May 7, 1946. J. TAYLOR 2,399,836

BATTERY CABLE

Filed April 19, 1943

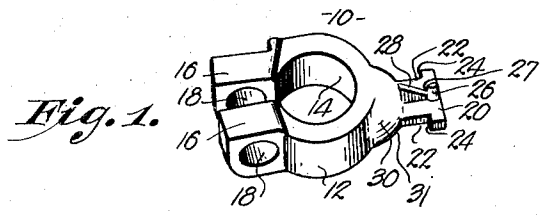


Fig. 1.

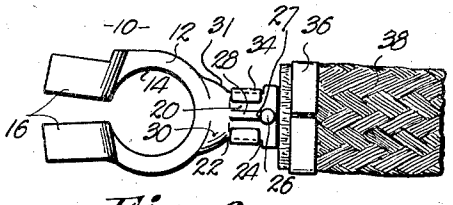


Fig. 2.

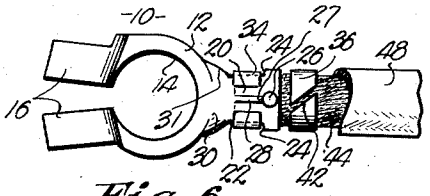


Fig. 6.

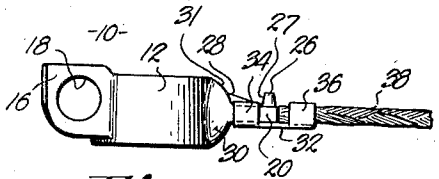


Fig. 3.

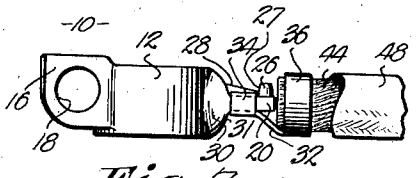


Fig. 7.

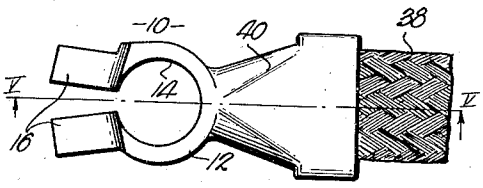


Fig. 4.

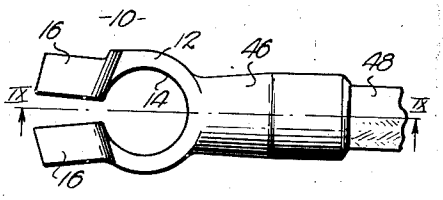


Fig. 8.

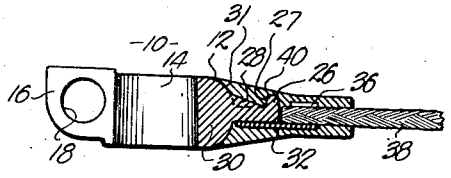


Fig. 5.

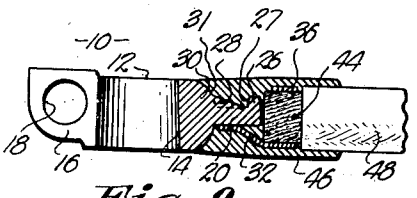


Fig. 9.

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UNITED STATES PATENT OFFICE

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BATTERY CABLE

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Application April 19, 1943, Serial No. 483,558

2 Claims. (Cl. 173—259)

This invention relates to battery cables and particularly to terminal heads for cables of the above character.

More specifically, this invention is an improvement in the cable disclosed in U. S. Letters Patent No. 2,255,991 issued to me on September 16, 1941. While the structure shown in this patent has, in general, produced very satisfactory results, it has been found that for excessively severe torsional and tensional strains, insufficient shoulders are presented for the molded body encasing the joint between the cable and terminal head.

It is the principal object of the present invention to provide a terminal head having portions producing shoulders against which a molded body may bear to resist both twisting and tensional forces applied to the connection between the head and cable and thereby relieve a tie-anchor member of much of the load otherwise imposed thereon.

Other objects of the invention will become apparent during the course of the following specification, referring to the accompanying drawing wherein:

Fig. 1 is a detailed perspective view of the terminal head constructed in accordance with this invention.

Fig. 2 is a plan view of the head connected by a tie-anchor to one end of a flat stranded cable.

Fig. 3 is a side elevational view of the parts shown in Fig. 2.

Fig. 4 is a plan view showing the completed connection between the terminal head and cable.

Fig. 5 is a central longitudinal vertical section taken on line V—V of Fig. 4.

Fig. 6 is a plan view of the head connected by a tie-anchor to one end of a round cable.

Fig. 7 is a side elevational view of the parts shown in Fig. 6.

