

April 18, 1961

F. DE BARTOLO

2,979,794

WIRE OR CABLE BUNDLE TIE

Filed Sept. 24, 1956

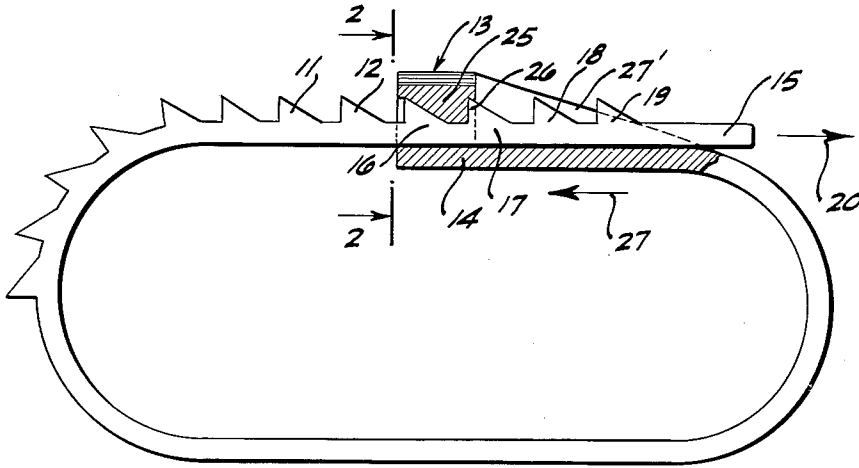


FIG. 1.

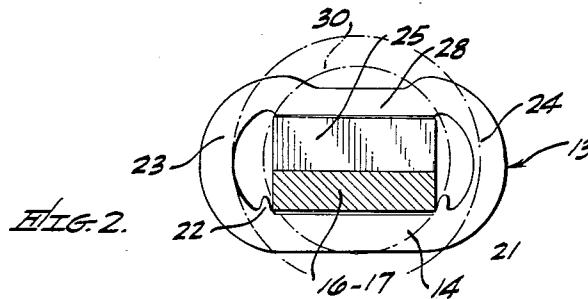


FIG. 2.

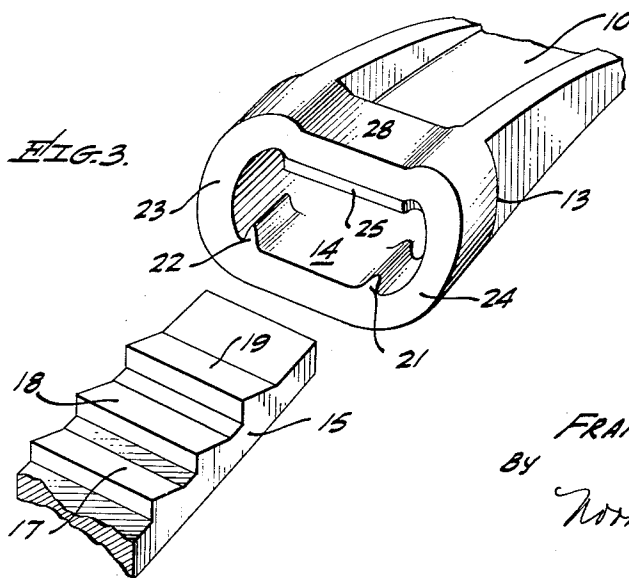


FIG. 3.

INVENTOR.
FRANCIS DE BARTOLO,
BY
Norman L. Chalfin
AGENT.

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2,979,794

WIRE OR CABLE BUNDLE TIE

Francis De Bartolo, 11043 Braddock Drive,
Culver City, Calif.

Filed Sept. 24, 1956, Ser. No. 611,676

2 Claims. (Cl. 24-17)

This invention relates to wire or cable bundle ties and more particularly to a novel clamping type of tie loop that holds automatically when pulled up and may be readily released when the tie loop clamp is pressed.

Tying bundles of wires or cables together with cord or laces or similar binding means requires the tying of knots which takes time to do. In high speed production operations where such bundles must be tied to be permanently held together, considerable time is lost in tying the bundles, and if the tie must be taken apart a knot must be removed or cut.

I have devised a wire or cable bundle tie which incorporates a strap loop fabricated from comparatively flexible material such as polyamide resin. Along one face of the strap loop is a series of serrations. These serrations may run the entire length of the loop strap. At the other end of the strap loop a guiding clamp is formed through which the serrated end may be inserted. The clamp is in the form of an oval with guide sections on one inner wall of the oval and a sawtoothed tongue on the opposite wall which may engage the serrations to prevent the end being pulled back out, once inserted. If the loop must be opened this can be accomplished simply by pressing the flexible shorter sides of the oval together thus raising the tongue and permitting the withdrawal of the serrated end of the strap from the clamp.

Accordingly it is an object of this invention to provide a wire or cable bundle tie which has a ready clamping means and will hold a strap loop closed against great pressure but which permits the strap loop to be released by pressing upon the clamping means.

