Dec. 9, 1924. 1,518,460

A. C. SMITH

COMBINATION TEST CLAMP

Filed March 6, 1922

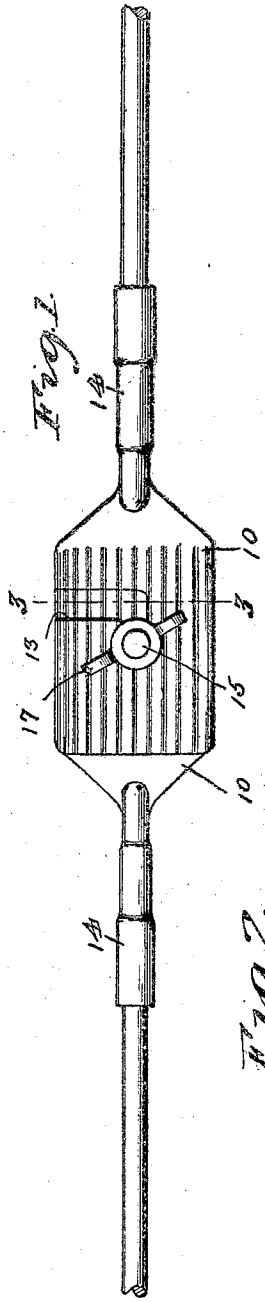


Fig. 1.

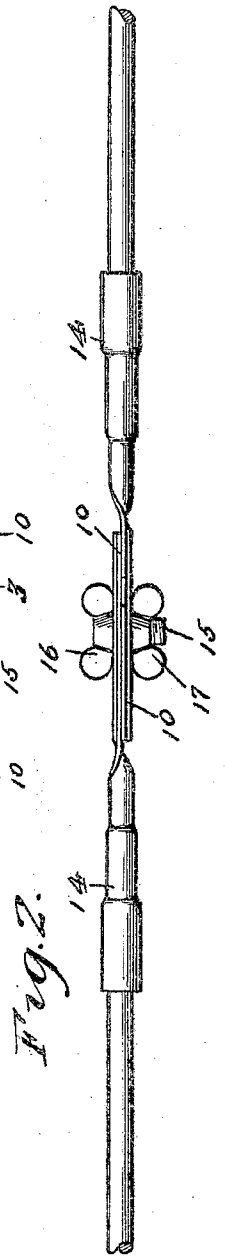


Fig. 2.

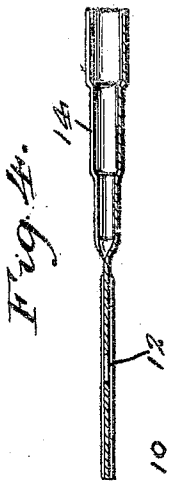


Fig. 4.

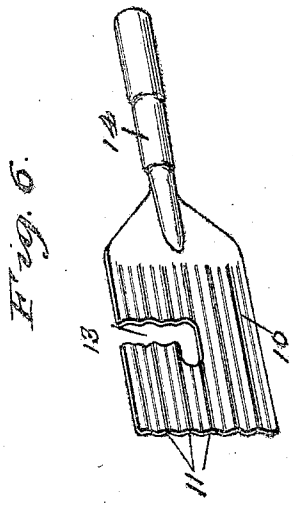


Fig. 6.

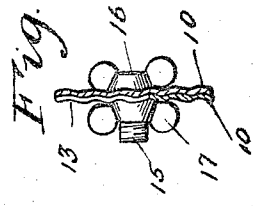


Fig. 4a.

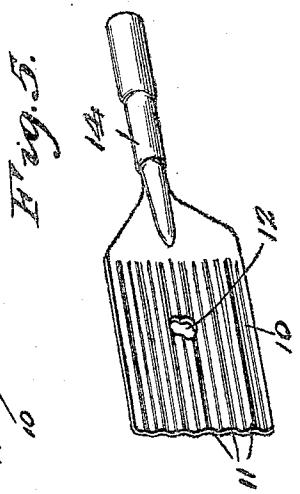


Fig. 5.

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WITNESSES

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UNITED STATES PATENT OFFICE.

ARTHUR C. SMITH, OF MERIDEN, CONNECTICUT.

COMBINATION TEST CLAMP.

Application filed March 6, 1923. Serial No. 541,385.

To all whom it may concern:

Be it known that I, ARTHUR C. SMITH, a citizen of the United States, residing at Meriden, in the county of New Haven and State of Connecticut, have invented new and useful Improvements in Combination Test Clamps, of which the following is a specification.

This invention relates to wire connectors, particularly to those of the type designed for use on telegraph or telephone wires, and has for its object the provision of a novel connector clamp designed to be located on or at a test pole whereby the wire may be opened or the circuit broken whereby to permit testing for any purpose, the device inincluding metallic members which are permanently soldered onto the wires and which are detachably connected by screw means.

