May 12, 1931. E. M. PATTISON 1,804,803

ELECTRIC PLUG CONNECTION

Filed Aug. 13, 1928

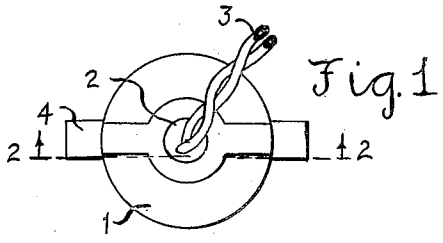


Fig. 1

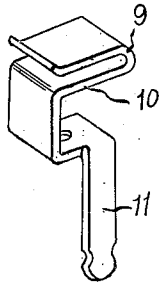


Fig. 5

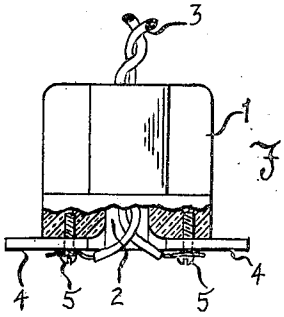


Fig. 2

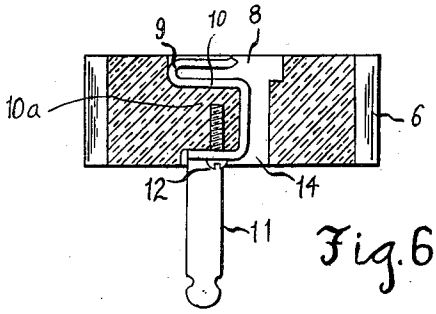


Fig. 6

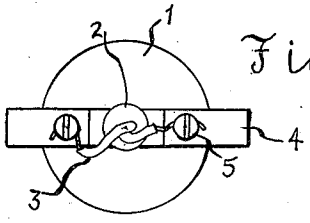


Fig. 3

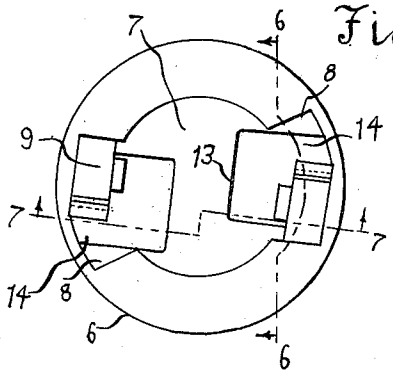


Fig. 4

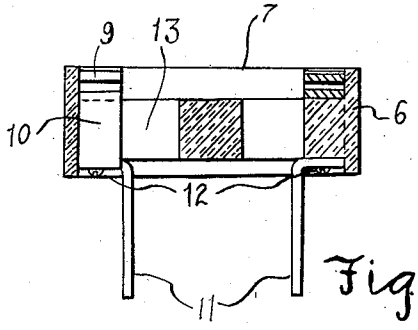


Fig. 7

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Patented May 12, 1931 1,804,803

UNITED STATES PATENT OFFICE

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ELECTRIC PLUG CONNECTION

Application filed August 13, 1928. Serial No. 299,188.

This invention relates to electric plug connections, and its object is to provide a connection that may be more quickly engaged with and disengaged from a complementary socket than constructions now in use, and which will be less likely to get out of order than present constructions.

This and various other objects the invention attains by the construction hereinafter described and illustrated in the accompanying drawings, wherein:

Fig. 1 is a top plan view of a plug, attachable to the end of an electric cord.

Fig. 2 is a view of the same in elevation, partly in section on the line 2—2 of Fig. 1.

Fig. 3 is a bottom plan view of said plug.

Fig. 4 is a top plan view of a combined socket and plug member, engageable by the plug shown in Figs. 1, 2 and 3.

Fig. 5 shows perspectively a contact member, a pair of which is carried by the member shown in Fig. 4.

Fig. 6 is a sectional view of the combined plug and socket member taken upon the line 6—6 of Fig. 4.

Fig. 7 is another sectional view of said member taken upon the line 7—7 of Fig. 4.

In these views the reference character 1 designates the body of a plug formed of porcelain, hard rubber or other insulating material, and preferably substantially cylindrical. Said plug is axially formed with a bore 2 through which may be passed an electric cord 3, terminally attachable to said plug. To one end of said plug a pair of flat rectangular contact plates 4 are rigidly attached by screws 5, said plates being set flush with said end of the plug and projecting radially at opposite sides thereof, as is best seen in Fig. 2. The screws 5 serve to electrically and mechanically connect the cord 3 to said contact plates as well as to attach the latter to the body 1.

