

March 11, 1969

K. E. SANTUCCI

3,432,129

SADDLE CLIP

Filed Aug. 9, 1967

FIG. 3

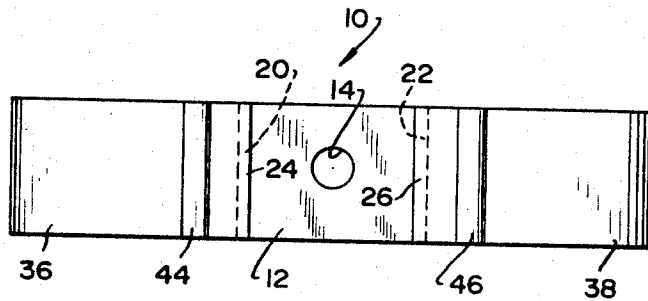


FIG. 2

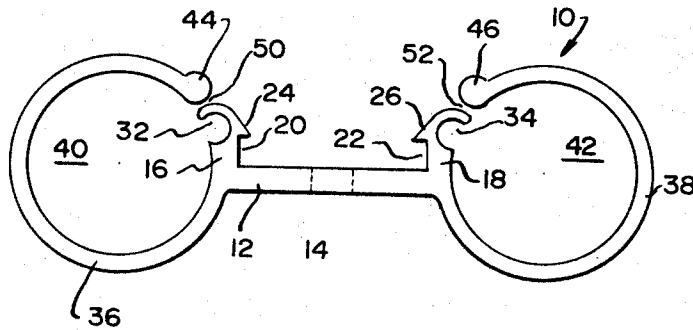


FIG. 1

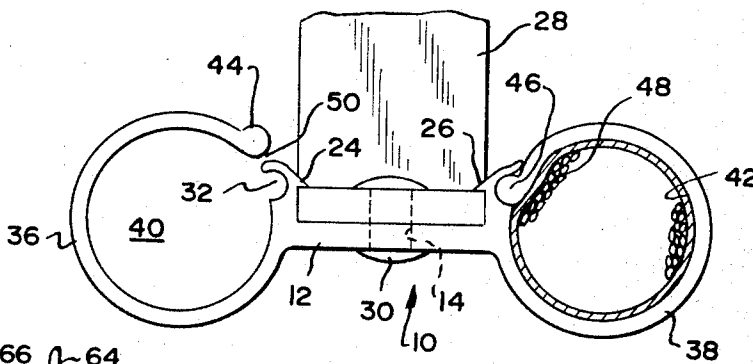
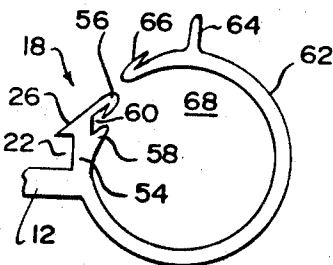


FIG. 4



INVENTOR
KENNETH E. SANTUCCI
BY *Petherbridge, O'Neill & Aubel.*
ATTORNEYS.

1

3,432,129

SADDLE CLIP

Kenneth E. Santucci, 1380 Edgewood,
Winnetka, Ill. 60093

Filed Aug. 9, 1967, Ser. No. 659,373

U.S. Cl. 248-69

Int. Cl. F16l 3/22, 3/08

3 Claims

ABSTRACT OF THE DISCLOSURE

A saddle clip for mounting a plurality of wires, cables and the like on a base member. The clip is provided with a mounting web and at least one wire retainer member for retaining one or more wires. The wire retainer member includes a locking member which is designed to co-act with a member on the web portion for locking the wire retainer to the web to provide a wire retaining enclosure.

The saddle clip of the invention is designed for broad application in areas requiring a small, light-weight, inexpensive dielectric wire or cable support. The clip of the invention is preferably made from a resilient plastic. This permits the utilization of relatively low-cost materials, as well as relatively inexpensive molding or extrusion processes to permit realization of the benefit of mass production techniques.

The subject clip can be snap-mounted on suitable bases or can be screwed or bonded to base members. The wire retainer portions of the clip of the invention have been designed to permit the introduction of one or a plurality of wires anywhere along their length into the wire retainer. When the desired member of wires have been inserted into the retainer, a mechanical lock between the wire retainer and the web of the clip is utilized to lock the wires within the retainer and to prevent any of the wires to slip from the retainer during both installation and subsequent use. However, this lock is releasable and permits the removal of wires from or the addition of wires to the retainer when modifications are required.