It is a further object of this invention to provide a wire or cable bundle tie in the form of a loop having a serratile strap with a toothed clamping guide at one end through which the serratile strap may be inserted in one direction and clamped against removal in the opposite direction until the clamping guide is pressed upon its sides.

These and other objects of this invention will be more fully understood from the specification which follows when taken together with the drawings in which:

Fig. 1 is a view of the serrated cable or wire bundle tie of this invention with a portion of the clamping guide in cross section to show the clamping action thereof;

Fig. 2 is a view looking into the clamping guide with a portion of the serrated strap in cross section; and

Fig. 3 is a view of a portion of the serratile end of the strap of a tie according to this invention and the clamping guide in their relation just prior to the insertion of the serrated strap into the loop.

Referring now to Fig. 1 a cable tie according to this invention is shown as it may be used to tie a bundle of wires or cables. A flexible strap 10 is formed with a clamping guide 13 at one end 14 and serrations such as 11, 12, 16, 17, 18 and 19, along the length of one face of the other end 15, thereof. The clamping guide 13 is shown in cross section to illustrate the position of the

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serrations such as 16 and 17 of the serrated end of the strap when inserted in clamping guide 13 in the direction of arrow 20 so that the sawtoothed tongue 25 of clamping guide 13 holds its flat surface 26 against the flat surface of the tooth shown at 17 to prevent motion of the serrated strap 15 in the direction of arrow 27.

The serrations such as 11 and 12 of end 15 of strap 10 need not necessarily have the sawtoothed configuration shown but may have any other notched shape which will function to prevent motion in one direction while not impeding motion in the other direction.

In Figs. 2 and 3 details of the clamping guide 13 are shown. The ovaloid side walls 23 and 24 of clamping guide 13 are more flexible than base portion 14 of the clamping guide 13 or the opposite wall 28 of which sawtoothed tongue 25 is a contiguous part. Base portion 14 is contiguous and continuous with strap 10 and may be molded as a part thereof. Where ovaloid side walls 23 and 24 join base 14 extruded guides 22 and 21 respectively are formed projecting inwardly to receive and center within the clamping guide 13 the serratile cord end 15 and to guide the serrations such as 17, 18 and 19 under sawtooth tongue 25. Side walls 23 and 24 extend into the strap 14 to strengthen the walls with respect to strap 14 and further guide the other end 15 of the strap 10 when inserted in clamping guide 13.

The side walls 23 and 24 have a normal position as shown in Figs. 2 and 3 but when these walls 23 and 24 are pressed inwardly the clamp assumes the shape shown in the dashed outline 30 so that the cord end 15 can then be readily removed in the direction of arrow 27 shown in Fig. 1.

There has been described above a wire or cable bundle tie in the form of a serratile strap (10 and 15) with a clamping guide (13) for the strap at one end (14). The clamping guide (13) receives the serrated end (15) of the strap (10) to hold it firmly with an interlocking sawtoothed tongue 25 in the ceiling (28) of the clamping guide (13) by virtue of the normal shape of the guide (13). The shape of the guide may be distorted (as at 30) to permit release of the serrated end (15) of strap (10) from the sawtooth tongue (25).

The embodiment illustrated in the figures and described above may be modified to other shapes in performance of the functions of this invention within the scope of the appended claims.

What is claimed as new is:

1. A wire or cable bundle tie in the form of a nose slidable one way and selectively clampable against movement the opposite way comprising: a flexible strap having transverse serrations on one face and at one end thereof; and a clamping guide loop with outwardly bowed flexible side walls on the other end thereof, said clamping guide loop being on the same face as said transverse serrations and having a transverse sawtooth tongue depending from the upper inside surface thereof, the vertical portion of said saw-tooth tongue facing the vertical portions of said transverse serrations so that when said one end of said strap is inserted through said guide loop, said vertical portion of said tongue engages the vertical portion of one of said transverse serrations, said flexible side walls of said flexible clamping guide loop being deformable on inward lateral pressure to raise said tongue, thereby releasing said tongue from said serrations to permit removal of said strap from said guide.

2. A wire or cable bundle tie comprising: a flexible trap having transverse saw toothed notches on the upper widest surface thereof and having a flexible sided loop with outwardly bowed sides forming a clamping guide molded at one end of said strap, said flexible sided loop extending from the surface having said transverse saw-

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toothed notches, and being normally wider than the height thereof, said flexible sided loop having a truncated internal tooth transversely and dependently positioned in the inner top surface of said flexible sided loop, said internal tooth being dimensioned for interfitting engagement with one of said transverse saw-toothed notches of said strap when the opposite end of said strap with respect to said loop is inserted through said flexible sided loop, said flexible sided loop being deformable by pressure against the flexible sides thereof to lift said internal tooth, thereby disengaging said internal tooth from said one of said notches of said strap to release said strap.

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