April 22, 1941. H. J. WAGNER 2,239,026

CABLE CONNECTOR

Filed Dec. 6, 1939 2 Sheets-Sheet 1

Fig. 1.

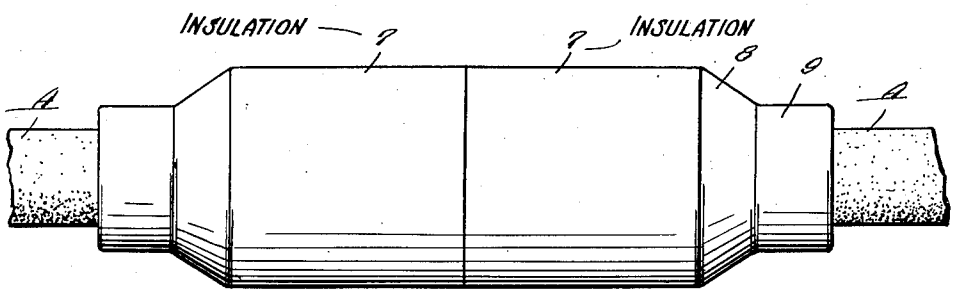


Fig. 4.

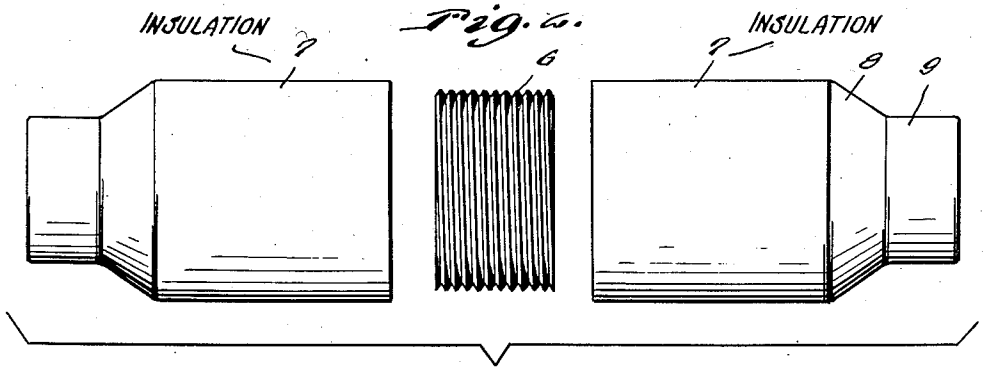
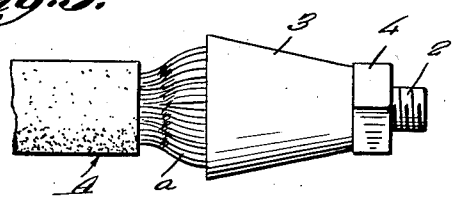


Fig. 3.



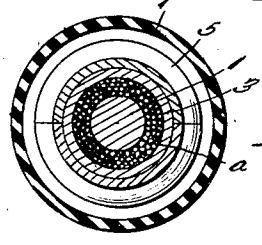


Fig. 5.

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April 22, 1941 H. J. WAGNER 2,239,026

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Filed Dec. 6, 1939 2 Sheets-Sheet 2

Fig. 4.