Various objects and advantages of the invention will hereinafter become more fully apparent from the following description of the drawings illustrating presently preferred embodiments thereof and wherein:

FIGURE 1 is a side elevation of the saddle clip of the invention mounted upon a base member and retaining wires in a retainer thereof;

FIG. 2 is a side elevation of the saddle clip of the invention;

FIG. 3 is a top plan view of the saddle clip of FIG. 2; and

FIG. 4 is a fragmentary side elevation of a saddle clip of the type illustrated in FIGURE 1 but illustrating a modified form of wire retainer and mechanical lock.

The saddle clip of the invention, generally designated 10, as can be seen in FIGS. 1, 2 and 3, is formed with a generally flat web 12 which is provided with a centrally located securement aperture 14. Extending upwardly from web 12 are a pair of spaced legs 16 and 18 which are axially elongated in the plane of the web. The lower portions of legs 16 and 18 are recessed adjacent the web and provide a pair of generally elongated rectangular recesses 20 and 22 which are disposed in facing relationship with each other. The upper portions of legs 16 and 18 directly above the respective recesses overhang them and provide relatively resilient snap locks 24 and 26 for coaction with the web 12 and recesses 20 and 22 to provide a structure for securing the saddle clip to a flange plate 28 such as is illustrated in FIGURE 1. In such an instance, the saddle clip can be secured to the flange plate merely by snapping the locks 24 and 26 over the flange plate as the web 12 is

2

raised into contact with the bottom surface of the flange plate. In applications where the saddle clip and mounting device, whether it be a flange plate or other base member, are not of complementary sizes, or it is desired to augment the snap lock feature, a rivet 30, bolt or other device can be used to secure the web 12 to a base member, as is shown in FIGURE 1.

Referring particularly to FIGS. 1 and 2, it can be seen that the side of legs 16 and 18 opposite the snap lock portions thereof are provided with outwardly opening generally arcuate apertures 32 and 34, respectively. The walls defining these apertures serve as one element of a wire retainer lock.

A pair of wire retaining members 36 and 38 extend downwardly from opposite sides of web and from an area thereof directly below legs 16 and 18. As is shown in FIGS. 1 and 2, the respective wire retaining members 36 and 38 extend arcuately from the web in essentially opposite directions. Each of the members 36 and 38 forms with the respective legs 16 and 18 substantially circular wire enclosures 40 and 42.

The extremities of each of members 36 and 38 are formed with enlargements or bulbs 44 and 46, respectively. These bulbs have a cross-sectional configuration which complements that of arcuate apertures 32 and 34, respectively. For best results, the bulbs 44 and 46 are formed with slightly smaller cross-sections than the cross-sections of complementing apertures 32 and 34. This permits gripping of the bulbs 44 and 46 by the aperture forming walls when the bulbs are snapped into the respective apertures to provide a firm gripping lock of the respective bulbs.

After the saddle clip of the invention has been mounted in a manner such as is illustrated in FIG. 1, wires 48 or cable elements may be readily inserted into the enclosures 40 or 42 through openings 50 and 52 provided between the bulb extremities 44 and 46, respectively. When the required number of wires have been placed in an enclosure and it is desired to secure them there, the free end of the particular wire retaining member 38 as shown in FIGURE 1, is depressed to bring the bulb thereof into firm locking engagement with the walls of one of the arcuate apertures. This positively locks the enclosure and prevents the subsequent escape of wire therefrom.

On the modified embodiment of the invention shown in FIG. 4, an alternate locking mechanism for the saddle clip shown in FIGS. 1, 2 and 3 is illustrated. The web 12 of the saddle clip of this embodiment is essentially the same as that discussed above and a like reference numeral is used for simplicity. A first element 54 of a similar leg 18 is provided with a recess 22 at the lower portion of leg 18 and opening toward the web 12. A resilient snap lock 26 projects from the leg 18 and over recess 22 and a portion of web 12. This web, leg, recess and snap lock structure serves, as is the case of the earlier embodiment, to provide a means for mounting the saddle clip on a suitable base structure such as a flange plate.

