June 15, 1926. 1,588,556

A. W. THOMPSON

EXPANSION CONNECTER

Filed March 14, 1921

Fig. 2.

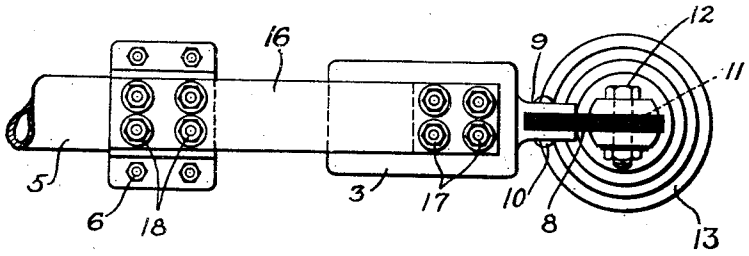
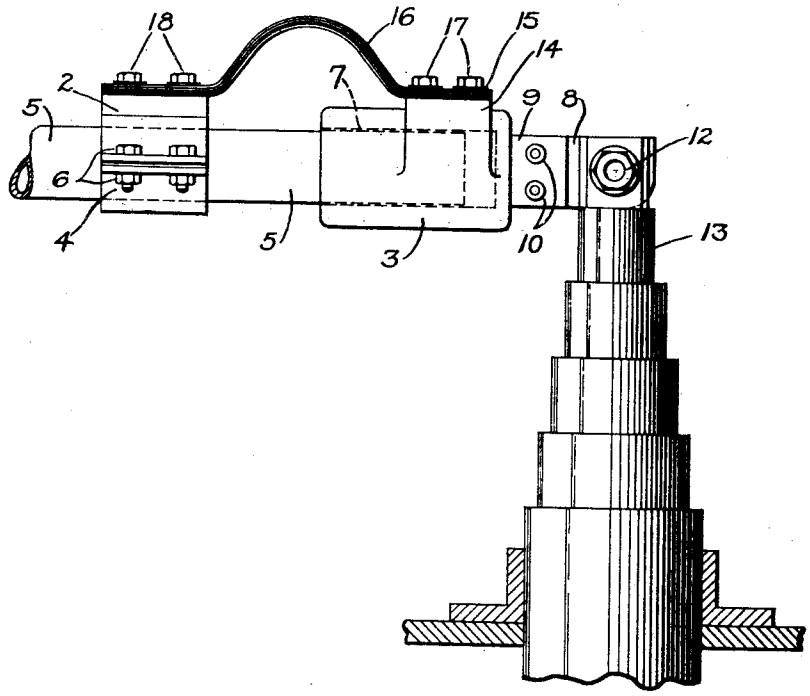


Fig. I.



WITNESSES:

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UNITED STATES PATENT OFFICE.

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EXPANSION CONNECTER.

Application filed March 14, 1921. Serial No. 452,093.

My invention relates to connecters and particularly to flexible expansion connecters for permitting the expansion of a conductor attached to a substantially stationary terminal.

In transformer stations and the like, comparatively rigid, heavy conductors, in the form of copper pipes or rods, are attached to substantially stationary terminals, such as, for instance, the condenser bushings of transformers. The conductors are rigid and are usually secured to stationary insulator supports that are frequently spaced 10 or 15 feet from the transformers.

One object of my invention is to provide a connecter or conductor terminal wherein the conductor may be secured to a stationary terminal and whereby free expansion and contraction of the conductor is permitted.

Another object of my invention is to provide a connecter, having the above characteristics, that may be readily applied to the end of a rod or tube conductor and which may be attached to a condenser bushing or other stationary terminals at any desired angle with respect thereto.

A further object of my invention is to provide a simple connecter that may readily be applied in the field and which is compact, inexpensive and durable.

These and other objects, that will be made apparent throughout the further description of the invention, are attained by means of the connecter construction hereinafter described, and illustrated in the accompanying drawings, wherein:—

Figure 1 is a side elevation of the connecter shown in assembled relation with a condenser bushing, and

Fig. 2 is a plan view of the connecter illustrated in Fig. 1.

Referring to the drawings, the connecter comprises a terminal bushing 3 and a clamping member 4, the former being adapted to slidably engage the end of the conductor 5, and the latter being adapted to be clamped to the conductor at a point adjacent the end thereof by means of bolts 6. The clamp is made in two halves and may be quickly applied at any point of the conductor.

The terminal bushing 3 comprises a body portion having a socket 7 into which the end of the conductor 5 is inserted. The socket 7 is slightly larger than the end of the conductor and permits of relative movement of the conductor with respect to the bushing but, at the same time, maintains a good conductive contact therewith.

The terminal bushing 3 is provided with a laminated flexible terminal member 8 that is secured to a clevice 9 on the bushing by means of rivets 10. The flexible terminal member comprises a plurality of thin, copper plates or sheets that are provided with a perforation 11 through which a bolt 12 is inserted for the purpose of securing the terminal to the condenser bushing 13. By reason of the flexible terminal member 8, and the pivoted joint, the conductor 5 may be positioned at different angles with respect to the bushing.

The terminal bushing 3 is provided with a projection 14 which terminates in a flat seat 15 and which receives one end of a flat flexible connecter member 16 to which it is secured by means of bolts 17. The other end of the connecter 16 is secured to the clamping member 4 by means of the bolts 18. The clamp 4 is so relatively positioned with respect to the terminal bushing 3 that the flexible connecter 16 is bent outwardly from the conductor, thereby providing slack in the flexible connecter for permitting relative movement of the conductor 5 and clamp 4 with respect to the terminal bushing 3 which is held stationary by reason of its engagement with the condenser bushing.

It will be seen from the foregoing that the conductor 5 is free to expand or contract without imposing any strain whatsoever on the terminal bushing and that the flexible connecter 16 insures a conductive connection between the conductor and the terminal bushing 3. While I have indicated the conductor 5 as being a copper tube of circular cross-section, it is obvious that the connecter may be designed to accommodate tubes or rods of various shapes. The construction is simple and inexpensive and the connecter may readily be applied in the field.

While I have described and illustrated but one embodiment of my invention, it will be apparent to those skilled in the art, that various changes, modifications, substitutions, additions and omissions may be made in the apparatus illustrated without departing from the spirit and scope of the invention, as set forth in the appended claims.

I claim as my invention:—

1. A connecter for electrically connecting an expansible conductor to a substantially stationary terminal comprising a rigid socket member for supporting the conductor for movement relative thereto and having a terminal connection that may be adjusted to various angular positions with respect thereto, and a flexible connecter attached at one end to the said socket member and at the other end to the conductor.

2. A connecter for electrically connecting an expansible conductor to a substantially stationary terminal comprising a socket member for supporting the conductor for movement relative thereto and provided with means for attaching to the stationary terminal, a clamp secured to the conductor and a flexible conductor for connecting the clamp and the socket member.

In testimony whereof, I have hereunto subscribed my name this 26th day of February 1921.

ARTHUR W. THOMPSON.