Dec. 10, 1929. J. SACHS 1,739,262

WIRE CONNECTING LUG WITH TEST CONTACT

Filed Aug. 17, 1926

Fig. 1

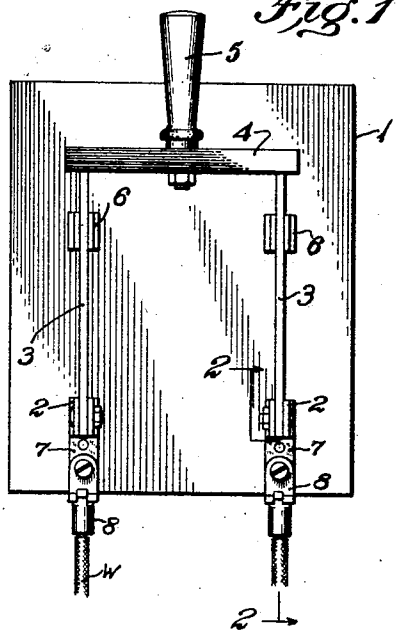


Fig. 2

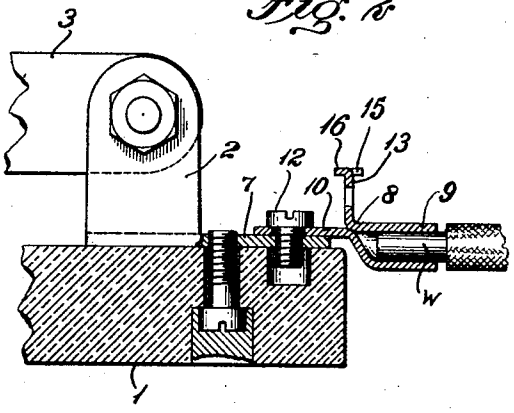


Fig. 3

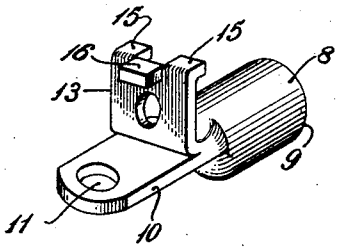


Fig. 4

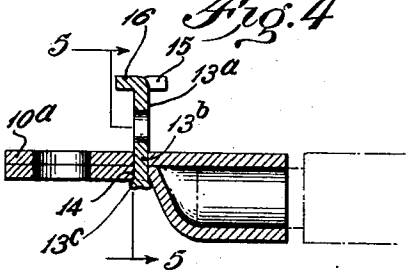
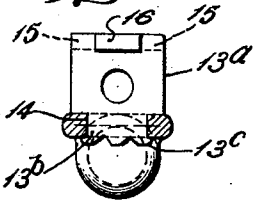


Fig. 5



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UNITED STATES PATENT OFFICE

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WIRE-CONNECTING LUG WITH TEST CONTACT

Application filed August 17, 1926. Serial No. 129,765.

My invention relates to a wire connecting lug, preferably of the solder type, combined with a test contact of improved construction. These parts, instead of being furnished separately as has heretofore been the usual practice, may be furnished as combined units with consequent economy of manufacture and handling and with greater convenience of installation in conjunction with meter service switches and other devices.

The principal object of the invention is to provide an article of the class described having a test contact of improved construction and combined with the wire receiving lug in an improved manner.

Of the accompanying drawings which illustrate the invention:

Fig. 1 is a front view of a switch in conjunction with which lugs embodying the invention are used.

Fig. 2 is an enlarged sectional view taken along the line 2—2 of Fig. 1.

Fig. 3 is an enlarged perspective view of the lug separate from the other parts.

Fig. 4 is a longitudinal sectional view on the same scale as Fig. 3 but showing an alternate embodiment of the invention.

Fig. 5 is a sectional view taken along the line 5—5 of Fig. 4.

In order that the invention may be more clearly understood I have shown in Figs. 1 and 2 of the drawings a switch of the knife blade type having connected therewith lugs embodying the invention. The switch as shown includes a base 1, and two contacts 2, 2 to which are pivoted knife blade members 3, 3. The knife blade members are connected by a cross bar 4 carrying a handle 5. Also mounted on the base 1 are rupture contacts 6, 6 with which the switch blades 3, 3 may be engaged to complete the circuit through the switch. Connected with each of the contacts 2, 2 is a terminal 7 of conducting material to which may be attached a wire connecting lug constructed in accordance with the invention. It will be understood that I do not in any way limit myself to a switch of the type shown in Figs. 1 and 2 and that the invention is equally applicable to switches of other types, particularly switches mounted in enclosing boxes or cabinets.