The locking mechanism shown in FIG. 4 differs from that of the FIGURE 1 embodiment in that the arcuate aperture 34 of the latter embodiment is replaced by a projection 56 on first leg element 54 of leg 18. The projection 56 extends from the upper portion of leg 18 in a direction opposite that of resilient snap lock 26. Projection 56 extends downwardly from the upper portion of leg 18 at a generally acute angle to the longitudinal axis of the leg and is tapered in the direction of its extension to provide a form of hook. A second element 58 of leg 18 is spaced from the first element 54 and extends in a direction generally parallel to the axis of the first leg element. The spaced and generally parallel first and second leg elements 54 and 58 respectively provide a channel 60 therebetween for receipt of a locking member.

The wire retaining member 62 shown in FIG. 4 is similar in overall appearance to that of the FIGURE 1 embodiment. However, member 62 is formed with a manually operable locking lever 64 which projects outwardly from the arcuate member 62 near the extremity thereof. The extreme end of wire retaining member 62 is formed with a locking hook 66 which complements the cross-sectional configuration of projection 56. To accomplish this, member 62 is tapered near the end thereof and a tapered projection from the end of member 62 is extended back toward lever 64 to provide locking hook 66.

After wires or cables have been introduced into the open wire enclosure 68, the locking lever 64 may be used to depress wire retaining member 62. This will result in the introduction of the end of member 62 carrying locking hook 66 into the channel 60 provided between leg elements 54 and 58. When the lever is released, the resilient retaining member 62 rises slightly; and with the cooperation of leg element 58, locking hook 66 is guided into firm locking engagement with leg projection 56. When the member 62 has been locked to leg 18, second leg element 58 remains in continuous engagement with the end of member 62 to maintain the locked condition of the projection 56 and hook 66.

Enclosure 68 can be subsequently opened without destroying the clip only by depressing hook 66 down into channel 60 and pushing it forcefully against leg element 58, or by bending leg element 54 toward web 12, or by a combination of both. The clip therefore provides a simple and relatively inexpensive means for retaining a plurality of wires.

Various modes of carrying out the invention are contemplated as being within the scope of the following claims particularly pointing out and distinctly claiming the subject matter which is regarded as the invention.

I claim:

1. A saddle clip for retaining wires in preselected positions comprising a web portion, first and second leg portions disposed in spaced generally upstanding relationship on the web portion, one of the leg portions being provided with a first locking means, a resilient wire retaining member having an end connected to the web portion and extending therefrom, second locking means provided on the wire retaining member engageable with the locking means on the leg portion to provide a wire retaining enclosure adjacent the web portion, one of the locking means including a base, a pair of legs extending therefrom in generally parallel relation and defining a channel therebetween, the extremity of one of the pair of legs being bent back to project into the channel at substantially an acute angle with respect to the longitudinal axis of the leg portion, the other of the locking means provided with a hook structure at the extremity thereof and having a

surface complementing that defined by the acute angle of the one locking means, the hook structure of the other locking means being insertable in the channel of the one locking means and positively engageable with the bent back leg of the one locking means to produce a secure lock of the wire retaining enclosure.

2. The saddle clip of claim 1, wherein lever means are provided to augment the opening and closing of the locking means.

3. A saddle clip for retaining wires in preselected positions comprising a web portion, first and second leg portions disposed in spaced generally upstanding relationship on the web portion, one of the leg portions being provided with a first locking means, a resilient wire retaining member having an end connected to the web portion and extending therefrom, second locking means provided on the wire retaining member engageable with the locking means on the leg portion to provide a wire retaining enclosure adjacent the web portion, wherein the resilient wire retaining member extending from the web has a generally arcuate configuration and the second locking means is provided on the extremity thereof, wherein one of the locking means includes a resilient portion having a surface defining a resiliently expandable locking slot and the other of the locking means comprises a projection deformably complementing the surface defining the slot and engageable and retainable thereby, the second leg portion being provided with locking means and another wire retaining member being connected to the web, extending therefrom and being provided with locking means thereon engageable with the locking means of the second leg portion, the first and second legs cooperating with the web to produce a generally open U-shaped cross-section, and resilient securement means are provided on the first and second legs and are disposed adjacent the said resilient portion defining a resiliently expandable locking slot for securing the saddle clip to a base member.

References Cited

UNITED STATES PATENTS

2,354,485	7/1944	Slaughter	248—74 X
3,088,702	5/1963	Orenick	248—71
3,173,987	3/1965	Potruch	248—62 X
2,417,261	3/1947	Morehouse	248—74

FOREIGN PATENTS

898,124	6/1962	Great Britain.
---------	--------	----------------

CHANCELLOR E. HARRIS, *Primary Examiner.*

U.S. Cl. X.R.

24—81; 248—74