S. TROOD.

ATTACHMENT PLUG.

APPLICATION FILED OCT. 26, 1912.

1,167,232.

Patented Jan. 4, 1916.

Fig. 1.

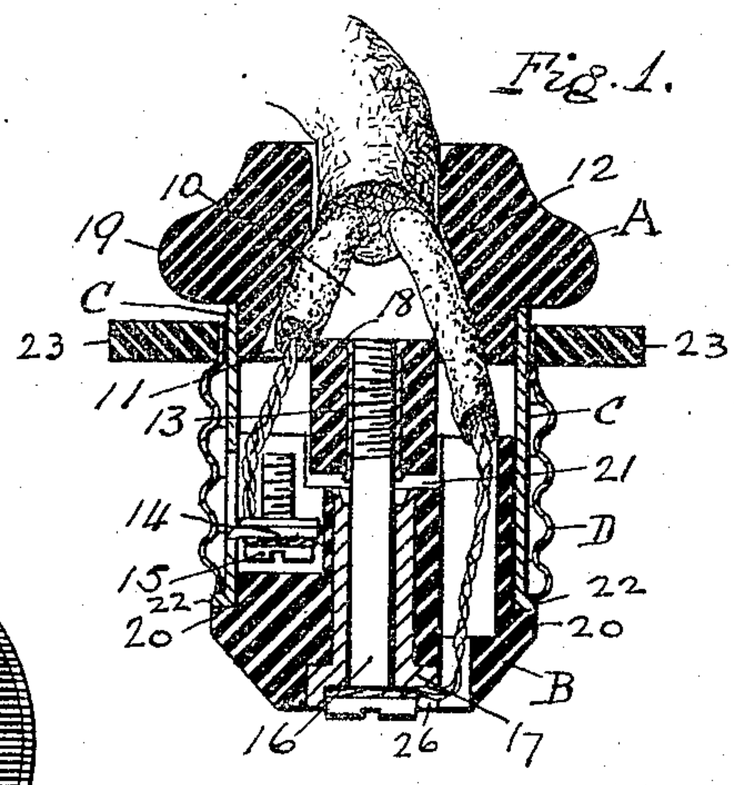


Fig. 2.

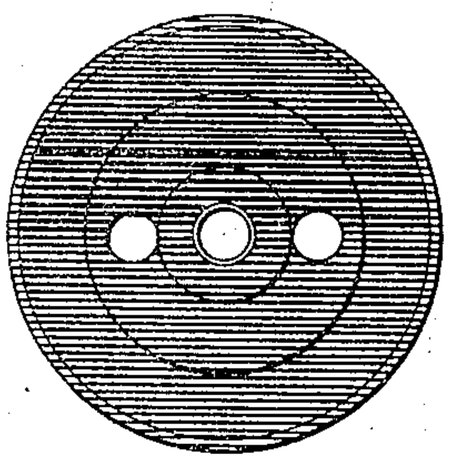


Fig. 3.

