No. 885,864. PATENTED APR. 28, 1908.

H. R. READ.

ELECTRICAL CONNECTION.

APPLICATION FILED APR. 26, 1907.

Fig. 1.

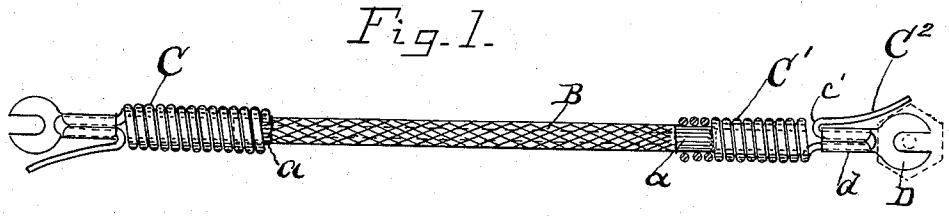


Fig. 2.

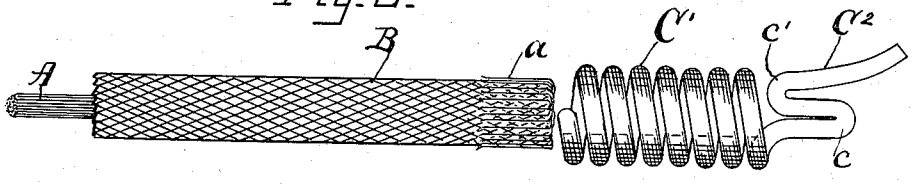


Fig. 4.

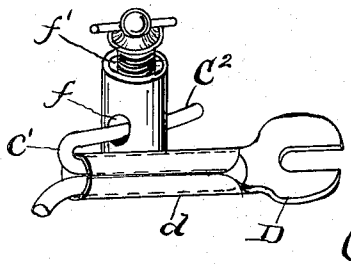


Fig. 3.

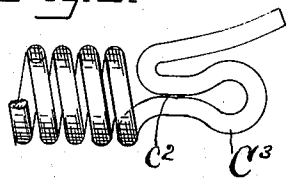
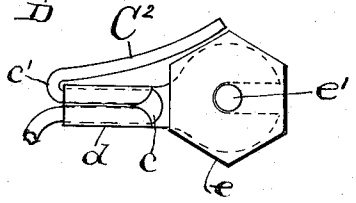


Fig. 5.



WITNESSES

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ELECTRICAL CONNECTION.

No. 885,864. Specification of Letters Patent. Patented April 28, 1908.

Application filed April 26, 1907. Serial No. 370,513.

To all whom it may concern:

Be it known that I, HENRY R. READ, citizen of the United States, and resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Electrical Connections, of which the following is a specification.

The subject of the present invention is a novel conductor for establishing the electrical connection between the battery and the spark plug generally employed as adjuncts to motors of the internal combustion type, the improvements, as will hereinafter appear, being peculiarly useful when serving with motors of the character mentioned when such motors are subject to vibration as in the case of automobiles.

The improvements are also susceptible of application and use in other connections where a conductor of this general character is desirable.

The ordinary manner of establishing the connection between the battery and the spark plug has been through the medium of a length of metallic conductor equipped with an external insulating sheathing and exposed at its opposite ends to permit the proper electrical contact with the binding posts of the battery and spark plug respectively. This arrangement is, however, subject to the liability of the conductor becoming ruptured or disconnected under the action of the vibration or strains to which many motors are subjected.

My invention obviates the difficulties noted and at the same time presents new and original advantages.

In the accompanying drawing forming part of this specification,—Figure 1 discloses a form of the novel conductor, part of the view being in section, and dotted lines illustrating certain details and functions of the invention. Fig. 2 is a detailed view of said conductor on an enlarged scale, the extensible and laterally flexible coiled member being represented as being detached and also as not being equipped with the bifurcated copper tongue illustrated in the preceding figure. Fig. 3 illustrates another form of the coiled member. Fig. 4 is a detail perspective view showing one of the capabilities of the extension forming part of the coiled member. Fig. 5 is a detail plan view illustrating the function of said member extension as a nutlock when the invention is used in connection with a binding post embodying a clamping nut.

Similar reference characters are used to designate corresponding features in the several figures of the drawing wherein they occur.

