A. I. SCHWINGER.

COUPLING FOR ELECTRIC FIXTURES.

APPLICATION FILED JAN. 4, 1917.

1,357,524.

Patented Nov. 2, 1920

Fig. 1.

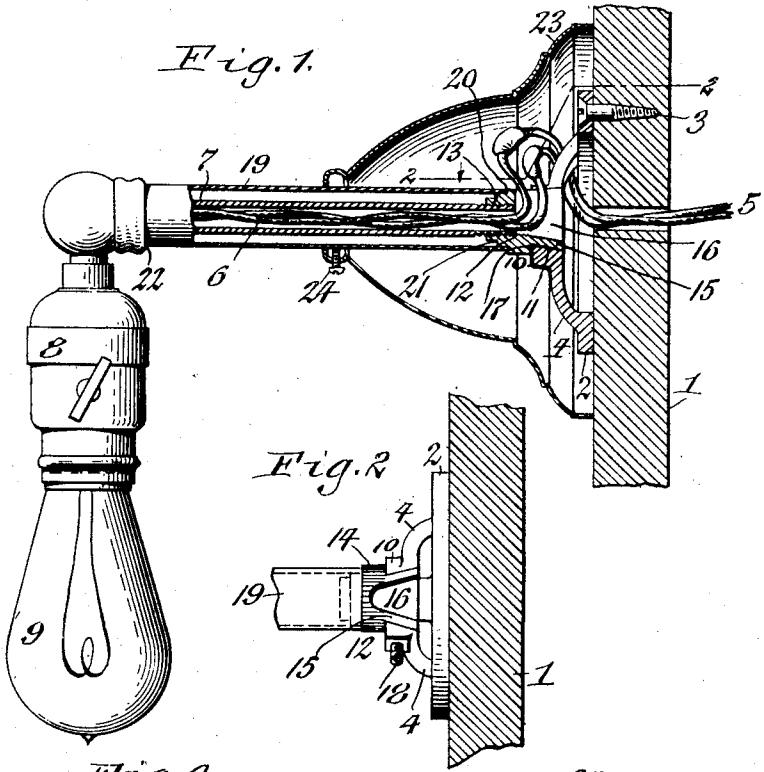


Fig. 2.

Fig. 3.

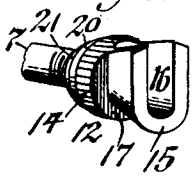


Fig. 4.

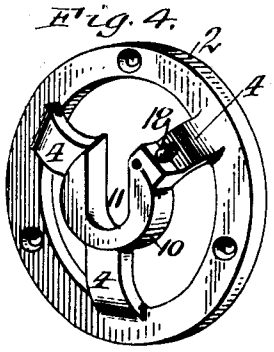


Fig. 5.

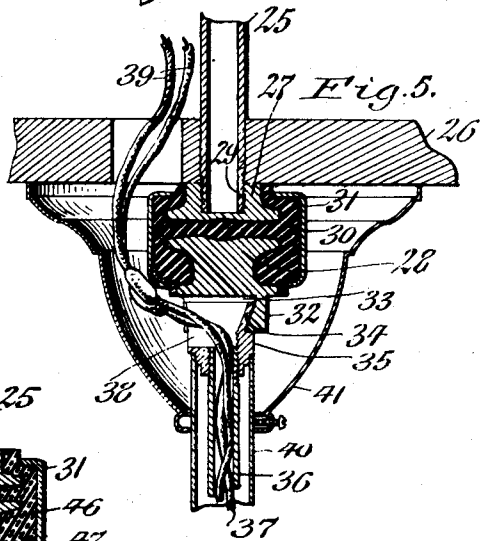


Fig. 6.