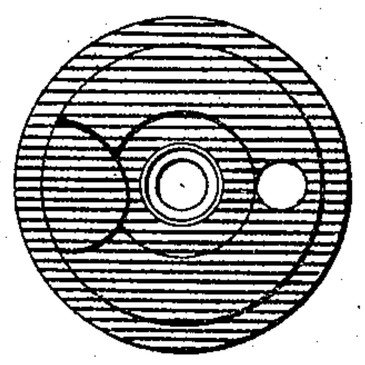
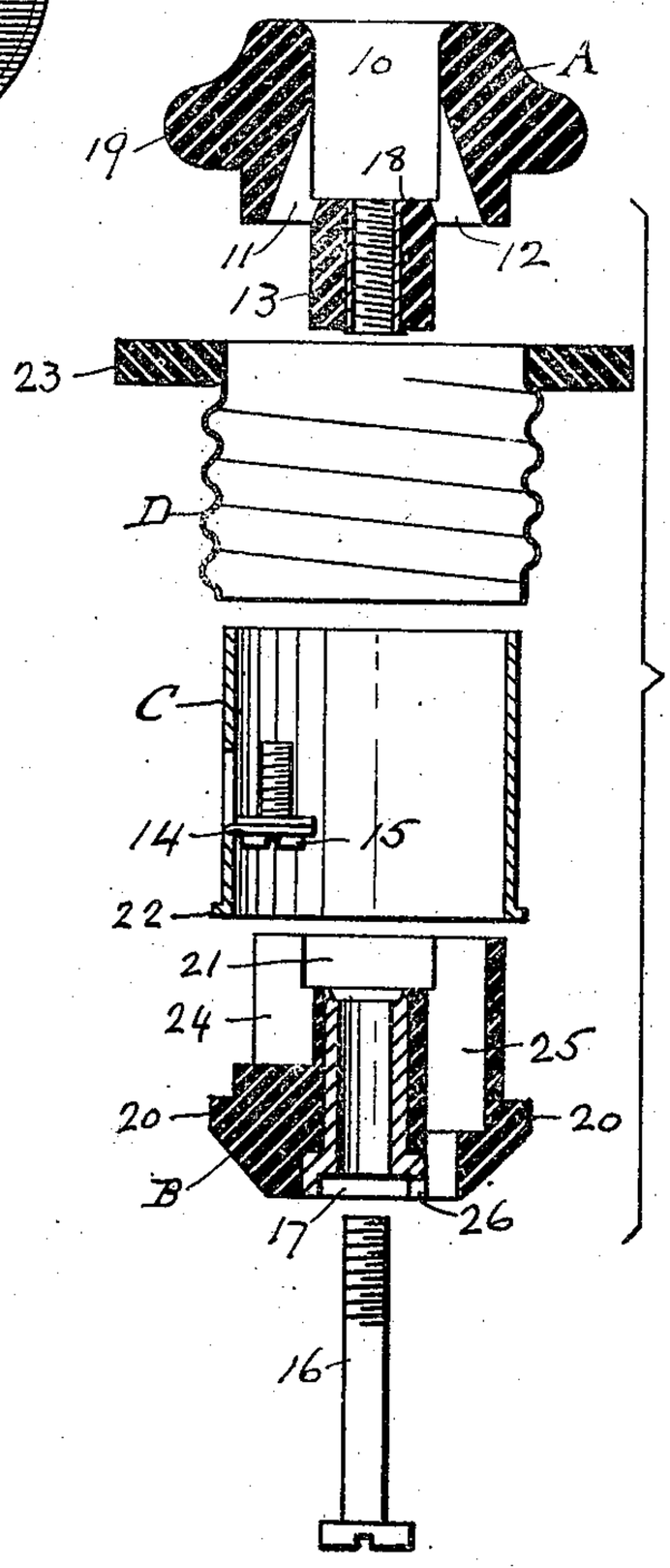


Fig. 4.



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UNITED STATES PATENT OFFICE.

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ATTACHMENT-PLUG.

1,167,232. Specification of Letters Patent. Patented Jan. 4, 1916.

Application filed October 26, 1912. Serial No. 727,961.

To all whom it may concern:

Be it known that I, SAMUEL TROOD, a citizen of the United States of America, and residing at Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented a certain new and Improved Attachment-Plug, of which the following is a specification.

My invention relates to electric attachment plugs and particularly to the class of plugs commonly known as swiveling attachment plugs, the object of my invention being to provide an improved device of this character readily and economically manufactured and efficient in use.

In the accompanying drawing, Figure 1 is a vertical section through an attachment plug in which my invention is illustratively embodied; Fig. 2 is an inner face view of one part, without wires; Fig. 3 is a similar view of another part; and Fig. 4 is a dropped vertical section through the plug.

