G. B. DUSINBERRE.

CONNECTING CLIP.

APPLICATION FILED MAY 29, 1909.

963,425. Patented July 5, 1910.

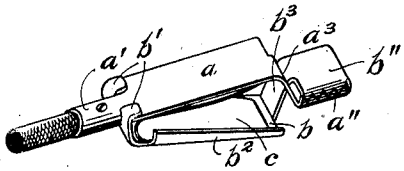

Fig. I

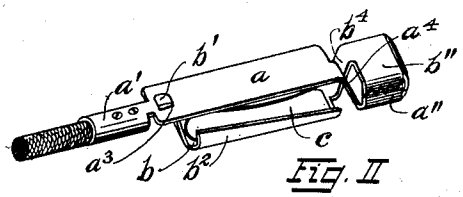

Fig. II

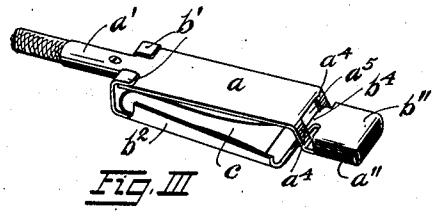

Fig. III

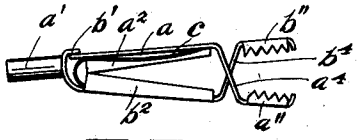

Fig. IV

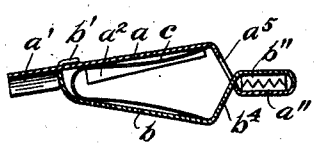

Fig. V

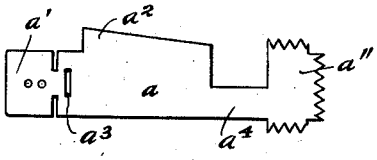

Fig. VI

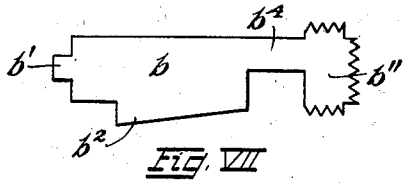

Fig. VII

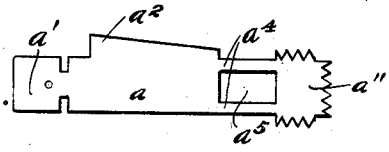

Fig. VIII

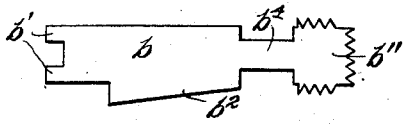

Fig. IX

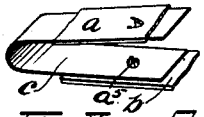

Fig. X

Witnesses:

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UNITED STATES PATENT OFFICE.

GEORGE BROWN DUSINBERRE, OF CLEVELAND, OHIO.

CONNECTING-CLIP.

963,425. Specification of Letters Patent. Patented July 5, 1910.

Application filed May 29, 1909. Serial No. 499,180.

To all whom it may concern:

Be it known that I, GEORGE B. DUSINBERRE, a citizen of the United States of America, and a resident of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Connecting-Clips, of which the following is a specification.

My invention relates to improvements in connecting clips, and is particularly adapted for use as a testing clip for electric wires or for making other temporary electrical connections, although the device is not necessarily limited to this purpose.

The object of my invention has been to simplify the clip by making it of relatively few parts, so constructed as to be self retaining, while avoiding the use of pivot pins and the usual pivotal joint.

In my improved construction, the clip is formed of two co-acting members affording jaws normally held in engagement by means of a spring, which spring is itself retained in place by means of down-turned lips.

Further features of my improvement will be readily gathered by making reference to the accompanying sheet of drawings, wherein:—

Figures I, II and III illustrate in perspective three different types of clip embodying my improvements. Fig. IV is a side view of the device of Fig. I. Fig. V is a longitudinal section of the device of Fig. III. Figs. VI and VII illustrate the blanks for forming the device of Fig. II. Figs. VIII and IX illustrate the blanks for forming the device of Fig. III; and Fig. X illustrates the spring and an alternative form of retaining lug a^5.

Throughout the several figures of the drawings, I have employed the same character of reference to indicate similar parts, in order that no confusion may result in referring thereto.

