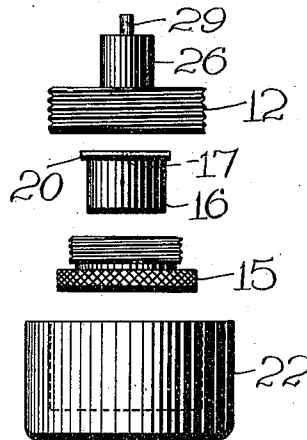
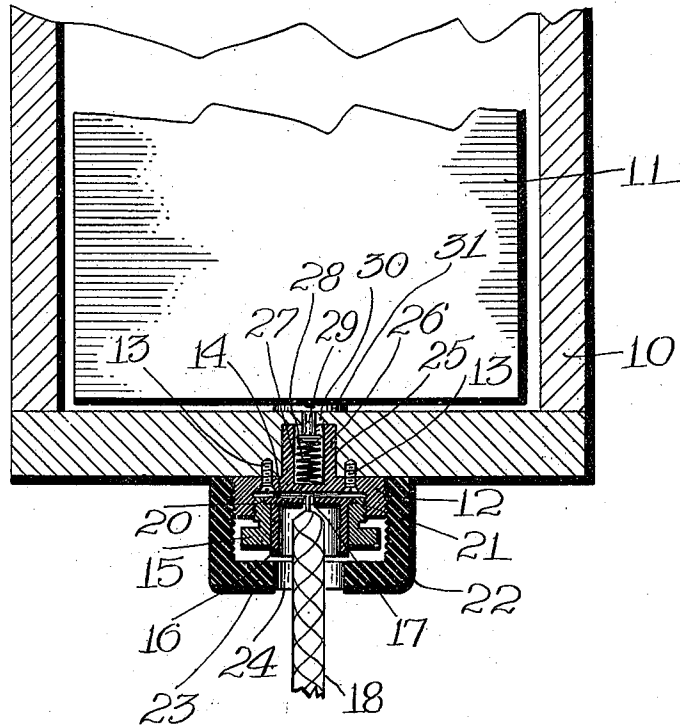


J. J. BURNS.  
ELECTRICAL CONNECTOR.  
APPLICATION FILED NOV. 23, 1908.

975,118.

Patented Nov. 8, 1910.

*Fig. 1.*



*Fig. 2.*

*Witnesses:*  
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*Inventor*  
*James J. Burns*  
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# UNITED STATES PATENT OFFICE.

JAMES J. BURNS, OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO W. H. LELAND & CO., OF WORCESTER, MASSACHUSETTS, A COPARTNERSHIP.

## ELECTRICAL CONNECTOR.

975,118.

Specification of Letters Patent.

Patented Nov. 8, 1910.

Application filed November 23, 1908. Serial No. 463,968.

*To all whom it may concern:*

Be it known that I, JAMES J. BURNS, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Electrical Connector, of which the following is a specification.

This invention relates to an electrical connector or binding post which is capable of use wherever a conducting wire is to be removably connected with an instrument or the like, but which is particularly adapted for the high tension terminal of a spark coil and for similar purposes.

The principal objects of the invention are to provide a construction in which the conductor or the end thereof to be connected can be clamped between two surfaces which fit each other, preferably being flat, and one of which approaches the other without rotation while it is being clamped in position on the conductor; also to provide a construction in which when a conductor is employed consisting of two or more strands, these strands can be spread out on a surface and clamped thereto in a convenient and efficient manner without unnecessarily marring or weakening the end of the connector; also to provide a convenient means for attaching the said parts to a box or receptacle; and to provide a simple form of spring-pressed contactor projecting inside the receptacle for engagement with a contact surface therein.

Further objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawings in which—

Figure 1 is a central vertical sectional view of a spark coil receptacle showing a preferred form of the invention applied thereto, and Fig. 2 is a side elevation of the connector or binding post showing the parts separated from each other.

The invention is shown as applied to a receptacle or box 10 for holding the units 11 of a spark coil or ignition device, but it is to be understood that it is equally useful for other purposes. It is shown as applied to the high tension terminal. The connector is shown as comprising a support 12 of conducting material which is fixed to the bottom or wall of the receptacle by screws 13 or in any other convenient manner. It is provided with a contact surface

14 and with a removable clamping member 15 inside which is rotatably held a cylindrical member 16 having a perforation 17 through which the conductor 18 passes for holding the end or ends of the latter clamped against said contact surface. The support and clamping members 12 and 15 are provided with screw-threaded connections so that the clamping member can be screwed up on the support carrying the cylindrical member 16 with it. The contacting surface 14 is preferably of the same shape as the end of the cylindrical member 16, so that the end of the wire conductor can be clamped between them, and so that if the conductor consists of a plurality of strands, these strands can be spread out on these surfaces and clamped firmly between them so as to give a most efficient electrical connection. For these reasons these two surfaces are preferably flat as shown.

