresponding central recess **20** of clevis **13** whereby the latter can be rotated about said pivot.

Said clevis **13**, as shown, is circular but provided with a flat face **21** so that said clevis **13** can be rotated around said pivot. The clevis **13**, furthermore, is provided with a flanged portion **22** and a thread neck **23** extending upwardly therefrom. Female shell **11**, is also provided with a threaded opening **24** to permit the insertion therethrough of a screw member **25**. It is to be noted that clevis **13** is adapted to fit in the upper part of said female shell **11** as shown in FIGS. 1 and 2, and that it can be rotated around said pivot **19** of shell **11**.

Adapted to fit in the lower portion of said shells **11** and **12**, there is provided a swivel **14** with a sleeve portion **26** adapted to fit inside the lower area of said shells. Also provided on said swivel is an annular flange **27** and a collar **28** which has an internally threaded central opening **29**. Said collar **28** is also provided with another threaded opening **30** for a setscrew **31** which is adapted to act as a retainer for an extension pipe and the like which may be connected to the collar **28**. Furthermore, said sleeve **26** is provided with a stop **32** which is adapted to fit in a hollowed groove **33** in shells **11** and **12**. However, said stop **32** keeps the sleeve in relatively fixed position in the shells **11** and **12**, so that the sleeve **26** cannot fall out of the shells. It also limits the rotary movement of the sleeve when it comes into contact with stop member **34** in said groove **33**.

As has been indicated, said shell **11** is connected to male shell **12**. The outer portion of said shell **12** is also curved or rounded, as shown, and the interior is bevelled or hollowed out as shown more clearly in FIG. 3. The interior of said shell has concaved hollow **35** and a bevelled edge **36** so as to accommodate the bevelled contacting walls **37** of clevis **13** and provide a bearing for rotating said clevis **13** as shown in FIG. 3. Said clevis is adapted to rotate around said pivot **19** against the stops **38** and **39** extending laterally of female shell **11** thereby preventing the complete rotary movement of said clevis. Furthermore, said clevis is hollowed out and has a cutaway or recess **40** so as to permit or to accommodate a conducting wire **41** which passes through the whole unit as shown in FIG. 1.

It will be noted that the edges **36** and **37** may be either flat or bevelled to any desired angle to provide a desired area of contact between said wall of the clevis and the wall of the shell **11**. Furthermore, due to the pitch or bevelling or tapering of said edges of **36** and **37** of the respective members, sufficient pressure can be applied so as to hold the male and female members together and thereby control rotary movement of said clevis. This rotary movement will be dependent upon the locking of the male and female members so that the turn of the clevis between said members can be adjusted to any desired angle with respect to the male and female members. The screw **25** extending through opening **24** is adapted to engage the bridge **42** and when said screw is manipulated, it can tighten or loosen the male or female members **11** and **12** respectively so as to form either a loose or a tight fit to hold the clevis **13** and the collar **14**. In this matter it will be seen that by a single screw member all four units, namely the male and female members **11** and **12** respectively, the clevis **13** and the collar **14** can be adjusted without difficulty and with suitable control.

Said male shell **12**, furthermore, is provided with a raised bridge **42** which as shown in FIGS. 2 and 3 fits in recess **43** of shell **11** with a small clearance. Said bridge **42** is provided with a threaded opening **45** so as to accommodate screw member **25** as shown in FIGS. 1 and 2. As described shells **11** and **12** when joined provide a swivel with stop **32** thereby eliminating the complete 360 degree movement of the swivel **14**. Also, said annular or circular groove **33** is provided with a stop **34** to prevent 360 degree angular movement of the swivel **14**. The length of the sleeve **26** may be varied to determine the area of contact between the swivel **14** and the shells **11** and **12**. The clevis **13** is adapted also to swing through an arc less than 360 degrees and when the unit is assembled as shown in FIG. 2 there is provided an opening through which passes conductor wires **41**, under bridge **42** and through the recess opening **40** and hollowed out portion of the clevis **13** so that on the operational movement of either the clevis or of the swivel there is no fouling or cutting of the conductor wires.

A device made according to the present invention permits easy connection with an electrical appliance or fixture while at the same time preventing fouling of the wiring extending through said unit to light a fixture. Furthermore, the component parts of the unit can be readily assembled and require a minimum of effort in assembling the same nor is there any fastening member needed in the present instance to combine all parts together since the bump pivot forms a pivot for the clevis **13**. Also, swivel **14** can readily fit in the interior of the male and female shells while at the same time being held in position by means of the pin **32** extending through the circular groove **33** thus preventing a complete 360 degree movement of the swivel **14**. In the ordinary types of connector parts, the wiring is usually fouled and the rubber or other type of insulation over the wire is easily worn thereby causing an electrical short circuit with resultant hazards of fire or shock.

In addition to the above features, the present invention includes the important feature of one tightening or control member namely the screw being able to hold the four component units of the device together, while at the same time controlling the rotary movement of both the clevis **13** and the collar **14**. The pressure applied to the screw is such that the rotary movement of both the clevis and collar can be regulated to any desired angle. In other words, the locking force varies with the pressure applied to the screw member holding the two members, namely **13** and **14** together.

Furthermore, it will be noted that in accordance with the present invention, the contacting walls **36** and **37** of the member **12** and clevis **13** can relatively be of any desired pitch, extending from a flat surface upwards, so that the amount of pressure exerted by the screw member **25** will control the degree of rotation of the clevis between said members **11** and **12** around its axis.

As shown, the various component parts of the invention are well made and adapted to fit each other in a very compact and smooth operating condition. It is economical to manufacture said component parts so that in no event is there any necessity of any special type of tooling or combination of parts required.

While a preferred embodiment of the invention has been illustrated and described, it is to be noted that modification may be made as to form, use of parts and arrangement of material, without departing from the spirit and scope of the invention as claimed herein.

I claim:

A coupling for accommodating electrical wiring for an electrical fixture comprising, in combination, a hollow elongated female member containing a central aperture,

a hollow elongated male member having a bridge extending upwardly from and between the sides of the central portion of said male member, said bridge containing a single threaded aperture, said female member fitting over said male member forming a hollow shell with the bridge member adjacent the female member, a clevis having a neck containing a channel therethrough and having a hollow circular portion at one end of said neck, said circular portion having an upper flat surface and a lower circular wall extending from both sides of said neck, said lower circular wall of said clevis having a bottom portion formed at an angle and having the bottom portion contain a notch aligned with the channel in the neck of said clevis, said female member having a forwardly disposed end with a flat undersurface engaging the upper flat surface of the circular portion of said clevis, said male member having a forwardly disposed end having an upper partially circular edge formed at an angle engaging the bottom of the lower circular wall of said clevis, the upper flat surface of said clevis containing a central depression and the flat undersurface of said female member having a raised pivot engaging the central depression rotatively securing said clevis between the forwardly disposed ends of said male and female members, a swivel containing a longitudinal channel therethrough and having a forwardly disposed sleeve portion, the rearwardly disposed ends of said male and female members forming a cylindrical cavity, the sleeve portion of said swivel fitting within the cylindrical cavity, said sleeve portion having a stop projection extending laterally, said male and female member within the cylindrical cavity containing a circumferential groove with the stop projection extending into the circumferential groove, holding the sleeve portion within the cylindrical cavity, and a threaded member extending through the aperture in said female member engaging the threaded aperture in the bridge member, said threaded member being operative to clamp said swivel and said clevis between said male and female members.

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