Dec. 11, 1934. S. F. FRENCH 1,984,181

ATTACHMENT PLUG

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Fig. 1.

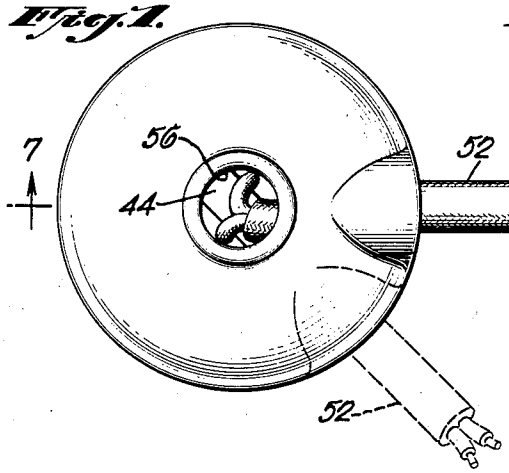



Fig. 4.

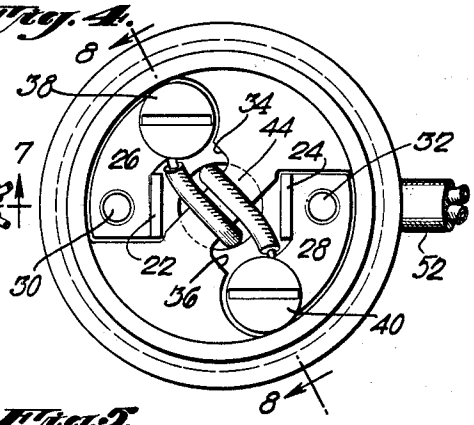



Fig. 5.

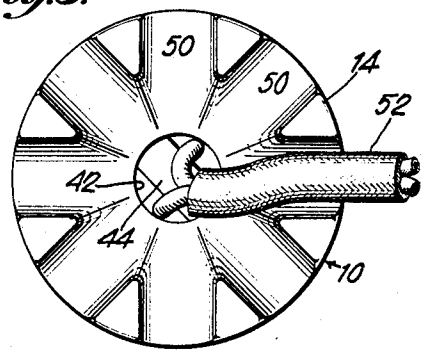



Fig. 2.

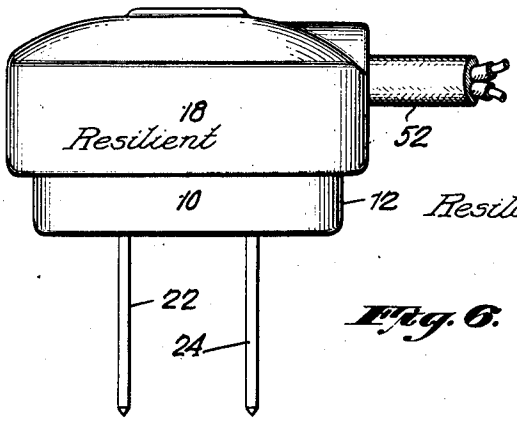



Fig. 6.

