May 15, 1945. E. P. COGSWELL 2,376,314

WIRING AND THE LIKE CLIP DEVICE

Original Filed June 26, 1942

Fig. 1.

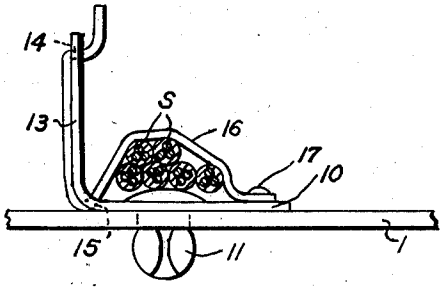


Fig. 2.

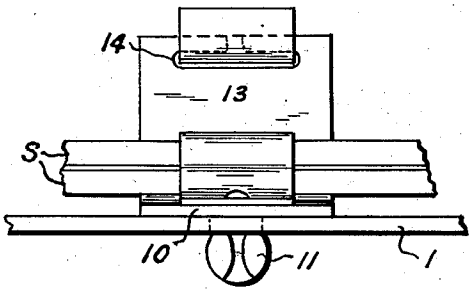


Fig. 3.

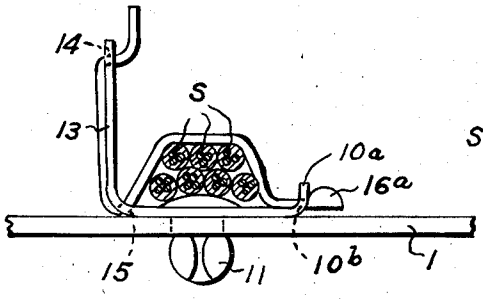


Fig. 4.

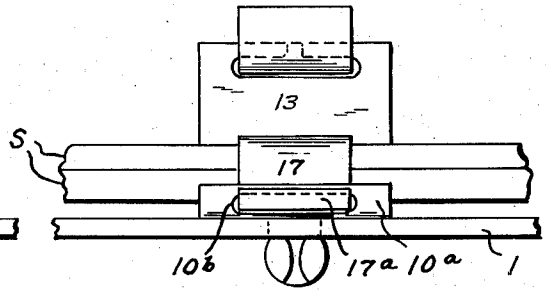


Fig. 5.

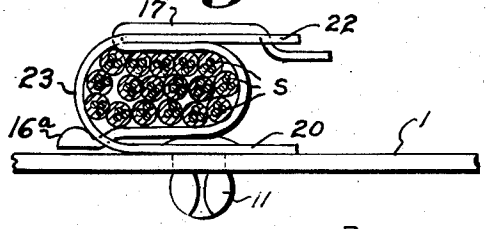


Fig. 6.

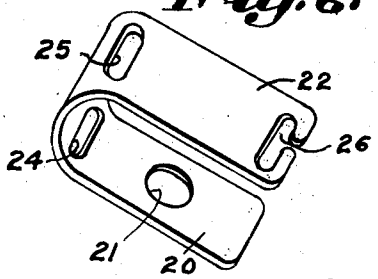


Fig. 7.

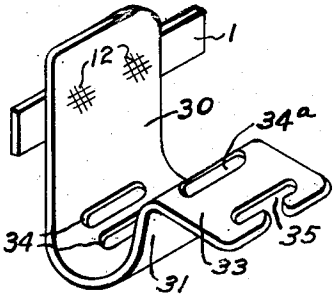


Fig. 8.

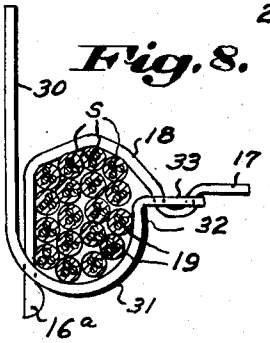
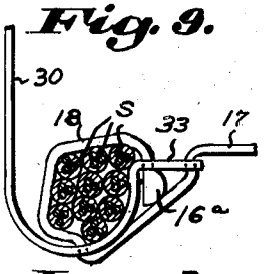


Fig. 9.