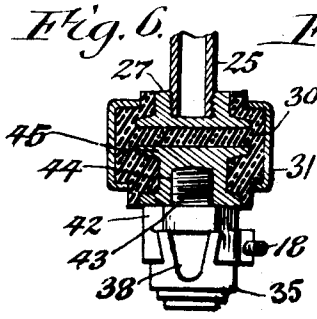
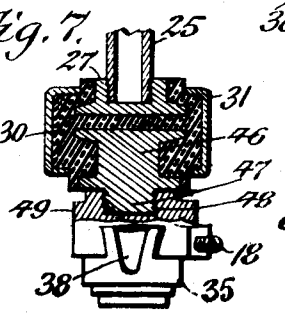


Fig. 7.



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UNITED STATES PATENT OFFICE.

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COUPLING FOR ELECTRIC-LIGHT FIXTURES.

1,357,524. Specification of Letters Patent. Patented Nov. 2, 1920.

Application filed January 4, 1917. Serial No. 140,646.

To all whom it may concern:

Be it known that I, ABRAHAM I. SCHWINGER, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented new and useful Improvements in Couplings for Electric-Light Fixtures, of which the following is a specification.

This invention relates to a mounting or coupling for electric light fixtures and more particularly to a coupling of this character which is designed to connect the tubular parts of electric light fixtures with the bases, or other supports upon which the same are mounted.

In some forms devices of this character as heretofore constructed it has been necessary to complete the wiring connection between the main leads in the building and the wires of the fixture after the latter was mounted on the wall, ceiling or other support which condition often presented difficulties requiring an unusual amount of labor and time in effecting such connections and thereby unduly increased the cost of such work.

It is the object of this invention to provide an improved coupling for electric fixtures of this character which is simple and compact in construction and is arranged close to the wall, ceiling or other support upon which the same is mounted, which permits of quickly and easily connecting and disconnecting the fixture and base, and which permits of conveniently and rigidly completing the connection between the main electric lead or supply wires and the wires of the fixture after the latter and supporting base have been assembled.

In the accompanying drawings: Figure 1 is a sectional elevation of one form of my invention organized for supporting an electric light fixture in the form of a bracket on a wooden wall or partition. Fig. 2 is a fragmentary top plan view of the same. Fig. 3 is a perspective view of one member of the coupling and part of the bracket connected therewith. Fig. 4 is a similar view of another member of the coupling and the supporting base associated therewith. Fig. 5 is a sectional elevation showing another adaptation of my invention suitable for use in case the light fixture is to be mounted on a metallic pipe or other metal part of the building, this view also showing my invention used in connection with a chandelier which is suspended from the ceiling of a building. Figs. 6 and 7 are views similar to Fig. 5 but showing modified forms of my invention for use in connection with an insulating joint which is adapted to be interposed between the light fixture and a metallic supporting pipe.

Similar characters of reference indicate corresponding parts throughout the several views.

Referring to Figs. 1–4, 1 represents an upright wall or partition which is made of wood or similar insulating material upon which the electric light fixture is to be mounted. On the front or face side of this wall or partition is secured a base which is constructed of metal and which in the form here shown comprises an annular member or ring 2 which is secured to the wall by means of screws 3 and provided with a plurality of inwardly and forwardly projecting supporting arms 4 which have their inner ends separated from the wall so as to form an intervening space through which the main electric supply or lead wires 5 may be drawn to the front side of the base for convenience in connecting the same with the wires 6 of the electric light fixture. The fixture shown in Figs. 1 and 2, is constructed in the form of a bracket, arm or side light and as there shown comprises a horizontal pipe or conduit 7 which contains the fixture wires 6, and a socket 8 arranged at the outer end of the pipe 7 and supporting the lamp 9 which is electrically connected in circuit with the said fixture wires.