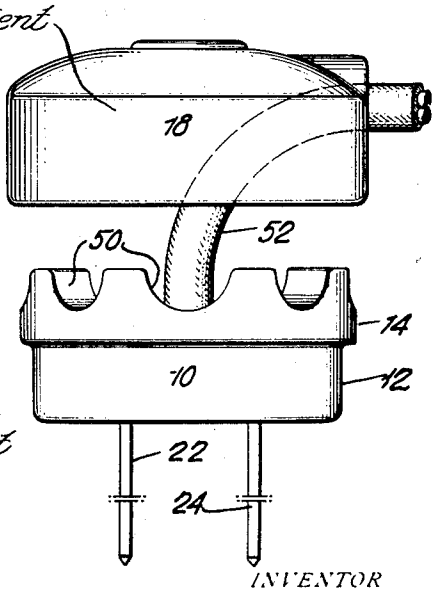
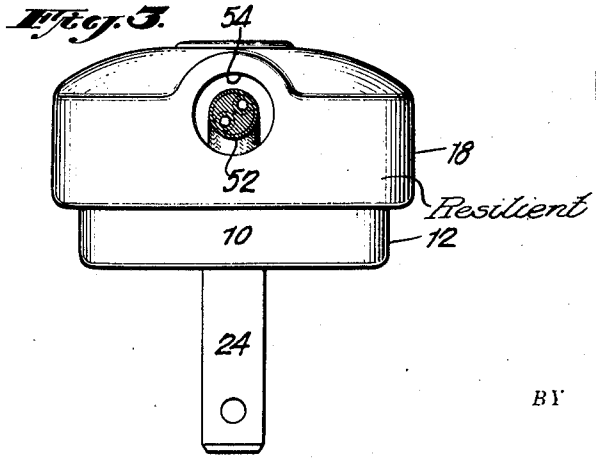



Fig. 3.




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Fig. 7.

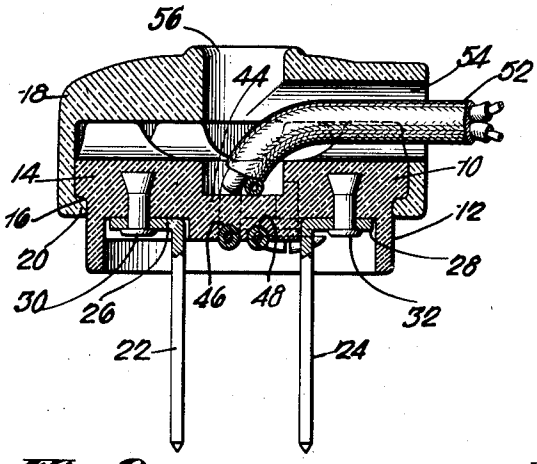



Fig. 8.

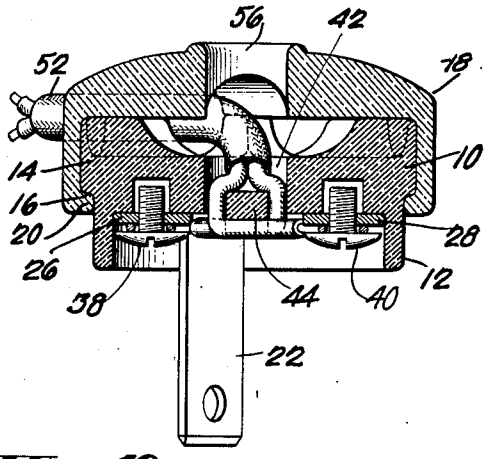



Fig. 9.

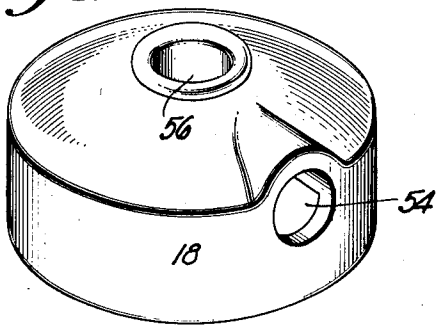



Fig. 10.

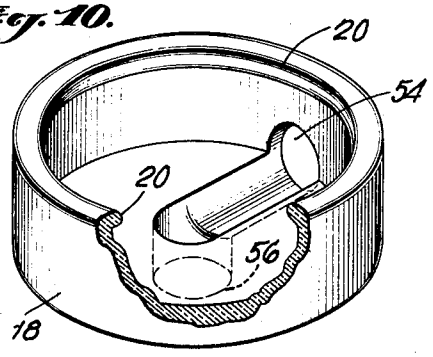



Fig. 11.

