

G. W. GOODRIDGE.
ATTACHMENT PLUG.
APPLICATION FILED JULY 16, 1910.

1,005,023.

Patented Oct. 3, 1911

FIG. 1.

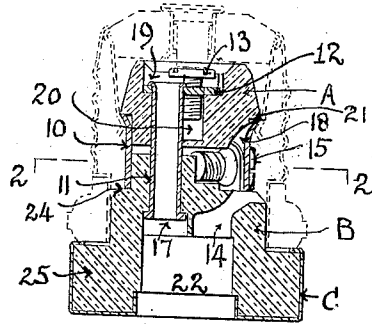


FIG. 2.

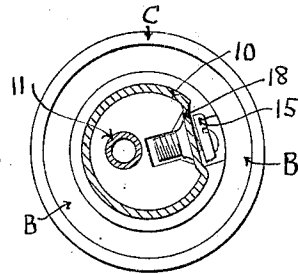


FIG. 3.

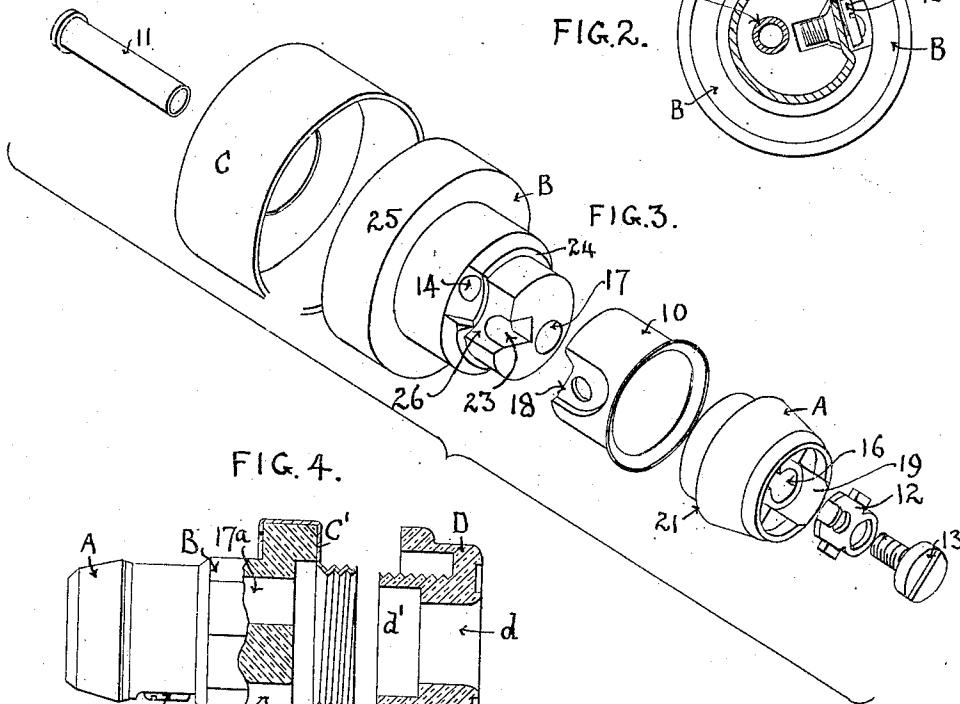
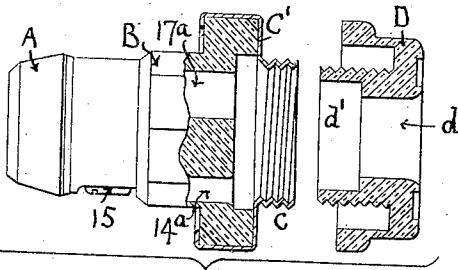


FIG. 4.



Witnesses:
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UNITED STATES PATENT OFFICE.

GILBERT W. GOODRIDGE, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR TO THE BRYANT ELECTRIC COMPANY, OF BRIDGEPORT, CONNECTICUT, A CORPORATION OF CONNECTICUT.

ATTACHMENT-PLUG.

1,005,023.

Specification of Letters Patent.

Patented Oct. 3, 1911.

Application filed July 16, 1910. Serial No. 572,283.

To all whom it may concern:

Be it known that I, GILBERT W. GOODRIDGE, a citizen of the United States of America, residing in the city of Bridgeport, in the county of Fairfield, in the State of Connecticut, have invented certain new and useful Improvements in Attachment-Plugs, of which the following is a specification.

The present invention relates to attachment plugs, and the object of my invention is to construct an improved device of this character.

In the accompanying drawings, Figure 1 is a vertical section of my improved plug in one form; Fig. 2 is a cross section on the line 2-2, Fig. 1; Fig. 3 is a perspective view of the various portions of the plug detached and ready for assembly; and Fig. 4 is a side elevation partly in section of a modification.

In attachment plugs constructed of insulating composition there is a constant danger that this composition will soften under heat with the result that the parts become loose or misplaced, with the resulting danger of short circuit, or failure of operation. The present structure is designed to provide a plug, the body portions of which may be constructed of a durable heat-resisting non-conductor such as porcelain, which may be readily molded to the desired shape, although obviously the device may be constructed of any suitable material, without departing from my invention.