In order to carry the member 16 with the clamping member, the former is provided with a circumferential shoulder 20, and the latter with an annular recess 21 which the shoulder fits. The cylindrical member 16 is revolvably mounted in the clamping member so that the latter can rotate without rotating the cylindrical member. In this way the cylindrical member is brought up against the conductor without rotation, and thus the wires are not marred or rolled so as to be twisted up and thus subjected to the liability of breakage. It will be observed that the member 16 is hollow for some distance and provides a projecting hollow cylindrical portion through which the conductor passes. These parts are all in electrical connection as they are preferably all made of metal. The support 12 is provided with external screw-threads on which an insulator 22 is mounted having an inwardly extending end flange 23 provided with an opening 24 for the conductor, and long enough to cover all the parts so as to protect the whole device.

The parts of the device so far described can be mounted in many ways and on many kinds of electrical devices and instruments, but when applied to a casing for the purpose of connecting the interior thereof with the conductor 18 the following construction preferably is used. The wall or bottom of the receptacle as 10 is provided with a counter-sunk passage 25, in the largest portion of which extends a projection 26 integral with

the support. This projection has a recess 27 therein in which is located a spring 28. This spring bears on a shouldered plunger 29, which engages an inwardly extending shoulder 30 on the receptacle in the passage 25 so as to prevent the plunger from being forced out too far. The unit or element 11 inside the receptacle is preferably provided with a conducting plate 31 which engages the plunger 29 and forces it back against the spring so as to keep a good electrical connection at this point even under the severe conditions of vibration under which these devices usually work.

While I have illustrated and described a preferred embodiment of the invention, I am aware that many modifications may be made therein by any person skilled in the art and that it can be adapted generally for electrical purposes without departing from the scope of the invention as expressed in the claims. Therefore I do not wish to be limited to all the details of construction or to the particular use of the invention shown and described, but

What I do claim is:—

1. In an electrical connector, the combination of a conducting support having an inset contact surface, a removable member having a projecting surface fitting the contact surface and having a longitudinal perforation therethrough for the reception of a conducting wire, and a clamping member carried by said support and located outside the contact surface for clamping the end of the wire between said removable member and the contact surface.

2. In an electrical connector, the combination of a conducting support having a contact surface, a member having a surface fitting said contact surface and having a perforation therethrough for a conductor, and adjustable means for clamping said member against the contact surface of the support, whereby the conductor can be held between said surfaces, said member having a projecting hollow cylinder concentric with said perforation through which said conductor passes.

3. In an electrical connector, the combination of a conducting support having a screw-

threaded part, a cylindrical member having a surface adapted to engage said support and having a perforation therethrough for a conductor, and a screw-threaded clamping member fitting the screw-threads on said support and having a perforation for receiving said cylindrical member, and provided with means whereby when it is screwed up on the support, said cylindrical member will be forced against the contact surface.

4. In an article of the class described, the combination of a support having a cylindrical screw-threaded part, a substantially cylindrical member having a circumferential shoulder at one end and provided with a central perforation for the reception of a conductor, and a hollow cylindrical clamping member having a screw-thread fitting the thread on the support and provided with an internal shoulder adapted to fit the shoulder on the cylindrical member and to hold the same in position whereby said cylindrical member may be clamped up against the support.

5. In an electrical connector or binding post, the combination of a conducting support adapted to be secured to the surface of a wall or the like and having on the opposite side thereof a continuous flat circular contact surface, a clamping member having a passage for the conductor, and a member located within the clamping member and extending therethrough and provided with a flat circular contact surface adapted to be brought into engagement with the first contact surface by the operation of the clamping member and provided with a central axial perforation therethrough perpendicular to said contact surface through which the end of the conductor may be introduced from the outer side thereof whereby the end of the conductor may be clamped between said contact surfaces.

In testimony whereof I have hereunto set my hand, in the presence of two subscribing witnesses.

JAMES J. BURNS.

Witnesses:

ALBERT E. FAY,  
C. FORREST WESSON.