In the particular embodiment of my invention shown the present plug comprises broadly two buttons A and B of insulating material, a sleeve C of metal incasing said buttons in part, and a screw shell D swiveling on and in electrical contact with said sleeve C. The upper button A is centrally apertured at 10 to receive the leading-in wires while channels 11 and 12 opening on opposite sides of the central stud portion 13 spread the wires of different polarity to their respective terminals. The terminal 14 of the shell contact is formed on the inner face of the sleeve C in any suitable manner, for instance by sweating or soldering thereon the angled strap 14 which is perforated at one end to receive the binding screw 15. The center contact terminal is formed by the head of a screw bolt 16 passing axially through the lower button B. The latter is preferably provided with an elongated eyelet 17 of heavy metal, the lower end of which is spread to form a metallic seat against which the end of the center contact wire may be firmly pressed by the head of the bolt 16. The threaded end of this bolt 16 passing though the eyelet 17 is screwed into the internally threaded eyelet 18 axially secured in the stud 13 of the upper button A so that this bolt serves the double function of center-contact binding-screw and assembling bolt by which the parts of the plug are held in operative relation.

It will be noted that the upper button A is provided with a peripheral flange 19, and the lower button B with a peripheral shoulder 20, between which in assembled condition the sleeve C extends serving as a spacing member between the two buttons. When the latter are made of porcelain this feature is of no small importance inasmuch as it insures substantial uniformity in the size of plug regardless of variations in the porcelains due to variable shrinkage during baking. When the buttons are molded of insulating composition not subject to such variation, this feature is of less importance and the stud 13 may, in assembled condition, be seated at the bottom of the well 21 formed to receive it in the upper face of the lower button B.

The lower button B with its center contact projects beyond the screw shell D and the lower edge of the sleeve C is provided with an outwardly extending abutment flange 22, here annular in shape, against which the lower edge of the screw shell D bears. When the center contact of the plug is bottomed in the socket, a further rotation of the screw shell, by means of its operating flange 23 of insulation, forces the lower edge of the shell down against the flange 22 on the sleeve C and thus insures a good electrical contact between the two.

The manner of wiring the plug is readily understood. Having unscrewed the bolt 16 and removed the lower button B from position, the wires are passed through the passages 10, 11 and 12 in the upper button A and the bared end of the shell contact wire clamped beneath the head of the binding screw 15. The button B is then adjusted in position, the side recess 24 therein accommodating the binding screw 15, strap terminal 14 and the wire leading-in thereto, while the bared end of the wire of opposite polarity is passed through the longitudinal perforation 25 on the opposite side of the button. The wire end is then bent through the notch 26 in the head of the eyelet 17 and clamped beneath the head of the bolt 16 which, with

the head of the eyelet, forms the center contact of the plug.

It is obvious that during the installation of the plug, the screw shell D alone rotates, swiveling on the sleeve C, while the plug is drawn inward by reason of the engagement between the lower edge of the shell and the flange 22 on sleeve C. When bottomed not only is the center contact of the plug in good electrical contact with the center contact of the receptacle, but the screw shell D is firmly engaged at its lower edge with the flange 22 of the sleeve C.

The embodiment of my invention illustrated is of course merely exemplary of my invention.

I claim as my invention:—

1. An attachment plug comprising upper and lower insulating buttons, a metallic sleeve surrounding adjacent parts of said buttons and having a flange at one end, means for rigidly uniting said parts in assembled position, together with a screw shell in swiveling engagement with the flange on said sleeve and means to hold said screw shell against material longitudinal displacement with relation to said sleeve, substantially as described.

2. An attachment plug comprising upper and lower insulating buttons pierced in register, a flanged metallic sleeve surrounding adjacent parts of the buttons, an internally threaded eyelet lining the hole pierced in the upper button and a screw bolt passing through the pierced lower button and taking into said eyelet to rigidly unite said parts in readily detachable assembled condition, together with a screw shell in swiveling engagement with the flange on said sleeve and having only limited freedom of longitudinal displacement with relation thereto.