In Figs. 1 to 3 I have shown a wire connecting lug 8 which is essentially of the ordinary flattened tubular type. The lug is provided with a socket portion 9 adapted to receive the end of a wire W and with a flattened portion 10 having an aperture 11 therethrough for the reception of a holding means such as a screw 12. In accordance with customary practice the wire receiving socket portion of the lug is located at one side of the plane of the flat portion thereof and approximately tangent thereto. It will be understood that the wire W may be soldered in place, if desired, in accordance with usual practice.

Carried by the test lug and projecting therefrom is a test contact plate 13 which preferably lies in a plane extending transversely of the longitudinal lines of the lug. As shown in detail in Figs. 2 and 3 the plate 13 is formed integrally with the wire receiving lug, the flattened portion of the lug, instead of being double as is customary, being made single and one of the sections of the metal being bent upward as shown to form the test contact plate.

Instead of forming the test contact plate integrally with the wire receiving lug as shown in Figs. 2 and 3, I ordinarily prefer to form it separately from sheet metal as shown in detail in Figs. 4 and 5. As shown in these figures the flattened portion 10^a of the wire receiving lug is made double in accordance with the usual practice and is provided with a recess 14 in which a reduced end 13^b of the contact plate 13^a is seated. The lower edge portions of the contact plate 13^a are riveted or peened over as shown at 13^c, 13^c in order to hold the plate in place.

Whether the contact plate be formed and mounted as shown in Figs. 2 and 3 or as shown in Figs. 4 and 5, it preferably projects from the said flat portion of the lug at a position immediately adjacent the socket portion and at the opposite side of the said flat portion. The said contact plate is preferably provided at or near its outer end with teeth projecting angularly in opposite directions beyond the opposed faces thereof. The teeth are posi-

tioned at sufficient angles to the main body of the plate to prevent removal of a connection clip therefrom by a direct longitudinal pull. As concerns the broader aspects of the invention I do not limit myself to any one form of teeth, but I have shown and I prefer to longitudinally slit the end of the test contact plate and to bend the portions thereof between the slits in opposite direction beyond the opposed faces of the plate to form angularly projecting teeth 15, 15 and 16.

The details of the construction of the teeth, as described, do not of themselves form a part of the present invention, these being set forth and claimed in my patent for test contacts, No. 1,651,554 issued Dec. 6, 1927.

It will be understood from the foregoing description that the test contact plate 13 or 13ª serves as a conveniently available means for the secure attachment of the clip or clamp attached to the end of a test instrument lead or attached to any other temporary conductor. By combining the test contact 13 or 13ª with the wire receiving lug a considerable economy of manufacture is effected and also there is effected a considerable convenience to the user or assembler who has to attach only a single unit instead of two separate units. Wire connecting lugs of this type are commonly located vertically as shown in Fig. 1 and with the main body of the test contact extending transversely as shown and described the instrument leads are more firmly held, there being no tendency for them to be slipped sidewise off from the contact.

As already pointed out the test plate or contact projects from the flat portion of the lug at the side thereof opposite that on which the socket portion is located, the result being that the test contact projects away from the socket portion so as to be entirely clear thereof thus providing ample space for the attachment of test clips. As clearly shown in the drawing each lug is mounted with the socket portion thereof offset toward the rear instead of toward the front as is customary, and the test contact projects toward the front. The result is that I avoid any interference between the said socket portion and the said test contact.

What I claim is:

1. An article of manufacture comprising in combination a wire connecting lug having a wire receiving socket portion and an apertured flat portion formed integrally with the socket portion and adapted to be secured to other conducting parts, and a test contact plate carried by and projecting from the said flat portion of the lug immediately adjacent the socket portion, the said plate lying in a plane extending transversely of the longitudinal lines of the lug and having at its outer end integral teeth bent in opposite directions at angles to the main body of the plate.

2. An article of manufacture comprising in combination an integral wire connecting lug comprising an apertured flat portion adapted to be secured to other conducting parts and a wire receiving socket portion located at one side of the plane of the flat portion and approximately tangent thereto, and a test contact plate carried by and projecting from the said flat portion of the lug immediately adjacent the socket portion thereof but at the side of the flat portion opposite thereto, the said plate lying in a plane extending transversely of the longitudinal lines of the lug and having at its outer end integral teeth extending in opposite directions at angles to the main body of the plate.

3. An article of manufacture comprising in combination a wire connecting lug having a wire receiving socket portion and an apertured flat portion formed integrally with the socket portion and adapted to be secured to other conducting parts, the said flat portion having a transverse recess immediately adjacent the socket portion, and a sheet-metal test contact plate structurally separate from the lug and projecting at one end into the said recess and held in place therein, the said plate lying in a plane extending transversely of the longitudinal lines of the lug and having at its outer end integral teeth bent in opposite directions at angles to the main body of the plate.

JOSEPH SACHS.