

PATENT SPECIFICATION

995,335

DRAWINGS ATTACHED.

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COMPLETE SPECIFICATION.

Connection of Tubes or Sleeves.

We, GIRLING LIMITED, a British Company of Kings Road, Tyseley, Birmingham 11, do hereby declare the invention for which we pray that a patent may be granted to us and the method by which it is to be performed to be particularly described in and by the following statement:—

This invention relates to a new or improved method of and means for connecting the adjacent ends of two metal tubes or sleeves of which one is a sliding or push-in fit in the other.

According to our invention the inter-engaged ends of two such tubes or sleeves are connected by deforming the metal around angularly spaced holes in the wall of the outer tube or sleeve into registering holes in the wall of the inner tube or sleeve, and fitting over the end of the outer tube or sleeve a ferrule of which portions are deformed inwardly into the holes in the outer tube or sleeve.

This provides a simple and economical connection which is at the same time rigid and secure, the engagement of the deformed portions of the outer tube or sleeve in the holes in the inner tube or sleeve preventing relative axial movement and the ferrule reinforcing the outer tubes against any forces tending to move one tube or sleeve out of alignment with the other.

An assembly formed by two metal tubes or sleeves of which the adjacent ends are connected in accordance with our invention is illustrated in the accompanying drawings in which:—

Figure 1 is a side elevation of the assembly;

Figure 2 is an inverted plan of the assembly showing in section the connection

between the adjacent ends of the tubes or sleeves; and

Figure 3 is a fragmentary section showing on an enlarged scale the connection shown in Figure 2.

In the assembly shown in the drawings 10 is a tubular sleeve forming the housing for a rod of a handbrake of the pull-out type and 11 is a tube forming a guide for the brake cable. The guide tube 11 is a sliding or push-in fit in the sleeve 10 which is commonly formed of rolled metal or relatively light gauge.

In the walls of the adjacent ends of the sleeve 10 and the guide tube 11 are drilled in register a pair of diametrically opposed holes 12 and 13 respectively of which the holes 12 drilled in the sleeve 10 are smaller than the holes 13 drilled in the guide tube 11. The sleeve and tube are connected by deforming the metal around the holes in the wall of the sleeve 10 into the holes 13 in the wall of the guide tube 11, and fitting over the end of the sleeve 10 a ferrule 14 of which portions 15 of the walls are deformed inwardly into the holes in the sleeve 10.

It will be appreciated that although we have only referred to a pair of diametrically opposed holes in the sleeve and the guide tube can be connected by any convenient number of registering angularly spaced holes.

In the arrangement illustrated the guide tube 11 for the cable is carried off at an angle to the sleeve so that a pull on the cable applied a bending force to the joint tending to open the sleeve.

By connecting the sleeve 10 and guide tube 11 in the manner described above the joint is made of adequate strength to resist the forces to which it is subjected.

[Price 4s. 6d.]



or
tube

WHAT WE CLAIM IS:—

1. Method and means for connecting the adjacent ends of two metal tubes or sleeves of which one is a sliding or push-in fit in the other in which the inter-engaged ends of the tubes or sleeves are connected by deforming the metal around angularly spaced holes in the wall of the outer tube or sleeve into registering holes in the wall of the inner tube or sleeve, and fitting over the end of the outer tube or sleeve a ferrule of which portions are deformed inwardly into the holes in the outer tube or sleeve.
2. Method and means as claimed in Claim 1, in which the holes in the wall of the outer tube or sleeve are smaller than the holes in the inner tube or sleeve.
3. Method and means as claimed in Claim 1 or Claim 2, in which the outer tube or sleeve forms the housing for a rod of a handbrake of the pull-out type and the inner tube or sleeve forms a guide for the brake cable, the guide tube being carried off at an angle to the sleeve.
4. A tube assembly comprising two metal tubes or sleeves of which one is a sliding or push-in fit in the other and of which the inter-engaged ends of the tubes

or sleeves are connected by a method as claimed in any of the preceding claims.

5. A tube assembly comprising two metal tubes or sleeves of which one is a sliding or push-in fit in the other and of which inter-engaged ends of the tubes or sleeves are connected by deforming the metal around angularly spaced holes in the wall of the outer tube or sleeve into registering holes in the wall of the inner tube or sleeve, and fitting over the end of the outer tube or sleeve a ferrule of which portions are deformed inwardly into the holes in the outer tube or sleeve.

6. Method and means for connecting the adjacent ends of two metal tubes or sleeves substantially as described and as illustrated in the accompanying drawings.

7. A tube assembly substantially as described and as illustrated in the accompanying drawings.

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I certify this, including the Drawing forming part thereof, to be a True Copy of the Specification as accepted.

20 NOV 1965

D. Barker

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