Each of the clips, it will be seen, comprises an upper and a lower member, pivotally united rearwardly by means of integral lugs or ears. The jaw members are crossed and are normally engaged by the spring retained within the body portion of the device, by means of down-turned lips or flanges. The electric conductor or other connection is rearwardly secured to one of the clip members by means of an extension of the member. Thus, in Fig. I, the upper member a rearwardly carries the electrical tip or sleeve a', and is shaped forwardly to provide the serrated lower jaw a''. The lower member b is rearwardly provided with terminal lugs b', which fit closely between the sleeve a' and body portion of the member a, and are bent over to afford a pivotal connection between the upper and lower members. The serrated upper jaw b'' is carried by the lower member, and the spring c is held in place by means of the overturned flanges a^2 b^2, respectively provided at opposite sides of the members a b. Since the shanks a^3 b^3 of the jaws cross, it is seen that said jaws are normally held in close engagement or are caused firmly to grasp the electric wires or other part, upon which they may be adjusted, by means of the U-shaped expansion spring c.

The device of Fig. II closely resembles that of Fig. I, except that a single lug b' is rearwardly extended through a slot a^3 in the upper member, but the parts are retained in alinement by the spring acting upon the positively positioned flanges a^2 b^2, and by crossed shanks a^4 b^4 of the jaws. In the device of Fig. III, duplicated pivotal terminals b' are retained for the pivotal connection, but the shank b^4 of the lower members extends through a slot a^5 formed between the duplicated shanks or extensions a^4 for the lower jaw a''. Upon referring to the latter figures of the drawings, the simplicity of the blanks and the manner in which they fit together will be very readily understood. Since the spring is substantially the width of the inclosing body portions, and the retaining flanges therefor are respectively bent inwardly upon the side of the blank opposite that upon which are formed the shanks or extensions mounting the jaws, it will be seen that these parts coöperate with the spring to maintain the clip members in alinement and prevent their accidental separation.

The jaws preferably are serrated along their front edges and two sides, so that the electrical conductor may be very conveniently grasped thereby in any desired position. Thus, the conductor may be grasped at any intermediate point by the side serrations, or by the end serrations and either one of the side serrations, or the extremity of a conductor may be grasped in closely restricted positions, such as occur in switchboards and the like, by either one of the side serrations alone. Inasmuch as the parts are sim-

ple, cheaply made, and avoid the ordinary pivotal joint and its connecting pin, or the permanent resilient connection, present in the prior art, my improved construction permits free articulation of the parts, and wider separation of the jaws than do prior structures. The clip of my invention is not necessarily restricted in its use to establishing connection with electrical wires, but it may be employed in other connections where these features of advantage will make it available.

Accordingly, I claim and desire to secure by Letters Patent, the following:—

1. In a clip device, two sheet metal members comprising rearwardly positioned interlocking pivotal parts, forwardly disposed and crossed jaws, and an interiorly positioned spring resiliently maintaining said jaws in engagement, substantially as set forth.

2. In a device of the class described, the combination with two clamping members comprising rearwardly positioned interlocking pivotal or articulating parts and forwardly disposed and crossed jaw members, of an interiorly positioned spring normally maintaining the jaws in engagement, substantially as set forth.

3. In a device of the class described, the combination with two sheet metal clamping members rearwardly shaped to form co-acting articulating or pivotal parts and forwardly constructed to afford crossed jaw members, of a U-shaped spring interiorly positioned between the clamping members, and retaining parts disposed upon opposite sides of said members for retaining the spring in place and securing the alinement of the members, substantially as set forth.

4. In a device of the class described, the combination with two sheet metal clamping members, of an interiorly positioned actuating spring; said members being forwardly shaped to afford gripping jaws serrated upon three sides and integral rearwardly-positioned interlocking pivotal-parts adapted to maintain said serrated jaws in alinement, substantially as set forth.

5. In a device of the class described, the combination with two sheet metal clamping members rearwardly shaped respectively to form integral overturned locking lugs and pivotal or articulating connections therefor, and forwardly shaped to afford gripping jaws, of a spring adapted normally to retain said jaws in engagement, substantially as set forth.

6. In a device of the class described, the combination with two sheet metal clamping members, rearwardly articulated by means of integral overturned lugs and forwardly shaped to afford crossed gripping jaws, of an interiorly positioned spring substantially the width of said members, and oppositely disposed lateral retaining parts respectively provided upon said members for securing the spring in place, substantially as set forth.

7. In an electrical connecting clip, the combination with two sheet metal clamping members rearwardly shaped to afford laterally positioned articulating lugs and a connecting sleeve; forwardly shaped to afford crossed gripping jaws and respectively provided with overturned and oppositely disposed retaining parts, of an interiorly positioned U-shaped spring substantially the width of the clamping members adapted normally to maintain said jaws in engagement, substantially as set forth.

Signed at Cleveland, Ohio, this 27th day of May, 1909.

GEORGE BROWN DUSINBERRE.

Witnesses:
ROBT. M. MORGAN,
ALBERT LYNN LAWRENCE.