

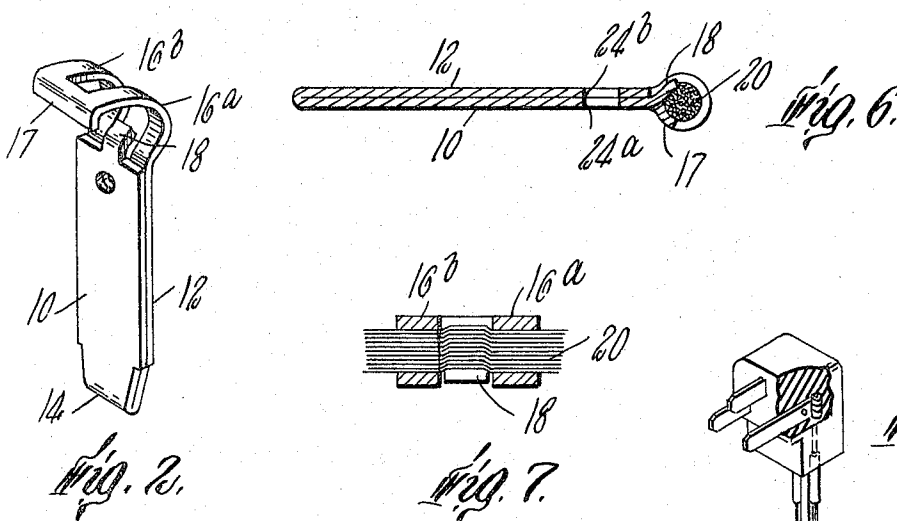
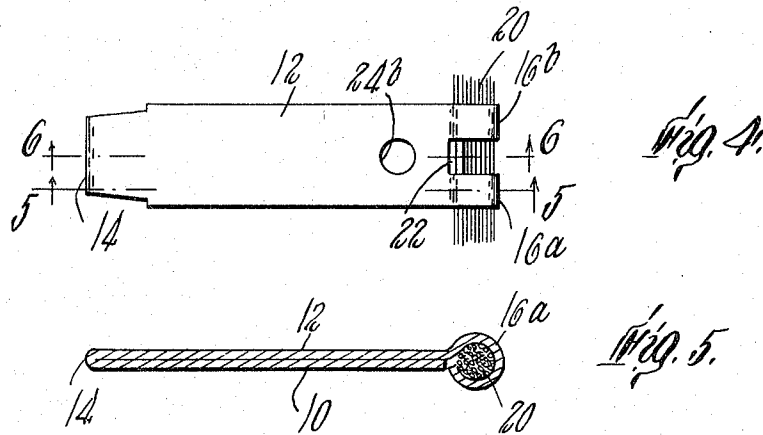
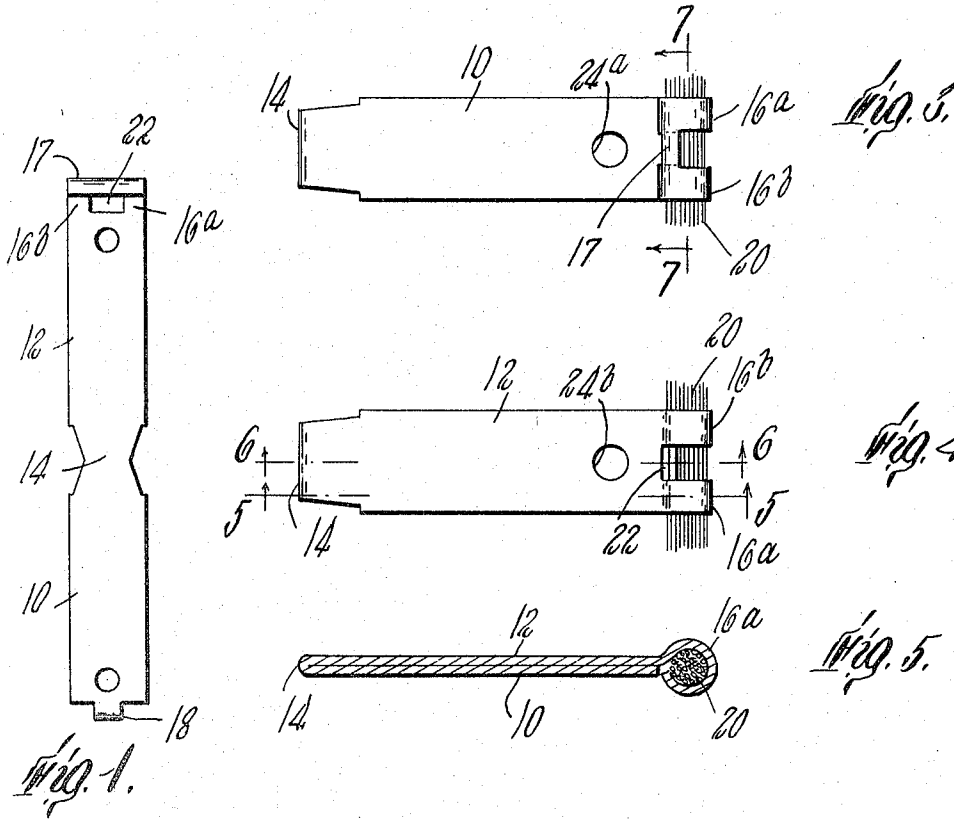
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ELECTRICAL CONNECTOR

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1

3,310,773

ELECTRICAL CONNECTOR

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This invention relates to electrical connectors of the type wherein conducting blade elements are, after attachment to conducting wires of a cord, molded into an electrical cord plug. The invention is particularly useful in such constructions in which the blade elements extend from the molded plug at right angles to the emerging conducting cord.

