

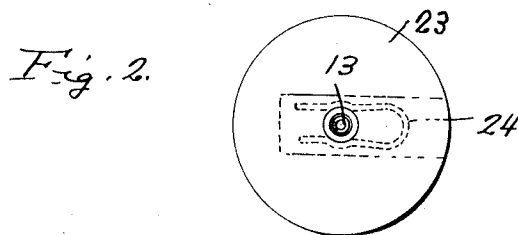
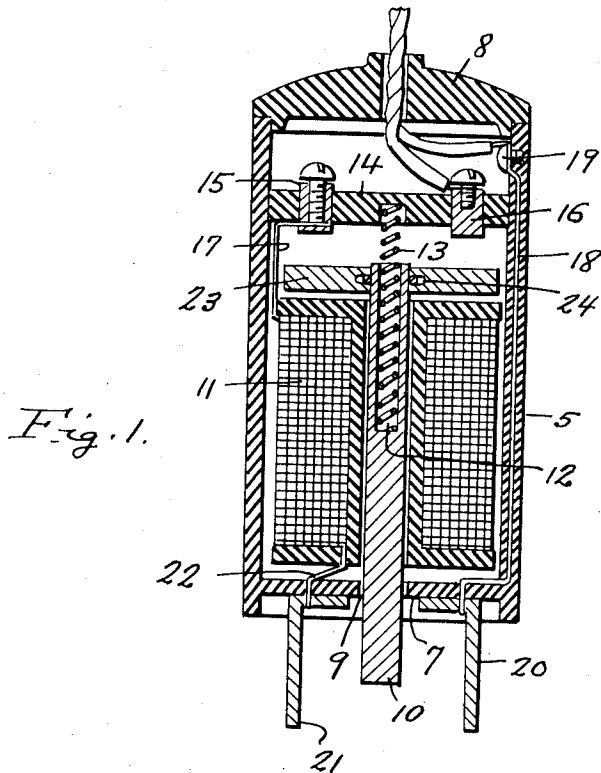
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ELECTRIC PLUG

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2,076,136

ELECTRIC PLUG

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3 Claims. (Cl. 200—87)

This invention appertains to new and useful improvements in electric plugs, the same being an improvement on my co-pending application S. N. 720,325 filed April 12, 1934.

The principal object of the present invention is to provide an automatic cut-out plug which in operation will be substantially automatic in all respects.

Another important object of the invention is to provide a cut-out plug of the character stated which will eliminate all manual tension.

Other important objects and advantages of the invention will become apparent to the reader of the following specification.

In the drawing:

Figure 1 represents a longitudinal sectional view through the plug.

Figure 2 represents an end elevational view of the plunger.

Referring to the drawing wherein like numerals designate like parts, it can be seen that numeral 5 represents a dielectric casing provided with the end wall 7 and the plug 8 engaged into and secured to the opposite end of the shell. The end wall 7 is provided with an opening 9 therein through which the plunger stem 10 is slidable. This stem 10 is slidable through the electro-magnetic coil 11 and is provided with a bore 12 extending inwardly of its inner end for receiving a substantial portion of the coiled compressible spring 13. The other end of the spring 13 engages into a recess in one side of the dielectric partition 14 which crosses the inside of the shell 5 and supports the two binding posts 15—16. A jumper between the post 15 and the coil 11 is denoted by numeral 17, while a jumper 18 extending through the wall of the shell 5 extends from the binding post or screw 19 to the prongs 20 on the end wall 7. The prong 21 is connected as at 22 to the other side of the coil 11.

A slot is provided in the bridge plate 23 through which the stem 10 is slidable. A spring yoke 24 in this slot engages the stem 10 and frictionally holds the bridge plate 23 to the stem 10. The opposite end of the stem 10 protrudes beyond the end wall 7 of the shell 5, so that when the prongs 20—21 are engaged with a wall socket or the like, the stem 10 is pushed inwardly and forces the bridge piece 23 to bridge the contacts 15—16. In the event of a short circuit, the coil 11 becomes energized sufficiently to attract the bridge piece 23 which slides on the stem 10. When the plug is removed from the electrical receptacle, the stem 10 is again pro-

jected outwardly from the spring 13 so that the bridge member 23 returns to its proper position on the stem 10.

While the foregoing specification sets forth the invention in specific terms, it is to be understood that changes in the shape, size and materials may be resorted to without departing from the spirit or scope of the invention as claimed hereinafter.

Having thus described the invention, what is claimed as new is:

1. In an electric plug, an electro-magnet, a pair of contacts spacedly opposed to one end of the magnet, an armature adapted to bridge the contacts and being magnetically responsive to the magnet, a stem extending from the armature and longitudinally of the magnet to project beyond the opposite end thereof and adapted to hold the armature bridging the contacts in response to the application of longitudinally directed external force, and frictional clutch means constructed and arranged between the armature and the stem whereby the armature can slide on the stem in response to the magnetic force of the electro-magnet to unbridge the said contacts.

2. In an electric plug, an electro-magnet, a pair of contacts spacedly opposed to one end of the magnet, an armature adapted to bridge the contacts and being magnetically responsive to the magnet, a stem extending from the armature and longitudinally of the magnet to project beyond the opposite end thereof and adapted to hold the armature bridging the contacts in response to the application of longitudinally directed external force, and frictional clutch means constructed and arranged between the armature and the stem whereby the armature can slide on the stem in response to the magnetic force of the electro-magnet to unbridge the said contacts, and spring means engaged with the stem normally tending to urge the stem outwardly with the armature removed from the contacts.

3. In an electric plug, an electro-magnet, a pair of contacts spacedly opposed to one end of the magnet, an armature adapted to bridge the contacts and being magnetically responsive to the magnet, a stem extending from the armature and longitudinally of the magnet to project beyond the opposite end thereof and adapted to hold the armature bridging the contacts in response to the application of longitudinally directed external force, and frictional clutch means constructed and arranged between

the armature and the stem whereby the armature can slide on the stem in response to the magnetic force of the electro-magnet to unbridge the said contacts, said frictional clutch
5 means consisting of a pocket in the armature, spring members seated in the pocket, said arma-

ture provided with an opening through which the stem is slidably disposed, said spring member being adapted to tensionally engage the portion of the stem extending through the opening of the armature.

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