

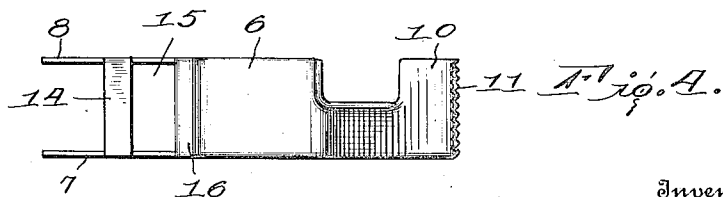
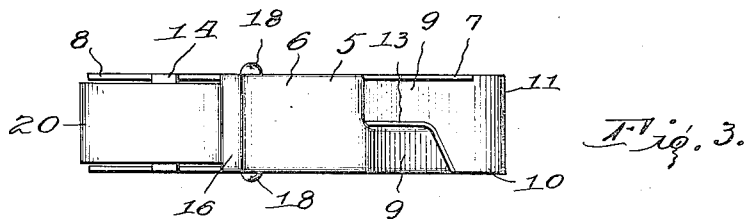
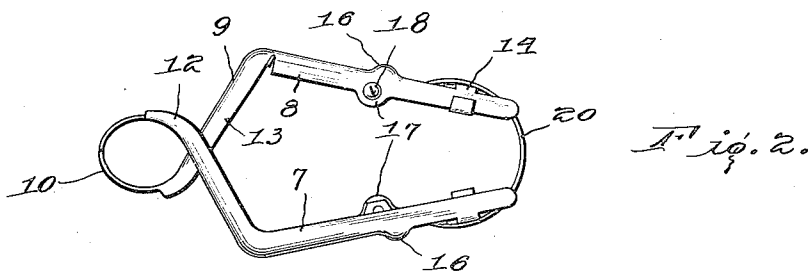
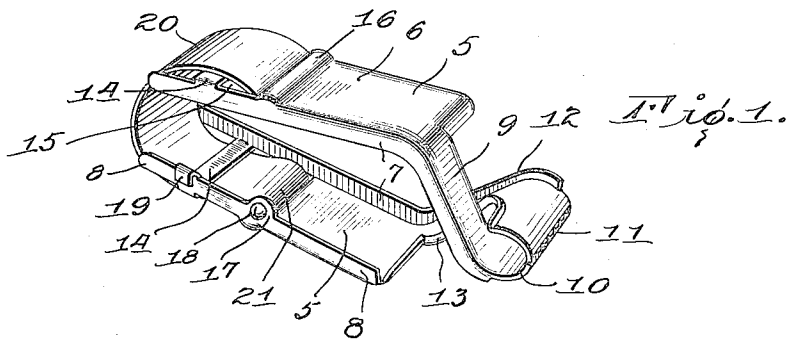
Apr. 17, 1923.

1,452,194

G. B. DUSINBERRE

ELECTRICAL TESTING CLIP

Filed June 22, 1921



Inventor
George B. Dusingberre.

By *Gordon Stewart*
Attorneys

UNITED STATES PATENT OFFICE.

GEORGE B. DUSINBERRE, OF ELMIRA, NEW YORK.

ELECTRICAL TESTING CLIP.

Application filed June 22, 1921. Serial No. 479,571.

To all whom it may concern:

Be it known that I, GEORGE B. DUSINBERRE, a citizen of the United States, and a resident of Elmira, county of Chemung, and State of New York, have invented certain new and useful Improvements in Electrical Testing Clips, of which the following is a full and complete specification, reference being had therein to the appended drawings.

My invention relates to that class of testing clips which are used in connecting electrical conductors to an outlet member such as the terminal of a storage battery. It is equally well adapted to form connections with other conductors and to maintain good electrical contact without slipping.

A further object of my invention resides in so arranging the relative parts that the electrical path is completed without passing the current through the spring. In this way, the spring is not affected by the relatively heavy current which, if allowed to pass through the spring as in some devices of this character, rapidly deteriorates the metal of the spring, causing it to lose its temper and consequently its resilience. This is effectually prevented by locating the spring at the rear of the stamped metal clips and by providing binding posts on each clip in advance of the spring.

It is also an object of my invention to reduce the number of stamped members necessary for the construction of such a device. Likewise, it is intended to incorporate in this device the most effective rigidity and a form contributing to its successful operation. With this device I provide means for the above purpose which shall be simple and economical in construction, rugged in use and reliable in performance.

