

(No Model.)

J. W. GOTTSCHALK.
TIP FOR TELEPHONE CORDS.

No. 593,467.

Patented Nov. 9, 1897.

FIG. 1.

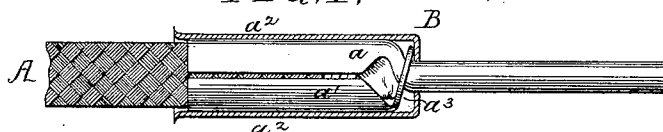


FIG. 2.

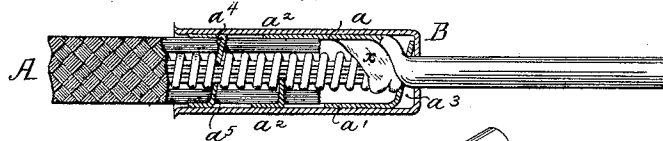


FIG. 3.

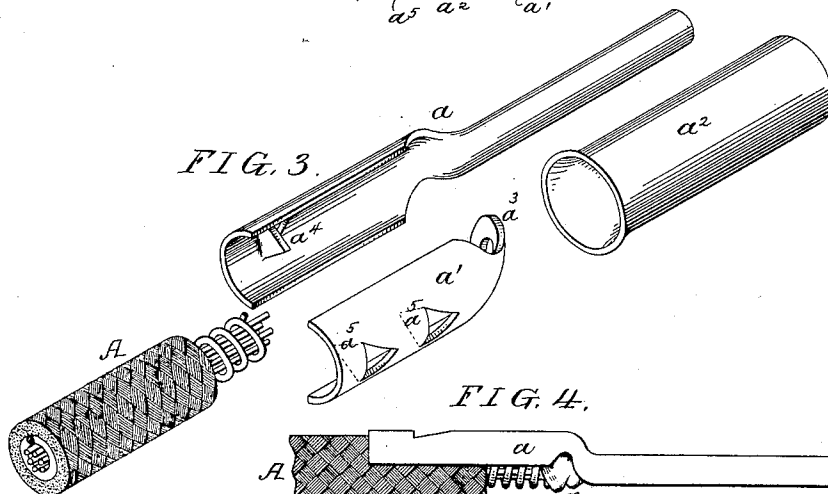


FIG. 4.



FIG. 5.



FIG. 6.

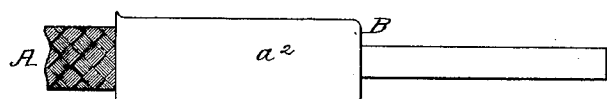
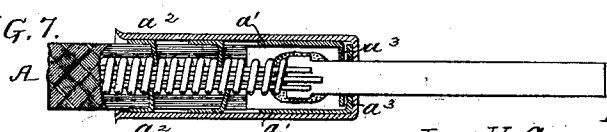


FIG. 7.



Witnesses:
H. A. Baw.
Frank L. Graham.

Inventor,
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by his Attorneys,
Horn & Horn

UNITED STATES PATENT OFFICE.

JOHN W. GOTTSCHALK, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO
ALFRED F. MOORE, OF SAME PLACE.

TIP FOR TELEPHONE-CORDS.

SPECIFICATION forming part of Letters Patent No. 593,467, dated November 9, 1897.

Application filed October 6, 1897. Serial No. 654,245. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. GOTTSCHALK, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Tips for Telephone-Cords, &c., of which the following is a specification.

The object of my invention is to manufacture a cord-tip especially adapted for use in connection with telephones and other electrical instruments using a flexible wire connection, in which the tip-section will not only be electrically connected to the wire, but also rigidly secured to the covering, so that the tip will not pull out, dispensing with outside mechanical supports heretofore used in many instances.

In the accompanying drawings, Figure 1 is a side view of my improved tip attachment, showing the shell in section. Fig. 2 is a view similar to Fig. 1 with the shell and clamp-plates in section. Fig. 3 is a detached perspective view of the different parts of the tip. Figs. 4, 5, and 6 are views showing the method of assembling the parts, and Fig. 7 is a view of a modification.