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UNITED STATES PATENT OFFICE

2,376,314

WIRING AND THE LIKE CLIP DEVICE

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Continuation of application Serial No. 448,691, June 26, 1942. This application February 29, 1944, Serial No. 524,455

9 Claims. (Cl. 24—73)

The present invention relates to strand retainers and the like, and more particularly to retainers for holding a plurality of strands, such as electrical conductors, in secure grouped relationship, and aims generally to improve existing devices for that purpose.

Among the primary objects of the invention is the improvement and simplification of conductor retainers possessing simple means for readily attaching the retainer to a support. A further object of the invention is the provision of a retainer having associated therewith an elastic band or strap adapted to be secured to the retainer and engage a group of strands in grouped relationship under tension of said band.

Illustrative of the invention, reference is made to the accompanying drawing showing several embodiments of the invention, and in which:

Fig. 1 is a side view of one form of retainer applied to a support and illustrating a group of electrical conductors secured thereto;

Fig. 2 is a front elevation thereof;

Figs. 3 and 4 are views similar to Figs. 1 and 2 illustrating an alternative mode of attaching the elastic band to the retainer;

Fig. 5 is a side view of a modified form of retainer attached to a support;

Fig. 6 is a perspective view of the retainer illustrated in Fig. 5;

Fig. 7 is a perspective view of a further modified form of retainer; and

Figs. 8 and 9 are side views illustrating different manners of securing groups of conductors to the retainer of the type shown in Fig. 7.

Referring to the drawing, the invention comprises a retainer member formed of suitable material as, for example, metal, and having a base portion engaging and secured to a support and another portion spaced from or angularly disposed relative to the base, and an elastic strap secured to one of said portions and anchored to the other for securing a group of conductors between them.

Referring more particularly to the drawing, the retainers advantageously include a base portion 10 which may be formed with suitable means for attachment to a support 1, for example, a snap fastener 11 adapted to engage in an aperture in the support. The fastener 11 may be separate from the base or secured thereto as desired, and alternatively other means may be provided for securing the base to the support as, for example, welds 12 (see Fig. 7).

According to the form of invention shown in Figs. 1 to 4, inclusive, the retainer base 10 may be apertured to receive a separate snap fastener member 11 adapted to be passed through the apertures in the base and support for securing the retainer thereto. A side 13 extends angularly away from the base 10 near the end of which is formed a side opening or T-shaped slot 14. An elongated slot 15 is formed in the retainer in the angle between the base 10 and side 13.

A flexible strap or band 16 may have one end thereof attached to the base, preferably at one end opposite the side 13, the other end being passed through the elongated slot 15, thus forming an elastic loop to encompass a group of strands S as, for example, electrical conductors grouped on said base. Said group of strands may be securely held thereon by placing the loop over the strands and drawing the flexible strap 16 through the slot 15 to stretch it and cause the loop portion to engage the strands under tension. The strap may be secured in stretched or tensioned condition by hooking a portion thereof in the open-sided or T-shaped slot 14.

The strap 16 may be secured to the base in any suitable manner desired. According to Figs. 1 and 2, one end of the strap 16 may be riveted, as at 17, to the base 10. Alternately, the base may be formed with an upstanding end 10^a slotted, as at 10^b, through which the strap is passed, and one end of the strap may be formed with an enlargement or thickened portion 16^a to prevent the end from being pulled through the slot 10^b, as illustrated in Figs. 3 and 4.

