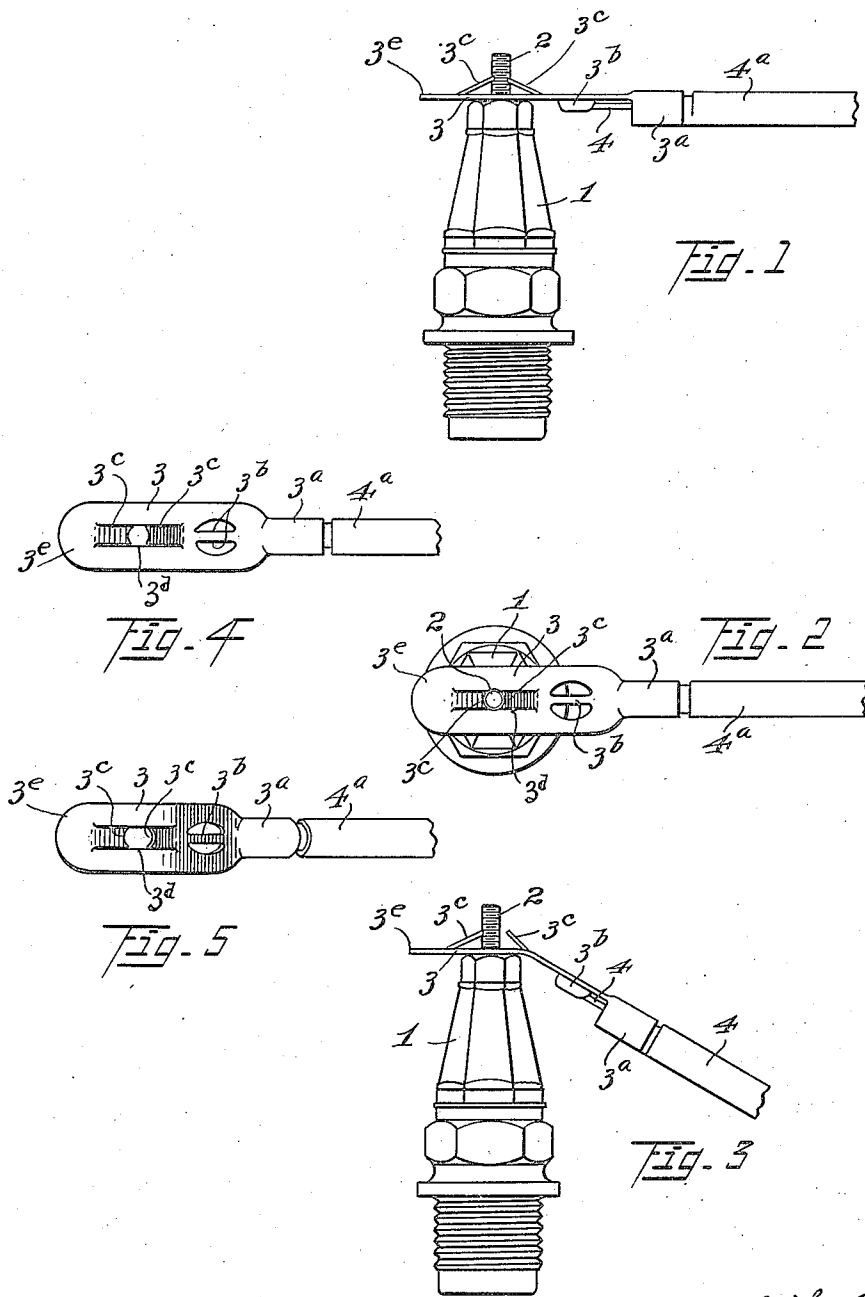


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ELECTRIC TERMINAL CONNECTOR.
APPLICATION FILED JAN. 31, 1920.

1,386,831.

Patented Aug. 9, 1921.



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ELECTRIC-TERMINAL CONNECTOR.

1,386,831.

Specification of Letters Patent.

Patented Aug. 9, 1921.

Application filed January 31, 1920. Serial No. 355,464.

To all whom it may concern:

Be it known that I, ALBERT L. AUSTIN, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Electric-Terminal Connectors, of which the following is a specification.

My invention relates to improvements in electric terminal connectors, and more particularly to that class or type which are designed and adapted for use in connecting electric conductors, the present embodiment of the invention being particularly designed and adapted for use in connecting or attaching electric conductors to the terminal or threaded binding posts of spark plugs for internal combustion engines.

The primary object is to provide a generally improved connector or coupling of this class which will be exceedingly simple in construction, cheap of manufacture, and efficient in use.

A further and very important object is the provision of an improved coupling or connector which may be used interchangeably with the spark plugs having conducting stems or binding posts of varying diameter, the improved device having a terminal or post receiving opening provided with terminal binding tongues adapted to be readily conformed to and engage the terminal or binding post and when initially placed in position to engage the threaded binding post with a toggle acting engagement when the main body portion of the connector is moved laterally to be drawn up on the threads (as for example a quarter turn) and to be disengaged from such terminal or binding post when the connector base or clip is bent downwardly.

A still further object is the provision of an improved coupling or connector which will serve not only to quickly attach the conductor to or detach the same from a threaded stem or binding post of the spark plug in lieu of the ordinary binding nut and without the use of any tools or appliances, and when attached will form an improved conducting connector or coupling less liable to detachment or disarrangement than the connectors of this class now in common use.