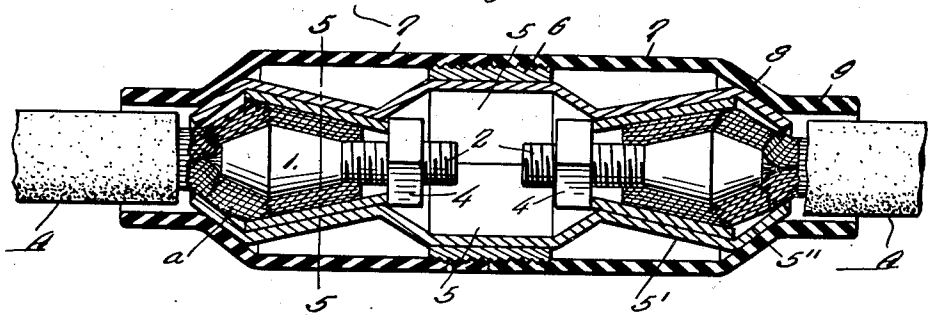
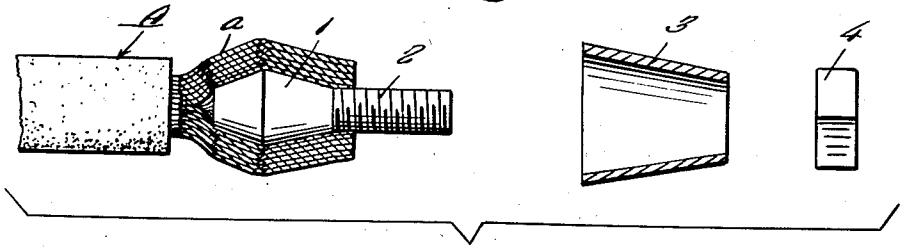


Fig. 6.



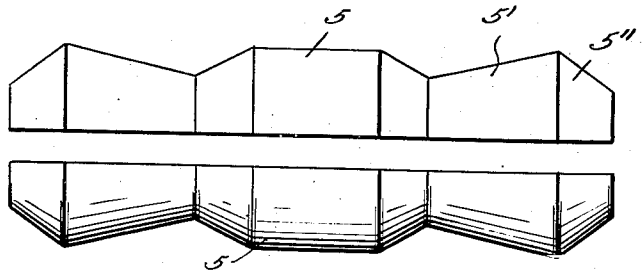


Fig. 7.

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UNITED STATES PATENT OFFICE

2,239,026

CABLE CONNECTOR

Henry J. Wagner, Jackson, Mo.

Application December 6, 1939, Serial No. 307,917

3 Claims. (Cl. 174—91)

This invention relates to a cable connector, the general object of the invention being to provide means for connecting cables together or a cable to another member, without the use of solder and without the use of special tools and to produce the maximum connection between the electrical parts, thereby eliminating high resistance of solder and the like and the resultant damage by excessive heat or strain.

Another object of the invention is to so form the parts that they can be readily attached to a cable and to each other without requiring the operator matching parts, such as right and left hand parts and can make the parts of rugged structure so that they will withstand the abuse of being dragged and thrown about without impairing their efficiency.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts to be hereinafter fully described, illustrated in the accompanying drawings and specifically pointed out in the appended claims.

In describing the invention in detail, reference will be had to the accompanying drawings wherein like characters denote like or corresponding parts throughout the several views, and in which:

Figure 1 is an elevation of the improved connector.

Figure 2 is a similar view but showing the parts separated.

Figure 3 is a view showing the bolt and nut and conical sleeve in position on an end of a conductor.

Figure 4 is a longitudinal sectional view through Figure 1.

Figure 5 is a section on the line 5—5 of Figure 4.

Figure 6 is a view of the parts shown in Figure 3 separated and in section excepting the nut and bolt.

Figure 7 is a view of the two half sections forming the shell.

In these views the numeral 1 indicates the double conical head of a bolt 2 which is adapted to be placed in the stripped end *a* of a conductor A so that the small wires of the conductor fit around the head as shown more particularly in Figure 6. When the small wires are so placed over the head they also form a double cone. Then a tapered sleeve 3 is placed over the bolt and over the outer conical part of the wires on the head of the bolt and then a nut 4 is threaded on the shank of the bolt and presses the sleeve 3 over the wires and thus clamps the wires firmly between itself and the head and bolt as shown in Figure 4. When two of the bolts have been connected to the two end portions of the conductors as shown in Figure 4 a pair of half sections 5 of a shell is placed over said end portions, the two sections when placed together provide a shell having a central cylindrical portion formed with tapering ends which join outwardly flaring parts 5' terminating in tapered portions 5'' so that the shell at each end part is formed of a hollow substantially double conical portion formed by the parts 5' and 5''. The two half sections are placed over the conductor ends with the bolts therein with the sleeves 3 fitting in the parts 5' and the parts 5'' covering the inner conical portions of the wires.