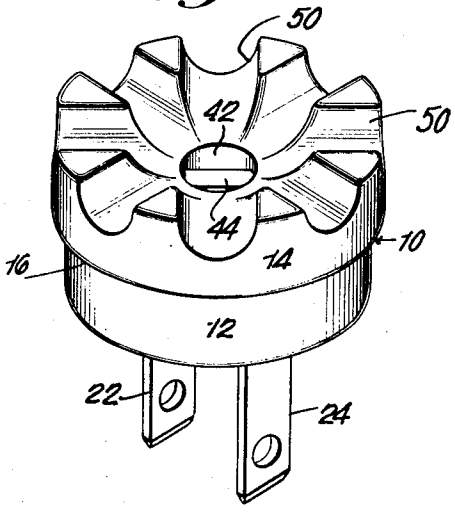
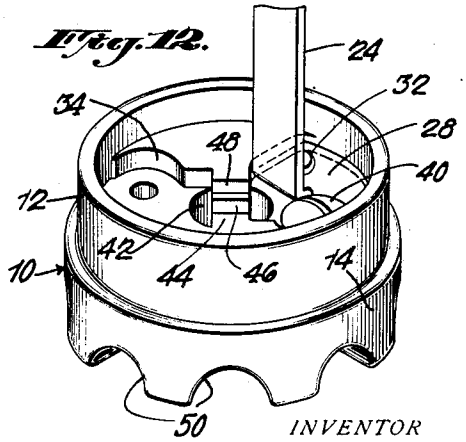



Fig. 12.




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Patented Dec. 11, 1934 1,984,181

# UNITED STATES PATENT OFFICE

1,984,181

## ATTACHMENT PLUG

Stanley F. French, Dobbs Ferry, N. Y., assignor to Anaconda Wire & Cable Company, New York, N. Y., a corporation of Delaware

Application March 24, 1933, Serial No. 662,417

1 Claim. (Cl. 173—361)

This invention relates to improvements in attachment plugs and aims to provide a plug in which means are provided for directing the conductor laterally at substantially any desired angle relatively to the contact prongs. A further feature relates to the provision of a plug having a base provided with a multiplicity of angular grooves for positioning the feed conductor and a cap adjustably secured to the base and having a lateral opening for the conductor, which is adapted to be aligned with any one of the several grooves. A further feature relates to the provision of an attachment plug having contact prongs on its front face and a conductor passageway between the contacts, which is bridged by a bar portion integral with the base around which the conductors are adapted to be wrapped. The invention further consists in the combination and relative arrangement of the component parts of the plug as is hereinafter more fully specified.

In the accompanying drawings, which illustrate the preferred embodiment of the invention—

Fig. 1 is a top plan view of the attachment plug, the dotted lines showing the adjustability of the position of the feed conductor therefor;

Fig. 2 is a side elevation of Fig. 1;

Fig. 3 is an elevation from the right side of Fig. 2 with a feed conductor shown in section;

Fig. 4 is an inverted plan of Fig. 2;

Fig. 5 is a top plan of the plug with the cap removed;

Fig. 6 is a view showing the two main parts of the plug prior to assembly;

Fig. 7 is a vertical longitudinal section taken on the line 7—7 of Fig. 1;

Fig. 8 is a similar section taken approximately on the diagonal line 8—8 of Fig. 4;

Fig. 9 is a perspective detail view of the cap viewed from above;

Fig. 10 is a perspective view of the cap inverted parts being broken away and shown in section in the interest of clearness;

Fig. 11 is a perspective view of the base of the plug with the cap removed as viewed from above;

Fig. 12 is a perspective view of the base inverted and with one of the contact prongs omitted for clearness.

Referring in detail to the drawings, 10 represents the base of the plug which is preferably formed of somewhat rigid moldable insulating material, such as bakelite, hard rubber, porcelain, or other suitable materials commonly used in this art. The base is of substantially cylindrical form and includes an annular cylindrical shell portion 12 and a portion 14 of slightly larger diameter, thus forming a shoulder 16. A cap of soft rubber or similar resilient material 18 is tensioned over the enlarged part 14 of the plug, this cap having an inwardly extending annular bead portion 20, which engages the underside of the shoulder 16.

