W. A. STACEY.

ATTACHMENT PLUG.

APPLICATION FILED APR. 27, 1918.

1,292,911. Patented Jan. 28, 1919.

Fig. 1.

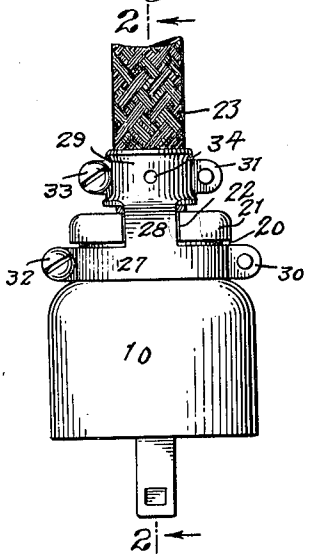


Fig. 2.

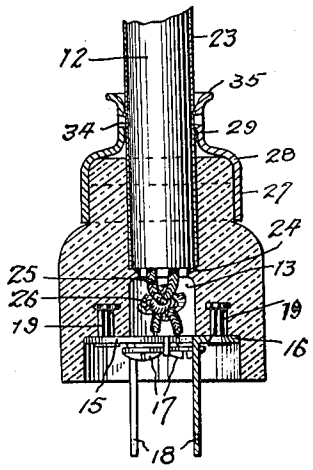


Fig. 3.

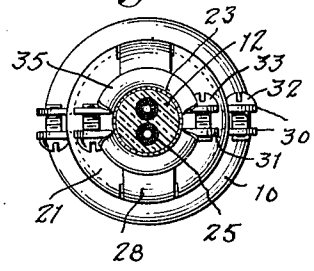


Fig. 4.

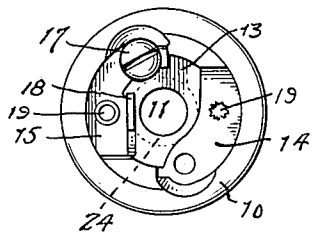
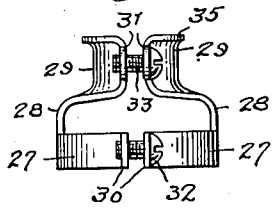


Fig. 5.



Inventor

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By his Attorneys,

Strong and Strong

UNITED STATES PATENT OFFICE.

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ATTACHMENT-PLUG.

1,292,911. Specification of Letters Patent. Patented Jan. 28, 1919.

Application filed April 27, 1918. Serial No. 231,134.

To all whom it may concern:

Be it known that I, WILLIAM A. STACEY, a citizen of the United States of America, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Attachment-Plugs, of which the following is a specification.

My invention relates to attachment plugs, and the object of my invention is to provide a plug of novel construction fitting it for heavy duty, and having an associated device for gripping the wire cable to prevent undue strains upon the wire terminal connections.

Referring to the accompanying drawing,

Figure 1 is a side elevation of a plug in which my invention is embodied in one form;

Fig. 2 is a vertical section therethrough on the line 2—2, Fig. 1;

Fig. 3 is a top plan of the plug;

Fig. 4 is an inverted plan thereof with one of the combined wire terminal plates and plug jacks removed; and

Fig. 5 is a side elevation of the cable clamp.

The plug here shown to illustrate my invention comprises a relatively heavy body 10 of insulating material, preferably of molded insulating composition, longitudinally pierced at 11 to afford an entrance hole for the cable 12, opening to a chamber 13 to receive a strain-relief knot, flanked by ledges 14. On these ledges are secured wire terminal plates 15 and 16, carrying binding screws 17 and having integral therewith a pair of plug jacks 18 which project beyond the end of the plug body. The plates 15 and 16 are preferably held in position by means of rivets 19, around the serrated heads and shanks of which the molded material is cast, leaving projecting ends to be spun over the outer faces of the terminal plates, as illustrated in Figs. 2 and 4. At the cable end of the body a neck 20 is formed, and the heavy end flange 21 is recessed on opposite sides to afford a shallow channel 22.