A is an ordinary flexible conductor, in the present instance consisting of a series of fine wires which are passed through a coiled flexible wire, and upon this wire is braided the fabric covering. The flexible conductor is used mainly for connecting the movable parts of an electrical apparatus to the fixed parts and is generally provided with tips B, so that it can be readily coupled to the movable and fixed parts.

While my invention is especially used in connection with telephones, it will be understood that it can be used on any apparatus where a flexible conductor is required.

My improved tip consists of three sections a , a' , a'' . The section a has at one end a rounded portion forming the pin and at the opposite end an enlarged segmental shank adapted to encircle and clamp a portion of the cord, while the clamp-section a' is segmental in form and is a duplicate of the shank of the section a . One end a'' of the section a' is turned in and perforated, so that it can be slipped over the pin portion of the section a . The shell section a'' is so shaped as to pass

over both the sections a and a' and has a perforation in the end to allow for the passage of the pin end of the section a through it. On the segmental portions of the sections a , a' are struck up teeth a^4 , a^5 , respectively, which engage with the fabric of the cord and in the present instance enter the coils of the wrapping-wire, so that when the shell is forced down upon the sections a , a' it will force the teeth into the cord, preventing the withdrawal of the pin-section and the breaking of the contact by the parting of the pin from the wires.

In assembling the parts I preferably bare the wire or wires a short distance, as shown in Fig. 4, then solder the ends of the wires thus bared to the section a at x , forming a good electrical connection at this point. The section a' is then slipped over the section a , as shown in Fig. 5, after which the shell is forced over the two sections. Thus a joint is completed which is strong and in which the electrical contact cannot be broken without breaking the mechanical connection.

In Fig. 7 I have shown a modification in which the pin is made separate from the shank and is preferably enlarged at its inner end. The wires are secured to this end by solder, and two clamp-sections similar to the section a' are mounted on the pin and held to the covering by the shell.

In some instances I may dispense with the shell and wrap wire around the two sections a , a' and the conductor, so as to force the sections onto the conductor; but I prefer the shell, as shown.

It will therefore be seen that by my invention I can provide a tip that will have considerable mechanical strength, that I relieve the strain upon the conductor and require no outside support, that I provide better electrical contact than heretofore, and make a neat and compact tip which can be more economically attached than heretofore.

It will be understood that my improved tip can be applied to any form of flexible conductor without departing from my invention.

I claim as my invention—

1. The combination of an electrical conductor, a pin and a clamp having a perforated end slipped over the pin, with means for hold-

ing the clamp onto the electrical conductor, substantially as described.

2. The combination of a tip made in three sections, one section having a pin with a segmental shank, another section being segmental in form and having a perforated extension adapted to pass over the pin, with a perforated shell adapted to be passed over the extension securing the two clamps to a conductor, substantially as described.

3. The combination of a flexible conductor covered with fabric, a clamp-section having one portion in the form of a pin and the other portion in the form of a segment, a tooth on the said segmental portion engaging the fabric, said section being secured to the conductor by solder, a second segmental section with a bent and perforated end adapted to slip over the pin of the first-mentioned section and having teeth engaging the fabric, and a shell for holding the segmental sections in place, substantially as described.

4. As a new article of manufacture; a terminal for flexible electrical conductors consisting of a struck-up piece of metal having a pin formed on one end and a toothed segment formed on the opposite end, substantially as described.

5. The combination of a covered electric conductor, a section having one portion in the form of a pin and another portion in the form of a segment, said section being secured to the wire, with a shell having an opening at one end through which the pin portion of the section passes, the said shell clamping the section to the fabric covering of the wire, substantially as described.

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

JOHN W. GOTTSCHALK.

Witnesses:

F. E. BECHTOLD,
JOS. H. KLEIN.