3. An attachment plug comprising upper and lower insulating buttons pierced in register, a flanged metallic sleeve surrounding adjacent parts of the buttons and having a wing struck inwardly therefrom to form a wire terminal within the sleeve, a screw shell surrounding and in swiveling engagement with the flange on said sleeve, a threaded socket in said upper button, a screw bolt passing through the lower button and taking into said socket to rigidly unite said parts in readily detachable assembled condition for the purpose described.

4. An attachment plug comprising upper and lower insulating buttons, peripheral shoulders thereon, a metallic sleeve engaged between said shoulders, a wire terminal and binding screw on the inner face of said sleeve, a center contact bolt passing through the lower button and engaging the upper button to hold said parts rigidly together and a screw shell in swiveling engagement with said sleeve, said upper and lower buttons being apertured to afford an insulated channel for the wire leading to the center contact terminal.

5. In an attachment plug, an upper button provided with a central stud axially perforated to receive a threaded eyelet, a lower button recessed to receive said stud and perforated in register therewith to permit the passage of a securing bolt therethrough into engagement with the threaded eyelet of the upper button, substantially as described.

6. In an attachment plug an upper button centrally apertured to permit the entrance of the leading-in wires, a central stud axially perforated to receive a securing bolt, said button having channels opening to said central aperture from opposite sides of said central stud, substantially as described.

7. In an attachment plug comprising an upper button with peripheral flange and central perforated stud, said button being apertured above said stud to receive the leading-in wires and having channels opening to said central aperture from opposite sides of said stud, a lower button with peripheral flange and central stud-receiving recess, a sleeve engaged between the shoulders on said buttons, a bolt passing through said lower button and engaging the central stud of the upper button to hold the parts in assembled condition, a wire terminal on said sleeve, said lower button being perforated to permit the passage of a leading-in wire to the bolt head whereby the latter may serve as the center contact wire terminal, and a screw shell in swiveling contact with said sleeve, substantially as described.

8. An attachment plug comprising upper and lower insulating buttons, shoulders thereon, a metallic sleeve engaged between said shoulders and a screw shell surrounding and in swiveling engagement with said sleeve and also confined between the said shoulders on the upper and lower buttons, to prevent material longitudinal displacement of said screw shell with relation to the other elements of the plug, substantially as described.

9. An attachment plug comprising a shouldered insulating body, a metallic sleeve thereon having a flange spaced from the shoulder on said insulating body, in combination with a screw shell in swiveling engagement with said sleeve and confined against material longitudinal displacement between the shoulder on said insulating body and the flange on the sleeve, substantially as described.

10. An attachment plug comprising an insulating body, a metallic sleeve thereon, means for electrically connecting the same to one of the leading-in wires for the plug, a flange on said sleeve and a screw shell side contact for the plug in swiveling engagement with said sleeve and bearing against

said flange on the insertion of the plug, whereby the latter is drawn in as the screw shell is rotated and a good frictional contact between said screw shell and sleeve secured, substantially as described.

11. An attachment plug comprising upper and lower insulating buttons, a sleeve surrounding adjacent parts of said buttons and having an interiorly arranged wire terminal and binding screw thereon, a screw shell in swiveling engagement therewith, a threaded socket in said upper button and an axially arranged bolt passing up through said lower button and taking into said socket, said bolt forming a center contact binding screw, substantially as described.

12. An attachment plug comprising upper and lower insulating buttons, a sleeve-surrounding adjacent parts of said buttons and having an interiorly arranged wire terminal and binding screw thereon, a screw shell in swiveling engagement therewith, a threaded socket in said upper button, an eyelet alined therewith in said lower button, the latter having a wire passage opening therethrough adjacent said eyelet, and a screw bolt passing through said eyelet and taking into said upper button to rigidly unite said parts in readily detachable assembled condition, and serving as a center contact binding screw, substantially as described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses.

SAMUEL TROOD.

Witnesses:
B. B. HINES,
A. M. LUNDY.