The retainer, instead of being right-angular in form, may be substantially U-shaped, as shown in Figs. 5 and 6, in which case one of the legs constitutes a base portion 20 which may be apertured, as at 21, to receive a snap fastening 11, as in the case of the retainer of Figs. 1 and 4. The opposite leg 22 may be spaced above and substantially parallel to the base, said base 20 and leg 22 being connected by a bight portion 23 which may be slotted, as at 24 and 25, for the passage of the flexible strap 16. Preferably, these slots are near the planes of the base 20 and leg 22. Near the free end of the leg 22 is an open-sided or T-staped slot 26 in which may be hooked the tensioned strap 16.

It will be observed that the space between the base 20 and leg 22 provides room for the reception of a relatively large group of wires, which are placed upon the strap 16 previously inserted through the slot 24 and drawn to an untensioned position where the stop 16^a engages and abuts against the outer face of the retainer, as shown

in Fig. 5. The opposite end of the strap 16 may be passed through the slot 25 and the strap drawn taut to stretched or tensioned condition, to firmly hold the group of wires between the tensioned loop portion and the bight portion 23 of the retainer. The strap may then be reversely folded upon the upper surface of the legs 22 and the end portion of the tensioned strap hooked into the open-sided or T-shaped slot 26.

A further modified form of retainer is illustrated in Figs. 7 to 9 inclusive, which includes features of both of the previously described forms and provides a retainer capable of retaining various sized groups of wires in various positions. According to this form of invention, they may be of general U-shape, as in Figs. 5 and 6, providing a base 30, leg 31, and connecting bight portion 32, a portion 33 of which is bent angularly to the plane of the base 30, as in the case of the retainer of Figs. 1 to 4. A plurality of slots 34 are formed in the bight portion, as illustrated in Fig. 7, and, preferably, a similar slot 34a is provided near the juncture of the angular extension 33 with the leg 31. An open-sided T-shaped slot 35 is provided near the outer end of the extension 33.

The strap 16 may be inserted through any of the slots 34 or 34a, as illustrated in Figs. 8 and 9, and drawn to a position where the stop 16a abuts the outer surface of the re-tainer. If, for example, the strap 16 is first inserted in one of the slots 34 of the bight portion 31, it may be drawn over a group of wires assembled in the bight of the retainer, then passed through the slot 34 and hooked into the T-shaped slot 35, as illustrated in Fig. 8. Alternately, the strap may be initially passed through the slot 34a, drawn over and around a group of wires, passed through one of the slots 34, and then hooked in the T-shaped slot 35, as illustrated in Fig. 9.

It will be understood that the retainer member may be of various constructions and shapes so long as it provides strap-anchoring means, such as the riveted connection 17 or one of the strap-receiving slots 10b, 24, 25, 34, or 34a, on the one hand, and the strap latching means, such as the T-shaped slots on the other hand, are spaced in different planes to provide between the arm-included portion of the retainer and a looped portion of the strap 16 for engaging the group of wires under tension.

Obviously, the elastic strap may be of any suitable material as, for example, rubber, so long as it is readily stretchable and capable of engaging the group of wires under tension to hold them in place and cushion them against wear.

This application is a continuation of my prior copending application Serial No. 448,691, filed June 26, 1942.

Although I have illustrated and described preferred embodiments of my invention, I do not wish to be limited thereby because the scope of my invention is best defined by the following claims.

I claim:

1. A strand retainer of the class described comprising a base portion and a leg portion, means for attaching said base portion to a support, an elastic strap having one end secured to said base portion, said leg portion having a T-slot disposed in a plane spaced laterally from the plane of said strap connection, said retainer being formed with a strap-receiving slot intermediate said strap connection and T-slot, said strap being stretchable and looped between said connection and strap-receiving slot to engage a group of strands under tension and hold them against an intermediate portion of the retainer, and said stretched strap being anchored in said T-slot.

2. A strand retainer comprising a base portion, a leg portion and an intermediate U-shaped bight portion, means for attaching said base portion to a support, an elastic strap having one end secured to said base portion, said leg portion having a T-slot, and disposed in a plane spaced laterally from the plane of said strap connection, said retainer being formed with a strap-receiving slot intermediate said strap connection and T-slot, said strap being stretchable and looped between said connection and strap-receiving slot to engage a group of strands under tension and hold them against the intermediate bight portion of the retainer, and said stretched strap being anchored in said T-slot.

