

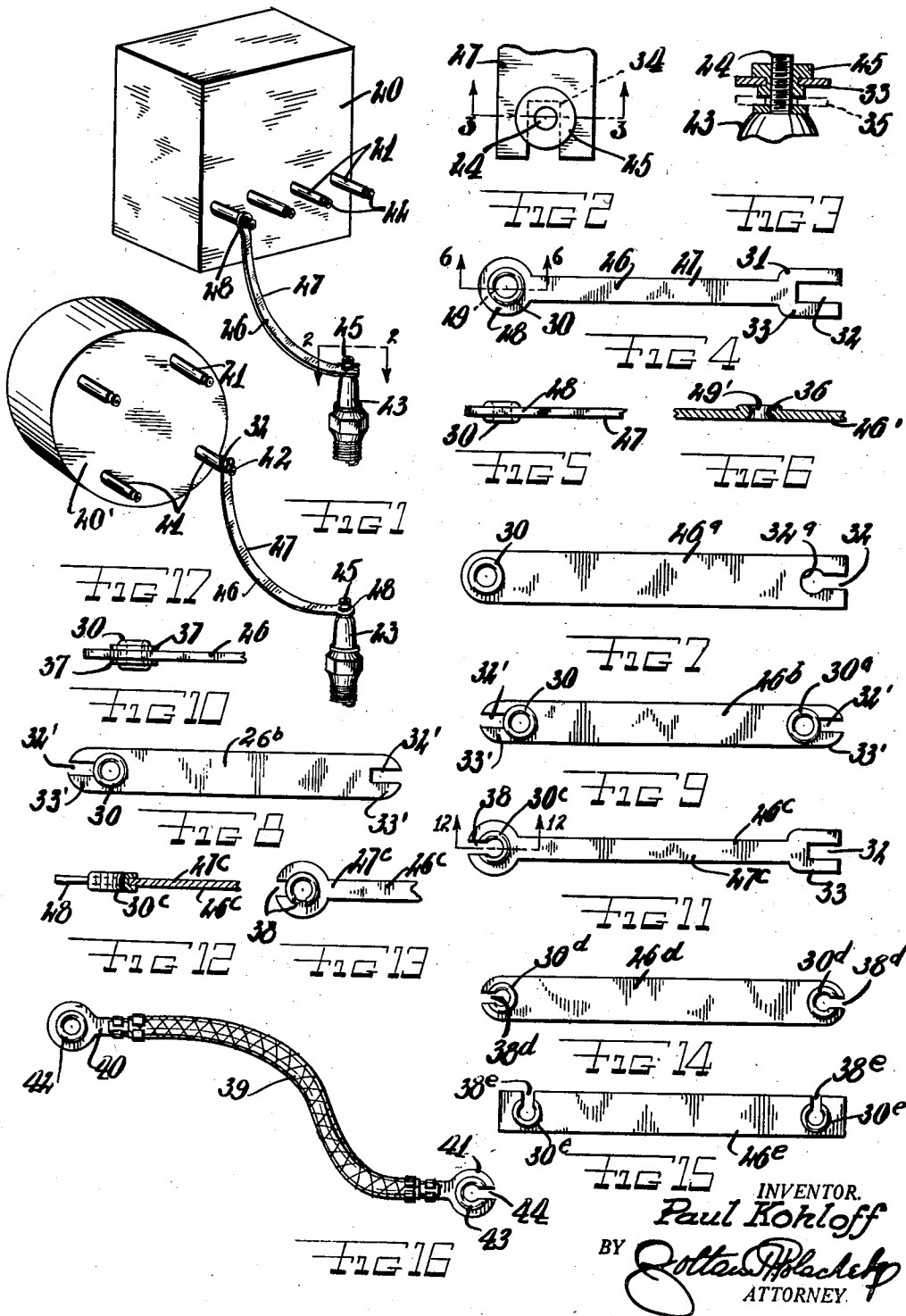
Jan. 27, 1931.

P. KOHLOFF

1,790,101

ELECTRICAL CONNECTER

Filed Dec. 15, 1928



UNITED STATES PATENT OFFICE

PAUL KOHLOFF, OF MAMARONECK, NEW YORK, ASSIGNOR OF ONE-HALF TO GEORGE GROSS, OF SUMMIT, NEW JERSEY

ELECTRICAL CONNECTER

Application filed December 15, 1928. Serial No. 326,205.

This invention relates generally to spark plug and coil or distributor connectors and has more particular reference to a novel electrical connector, one form of which I disclosed in my previous Patent No. 1,566,143, dated December 15, 1925.

The invention has for an object the provision of a device of the class mentioned, which is of simple durable construction, desirable in use and efficient in action, and which can be manufactured and sold at a reasonable cost.

The invention proposes the use of a metal springy strip provided with an aperture at one end for engaging upon a terminal and a cut-out portion at the other end forming a jaw for engaging upon a second terminal. The strip is adapted to be bowed when engaged between the terminals so that a constant force is exerted by the strip for maintaining its position. Preferably, an eyelet is engaged in the aperture in the said springy strip. The coating of insulating material may be applied upon the strip. This strip may be modified in various ways such as engaging eyelets in both ends of the strip, and forming cut-out portions in both ends of the strip for providing jaws. A further modification consists of cut-out portions formed in the eyelets arranged for aligning with the cut-out portions of the strip in certain positions of the eyelets, the eyelets being arranged to rotate to different positions. This arrangement permits the connector strip to be locked upon a terminal.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claim in which the various novel features of the invention are more particularly set forth.

In the accompanying drawing forming a material part of this disclosure:—

Fig. 1 is a perspective view of a strip constructed according to this invention and applied upon terminals.

Fig. 2 is a fragmentary plan view looking in the direction of the arrows 2—2 of Fig. 1.

