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3,365,754

LASHING TIE-STRAP

Filed Feb. 24, 1967

FIG. 1

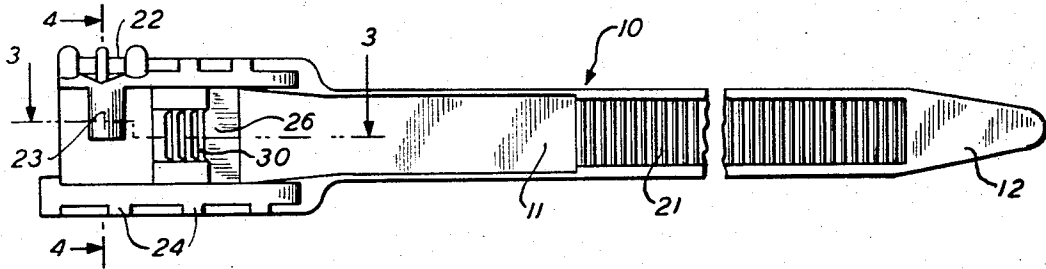


FIG. 2

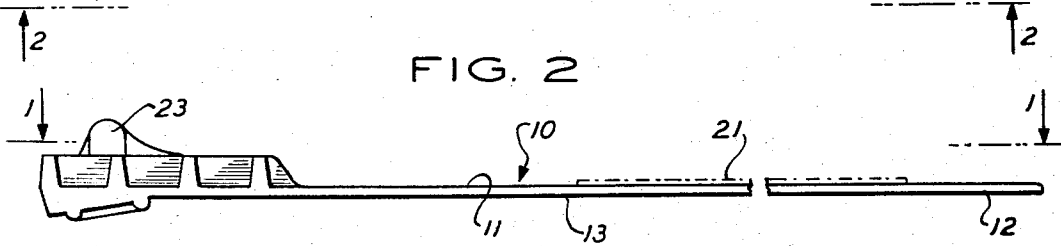


FIG. 3

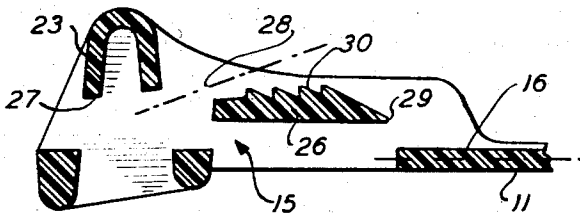


FIG. 4

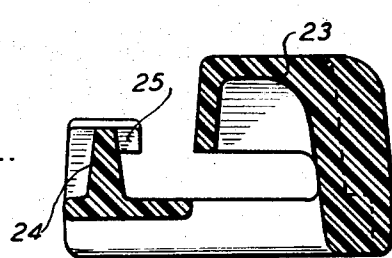
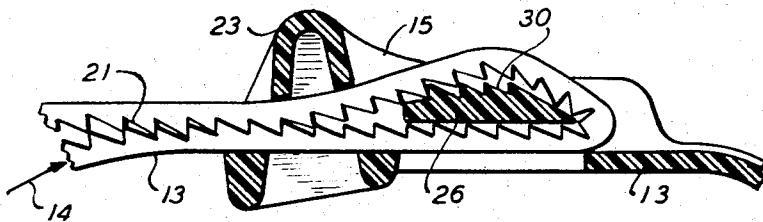


FIG. 5



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LASHING TIE-STRAP

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9 Claims. (Cl. 24-16)

ABSTRACT OF THE DISCLOSURE

A lashing tie-strap which may be readily looped around articles to be secured together and then passed through a bight of a head section at one end of the strap body portion and drawn taut and automatically locked at precisely the point desired, in registered position, with the articles so held in the loop; a unique locking arm provides for faster and easier assembly and for locking the strap body portion in the head section thereof, and enables ready disassembly and reuse when desired.

This invention relates to a strap for holding two or more articles, said strap incorporating novel structural features such as adapt it to be readily looped and drawn taut around articles and automatically locked taut, with the articles held securely therein. The strap is adapted for holding an infinite variety of articles such as, by way of example, and without limitation thereto, for use by utility companies which have heretofore, in order to hang messenger wire on a cable, used large metal bands and clip assemblies, which are difficult to install even in favorable temperatures, cannot be reused and cannot be installed at low temperatures.

The strap of this invention eliminates these and other deficiencies of prior devices and is highly adaptable for ready use under adverse conditions. It is adapted to contain objects over a wide range of sizes; the locking arm thereof enables faster and easier assembly and locking of the strap and interengaging teeth and a pivot edge therein provide improved locking characteristics.

Engagement and disengagement of the holding loop may be readily and conveniently achieved when desired, and it may be readily and easily assembled and disassembled by the user. It may be manufactured with a tapered tip at one end to facilitate threading and at the other end have a rigid head section incorporating a pivot edge locking arm. It is automatically adjustable to contain objects in a large range of sizes, enables rapid and easy assembly, may be handled safely, assures positive locking and incorporates anti-rotation means preventing slipping and disengagement.

In the drawings, illustrating procedures and devices useful in carrying out the invention, and the description below, exemplary only of the invention, which shall be deemed to cover all other devices and procedures coming within the scope and purview of the appended claims.

