Aug. 6, 1929. J. S. FOX 1,723,728

CABLE SOCKET

Filed Oct. 20, 1928

Fig. 1

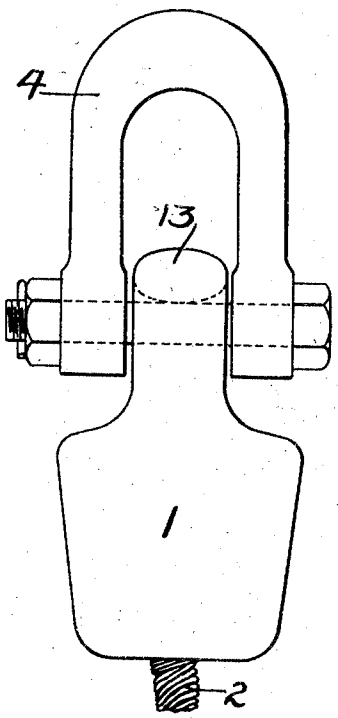


Fig. 2

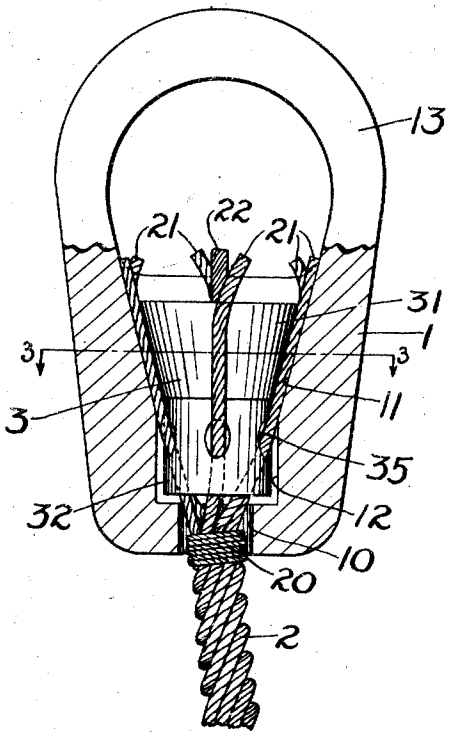


Fig. 3

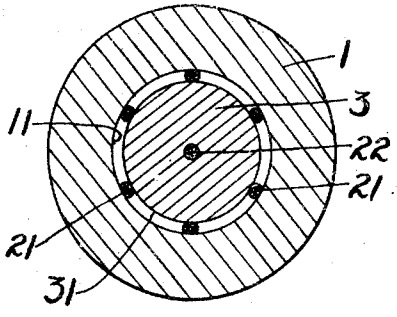
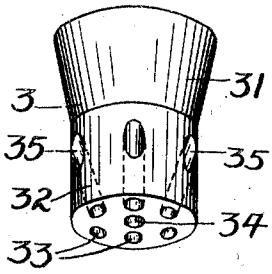


Fig. 4



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UNITED STATES PATENT OFFICE.

JOHN S. FOX, OF MARIETTA, WASHINGTON.

CABLE SOCKET.

Application filed October 20, 1928. Serial No. 313,760.

My invention relates to an improvement in means for securement to the end of a cable, commonly called sockets or ferrules, and is particularly intended to be secured upon the ends of steel logging cables, as used in the woods. Such ferrules or "sockets" are ordinarily secured upon the end of a cable by babbitting, before the cable is put into use, but it is necessary to renew and replace them from time to time, often quite frequently.

It is an object of my invention to provide means of the character indicated, which may be quickly and easily attached under the conditions met with in the woods, where tools and babbitting equipment are not available. It is a further object, of course, to provide a ferrule of this character which is simple, inexpensive, and thoroughly reliable, as considerable destruction and loss of life would result were such a ferrule to release the cable while in operation.

My invention comprises the novel parts, and the novel combination and arrangement thereof in the finished assembly, as shown in the accompanying drawings, described in the specification, and as will be more particularly defined by the claims which terminate the same.

In the accompanying drawings I have shown my invention in a form which is now preferred by me, it being understood that the ferrule need not have a strap, however.

Figure 1 is an elevation of my device shown in position of use.

Figure 2 is an elevation with parts broken away, showing my device connected to the end of a line.

Figure 3 is a transverse section on line 3—3 of Figure 2.

Figure 4 is a perspective view of the plug forming part of my invention.

Logging is mainly practiced in rough country, where tools and facilities for doing a truly workmanlike job are not readily available. The cables used in such logging operations are generally composed of six strands of smaller cable wound about a central steel core. Such cables are heavy and unwieldly, and it is not desirable that any connecting means require the untwisting of any greater number of individual wires, for this takes time and skill, requires the anchoring of each individual strand, and tools for the purpose are not available.

It frequently becomes necessary, because of wear on the lines, particularly the main line, but true to a greater or less degree in all lines, to renew the hold on the end of the line, by means of which it is anchored to some support, as for example a mast or spar tree. This is an extremely difficult task to accomplish under the conditions obtaining, where it becomes necessary to splice an eye in the end of the line, and such a job takes considerable time to do, even with the facilities and tools at hand, with the entire equipment tied up while this job is being done. There is provided by my invention a means of making such connections, which will require but a very short time to complete, and little effort on the part of the workman making the connection.

