Jan. 30, 1951 C. F. VOUGH ET AL 2,540,037

TERMINAL CONNECTOR

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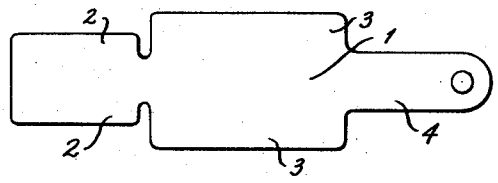


Fig. 1.

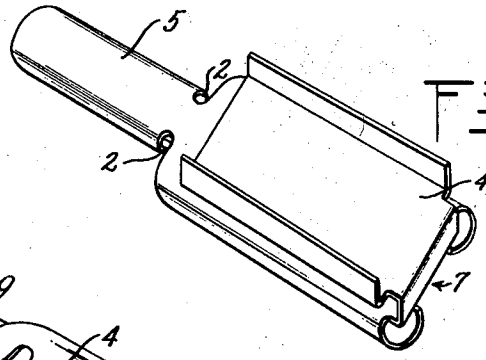


Fig. 2.

Fig. 3.

Fig. 6.

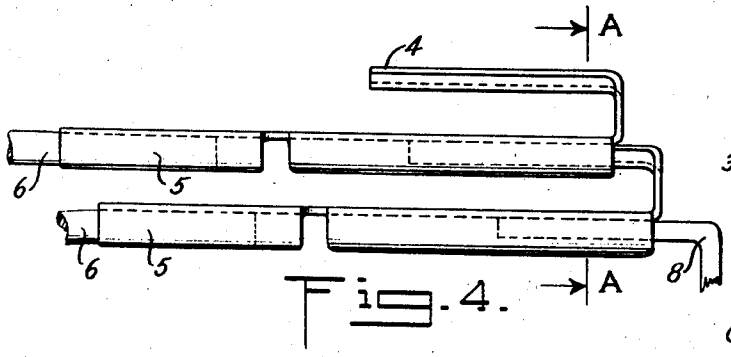


Fig. 4.

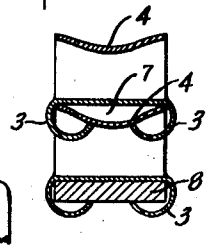


Fig. 5.

INVENTORS
CLAIR F. VOUGH
CHARLES J. LAWSON, JR.
BY John F. Hanifin
ATTORNEY

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TERMINAL CONNECTOR

Clair F. Vough, Wappingers Falls, and Charles J. Lawson, Jr., Poughkeepsie, N. Y., assignors to International Business Machines Corporation, New York, N. Y., a corporation of New York

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4 Claims. (Cl. 173—269)

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This invention relates to improvements in electrical apparatus. In the wiring of electrical circuits it is desirous in many applications to employ detachable connections. At times it may be necessary that several wires be commoned while at other times it may be necessary that the same wires be connected to separate points. An ideal connector is one that will readily lend itself to fast, efficient changing and, at the same time, be of construction sturdy enough to maintain permanent connections once they are made.

It is one object of the invention to provide an improved electrical clip for use in wire connections.

Another object of the invention is to provide an electrical clip formed of a single length of strip conductor material shaped to provide multiple connections.

Another object of the invention is to provide an electrical clip formed of a single length of relatively thin strip conductor material formed so as to be readily connected to and retained in similar clips.

Other objects of the invention will be pointed out in the following description and claims and illustrated in the accompanying drawings, which disclose, by way of example, the principle of the invention and the best mode, which has been contemplated, of applying that principle.

In the drawings:

Fig. 1 is a view of a single stamping of light gauge metal before being formed into the shape of the clip.

Fig. 2 is a perspective of one modification of the invention.

Fig. 3 is a perspective of two clips and a bus bar indicating the mode of assembly.

Fig. 4 is a side elevation view of the assembly of two clips and related connections.

Fig. 5 is a section taken in the plane represented by the line A—A of Fig. 4.

Fig. 6 is a rear elevation view, partly in section, of a clip showing another modification of the invention.