The above objects are carried out in the provision of a clip as described and illustrated in the accompanying drawings, in which latter:

- Fig. 1 is a perspective view;
- Fig. 2 is a side elevation;
- Fig. 3 is a plan view, and
- Fig. 4 is a plan view of one of the clip members.

In the manufacture of devices of this character, it has been found desirable to avoid a multiplicity of parts and to insure that the elements used be positive in their action and reliable in their ability to withstand the rough handling and destructive

chemicals to which they are exposed. A clip embodying my invention is shown in the drawings as consisting of two identical stampings 5, 5. Each stamping 5 has a flat handle member 6, the side edges of which are struck up as at 7 and 8 to form peripheral ribs. The forward portions of the members 5 are bent as indicated by numeral 9 at an angle with the handle 6. This forward portion 9 terminates in a reversely turned jaw 10 having a series of teeth 11. The portion 9 is substantially half the width of the handle member 6. The rib 7 upon one side of the member 6 is carried along one side of the member 9. The rib 8 on the opposite side of the member 6 has a cross extension 13 on one edge of arm 9. The jaw member 10 is semi-cylindrical in form and extends for the full width of the handle member 6.

The handle member 6 is punched out at the rear to form the bar 14 separated from the main portion of handle 6 by the rectangular opening 15. An up-standing hollow bead 16 is formed in the handle member 6 along one edge of the opening 15. The ribs 7 and 8 are prolonged beyond the cross bar 14 for the purposes as will hereinafter appear.

A lug or similar enlargement 17 is struck up from the side rib 8 and is drilled to receive a bolt 18 by which the electrical conductor is fastened to the clip. A tang 19 forms part of the rib 8 opposite the cross bar 14 and may be turned down to bind the electrical conductor and prevent the same from becoming disengaged at its binding post 18. If desired, the lug 17 may be screw threaded and the electrical connection with the conductor accomplished by making the binding post 18 in the form of a screw.

The two clip members 5, 5 are identical and made from stamped metal. The teeth 11 on one member interlock with the teeth upon the other member.

A leaf spring 20 of steel or analogous metal is passed upward of the cross bars 14 and then inward through the slot 15. The ends 21 of the spring are struck up and adapted to fit within the cross channel or bead 16.

A clip of the above construction is readily assembled. One end of the leaf spring is inserted in each of the cross channels 16. The stamped members are then brought in opposing position, care being taken that the mid-portion of the spring passes be-

tween the extensions of the ribs 7 and 8 which at this point serve as retaining means for the spring. The jaws 10, 10 are passed laterally of each other and then brought opposite with the teeth 11 in registry.

The completed clip is then ready for use and by reason of having the rows of teeth in registration will engage a battery outlet or other conducting member with a strong tension, without slipping from the plane in which it is initially engaged. During operation the current is drawn off through two paths, one from each metal stamping, and the spring member is therefore not a path of the electrical path. The device is partially free from liability of injury from chemicals. Due to the curved form of the jaws the contact through the teeth is always with the full tension of the spring causing good penetration of the teeth while the opposed relation of the teeth prevents slippage of the clip to one side of the position which it normally takes when engaged. It will be noted that the side ribs are carried up over the jaw members and strengthen the latter against distortion.

While I have shown one preferred form of my device, it will be evident that numerous changes in materials, proportions and structural details may be made without departing from the spirit of the invention as claimed.

What I claim is:

1. A test clip having handle members including crossed portions terminating in opposed jaws, retaining means on said handle members, said retaining means being connected by a cross-bar on each member and tensioning means for said members positioned between the retaining means and interlocking with the handle members forward of said cross bars.

2. A test clip having handle members each including crossed portions terminating in opposed jaws, flanges extending along the edges of the handle members and the jaws, said flanges being prolonged rearwardly to form retaining means, cross-bars connecting said retaining means and tensioning means positioned between the retaining means and interlocking with the handle members forward of said cross-bars.

3. A test clip having handle members, each including crossed portions terminating in opposed jaws, tensioning means between said handle members, flanges along the edges of the handle members and crossed portions and extending along the jaws, said flanges extending rearwardly of said handle members and forming retaining means for said tensioning means.

In testimony whereof, I have hereunto affixed my signature.

GEORGE B. DUSINBERRE.