

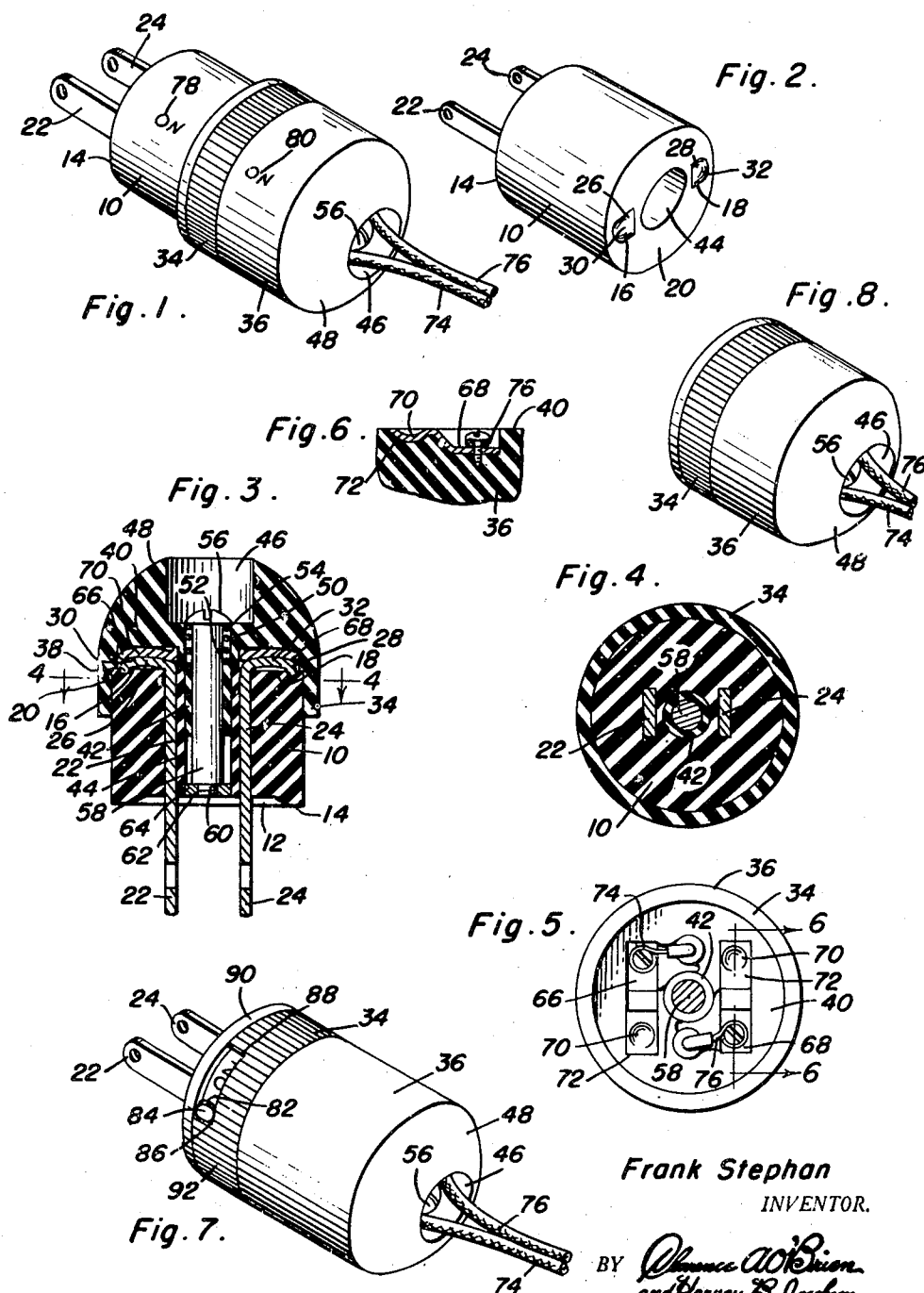
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COMBINATION ELECTRIC PLUG AND SWITCH

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COMBINATION ELECTRIC PLUG AND SWITCH

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This invention relates to new and useful improvements in combination electric plugs and switches and a primary object of the present invention is to provide a socket engaging body and including a novel and improved conductive wire retaining member rotatably carried by said body for selective circuit closing or opening engagement with the body.

Another important object of the present invention is to provide a combination electric plug and switch including a socket engaging body, a switch holding head, and novel and improved means rotatably securing said head to said body for normally urging said head into frictional engagement with the body.

A further object of the present invention is to provide a combination electric plug and switch that is small and compact in structure and which may be quickly and readily actuated in a convenient manner for opening or closing an electric circuit.

A still further aim of the present invention is to provide a combination electric plug and switch that is simple and practical in construction, strong and reliable in use, neat and attractive in appearance, relatively inexpensive to manufacture, and otherwise well adapted for the purposes for which the same is intended.

Other objects and advantages reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a perspective view of the combination electric plug and switch constructed in accordance with the present invention;

Figure 2 is a perspective view showing the plug body used in conjunction with the present invention;

Figure 3 is a longitudinal sectional view taken substantially through the center of Figure 1;

Figure 4 is a transverse sectional view taken substantially on the plane of section line 4—4 of Figure 3;

Figure 5 is an end view of the switch holding cap used in conjunction with the present invention;

Figure 6 is an enlarged fragmentary longitudinal sectional view taken substantially on the plane of section line 6—6 of Figure 5;

Figure 7 is a perspective view of the present combination electric plug and switch in slightly modified form; and,

Figure 8 is a perspective view of the switch

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holding head used in conjunction with the present invention.