Fig. 8 is a plan view showing a molded casing applied over the zone of connection between the head and cable; and

Fig. 9 is a central longitudinal vertical section taken on line IX—IX of Fig. 8.

Referring in more detail to the drawing, the terminal head generally designated by the numeral 10 comprises a body portion 12 having the usual opening 14 for receiving a battery post as in common practice.

A pair of spaced ears 16 are formed on the body 12 and provided with aligned apertures 18 through which a bolt may be extended for clamping the head on a battery post.

Formed on the body 12 at a point diametrically opposite ears 16, is a neck 20 having opposed notches 22 forming anchoring shoulders 24. A lateral projection or pin 26 and a rib 28 are formed on one side of the neck on a longitudinal median line thereof. Rib 28 preferably inclines from a point adjacent the base of post 26 toward its zone of juncture with head 12 to present a shoulder 27 for a purpose later to be described.

In the preferred embodiment of this invention, neck 20 is secured to body 12 by a relatively large embossment 30 to produce shoulders 31 and is of flattened form to cooperate with a flat tie-anchor 32 having bendable ears 34 on one end seated in notches 22 of the neck and having ears 36 on its opposite end for engaging the adjacent end of a flat stranded cable 38.

As clearly shown in Figs. 4 and 5, a molded casing 40 embraces neck 20, tie-anchor 32, and a portion of cable 38. Rib 28 and projection 26 are thus completely embedded together with tie-anchor 32 in casing 40, and the area between shoulders 27 and 31 is filled with the molded material whereby effective resistance is offered to tensional strains which may be applied to the connection between the head and cable. Torsional strains on the connection are resisted by engagement of the molded body 40 with the flat neck 20 and with opposed faces of rib 28 and projection 26.

Pivoting action between casing 40 and neck 20 is likewise prevented by the longitudinally extending rib 28.

Thus, terminal head 10 is very rigidly anchored to cable 38 and should the terminal head be frozen to a battery post, as is often the case, there is no danger of the cable parts becoming disconnected during the course of removing the head from the post.

The same tie-anchor 32 or one having ears 36 provided with tapered edges 42, shown in Fig. 6, may be employed for connecting head 10 with a round cable 44.

That portion of tie-anchor 32 between the ears 34 and 36 thereof, is preferably bent at an angle relative to neck 20 to align the latter with the center of cable 44.

A casing 46 is molded around the parts connecting head 10 and cable 44 and should cover a portion of the insulation 48 surrounding the cable to prevent corrosion which commonly occurs when the strands of the cable are exposed to the chemical action of acids in the battery.

Whether, therefore, head 10 is connected to a flat or round cable, the projection 26 and rib

28 will materially add to the strength of the connection and accordingly lengthen the useful life of the cable.

Since various modifications might be made without departing from the spirit of this invention, it is desired to be limited only by the scope of the appended claims.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:

1. In a cable assembly of the character described, a terminal head having a body of split-ring character for circumscribing a battery post; a reduced neck projecting radially from the body of the head whereby a shoulder is formed at the juncture between the body and the neck, said neck being provided with opposed notches forming anchoring shoulders thereon; means for securing the head to the cable comprising a tie-anchor having bendable end portions respectively engaging the cable and said neck; a laterally projecting rib on one side of said neck, disposed along the longitudinal, median line thereof to present a pair of substantially parallel, opposed shoulders for resisting torsional strains tending to separate said head from the cable, said rib merging with the head at the juncture of said body and neck; a lateral projection on said one side of the neck at the free end thereof in spaced, opposed relation to said juncture, said projection being higher and wider than the proximal end of said rib to produce shoulders in opposed relation to said first mentioned shoulder for resisting torsional and tensional strains tending to separate said head from the cable, said rib progressively decreasing in height as said projection is approached from the head and joining said projection at its lowermost end; and a moulded body encasing the neck, the rib, the lateral projection, the tie-anchor, and a portion of the cable.

2. As a new article of manufacture, a terminal head of split-ring character for circumscribing a battery post; a reduced neck projecting radially from the head whereby a shoulder is formed at the juncture between the head and the neck, said neck being provided with opposed notches forming anchoring shoulders thereon; a laterally projecting rib on one side of said neck, disposed along the longitudinal, median line thereof to present a pair of substantially parallel, opposed shoulders, said rib merging with the head at the juncture of said head and neck; and a lateral projection on said one side of the neck at the free end thereof in spaced, opposed relation to said juncture, said projection being higher and wider than the proximal end of said rib to produce shoulders in opposed relation to said first mentioned shoulder, said rib progressively decreasing in height as said projection is approached from the head and joining said projection at its lowermost end.

JOHN TAYLOR.