3. A strand retainer comprising a base portion, a leg portion and an intermediate bight portion, means for attaching said base portion to a support, an elastic strap formed with an enlarged stop at one end, said base and bight portions being formed with a plurality of strap-receiving slots, said leg portion being formed with a T-slot near the end thereof, and spaced laterally from at least one of said strap-receiving slots, said strap being inserted in one of said strap-receiving slots and being stretched over a group of strands assembled in said retainer and then passed through another of said strap-receiving slots to hold said strands under tension, and said stretched strap being anchored in said T-slot.

4. A strand retainer for holding one or more strands of wire in place upon a support and comprising, in combination, a part having a base portion to be secured to the support, a strap associated with said part for holding the strand or strands of wire in position, said strap having one end secured to said part and said part having at least two slots therein, the strap being looped from its secured end through one of said slots and the looped portion pressing the strand or strands firmly against said part, and said strap being passed through said other slot in a manner to be gripped by said part and held against slipping.

5. A strand retainer of the class described comprising a base portion, means for attaching the base portion to a support, a strap secured at one end to said retainer, another part of said retainer disposed in a plane spaced from the plane of said base portion and having an anchoring slot, said retainer being provided with a strap-receiving slot intermediate said strap connection and anchoring slot, said strap being looped from said connection through said strap-receiving slot to engage a group of strands under tension and hold them against one portion of the retainer, and said strap being anchored in said anchoring slot for the purpose described.

6. A strand retainer of the class described adapted to be secured to a support, an elastic strap secured at one end to said retainer, said retainer having a T-shaped slot disposed in a plane spaced from the plane of said strap connection and laterally removed therefrom, said retainer being formed with a strap-receiving slot intermediate said strap connection and T-slot, said strap being stretchable and looped between said connection and strap-receiving slot to engage a group of strands under tension and hold them against an intermediate portion of the re-

tainer, and said stretched strap being anchored in said T-slot.

7. A strand retainer for use in combination with an elastic binding strap, said retainer comprising a base portion, a leg portion and an intermediate bight portion, said base and bight portions each being formed with a strap-receiving slot, said leg portion being formed with a T-slot near an end thereof and spaced laterally from at least one of said strap-receiving slots whereby a group of strands may be retained in assembled relation on said retainer by an elastic strap passed over said strands and through said strap-receiving slots, said T-slot providing an anchor for the stretched strap beyond said grouped strands.

8. A strand-retainer for use in combination with an elastic binding strap, said retainer comprising a base portion, a leg portion and a U-shaped bight portion, said base portion being formed with a strap-connecting opening for securing a terminal end of the strap thereto, said leg portion having a T-slot disposed in a plane spaced laterally from the strap-receiving opening, and said retainer being formed with at least one strap-receiving slot intermediate the T-slot and the strap-receiving opening whereby a group of strands may be retained in assembled relation in said bight portion by an elastic strap passed through said opening and strap-receiving slot, said T-slot providing an anchor for the stretched strap beyond said bight portion.

9. A strand-retainer for use in combination with an elastic binding strap, said retainer comprising a base portion adapted to be secured to a support, a leg portion and an intermediate bight portion, said leg portion formed with a strap-connecting opening for securing a terminal end of the strap thereto, said leg portion formed with a T-slot disposed in a plane spaced from the strap-connecting opening and laterally removed therefrom, said retainer being further formed with a strap-receiving slot intermediate said strap-connecting opening and T-slot whereby a group of strands may be retained on said retainer intermediate the strap-connecting opening and strap-receiving slot by a strap passed through said opening and slot, said T-slot providing an anchor for a portion of a stretched strap beyond said grouped strands.

ELLIOT P. COGSWELL.