My improved coupler is so designed that it permits of readily connecting and disconnecting the fixture pipe 7 and the base so that the wiring of the fixture can be conveniently accomplished while the same is removed from the base and the connection between the main supply wires and the fixture wires can be effected easily and properly after the fixture has been mounted on the base. In the particular organization of my improvement which is shown in Figs. 1–4 the same comprises a female or socket member 10 which is connected with the inner ends of the supporting arms of the base and preferably formed integrally therewith so as to be separated or arranged at a dis-

tance from the wall upon which the base is mounted. This socket member is provided with a socket 11 extending axially through the socket member from the front to the rear side thereof and also laterally to the upper side of the socket member, as shown in Fig. 4. The bore of this socket is made of tapering or dove tail form, the walls of the same converging forwardly or outwardly, as shown in Fig. 2. A complementary male coupling member 12 is mounted on the inner end of the fixture pipe preferably by engaging the externally screw threaded rear end of this pipe with an internally threaded opening 13 in this male coupling member. The periphery of this male member is preferably provided with an annular knurled surface 14 for convenience in turning the same by means of a suitable tool. At its rear or inner end the male coupling member is provided with a hollow coupling shank 15 which has a passageway 16 formed therein leading lengthwise from the front to the rear end of the same so as to communicate with the fixture conduit and also opening laterally to the upper side of this shank, as best shown in Figs. 1, 2 and 3. The external surface of this coupling shank is made of substantially dovetail or wedge-shaped form the opposite outer sides of this shank tapering forwardly or outwardly at the same angle as the walls of the dove-tail socket on the base. The dove-tail shank of the male coupling member is slipped downwardly into the dove-tail socket of the female coupling member and owing to the wedging action produced by the coöperating inclined surfaces of these parts a rearwardly facing shoulder 17 formed on the male coupling member adjacent to the small front end of the shank and the enlarged part of this member immediately in front of the shank is drawn against the front or outer side of the female coupling member, so that these two coupling members are firmly held in place relatively to each other. The male and female coupling members are securely held in this assembled position by means of a clamping or set screw 18 which engages with a threaded opening in the female coupling member and preferably arranged at such an angle that this clamping screw and the coupling shank converge downwardly, whereby upon tightening the screw the same will not only bear against the adjacent surface of the shank but also force the same downwardly so that this shank is reliably held in the socket without liability of these parts becoming detached.

After the light fixture has been thus mounted on the base the main lead or supply wires and the fixture wires may be connected with each other and then protected by a tape covering in the usual manner, this splicing of the wires being effected while the ends thereof are arranged on one side of the base and the light fixture at which time the supply wires may be drawn laterally through the spaces between the arms and ring of the base and the fixture wires may be drawn laterally through the passageway in the shank which also opens laterally, this position of the wires being represented in Fig. 1. After the wires have been thus connected the same may be doubled or folded more or less so as to make them lie compactly or close to the base as is usual in electrical work of this character.

As a rule the conduit or pipe of an electric fixture of this character is inclosed by a tubular casing 19 of finishing material such as brass so as to improve the appearance of the fixture. The diameter of such tubular casing varies according to the quality of the fixture desired or the balanced appearance which it is necessary to give the same in order to harmonize the dimensions of the several parts of the fixture. In order therefore to permit of using tubular casings of different diameters in connection with my improved coupling the front or outer end of the male coupling member is provided with a plurality of annular shoulders, two shoulders 20, 21 being shown in the example illustrated in Figs. 1 and 2 which shoulders are arranged lengthwise out of line with each other so that this end of the male coupling has a step-shaped appearance. The tubular casing shown in Fig. 1 engages at its rear end with the shoulder 20 of large diameter on the male coupling member while its front end engages with a shoulder 22 on the front part of the fixture. If a tubular casing of smaller diameter is to be used the rear end of the same may be engaged with the annular shoulder 21 of smaller diameter on the male coupling member and its front end may be engaged with the shoulder 22 of the fixture. By this means my improved coupling may be used with fixtures requiring tubular casings of different diameter, thereby avoiding the necessity of keeping in stock coupling members of different sizes to meet different requirements.