Fig. 3 is a fragmentary sectional view, taken on the line 3—3 of Fig. 2.

Fig. 4 is a plan view of the strip per se.

Fig. 5 is a fragmentary side elevational view thereof.

Fig. 6 is a sectional view of a modified form of a strip seen as though taken on the line 6—6 of Fig. 4.

Fig. 7 is a view similar to Fig. 4, but disclosing a modified form of the device.

Figs. 8 and 9 are further similar views to Fig. 4, but disclosing further modified forms of the device.

Fig. 10 is a view similar to Fig. 5, but disclosing a modified form thereof.

Fig. 11 is another similar view to Fig. 4 disclosing a further modified form of the device.

Fig. 12 is a sectional view, taken on the line 12—12 of Fig. 11.

Fig. 13 is a fragmentary view of a portion of Fig. 11 showing the eyelets thereof in a second position.

Figs. 14 and 15 are views similar to Fig. 11, but disclosing modified forms thereof.

Fig. 16 is a plan view of a flexible cable with end clips constructed according to this invention.

Fig. 17 is a similar view to Fig. 1 showing another application of my connector.

The reference numeral 20 indicates generally a coil box provided with binding posts 21 having binding nuts 22 on their ends. The reference numeral 23 indicates generally a spark plug having a binding post 24 and a binding nut 25. An electrical connector 26 constructed according to this invention is shown engaged between a binding post 21 and the spark plug 23.

The connector 26 comprises a metallic springy strip 27 having an enlarged end 28 with an aperture 29 in which an eyelet 30 is engaged. The other end of the strip 27 also has an enlarged portion 31 formed with a cut-out 32 to provide a jaw 33. As shown in Fig. 1, the eyelet 30 is engaged upon one of the binding posts 21, and the jaw 33 is engaged upon the spark plug 23. The binding nut 25 of the spark plug is formed with flattened sides 34 for receiving

the jaw 33 as clearly shown in Fig. 3. If desired, the jaw 33 may be clamped between the binding nut 25 and the spark plug as indicated by dot dash lines 35.

5 In the modified form of the device illustrated in Fig. 6, an opening 29' formed in one end of the connector 26' has integral turned ends as indicated by numeral 36. This serves as an eyelet for reinforcing the opening 29'.

10 In the modified form of the device illustrated in Fig. 7, an electrical connector 26^a has been illustrated of the same width along its entire length. The cut-out 32 communicates with a circular cut-out portion 32^a. In other respects this connector is similar to the preferred form of the device.

15 In Fig. 8 the connector 26^b is illustrated with cut-out portions 32' at both ends forming jaws 33'. The eyelet 30 is shown engaged in one of these jaws so that the strip may function as before described relative to Fig. 4.

20 In Fig. 9 a second eyelet 30^a has been shown engaged in the end of the strip opposite to that provided with the eyelet 30. This connector is engaged upon the terminals with the binding posts engaged thru the eyelets.

Fig. 10 shows another modified form of 30 the device in which reinforcement washers 37 are engaged on both sides of the connector 26 at the portions thru which the eyelets 30 engage. Thus the connector is materially strengthened where it needs most strength.

35 In Figs. 11, 12 and 13 a connector 26^c has been illustrated with cut-outs 38 extending into the strip 27^c and the eyelet 30^c. The eyelet is rotatively mounted on the strip 27^c so that it may be rotated to a second position as illustrated in Fig. 13. In this position the cut-out portion of the eyelet does not align with the cut-out portion of the strip and a binding post engaged thru the eyelet 40 is thus locked in position. The advantage of this construction is that the connector may be slipped upon a binding post having a nut without removing the nut.

45 In Fig. 14 a connector 26^d has been illustrated formed at both ends with cut-outs 38^d and eyelets 30^d. This arrangement permits both ends of the connector to engage upon binding posts and to be locked in positions by rotation of the eyelets 30^d.

55 In the modified form of the device illustrated in Fig. 15, a connector 26^e has been illustrated with cuts 38^e in the sides thereof near the ends. Eyelets 30^e are rotatively mounted on the strip and are provided with cuts normally aligned with the cuts in the connector strip. The operation of this form of the device is similar to that described relative to Fig. 14.

60 In Fig. 16 a flexible cable 39 has been illustrated with clips 40 and 41 engaged upon

its ends. The clip 40 is provided with an eyelet 42 so that this end of the cable may be secured upon a binding post. The clip 41 with an eyelet 43 is formed with a cut 44 in the material forming the clip and in the eyelet. Normally these cuts align, and the eyelet is rotatively arranged so that it may be rotated for disaligning the cuts and permitting a binding post engaged thru the eyelet to be locked against displacement.

70 In Fig. 17 a cut-out end 32 of the connector 26 is shown to be connected to the binding post 21 of distributor 20' and an enlarged end 28 of connector 26 is connected to spark plug 23.

80 It is to be understood that my connector may be used to connect binding posts of spark plugs, distributors or any electrical terminal or device wherever an electrical connector, the type above described, may be used.

85 While I have shown and described the preferred embodiment of my invention, it is to be understood that I do not limit myself to the precise construction herein disclosed and the right is reserved to all changes and modifications coming within the scope of the invention as defined in the appended claim.

90 Having thus described my invention, what I claim as new, and desire to secure by United States Letters Patent is:—

95 An electrical connector, comprising a single piece of relatively springy metal strip having cut-in ends forming jaws, and an eyelet rotatably mounted in one of the jaws, the said eyelet having a cut-out portion aligning with the cut-in in the strip in one position of the eyelet.

100 In testimony whereof I have affixed my signature.

PAUL KOHLOFF.

70

75

80

85

90

95

100

105

110

115

120

125

130