An important object is the provision of a connector clamp of this character which is so constructed that it will remain permanently upon the wire and therefore will not be lost or dropped, the screw clamping means being furthermore permanently associated with one of the connector plates or members while the other connector plate or member is slotted to permit disengagement from the screw when it is desired to open the circuit, it being however unnecessary to remove the clamping nut at any time so that it will be readily seen that all of the parts are incapable of being lost with reasonable care.

Still another object is the provision of a device of this character in which the plate members of the connectors are formed with corrugations which will interfit and insure a proper making of the circuit through the device at all times.

Still another object is the provision of a device of this character which may be used in association with wires of different sizes, the wire engaging ends of the connectors being stepped whereby wires of different sizes may be engaged and subsequently soldered therein.

An additional object is the provision of a device of this character which will be simple and inexpensive in manufacture and installation, highly efficient in use, positive in action, durable in service and a general improvement in the art.

With the above and other objects and advantages in view, the invention consists in the details of description to be hereinafter more fully described and claimed and illustrated in the accompanying drawings in which,

Figure 1 is a side elevation of my device in applied position.

Figure 2 is an edge view.

Figure 3 is a detail cross-sectional view showing the corrugations and showing the clamping means.

Figure 4 is a detail longitudinal sectional view through one of the connector members illustrating the step connection for the wires, and

The remaining figures are perspective detail views of the two plate members or connectors detached.

Referring more particularly to the drawings I have shown my connector or clamp as comprising a pair of substantially similar plate members 10 which are here illustrated as being rectangular in shape and formed with longitudinal corrugations 11 which are designed to interfit when the two plates are secured together so as to insure good contact. One plate is formed substantially at its center with a circular hole 12 while the other plate is formed at a corresponding location with an L-shaped slot 13 which has the inner end of its shorter leg adapted to register with the hole 12. Each member 10 is formed at one end with a tubular shank portion 14 which in actual practice is preferably formed by bending the material of the plate into the shape shown. The tubular shank 14 is not of uniform diameter throughout though it might be if preferred, but is here illustrated as being stepped, that is having a bore which is of different diameters at different points in its length as clearly illustrated. The purpose of this formation is that wires of different sizes may be used in association with the device, the larger wire being engaged within the outermost portion of the shank and a smaller wire fitting within one of the other portions as the case may be. It is of course intended that subsequent to the disposition of the wires within the tubular shank portions they should be soldered in place to prevent any casual displacement.

In order that the two plates may be secured together, I make use of a suitable screw clamping device which is here shown as being a screw 15 which passes through the hole 12 and slot 13 and which is provided at one end with a head 16 which may

be of wing shape and which has its other end carrying a wing nut 17.

Assuming that the device has been interposed in a telegraph or telephone wire at or near a test pole where it is a common practice to make necessary tests as to the continuity of the wire and as to other matters, when the plate members 10 are placed together and the nut 17 tightened down it is apparent that the device will operate not only to connect the wires physically but also electrically so that there will be a good contact which will not in any way interfere with the flow of current. Whenever an operator such as a lineman or the like intends to break the circuit for the purpose of making a test, it is merely necessary that he loosen the nut 17 to a certain extent so that the slotted plate 10 may be disengaged from the screw 15, it being entirely unnecessary to remove the nut 17. Owing to the fact that the screw 15 passes through a hole 12 in the other plate member it is apparent that there is no reason whatever for removing the screw 15 from either of the plates and it is therefore obvious that there is no great danger of loss of any of the parts by dropping them especially as the plate members 10 themselves are permanently attached to the wires.

From the foregoing description and study of the drawings it will be readily apparent that I have thus provided a very simply constructed and consequently inexpensive combination test clamp which will be highly efficient for use when it is necessary to make tests of telephone and telegraph wires or device associated therewith, the device being particularly advantageous in view of the fact that loss of any of the parts is prevented. Owing to the simplicity of the construction and the fewness of the parts it is to be understood that there is nothing to get out of order and that the device should consequently have a long life and satisfactorily perform all the functions for which it is intended.

While I have shown and described the preferred embodiment of the invention, it is of course to be understood that I reserve the right to make such changes in the form, construction and arrangement of parts as will not depart from the spirit of the invention or the scope of the subjoined claim.

Having thus described the invention I claim:

A connector clamp for line wires comprising a pair of substantially similar plate members disposed in contacting relation and permanently secured upon the ends of the wires, one plate member being formed with a hole and the other being formed with a transversely disposed L-shaped slot, and a clamping screw passing through said hole and said slot and carrying a clamping nut, both of said plate members being formed with longitudinally extending corrugations designed to interfit for insuring proper contact and preventing relative lateral movement of the plates.

In testimony whereof I affix my signature.

ARTHUR C. SMITH.