In electrical connectors of the integral molded type it is desirable to provide maximum current carrying capacity for weight of metal, maximum strength at locations subject to greatest stress in molding and in use, minimum waste by reducing scrap during manufacture and optimum cross section and firm clamping at the area of contact between the conducting wire and the blade to increase conductivity.

The double or folded blade variety of connector best permits realization of the desirable characteristics just mentioned.

According to the invention there is provided a new and improved electrical connector comprising a pair of elongated conducting elements joined to each other at one end and being flattened at least at the other end portion and arranged side by side in registry with and contacting each other. Preferably, the pair of elements is formed by folding upon itself a single flat strip of malleable conducting material such as soft brass. Each element has a tongue extending from its unjoined end and such tongue is connected to its associated element only along a part of its width. One tongue is longer than the other and extends outwardly beyond and at least partly around the end of the adjacent element. The other tongue is shorter and off-set toward and beyond the element which has the longer tongue at a location free of any connecting portion of the longer tongue so that a conductor, such as the end of a wire of a cord, may be placed between the tongues and gripped by curling the longer tongue around it while at the same time the unjoined ends of the side by side elements will be clamped together by the engagement of the conductor with the shorter tongue.

Other objects, features and advantages of the invention will become apparent from the following detailed description of a presently preferred embodiment taken in conjunction with the accompanying drawings wherein:

FIG. 1 is a plan view of a metal blank adapted to be folded to form the novel connector of the invention;

FIG. 2 is a perspective view of the folded blade formed from the blank shown in FIG. 1;

FIG. 3 is a plan view of the folded blade of FIG. 2 with an electrical conductor clamped in the end thereof in accordance with the invention;

FIG. 4 is a plan view of the opposite side of the assembly of FIG. 3;

FIG. 5 is a section on line 5—5 of FIG. 4;

FIG. 6 is a similar section on line 6—6 of FIG. 4;

FIG. 7 is a section on line 7—7 of FIG. 3; and

FIG. 8 is a perspective view on a reduced scale of a molded plug employing connectors of the invention connected at right angles to the conductors of a 3-conductor cable.

As best seen in FIG. 2, elongated conducting elements 10 and 12 are joined together at one end by connecting portion 14. Preferably the two elements are formed

2

from a single blank as seen in FIG. 1 of flat soft brass stock which is then folded upon itself, as shown in FIGS. 2-6, to provide a blade for an electrical plug.

Each element 10 and 12 has a tongue extending from its end. The tongue extending from the element 12 (see FIGS. 2-4) is two-part, designated by numerals 16a and 16b. This two part tongue extends, after the blank is folded, beyond the end of the other element 10 and is longer than the other tongue 18, the two parts being joined by end portion 17. It is also arranged to be curled upwardly and inwardly upon a conductor 20 comprising a bundle of strands of copper conducting wire. The tongue 16a-16b is connected to its associated element 12 only along part of its base, leaving an interval 22 between the two parts of the tongue. The other tongue 18 is a single tongue and extends from its associated element at the interval 22 so it may extend beyond the end of the element 12 into the interval 22 between the portions 16a and 16b of the other tongue.

Thus, when the stranded conductor 20 is embraced by the curled over portions 16a and 16b the tongue 18 is engaged by the thus clamped conductor and serves to hold firmly together the unjoined ends of the elements 10 and 12. The assembly is then ready for molding into a plug in a manner well known in the art, as seen in FIG. 8.

It will be noted that the invention permits most efficient use of materials with minimum scrap. Registering holes 24a and 24b are provided in the elements 10 and 12 respectively to permit through flow of the molding material for greater strength. For use in plugs wherein it is desired that the blades extend at right angles to the conductor the invention manifestly has great advantages.

While there has been described and illustrated a preferred form of the invention it will be understood that the same is susceptible of modifications and changes by those skilled in the art and accordingly it is intended that the scope of the invention be limited only by the scope of the appended claims.

What we claim is:

1. An electrical connector comprising a pair of elongated conducting elements joined to each other at one end and flattened at least at the other end portion said elements being arranged side by side in registry with and contacting each other each of said elements having a tongue extending from its unjoined end and connected thereto only along a part of its width one of said tongues being longer than the other and extending outwardly beyond and at least partly around the other end of the adjacent element the other of said tongues being shorter and offset toward and beyond the end of the element which has the longer tongue at a location free of any connecting portion of said longer tongue so that a conductor placed between said tongues may be gripped by the longer tongue curled therearound while at the same time the unjoined ends of said elements will be clamped together by the engagement of the conductor with the shorter tongue.
2. An electrical connector comprising a flat conductor folded upon itself with its unjoined ends registering with one another a tongue extending from each of said unjoined ends one of said tongues being two-part with the parts connected to the associated end and having an interval therebetween the other of said tongues being arranged in the interval between the two parts of the two-part tongue the two-part tongue being longer than the other and

3

extending outwardly beyond and at least partly
around the end of the adjacent end
the shorter tongue being offset toward and beyond
the end which has the two-part tongue and extending
into said interval so that a conductor placed between
said tongues will be gripped by the two-part tongue
curled therearound while at the same time said
unjoined ends will be clamped together by the en-
gagement of the conductor with the shorter tongue.

5

4

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