In the drawings, wherein similar reference characters indicate like parts:

FIG. 1 is a top plan view of an adjustable, self locking strap for holding articles embodying the invention, partly broken away,

FIG. 2 is a side elevational view thereof taken at line 2-2 of FIG. 1,

FIG. 3 is an enlarged, longitudinal, fragmentary vertical sectional view, taken at line 3-3 of FIG. 1,

FIG. 4 is an enlarged fragmentary transverse vertical sectional view taken at line 4-4 of FIG. 1, and

FIG. 5 is a fragmentary, longitudinal, sectional view of the strap of the invention, shown in the position of use thereof.

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As shown in the drawings, the invention comprises a self locking adjustable strap 10 which may be molded or otherwise formed of plastic or other suitable material, to define an elongated body portion 11 which may terminate in a pointed end 12, said body portion being preferably smooth at the underside thereof (as noted at 13, FIG. 2) to facilitate looping the same around the articles to be contained or held by the strap and then being passed, as indicated by arrow 14 (FIG. 5) into head section 15, which may be formed unitarily and may extend from one end of the body portion 11 in the plane 16 (FIG. 3). The opposite (upper) surface of the body portion has formed thereon a plurality of teeth 21 to lock the strap and thereby the articles held thereby taut at precisely the position desired. Head section 15 has a side wall 22 (FIG. 1) extending therefrom to which a locking arm 23 is secured, as by molding or otherwise, said locking arm preferably extending partially transversely across the head section (FIGS. 1 and 4) and terminating short of the opposite side wall 24 of the locking arm; at said opposite side wall anti rotation arm 25 (FIG. 4) extending toward wall 22 is provided. The anti rotation arm 25 extends inwardly of the upper end of side wall 24 of head 22, providing a marginal channel-defining edge to receive the strap and prevent accidental rotation thereof.

A pivot bar 26 (FIG. 3) is formed in the head section in spaced relation to the plane 16 of the body portion; locking arm 23, disposed in spaced relation to the pivot bar 26, may be formed (FIG. 3) at its lower end 27 downwardly angularly. The juxtapositioning of the locking arm 23 and the pivot bar 26 is such as to define therebetween an angular bight or path 28, so that the strap 10, after being looped around the articles to be held thereby, passed through head section 15 (arrow 14, FIG. 5) and pivoted around the pivot bar 26 and thence through the bight 28, may be drawn taut, the teeth 21 of the strap body portion interengaging and providing an automatic self locking arrangement to effectively prevent accidental disengagement. One end 29 (FIG. 3) of pivot bar 26 may be pointed to facilitate pivoting the strap 11 therearound and thereover (FIG. 5). The upper surface of pivot bar 26 may be provided with teeth 30 on which the teeth 21 of the strap body portion may slide and interlock on the final positioning of the strap through the bight path 28 and into locked position. Locking arm 23 may be formed transversely (FIG. 4) and longitudinally (FIG. 3), of U-shaped or any other desired cross section. The strap 11, on being passed through the bight section 28, is positioned under anti rotation arm 25; thus accidental disengagement and rotation is prevented.

From the foregoing, it will be apparent that the strap member of this invention is automatically self locking and adjustable to the articles being held thereby and is pivoted and passed under a locking arm and through an angular bight and interlocked to prevent accidental displacement or disengagement of the parts.

While the foregoing disclosure of exemplary embodiments is made in accordance with the Patent Statutes, it is to be understood that the invention is not limited thereto or thereby, the inventive scope being defined in the appended claims.

I claim:

1. An adjustable self locking strap for holding articles comprising a head section and an elongated flexible body portion connected thereto and extending therefrom in a given plane,
 - a pivot bar disposed in the head section in spaced relation to the said plane of the body portion,
 - and a locking arm disposed in said head section in spaced relation to the pivot bar and defining therewith a complementary bight path disposed at an angle to said plane of the body portion,

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whereby said body portion may be looped around articles and then so passed around said bar and positioned through said complementary bight path in the head section,

and means for locking said body portion in that position.

2. In an adjustable self locking strap as set forth in claim 1, means formed on said body portion for complementary interengagement when said body portion is so looped around said articles and so positioned through said bight path.

3. In an adjustable self locking strap as set forth in claim 1, said locking arm being of U-shaped transverse cross section.

4. In an adjustable self locking strap as set forth in claim 1, said locking arm being of U-shaped longitudinal cross section.

5. In an adjustable self locking strap as set forth in claim 1,

a side wall connected to the body portion, said locking arm being secured to said side wall, and being so secured to said head section.

6. In an adjustable self locking strap as set forth in claim 5, a second side wall connected to the body portion,

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and an anti rotation arm secured to the second side wall so that said strap may be passed under said arm and thus prevented from rotating.

7. In an adjustable self locking strap as set forth in claim 6, said pivot bar having a pointed end.

8. In an adjustable self locking strap as set forth in claim 6, said strap body and pivot bar having complementarily formed interlocking means.

9. In an adjustable self locking strap as set forth in claim 1, an anti rotation arm on said head disposed in spaced relation to the locking arm and providing a channel-defining edge to receive the strap, after the body portion of the strap has been so passed through the bight section, preventing accidental rotation thereof.

References Cited

UNITED STATES PATENTS

3,214,808 11/1965 Litwin.

FOREIGN PATENTS

508,037 1/1955 Italy.

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