Then an exteriorly threaded cylindrical member 6 is placed over the cylindrical central portion of the shell to hold the two half sections together, after which the two sections 7 of a housing formed of insulating material are threaded on the sleeve, these sections 7 having their inner ends threaded so that said inner ends will cover the sleeve when threaded thereon as shown in Figure 4. Each housing section has an inwardly tapered end part 8 terminating in a reduced cylindrical part 9 and each part 8 bears against the tapered part 5'' of the shell while the part 9 surrounds the end portion of the covering means of the cable.

As will be seen the two half sections are held together by the ring 6 at the center and also by the parts 8 at their ends so that movement of the two half sections of the shell is prevented in all directions and the entire connecting means is firmly held in the two part housing, the two parts of which are firmly held together by the threaded member 6.

As will be seen the only tool necessary is a wrench or pliers for tightening the nuts 4 on the bolts 2 and only a small portion of the covering means of the cables need be removed so that the stripped ends of the cables can receive the conical heads of the bolts.

As the cable strands surround the conical-shaped heads of the bolts practically perfect contact is provided between the bolts and the cables. The connections can be easily made and very quickly and the cables can be readily disconnected when desired and unskilled labor can readily assemble the parts.

It is thought from the foregoing description that the advantages and novel features of the invention will be readily apparent.

It is to be understood that changes may be made in the construction and in the combination and arrangement of the several parts provided that such changes fall within the scope of the appended claims.

Having described the invention, what is claimed as new is:

1. In combination with a pair of stripped cable ends a pair of bolts, each bolt comprising a threaded shank and a tapered head having its small end connected with the shank, a tapered sleeve on each bolt with the shank passing through the small end of the sleeve, the cable ends entering the spaces between the bolts and the sleeves and entering the large ends of the sleeves, nuts on the shanks engaging the small ends of the sleeves, a sectional shell having a cylindrical central portion and outwardly flaring parts for receiving the two sleeves, said shell having inwardly tapered end portions extending beyond the outer ends of the sleeves and over portions of the cable ends and means for holding the sections of the shell together.

2. In combination with a pair of stripped cable ends a pair of bolts, each bolt comprising a threaded shank and a tapered head having its small end connected with the shank, a tapered sleeve on each bolt with the shank passing through the small end of the sleeve, the cable ends entering the spaces between the bolts and the sleeves and entering the large ends of the sleeves, nuts on the shanks engaging the small ends of the sleeves, a sectional shell having a cylindrical central portion and outwardly flaring parts for receiving the two sleeves, said shell having inwardly tapered end portions extending beyond the outer ends of the sleeves and over portions of the cable ends and means for holding the sections of the shell together, said means including a ring encircling the central part of the shell and having its exterior screw-threaded and a housing of non-conducting material formed of two sections having their inner ends threaded to be threaded on the ring and said housing having tapered end portions bearing against the tapered portions of the shell.

3. In combination with a pair of stripped cable ends a pair of bolts, each bolt comprising a threaded shank and a tapered head having its small end connected with the shank, a tapered sleeve on each bolt with the shank passing through the small end of the sleeve, the cable ends entering the spaces between the bolts and the sleeves and entering the large ends of the sleeves, nuts on the shanks engaging the small ends of the sleeves, a sectional shell having a cylindrical central portion and outwardly flaring parts for receiving the two sleeves, said shell having inwardly tapered end portions extending beyond the outer ends of the sleeves and over portions of the cable ends and means for holding the sections of the shell together, said means including a ring encircling the central part of the shell and having its exterior screw-threaded and a housing of non-conducting material formed of two sections having their inner ends threaded to be threaded on the ring and said housing having tapered end portions bearing against the tapered poritons of the shell, and each bolt having a tapered part forming the outer end of the bolt head and said tapered part having its large end connected with the large end of the first-mentioned tapered part.

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