It is often desirable, when using a heavy duty plug of the present type, to employ a cable protected by a flexible metal sheath 23 of woven wires. In order to prevent the entry of this metal sheath or stray wires therefrom into the wiring chamber where they might cause short-circuit, I form at the lower end of the cable hole 11 an annular flange 24 which limits the entry of the cable into the plug and prevents wire beards from the sheath 23 from straying into the wiring chamber, while, at the same time, leaving ample passageway for the insulated wires 25 which are embedded in the cable. While the usual strain-relief knot 26 in the wires affords considerable protection against disturbance of the binding screw connections thereof to the terminal plates 15 and 16, it is highly desirable to provide further protection for these connections against strains due not only to the longitudinal pull on the cable, but also to twisting of the cable with relation to the plug; and for this purpose I propose to provide the plug with a clamping device which firmly engages the cable and holds it rigid with relation to the plug body.

This cable clamp, as here shown, comprises a pair of clamping members, each having a semi-circular strap 27 adapted to lie in the channel 20 forming the neck of the plug below the flange 21 of the latter, a bridging strap 28 adapted to lie in the channel 22 in the flange 21, and a cable clamping strap 29 adapted to partially surround the cable beyond the end of the plug. Lugs 30 on the straps 27 and lugs 31 on the straps 29 are tapped to receive draw-up screws 32 and 33, by which, on the one hand, the straps 27 may be clamped to the neck of the plug body, and, on the other hand, the straps 29 clamped to the cable sheath. While the straps 29 may be perfectly plain, their grip on the cable sheath 23 may be rendered more secure by punching inward therefrom at 34 a bur, the edges of which dig into the sheath 23. The clamp may be secured by the straps 27 to the plug in advance of the wiring of the latter, leaving the straps 29 loose to permit the insertion of the cable. Where such practice is followed, it is desirable to flare the outer margins of the straps 29, as at 35, to guide the cable into the hole 11 in the plug. After the cable has been inserted and shoved down against the limiting flange 24 at the bottom of the hole 11, the straps 29 are tightened and the wiring connections to the terminal plates 15 and 16 then completed. It is obvious that after the straps 29 have been drawn up firmly against the cable 23, it is impossible to twist the latter with relation to the plug, since the en-

gagement of the bridge pieces 28 in the channel 22 prevents the rotation of the clamp with relation to the plug. Similarly, the engagement of the straps 27 in the channel 20 against the flange 21 prevents endwise separation of the cable from the plug and thereby aids in protecting the terminal connections against injurious strain.

Various modifications in construction of the clamp will readily occur to those skilled in the art which do not depart from what I claim as my invention. It may be pointed out, however, that the construction shown is not only efficient but is economically manufactured, since it may be readily struck from sheet metal. Furthermore, while the clamp may be in the form of a split ring, it is preferable to use fairly heavy sheet metal stock and stamp therefrom the clamp elements in the form shown, both halves of the clamp being identical and thus necessitating but a single set of forming dies.

I claim:—

1. An attachment plug having an insulating body with constricted neck and end flange at the cable end of the plug, and a cable clamp having a member surrounding the neck of the plug, and a second member projecting beyond the end of the plug into position to grip the cable together with means for clamping said second member to the cable.

2. An attachment plug having an insulating body with constricted neck and exterior end flange at the cable end of the plug, said end flange having a channel leading to the neck of the plug, in combination with a cable clamp having a member surrounding the neck of the plug, a second member projecting beyond the end of the plug into cable-gripping position, and a bridge member lying in said end flange channel and serving to connect said neck and cable-gripping members.

3. An attachment plug having an insulating body with constricted neck and end flange at the cable end of the plug, and a cable clamp having a loop surrounding the neck of the plug and a second loop of less diameter projecting beyond the end of the plug into cable-gripping position together with draw-up means for clamping said loops respectively to the plug neck and cable, for the purpose described.

In testimony whereof I have signed my name to this specification.

WILLIAM A. STACEY.