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Make Your Own Small Electrical Repairs

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THE knowledge of how to make minor repairs on small electrical devices is often a great convenience. Sometimes the mere tightening of a screw is all that is needed to make your light work. Frequently the difficulty with electric irons

Remove plugs carefully.

is not in the irons themselves, but in the cord or its connections, and such difficulties as these are comparatively easy to remedy.

Difficulty with light cords is very apt to develop at or near the plug. Sometimes this is due to carelessness in disconnecting the plug. To remove a cord from its connection grasp the plug firmly with one hand. Take hold of the socket with the other hand and pull them apart. Never just pull on the cord for this often weakens the connection made by the wires with the screws in the plug. This holds true of iron cords also—always disconnect them by pulling on the plug, not on the cord.

Cords often become worn where they enter the plug. The insulation may be worn off or some of the wires get broken and then there is danger of causing a short circuit and so of blowing out a fuse. Any such worn cords should be repaired. Don't wait until they cause trouble. It may not be convenient to fix them then. Fix them up just as soon as any weakness is noticed. It will save time and trouble in the end.

The electric light or iron cord is made up of two groups of small wires. Each group of wires is covered with insulating material and the two groups are bound together with more insulating material and then are covered with cotton or silk winding. If you examine a cord fastened to a plug, you will see these two groups of wires with the insulation removed, each group wound back of a post in the plug and then around a screw. These screws hold the wires in place and in contact with the electrical current which passes in through the two posts or prongs of the plug. If the wires become broken or the screws loosened, either a poor connection or no connection at all results and the light or equipment does not work.

In repairing a cord or putting in a new one, cut away the outer covering and insulation for half an inch and scrape each group of wires clean and bright, but be careful not to break them. Pull the cord through the hole in the plug. Bring one group of wires around back of one of the prongs of the plug and wind the bare part of the wires around the screw on that side, first loosening the screw if necessary. Wind the other group of wires back of the other post and around the other screw. Tighten the screws and the job is done. Be careful that no wires cross from one group to the other. Sometimes one or two of the small wires will break and are shorter than the others and these are the ones to look out for. Get them all under the screw, then if necessary cut off any loose ends, being sure that they fall out of the plug, not back into it.

Perhaps you wish to put a new wire into a different type of fixture than this simpler plug—a socket of either the pull chain or push button variety. At one end of this socket there is a hole for the cord to enter. Near this end of the socket the division in it can be distinguished. Sometimes a row of small corrugations mark the place where the end cap of this socket is put on over the other section, or the word "press" indicates the division. The socket covering must be taken apart at this point. When the covering comes apart, a porcelain section and a layer of insulation comes to view. There will be two screws in the porcelain section to which to attach the wires as you did in the plug, only they will not be in just the same position. Sometimes one of the screws will be in the end and the other on the side of the socket, or both may be on the side. Slip the cord through the hole in the covering part of the socket, scrape the wires, making one group of wires longer than the other group if necessary to reach up to the side screw. Wrap the wires around the screws as you did before, carefully cutting off any stray ends and tighten the screws. Replace the layer of insulation, then the outer covering of the socket, snapping this together as you found it. The socket is now ready for use.

These are the two most common types of minor repairs needed on electric lamps or light cords. The sockets of the small table lamps are similar to the one described and may be readily repaired if occasion demands.

The plugs which connect the cords to the irons are slightly different, although here the principle is the same —two groups of wires fastened to two screws. In getting cord for repairing an iron or any heating device, be sure to get the kind of cord made to use with such appliances. This cord carries a heavier current than the light cord does and it has asbestos insulating material to guard against fire.

The iron plugs are in two sections, fastened together by two screws. Remove these screws and inside you will find two narrow metal grooves leading from the end of the plug where the cord enters to the screws.

In putting in a new cord, first put it through the wire spring which protects the cord outside the plug. Scrape the insulation from the end of the cord and cut the outer covering a little farther back to separate the group of wires. Run the groups of wires along the grooves and fasten each to one of the screws. Reassemble the plug, replace the outside screws and the cord is as good as new. Sometimes it requires a little patience to get the parts together and the screws in place, but aside from this it is an easy matter to repair this type of plug.

If the cords of any electric fixtures or appliances are tied in knots or are left around and are stepped on, the wires inside may become broken and so may cause trouble. Good care will save such difficulties, but if a cord does become broken, it must be re-

Repairing electric connections is often easy.

paired. Cut it off completely at the worn place. Cut out any part that is damaged in the least, then scrape the insulation from both ends of the cord for as much as 3 inches. Place a group of wires from one end of the cord beside a group from the other end, running them by 2½ inches, and wind them firmly around each other. Wind these wires thoroughly with friction tape well back of the insulation which you did not scrape off. Repeat this process with the other groups of wires. When each group of wires is thoroughly covered, wind them together with the tape. If carefully repaired, the cord will be entirely satisfactory.

Learn to know how the cords and plugs are put together and you will understand the care they need. Take intelligent care of them and they will need little repairing. Make these minor repairs yourself instead of having an electrician make them.