Referring now more particularly to Figs. 1 and 2, A is a metallic conductor which in this instance is represented as comprising a series of strands of wire, closely associated and individually of comparatively small diameter. This conductor is preferably, although not necessarily of a length, which in connection with the coiled members and parts associated therewith at opposite ends of the conductor, will readily admit of a connection being established between the binding posts of the battery and spark plug respectively. The conductor is provided with an insulating sheathing B, terminal portions of the series of wire strands extending beyond the sheathing at both ends thereof and being bent back upon the same as indicated at *a*, in order to provide external metallic conducting surfaces.

Embracing the metallic conducting surfaces so as to establish electrical connection at both ends of the conductor are portions of coiled spring members C, C′, which as will be obvious, are capable of being screwed on the end portions of the conductor proper, whereat are located the contact surfaces *a*, in order to secure proper electrical contact between the conductor proper A, and said members, each of the latter by reason of its coiled form and spring character, being extensible longitudinally in order to compensate for any stress or strain which the conductor proper would otherwise be subjected to, thereby relieving said conductor proper from liability of becoming ruptured or otherwise injured, and at the same time avoiding the possibility of the accidental detachment of the conductor connections with the binding posts of both the battery and the spark plug.

The outer part of each member departs from the coiled character of the major portion of the member and assumes the form of a horizontally disposed narrow fold *c*, which merges in a reverse turn *c′*, and outwardly curved extension C^2. The fold *c*, serves as a means for the connection of the shank *d* of a bifurcated tongue D, of some good conducting metal preferably copper, said tongue as illustrated, being represented as stamped out of sheet copper and in a flat blank form, the

dimensions of the shank of the blank permitting it to be turned to overlap and intimately embrace its coactive fold *c*, and thereby establish a firm connection of each member with the rest of the conductor. The bifurcated part of each tongue is enlarged and rounded to provide for the open slot and yet furnish sufficient metal to permit the tongue to be positively clamped beneath the nut *e*, when the conductor is used in connection with a binding post embodying such nut, the threaded stem *e'*, of the post occupying the tongue-slot as will be readily comprehended. In such cases, the extension C^2, will normally bear against one of the edges of its coactive nut with sufficient pressure to restrain said nut from accidentally becoming loosened although during the hand adjustment of the nut, the extension will so readily yield as to not inconveniently interfere with the turning movements of the nut.

When connection is to be made with a post containing a transverse perforation *f*, and a clamping screw *f'*, as indicated in Fig. 4, the sheet metal tongue is not utilized, the extension C^2, being passed through the perforation of the post and firmly clamped by the screw as will be readily apparent. It will therefore be appreciated that the extension C^2, is capable of a double function.

It will be recognized from the foregoing description that a conductor embodying my invention is not only highly reliable in the permanency of its connections, but is extremely simple in construction and capable of convenient manipulation.

The detachable character of the coiled members is advantageous because if by any chance either or both should become deranged while the novel conductor is being used, the operativeness of said conductor can be quickly restored by the substitution of another member or members.

In lieu of the separately formed sheet metal tongue, similar functions can be performed by a spring metal loop C^3 formed integral with each member C, C', and having a contracted entrance c^2, capable of opening to permit the stem of the binding post to enter and occupy the eye of the loop, when the latter is forced against the stem beneath the clamp nut, the latter being subsequently tightened to secure the connection. Fig. 3, conveys a fair idea of this form of the invention.

Having now described my invention, what I claim and desire to secure by Letters Patent, is:—

1. A conductor for the purpose described, embodying a metallic conductor with means at one end for engagement with a binding post, said means comprising an independent member of spring wire presenting a coil a portion of which is electrically engaged on the conductor, and having an outer part forming a horizontally disposed fold merging in a reverse turn and outwardly diverted extension, the latter extending solely at the same side of the fold as the reverse turn.

2. A conductor for the purpose described, embodying a metallic conductor with means at one end for engagement with a binding post, said means comprising an independent member of spring wire presenting a coil a portion of which is electrically engaged on the conductor, and having an outer part forming a horizontally disposed fold merging in a reverse turn and outwardly diverted extension, and a bifurcated sheet metal tongue having its shank folded and clamped on the wire fold.

Signed at New York in the county of New York and State of New York this 20th day of April A. D. 1907.

HENRY R. READ.

Witnesses:
BENJ. A. DARE,
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