The described plug is adapted for quick-detachable engagement with a combined plug and socket member comprising a circular insulating body 6, in one end of which opens a circular socket 7 porportioned to snugly receive the contact-mounting end of the body 1. The socket 7 has a pair of diametrically opposed recesses 8 opening in its peripheral wall, which recesses further open in the socket-forming end of the body 6. The recesses 8 respectively receive a pair of U-shaped spring contacts 9 for engagement by the plates 4. The open ends of said contacts face in opposite circumferential directions within said recesses so that by rotating the first-described plug, when the body 1 has been inserted in the socket 7, the contact plates 4 may be snugly entered in the keepers formed by the contacts 9, and may be disengaged from said keepers by a reverse rotation. Each keeper 9 is formed by one end portion of a stamped sheet metal strip which has its mid-portion return-bent reversely to the part 9, as indicated at 10, to embrace a portion 10*a* of the body 6 lying between the corresponding recess 8 and the opposite face of said body. The other end portions of said strips project to form a pair of contact tongues 11.

The described construction is such that when the members 9, 10 and 11 are properly attached to the body 6, the tongues 11 project from the opposite face of the member 6 to that in which the contacts 9 are recessed, said tongues lying at opposite sides of the plug axis in a suitably spaced relation adapting them for engagement with a common type of socket member (not shown). Such socket member may be either carried by an electric cord or may be permanently installed upon some suitable support as a wall, floor or ceiling. To rigidly attach the members 9, 10 and 11 to the body 6, screws 12 may be passed through the members 10 from the bottom face of the body 6 and threaded into said body. To permit securing the members 9, 10 and 11 to the body 6 as described, said body may be formed with openings 13 extending from the bottom of the socket 7 to the opposite end face of said body, into which openings said members may be inserted to register their securing portions 10 with the parts 10*a* to be embraced by said portions. Said members may then be shifted laterally outward into engagement with the portions 10*a*, the openings 13 having outward lateral extensions 14 permitting of such outward movement. To complete the assembly, it is neces-

sary only to fasten the members 9, 10 and 11 in place by the screws 12.

In the use of the described connection the combined plug and socket member having the body 6, is attached to the desired socket (not shown) by insertion of the tongues 11 in said socket, the latter being adapted to take a firm frictional grip upon said tongues. The plug comprising the body is then engaged with said combined plug and socket member as has been described, by inserting the end of the body in the socket 7 and sufficiently rotating said plug to engage the plates 4 with the keepers 9. It is to be understood that the cord 3 which is attached to the plug 1 may lead to any desired electrical appliance, as a lamp, iron or vacuum cleaner. When it is desired to break the connection, it is necessary only to slightly rotate the body 1 so as to turn the plates 4 clear of the keepers 9 whereupon the body 1 may be freely withdrawn from the socket 7.

The described connection between the plug member 1 and the combined plug and socket member 6 may be more quickly and easily established and disestablished than the majority of the connections now in use, and the fact that a slight rotation of the member 1 is necessary to make or break the connection will reduce the likelihood of the conductors pulling loose from the terminal screws of the plug through an attempt to withdraw the plug by exerting a pull upon the attached cord.

The formation in one piece of the contacts provided upon opposite ends of the member 6, minimizes the cost thereof and simplifies the assembly.

While it will be apparent that the illustrated embodiment of my invention herein disclosed is well calculated to adequately fulfill the objects and advantages primarily stated, it is to be understood that the invention is susceptible to variation, modification and change within the spirit and scope of the subjoined claims.

What I claim is:

1. In an electrical connecter, the combination with a plug having an insulating body and carrying upon one end of said body a pair of contacts laterally projecting from said body, of a combined plug and socket member comprising an insulating body formed at one end with a socket for receiving the contact-mounting end of said plug, and comprising a pair of contact members seated adjacent to said socket at opposite sides thereof and engageable by the contacts of the plugs when the latter is rotated within said socket, and further comprising a pair of contact tongues projecting from the opposite end of said socket member to that formed with the socket and respectively electrically joined with said keepers.

2. An electrical contact comprising a strip of sheet metal having its mid-portion bent to substantially a U-form for engaging a mounting, one end portion of said strip being bent to a reverse U-form to form a spring contact, the other end portion of said strip forming an elongated tongue for engagement with a suitable socket.

In testimony whereof I sign this specification.

ERVIN M. PATTISON.