After the fixture has been mounted and wired in the manner described the rear part of the casing and the coupling and base are covered so as to produce a neat and finished appearance by means of a canopy 23 which is usually of bell-shaped form, as shown in Fig. 1, and bears with its large rear end against the wall upon which the fixture is mounted while its small front end is secured to the adjacent part of the tubular casing by means of a set screw 24 or other suitable means.

The construction just described is suitable for use in mounting electric light fixtures in buildings in which the walls or partitions

are made of wood inasmuch as the last mentioned material is of an insulating character and no particular disadvantageous results are liable to occur such as short circuiting of electric currents. When, however, the fixture is to be mounted in a building in which the walls, partitions or ceilings are made partly or wholly of metal or the fixture itself is intended to be mounted on a metal pipe such as a gas pipe, as is commonly practised when electric fixtures are substituted for gas fixtures, then the danger of short circuiting is avoided by so organizing my improved coupling that the same may be used in connection with an insulating joint between the metallic support and the electric light fixture which is mounted on the same. Such an installation is shown in Fig. 5 for use in supporting a chandelier electric light fixture from the lower end of a metallic pipe 25 which projects downwardly through the ceiling 26 of a building. Although the insulating joint between the light fixture and the metal supporting pipe may be variously constructed that shown in Fig. 5 comprises an upper or rear metal section 27 having an internally threaded socket 29 whereby the same is secured to the lower end of the metal pipe 25, a front or outer metal section 28 which is adapted to support my improved coupling, a body 30 of insulating material interposed between said inner and outer metal joint sections, and a metal shell 31 inclosing said insulating body and confining the same in place relative to the metal joint sections. In this instance the female member 32 is formed integrally on the under or front side of the lower insulating joint section and is provided with a longitudinally and laterally extending dove-tailed socket 33 which receives a correspondingly shaped shank 34 on the upper part of a male coupling member 35. The latter is secured to the upper end of the chandelier or fixture pipe 36. The chandelier wires 37 are arranged within this pipe and the upper ends of the same extend lengthwise and laterally through the longitudinal and laterally opening passage 38 in the shank 34 and are adapted to be connected with the main supply or lead wires 39 on one side of the insulating joint and the detachable fixture coupling. In this construction the fixture pipe is also inclosed by a tubular casing 40 and the fittings between the fixture and the supporting pipe 25 are inclosed by means of the canopy 41.

Instead of forming the socket member of the fixture coupling integrally with the lower metallic section of the insulating joint, as shown in Fig. 5, this socket member may be made separate from the joint section and detachably connected therewith. As shown in Fig. 6 this is accomplished by providing the socket member 42 on its rear or upper side with an externally screw threaded boss 43 which engages with an internally screw threaded socket 44 in the front side of the lower or front metallic section 45 of the insulating joint. If desired, this manner of connecting these parts may be reversed, that is to say, the lower metallic section 46 of the insulating joint may be provided with an externally screw threaded boss 47 which engages with an internally screw threaded socket 48 in the upper side of the female member 49 of the fixture coupling, as shown in Fig. 7.

In all of the several constructions of my invention shown and described it is possible to wire the fixture while the same is still unmounted and then quickly mount the same on its base and complete the connection between the wires of the fixture and the main electric supply wires with ease and convenience and much more rapidly than has been possible heretofore, thereby effecting a considerable economy in the installation of electric lighting fixtures of this character.

I claim as my invention:

A coupling for electric light fixtures comprising two members one of which is provided with a socket which is U-shaped and has its walls converging toward the front end of the socket, the other member having a hollow shank which opens rearwardly and laterally, an external U-shaped bearing face which has its sides converging forwardly and engaging with said socket an external stop shoulder at the front end of said U-shaped bearing face which engages with the front side of said socket member, said shoulder and bearing face together forming an external groove which receives the inner parts of the socket member and a locking screw arranged on said socket and adapted to engage with one of the outer inclined sides of said U-shaped bearing face.

ABRAHAM I. SCHWINGER.