Referring now to the drawings in detail, wherein for the purpose of illustration, there is disclosed a preferred embodiment of the present invention, the numeral 10 represents a substantially cylindrical plug or body of suitable insulating material having an annular recess 12 in its outer face 14 and a pair of spaced, substantially rectangular recesses 16 and 18 in its inner face 20.

Extending longitudinally through and projecting outwardly from the outer end 14 of the body 10, is a pair of spaced parallel contact fingers or prongs 22 and 24 having angulated inner ends or tips 26 and 28 that frictionally engage the recesses 16 and 18, in such a manner as to permit only the protuberances 30 and 32 on the tips 26 and 28 to be spaced outwardly from the inner face 20 of the body 10.

Frictionally embracing one end portion of the body 10, is a knurled surface annular wall or flange portion 34 of a substantially semi-spherical switch supporting head or cap 36. An annular shoulder 38 provided on the inner periphery of the annular wall 34, frictionally engages the inner face 20, normally.

Projecting outwardly from the inner face 40 of the head 36, is a rigid sleeve 42 that rotatably engages a cylindrical recess or chamber 44 provided in the inner face 20 of the body 10.

An annular recess 46 is provided in the outer end 48 of the head 36, and terminates in a reduced annular spring chamber or recess 50 having an annular seat 52 adjacent the cylindrical chamber 44. Frictionally positioned in the recess 50, is a coil spring 54 that is biased between the seat 52 and the head 56 of a pivot pin 58 that extends through sleeve 42 and into recess 44. The innermost end 60 of this pin 58 is externally threaded to receivably engage an internally threaded aperture 62 provided in a nut or the like 64 fixed in the recess 44. It should be noted, that the head 56 of the pivot pin 58 is of such a size as to facilitate the same to be slidably received in the chamber 50 when the head 36 is spread relative to the body 10 against action of the spring 54.

Recessed in the inner face 40 of the head 36, is a pair of angulated contact plates 66 and 68 having detents 70 in their free ends 72 that are adapted to frictionally engage the protuberances 30 and 32 of the tips 26 and 28 respectively.

In practical use of the device, a pair of conductive wires 74 and 76 are extended through

recess 46, into suitable apertures or passages that lead from the recess 46 and communicate with plates 66 and 68 and are connected to the plates 66 and 68. Suitable reference indicia 78 is provided on the outer surface of the body 10 and a corresponding indicia 80 is provided on the outer surface of the head 36, to indicate when the plates 66 and 68 are frictionally engaged with the tips 26 and 28. In order to rotate the head 36 conveniently, the same is spread relative to the body 10 until the indicia 78 aligns the indicia 80, whereby the head is released to cause the plates 66 and 68 to engage tips 26 and 28 thus completing a circuit through the contact fingers 22 and 24 which may be extended into a suitable socket or plug through the wires 74 and 76.

Reference is now directed to Figure 7, wherein there is disclosed the present combination electric plug and switch in slightly modified form. In this embodiment, the cap or head 36 is provided with an arcuate notch 82 that slidably engages a lug 84 projecting outwardly from the body 10. When one edge 86 of the notch 82 engages a lug 84, the indicia "on" will appear in the notch to indicate that the plates 66 and 68 are engaged with the tips 26 and 28. When the other edge, namely, edge 88 of the notch 82 engages the lug 84, the indicia "off" will appear in the notch 82 to indicate that the plates 66 and 68 are disengaged with the tips 26 and 28.

Also, it should be noted, that in this latest embodiment, shown best in Figure 7 of the drawings, there is provided an annular support ring 90 about the body 10 that frictionally engages the lower edge 92 of the flange portion 34 of the head 36, thus limiting the inward movement of the head relative to the body.

In view of the foregoing description taken in conjunction with the accompanying drawings, it is believed that a clear understanding of the device will be quite apparent to those skilled in this art. A more detailed description is accordingly deemed unnecessary.

It is to be understood, however, that even though there is herein shown and described a preferred embodiment of the invention the same is susceptible to certain changes fully comprehended by the spirit of the invention as herein described and the scope of the appended claims.

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

1. A combination plug and switch comprising a cylindrical body having an axial bore therein and including inner and outer end portions, a pair of conductive tips mounted on the inner end portion of said body and extending longitudinally through and outwardly from the outer end portion of said body, a head having a socketed end portion receiving the inner end portion of said body, a spring receiving recess provided in said head, a sleeve having its outer periphery integrally formed with the inner wall of said spring recess, said sleeve including a free end portion projecting outwardly from said head and received in the axial bore in said body, a plate fixed in said axial bore at the outer end of said body and having an internally threaded aperture, a headed fastener extending through said spring recess and said sleeve, said fastener including a threaded end portion receivably engaged in the aperture in said plate, the head of said fastener being slidably positioned in said spring recess, a coil spring embracing said fastener and biased between the head of said fastener and the fixed end of said sleeve for urging said head toward said body, and conductive members carried by said head engaging said conductive tips upon predetermined rotation of said head relative to said body.

2. The combination of claim 1 and an annular shoulder provided in the socketed end portion of said head bearing against the outer end portion of said body for limiting inward movement of said head relative to said body.

3. The combination of claim 1 and means for indicating electrical contact between said contacts and said conductive members.

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