As will be noted upon reference to the drawings, this plug which is adapted to be inserted in a receptacle of known type, such, for instance, as that described in the copending application of F. E. Seeley, Serial No. 442,504, comprises, broadly, two insulating buttons A and B, spaced apart by a contact member here shown as a metallic band 10 and united by a hollow rivet 11 passing through registering holes 16 and 17 in the two buttons, and having one end spread above a metallic terminal plate 12, carrying the center contact binding screw 13, to which one of the wires is led through the hollow rivet 11. The other wire is led through the passage 14 in the button B, to the binding screw 15 which screws into a threaded perforation in the offset 18 of the contact band 10.

The button A comprises a terminal recess 19 angled to correspond to the angled ter-

minial plate 12 which is thus positioned. This recess is extended downward to form a chamber 20 entered by the binding screw 13, and communicates with the perforation 16, through which the rivet 11 passes. The outer face of the button is shouldered at 21 to form an abutment for the ring 10, while the entrance end of the button is slightly coned in order to spread the usual spring contact of the receptacle.

The button B is recessed at 22 to form an entrance chamber for the wires, into which opens the perforation 17 through which the rivet 11 passes, while the passage 14 branches off to the terminal 15. The outside is recessed at 26 to receive the offset 18 of the ring 10, which holds the ring against rotation, while this recess is extended inward at 23 to accommodate the end of the binding screw 15. A shoulder 24 to form an abutment of the ring 10 is also provided.

In order to protect the exposed head 25 of the button B from injury, I provide a metallic cap C which is crimped beneath the head on the one hand, and into the wire entrance chamber 22 on the other hand.

It will be seen that by this construction a simple yet rigidly constructed plug is provided which may be easily manufactured and assembled. While the device is here shown as a swiveling attachment plug, it is not necessary that the parts be given the circular form shown, nor is it an advantage to do so, since its detachability from the receptacle imports the essential advantages of the swiveling attachment plug. It will be noted that by spacing the buttons apart and having them bear against the ring 10, a substantially uniform size for the plug is insured without regard to the variations which may occur in the baking of the porcelain.

In operation the plug is inserted in a receptacle of the character mentioned, the binding screw 13 serving as the center contact, and the band 10 or binding screw 15 serving as the other contact.

I do not limit myself to the precise structure shown, which may be variously modified without departing from my invention. Thus for example in Fig. 4 the wire entrance recess of the porcelain B¹ is made shallower and the wall dividing the wire passages 14^a and 17^a is made heavier, by shifting the passage 14^a over to one side.

The passage 14^a may thus be made perfectly straight instead of curved as in the form shown in Fig. 1. It will also be noted that in this figure the shoulder of the button B¹ which engages the receiving end of the receptacle is angled to prevent swiveling. The principal feature of the modification however is the bushing D, preferably of hard rubber, which is screwed upon the outturned and threaded flange *c* of the cap C¹. The wire passage *d*, through the bushing is enlarged at *d*¹ to accommodate a winding of tape which may surround the wires at the point where they are bared and thus prevent the braid of the wire covering from fraying. Other modifications will readily suggest themselves.

I claim as my invention—

1. An attachment plug comprising insulating buttons with lateral bearing shoulders, a spacing member engaged between said shoulders and serving to space said members apart, means for bringing said spacing member into the plug circuit together with means lying within said spacing member for holding said buttons against the latter.

2. An attachment plug comprising insulating buttons, a contact member surrounding their juxtaposed ends and spacing the same apart, a binding screw carried by said contact member, one of said buttons being recessed to receive said binding screw, in combination with means extending between said buttons for holding the same against said spacing member.

3. A plug contact comprising insulating buttons, a terminal plate carried by one of said buttons, and a binding screw threaded into said plate, in combination with a hollow rivet passing through said buttons and terminal plate and serving not only to unite the same, but also to afford a passage for the wire led to said binding screw, substantially as described.

4. A plug contact comprising insulating buttons, a contact member spacing the same apart, a binding screw threaded into said contact member, one of said buttons having a passage therethrough leading to said binding screw, in combination with means to hold said buttons and contact member assembled.

5. A plug contact having an insulating button, through which the wires are led to their respective terminals, in combination

with a protective metallic cap crimped upon the exposed head of said button.

6. A plug contact having an insulating button recessed to form an entrance chamber for the leading-in wires and independent passages opening thereto for the wires leading to the side and center contacts respectively, in combination with a second button perforated to form a passage for one of said wires and carrying a terminal plate with binding screw adjacent said perforation, said binding screw being adapted to serve as the center contact for the attachment plug, together with a rivet uniting said buttons, substantially as described.

7. A plug contact having an insulating button through which the wires are led to their respective terminals, a protective metallic cap crimped upon the exposed head of said button, in combination with an insulating bushing for said cap.

8. A plug contact having an insulating button through which the wires are led to their respective terminals, a protective metallic cap crimped upon the exposed head of said button, in combination with an insulating bushing for said cap, recessed on its inner face to accommodate a winding of tape surrounding the wires, substantially as described.

9. An attachment plug comprising insulating buttons having their juxtaposed portions of reduced diameter, a sleeve inclosing said reduced portions and serving to space said buttons apart, in combination with means extending between said buttons for holding the same against said spacing member.

10. An attachment plug comprising insulating buttons having their juxtaposed portions of reduced diameter, a sleeve inclosing said reduced portions and serving to space said buttons apart, in combination with means extending between said buttons for holding the same against said spacing member, together with a wire terminal carried by said sleeve.

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

GILBERT W. GOODRIDGE.

Witnesses:

A. J. WATERHOUSE,
H. W. GOLDSBOROUGH.