According to my invention, a ferrule, probably formed as a steel casting, and designated in general by the numeral 1, is formed with an aperture 10 at one end, of a size to permit free passage of the cable 2 therethrough, without chafing, this aperture communicating with a socket, a part of which, at least, is inclined or coned. I have shown the outer portion 11 inclined, and the inner portion 12 may be cylindrical. This socket is open at its upper end to permit the insertion of a plug, generally designated by the numeral 3, though a supporting strap or hanger 13 may be provided at the upper end of the member 1 for connection to a clevis 4, or like member.

In general the plug 3 is made of a shape to fill the socket 11—12. Its upper portion 31 is made conical to fit the portion 11 of the socket, and its lower portion 32 is made cylindrical, and substantially, though preferably not quite, fills the cylindrical portion 12 of the socket, to position the plug properly within the socket, and to locate the strands of the cable 2 relative to the aperture 10, as will be apparent as the description progresses.

In order to secure the member 1 in place upon the end of a cable 2, it is only necessary that the individual strands 21 of the cable, usually six in number, be untwisted for a slight distance back from the end of the cable, which for convenience would be

cut off squarely, and the amount of this untwisting may be determined in advance by wrapping the cable 2 at the proper distance from its end, as has been indicated at 20. The strands 21, then, are straightened out as nearly as may be, and the core 22 is left straight. The plug 3 is provided with passages 33 and 34, the passages 33 surrounding the axial aperture 34, and being intended to receive the strands 21 of the cable, while the passage 34 receives the central core 22. The passages 33 are inclined with respect to the axis of the plug, and run out in the cylindrical portion 32 of the plug, adjacent the junction of this cylindrical portion with the coned portion 31. They are shown as bores extending from the end to the periphery of the cylindrical portion 32, but grooves similarly inclined would properly locate the strands relative to the coned portion 31.

The end of the cable having been first passed through the aperture 10 in the member 1 and the strands separated, these strands are passed through the respective passages in the plug 3, the strands 21 through the passages 33, and the core 22 extending through the axial passage 34. As the strands 21 project from the outer ends of the passages 35 they lie substantially against and in the plane of the coned portion 31 of the plug, and the plug is now inserted in the socket 11—12 of the member 1 and pushed or pounded into place therein in any convenient manner. A strain is then placed upon the line, it being resisted by holding the ferrule 1, and the strands 21 are flattened by this strain, as seen in Figure 3, tending to pull the plug 3 into the socket, and the plug biting into the strands 21. The flattening of the strands 21, in turn, distorts them so that they will not, while under pressure tending to keep them flattened, be enabled to pull out of the round passages 33. The edges of these passages 33, where the strands 21 emerge at 35, will bite into the flattened strands, thus providing a plurality of secure holds, not dependent purely on the frictional grip of the strands between the conical surfaces 11 and 31, but in addition to, and superior to such frictional grip. In this manner the greater the strain, the more strongly is the end of the cable held in place. All of these operations are simply done, and require no special tools, at least no tools which would not be available in the woods.

What I claim as my invention is:

1. A cable ferrule comprising a socketed member, the socket having an outer conical portion and an inner cylindrical portion, and said ferrule having an axial aperture communicating with the inner portion of said socket, a plug shaped to fit said socket closely, and passages in the cylindrical portion of said plug inclined from said axial aperture to position the separated individual strands of the cable between the conical portions of the plug and socket, and substantially in axial planes.

2. A cable ferrule comprising a socketed member, the socket having an outer conical portion and an inner cylindrical portion terminating in an axial aperture, a plug shaped to fit closely within said socket, inclined passages extending from within the end of the cylindrical portion of the plug to its periphery substantially at the juncture of the plug's cylindrical and coned portions, and in alignment with the coned surface, to receive and position individual separated strands of the cable, without appreciable change of direction, between the coned portions of the plug and socket.

3. A cable ferrule comprising a socketed member, the socket having an outer conical portion and an inner cylindrical portion, and said ferrule having an axial aperture communicating with the inner portion of said socket, a plug shaped to fit said socket closely, and passages in the cylindrical portion of said plug inclined from said axial aperture to position the separated individual strands of the cable between the conical portions of the plug and socket, and substantially in axial planes, and an axial passage in the plug, aligned with the aperture of the socketed member, to receive the cable core.

4. A cable ferrule comprising a member having a conical socket terminating at its inner end in an axial extension, and having an axial aperture admitting to said extension, and a plug having a conical portion adapted to fit said conical socket, and having a cylindrical extension adapted to be received in said socket extension, said plug having bores of round cross section terminating in its cylindrical portion, and of a size to closely embrace individual cable strands received therein, and directed to position the projecting ends of said strands between the conical plug and socket surfaces, whereby they are flattened under pressure and distorted to a shape which will not pass through said bores.

Signed at Seattle, Washington, this 11th day of October, 1928.

JOHN S. FOX.