Referring now to the drawing wherein like reference characters denote corresponding parts, and first to Fig. 1 which illustrates a stamping of light gauge electrical conductive material 1, having two sets of opposed flanges numbered 2 and 3 respectively, and a tongue section 4. The clip is formed by turning the flanges 2 inward (see Fig. 2) forming a section 5 which can be clamped to the end of a circuit wire 6 (see Fig. 4). The flanges 3 of the second set are turned over and inward to provide a socket portion 7, which

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is adapted to receive a contact strap 8 or the like. The tongue 4 is folded back on the main body 9 and is adapted to receive a socket portion 7 of a similar clip. The adaptation of the tongue is accomplished by depressing or deforming it in a direction extending transversely the axis of the clip. This deforming may be accomplished in several ways, one mode being illustrated in Fig. 2 where the tongue 4 is formed in a channel shape. Other modifications, in which the tongue is curved, are shown in Figs. 3 to 6. In Figs. 3–5, the tongue has an outer concave surface while in Fig. 6 (partly in cross section) it has an outer convex surface.

Referring again to Figs. 3 and 4, two clips are shown having terminal wires 6 attached at one end. Assume for purposes of illustration that both wires must be electrically connected to the contact strap 8. The strap then is placed into a socket portion of the bottom clip. The flanges 3 bent in the manner shown, creates, on insertion of the strap, a spring effect, which forces the strap into engagement with the body portion of the clip, thereby holding the strap in position and insuring good electrical connection. The terminal wire is thus electrically connected to the contact strap through the clip. To connect the second circuit wire, the socket portion of the top clip is forced on to the tongue portion of the bottom clip. Even though the clip is made of relatively thin material, since the tongue is bent or shaped in such a manner as heretofore described, it has a greater effective thickness. Inspection of Fig. 5 shows how the flanges 3 create the same spring tension effect on the tongue 4 as they do on the substantially thicker strap 8. The resulting structure is quite rigid and yet is of a light structure since no thick, heavy material is used. As any number of clips can be assembled in such a manner, there is no limit to the number of wires that can be so connected. The clip itself is of such shape that it can be die formed for economy in production and yet provide novel advantages in use.

While there have been shown and described and pointed out the fundamental novel features of the invention as applied to a preferred embodiment, it will be understood that various omissions and substitutions and changes in the form and details of the device illustrated and in its operation may be made by those skilled in the art, without departing from the spirit of the invention. It is the intention, therefore, to be limited only as indicated by the scope of the following claims.

What is claimed is:

1. A terminal clip comprising a body portion having flanges projecting therefrom, said flanges being turned over and inward toward the said body thereby forming a socket adapted to receive a contact strap, a tongue integral with and folded back on said body, said tongue being shaped for insertion in a socket portion of a similar clip.

2. A terminal clip comprising a flat body portion having a set of opposed flanges projecting therefrom, said flanges being folded back projecting in a semi-circle toward the said body thereby forming a socket, a tongue integral with and folded back on the said body so as to set approximately parallel thereto, said tongue bowed in a direction extending transversely of the axis of said clip thereby adapting said tongue for insertion in a socket portion of a similar clip.

3. A terminal clip comprising a body portion having opposed flanges projecting therefrom, said flanges turned over and inward thereby forming a socket adapted to receive a contact strap, a tongue integral with and folded back on said body, said tongue being bowed, thereby adapting said tongue for insertion in a socket portion of a similar clip.

4. An electrical clip comprising a strip of conductive metal shaped to provide contact means at one end, and providing a pair of spaced flanges having inwardly directed portions at the other end of the terminal, said portions being integrally united at the inner ends thereof and being complementarily shaped to provide an axial passage, a tongue member integral with the said flanges at the said inner ends and positioned parallel with the said axial passage, the said tongue shaped for insertion in the axial passage of a similar clip.

CLAIR F. VOUGH.
CHARLES J. LAWSON, JR.

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The following references are of record in the file of this patent:

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