While the present embodiment of the invention is particularly designed for use in connection with the conductors of spark

plugs for internal combustion engines, it will, of course be obvious and should be understood that the principles of the same are capable of a wide use and application.

With the above mentioned and other ends in view, the invention consists in the construction, arrangement and combination of parts, hereinafter described, illustrated in one of its embodiments in the accompanying drawings, and particularly pointed out in the appended claims.

Referring to the drawings, forming a part of this specification, Figure 1, is a side elevation of an ordinary spark plug equipped with a connector constructed in accordance with this invention, the connector or coupling being shown in its normal or locked position.

Fig. 2, a top plan view of the same.

Fig. 3, a side elevation of the same in unlocked or detached position preparatory to being lifted off of the binding post of the spark plug.

Fig. 4, a top plan view of the same, detached.

Fig. 5, a similar view of the same in detached or unlocked position.

Similar numerals of reference designate like parts throughout all the figures of the drawings.

The spark plug 1, may be of any suitable and convenient construction, and so likewise the threaded conductor or binding post 2, and these parts forming no part of this invention need not be described in detail.

The improved terminal connector comprises a main body portion or clip 3, of any suitable and convenient construction but preferably of resilient or bendable material forming a good conductor for electric current.

The electric conductor wire to be connected to the binding post or electrode 2, of the spark plug comprises the usual core or electric conducting wire 4, and the insulating covering 4^a.

The improved terminal connector comprises a main body portion or clip 3, provided at one side with laterally extending wings 3^a, adapted to extend about and embrace the insulating covering 4^a, of the conductor and with struck-out conductor wire receiving and binding tongues 3^b adapted to engage the projecting end or exposed portion of the wire 4.

As a means of quickly attaching the connector to or detaching the same from a spark plug conductor or binding post 2, without the use of tools or a binding nut, the body of the connector is provided with struck-out terminal binding tongues 3^c, having their free ends extending toward each other to receive therebetween a conductor or binding post 2, and also forming a conductor or binding terminal receiving opening or slot 3^d. The plate 3, at the sides of the opening or slot 3^d, forms the supporting and clamping base to rest upon the top of the spark plug when the connector is mounted and locked in position as hereinafter described, and the body or clip 3, is preferably provided with an extension 3^e, for coöperating with the connected ends or base in bending the clip in the act of causing the terminal binding tongues 3^c, to move away from each other in the detaching operation.

When it is desired to attach the connector to the terminal or binding post 2, of the spark plug, the opening or slot 3^d, is placed over the conductor or post 2, and pressed downwardly, the upward movement of the binding tongues 3^c, causing the same to move upwardly and outwardly from each other to adjust and accommodate themselves to the size and contour of the conductor or post 2, and when the base of the clip or body rests upon the top of the spark plug, the clip is moved laterally and about the threaded binding post 2, in drawing up relation to the threads thereof a movement of about one-quarter turn or revolution being sufficient to draw down on the free ends of the tongues with a toggle acting relation thereto thereby firmly binding the body or clip 3, on the top of the spark plug and securely bracing the parts as against any liability to disarrangement or accidental disconnection.

When it is desired to detach the toggle acting binding tongues 3^c, from the spark plug and its conductor or post 2, one side or the other (or both if desired) may be bent downwardly and away from the side carrying the upwardly projecting binding tongues 3^c, thereby causing the free ends of the latter to be moved away from each other and to disengage the binding post 2, as indicated most clearly in Figs. 3, and 5, of the drawings, whereupon the clip may be readily lifted off of the conductor or post 2, and should it then be desired to re-connect the connector to the original binding post or conductor 2, or to another conductor or spark plug the body or clip 3, may be restored to

its original flat or normal position thereby bringing the binding tongues 3^c to their original positions and the attaching operation hereinbefore referred to repeated.

Having thus described one of the embodiments of my invention, without having attempted to set forth all the forms in which it may be made, or all the modes of its use, what I claim and desire to secure by Letters Patent, is,—

1. A connector, comprising a clip provided with oppositely arranged terminal binding tongues having their free ends extending toward and into proximity with each other to engage a threaded member with a toggle-like action when forced over and turned thereon and to be spread apart and detached therefrom when said clip is bent.

2. A connector for electric terminals, comprising a bendable supporting plate provided at one side with conductor holding means and at the other with struck out terminal binding tongues extending toward and spaced from each other forming a terminal receiving opening, said tongues being drawn from each other and detached by bending said supporting plate away from the side from which said binding tongues project.

3. In combination with a corrugated terminal member, a connector clip having spaced binding tongues extending toward each other and having their free ends arranged to engage said corrugated terminal member when forced over the same in a relatively axial direction and to assume an angular toggle engagement therewith when in position, said binding tongues being drawn apart and disengaged therefrom when the clip is bent away from the side on which binding tongues project.

4. In combination with a threaded binding post, a connector clip having spaced binding tongues extending toward each other and having their free ends spaced apart to receive and engage said threaded binding post when passed over the same in an axial direction and to engage and cause said tongues to bind on the threads of said terminal with a toggle-like action when turned circumferentially thereon, said tongues being drawn apart and disengaged therefrom when the clip is bent away from the side on which said binding tongues project.

In testimony whereof I have affixed my signature.

ALBERT L. AUSTIN.