Contact prongs 22 and 24 formed of flat bar stock and provided with laterally bent ears 26 and 28 are secured to the front face of the plug by anchorage members 30 and 32 molded or otherwise embedded in the base. The ears 26 and 28 are shaped, as best shown in Fig. 4, to fit in recesses 34 and 36 formed in the front face of the base. Suitable terminal fastening devices, such as screws 38 and 40 are secured to the ears, the free ends of these screws projecting into openings formed in the base, as shown in Fig. 8.

There is a conductor passageway 42 extending longitudinally through the base. At the front face of the base, this passageway is bridged by a bar portion 44 formed integrally with the base and disposed diagonally with respect to the parallel flat faces of the contact prongs 22 and 24, as best shown in Fig. 4. This bar portion is provided on its front face with recesses 46 and 48. The extremities of the conductors are adapted to be wrapped or bent around the bridge bar 44 and the recesses 46 and 48 guide the ends thereof approximately to the proper position for engagement with the terminal fastenings 38 and 40. The bar 44, bridging the conductor passageway 42, provides means whereby the conductor can be given sort of a half hitch so as to obviate the necessity of tying so-called underwriters' knot in the conductor. Thus, the relative disposition of the conductor passageway between the prongs and the bar bridging such passageway provides means for effecting a satisfactory mechanical attachment of the conductor to the base in such a way that the terminal fastening devices 38 and 40 will be materially relieved of any strain or tension applied to the outer end of the conductor.

On the rear face of the base, I provide a multiplicity of grooved portions 50, which extend outwardly in substantially radial lines from the central conductor passageway. These grooved portions provide means whereby the duplex conductor 52 can be led off from the plug at substantially any desired angle with respect to the prongs 22 and 24.

The cap 18 is provided with a laterally ex-

tending opening 54 and because this cap is adapted to be tensioned over or adjustably secured to the base, it is apparent that the same will cooperate with the grooved base, so as to position the conductor in any one of several angular positions. For example, assuming that the plug has its conductor 52 extending out in the direction of a horizontal line passing through the center thereof, as shown in full lines in Fig. 2, in case it is desired to use the plug for feeding an electrical apparatus in a different location, the angular position of the conductor can be readily varied by removing the cap 18 and engaging the conductor 52 with another of the grooves 50 in the base. For example, as shown in dotted lines in Fig. 1, the conductor can be engaged with a groove spaced at 45 degrees from the horizontal. Similarly, the conductor can be disposed in any of the other grooves to suit any particular requirements. Such an adjustable arrangement is desirable because it eliminates the necessity of bending or twisting the conductor exterior to the plug. It is apparent that because the conductor passageway 42 is disposed midway between the contact prongs and the grooved portions 50 radiate therefrom that angular adjustment of the position of the conductor with a minimum amount of bending movement can be readily secured. In addition to the lateral opening 54 formed in the cap, I also, in some cases, provide an axial opening 56 to permit leading the conductor 52 straight out in a direction substantially coincident with the longitudinal central axis of the plug.

Various modifications may be made by those skilled in the art without departure from the invention and it is intended that the appended claim shall be construed as broadly as is consistent with the teachings of the prior art.

What I claim is:—

An electric attachment plug comprising an insulator base carrying contact prongs which extend outwardly from the front face thereof, a conductor passageway extending through the base between said prongs, and a plurality of grooved portions on the rear face of the base branching outwardly from the conductor passageway and a cap of resilient material tensioned over said base and having a lateral opening therein adapted to be aligned with any one of said grooved portions so as to position the conductor at a selected angular relationship relatively to said prongs.

STANLEY F. FRENCH.