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"Self-locking sling".

The present invention pertains to a self-locking sling for loading, unloading and transporting goods packed into bags or similar.

Since several years, slings are used which are constituted by a strap, thong or ribbon successively folded and bent so as to constitute a central carrying zone surrounded by a number of loops. Such slings have the shape of a three or four bladed clover-leaf.

The load, for instance a pile of filled bags, is placed on said carrying zone whereafter the loops are brought upwards around the load and are mutually connected by means of a twine. The free extremities of the loops are intended to be engaged by the hook of a crane, for instance when the load must be heaved in or out of the hold of a ship. Such a known sling holds the load together only when the latter is suspended. In other circumstances, the sling remains around the load without acting on the latter. It is therefore generally impossible to manipulate the load with other devices than a crane, for instance with a fork lift.

This is often a great disadvantage, for instance when

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the merchandise must be successively transported by different carrying means.

It has therefore already been proposed to use a sling system constituted by a bottom supporting sling and a top hoisting sling these two components being secured together by means
5 allowing a relative motion between the components in one direction and restricting or preventing movement in the other direction (GB No. 1.394.823). The purpose of this known system is to obtain a self tightening effect on the load when the latter
10 is hoisted and a locking of the system after tightening. To this end, aforesaid means consist of pairs of chain links attached to suitable parts of the bottom supporting sling. This is an expensive solution, as the slings are generally used only once (one-way). Furthermore interconnecting said components in this fashion when building up load units is time consuming.
15 Therefore, it has been suggested (GB No. 1.394.823) to dispense with said chain links and to simply pass loops of the top sling through loops of the bottom sling. While this allows to maintain the self-tightening feature of the system, the eminently desirable self-locking characteristic
20 is lost.

There is thus a need for a solution to this problem.

According to the present invention there is provided a method for self-tighteningly and self-lockingly interconnecting
25 two looped parts, respectively a bottom and top part of a sling made of webbing, placed respectively underneath and on top of a load, in which the loop of the top loop part is passed through the loop of the bottom loop part from between the latter and the load and then passed successively twice between the legs
30 of the top loop part, making one full turn around one of said legs during the second passage.

According to another aspect of the present invention there is provided a self-tightening sling for unit loads of bagged material, for carrying out the aforesaid method,

5 having a webbing bottom part of clover-leaf configuration, and a single top part made of webbing and providing two attached loops, each loop of which is of such a length that, when the sling is placed on and around a unit load, it can be shaped into two sub-loops each of which still has a sufficient length to be tied to a loop of the bottom part by means of a self-
10 locking sliding knot whilst forming a hoisting loop.

For more clarity, one embodiment of the invention is, for example, described hereinafter in more detail, with reference being made to the appended drawings, wherein:

Figure 1 shows a sling according to the invention, disposed around a load;
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Figure 2 is a schematic, exploded view of the sling shown in Figure 1; and

Figures 3-5 show how the top components of the sling are tied together, according to the method of this invention.

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The illustrated sling has two components namely a webbing bottom part 1 of clover-leaf shape known per se and a single top part or strap 2 of webbing folded and sewn into a star-shaped tetragon.

25 The clover-leaf part 1 has a carrying zone 3 each corner of which has a loop 4.

The top part 2 provides two attached loops and has four loop-shaped corners 5.

30 A load 6, i.e. a pile of filled bags, is disposed on the carrying zone 3 of the bottom part 1 whereafter the loops 4 are raised. The length of the loops 4 is such that they do not reach the upper level of the load 6. The top part 2 is placed on top of the load and each of its corner loops 5

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is tied to a corresponding loop 4 by means of a self-locking sliding knot 8. Figures 3 to 5 schematically show how each knot 8 is made.

As illustrated, loop 5 of the top loop part 2 is passed 5 through a loop 4 of the bottom loop part 1 from between the latter and the load 6 and, then passed successively twice between the legs of the top loop part 2, making one full turn around one of said legs during the second passage.

The second passage is preferably effected closer to 10 the top of the load than the first as shown in dotted lines in Figure 5.

The free ends of loops 5 are intended to be slung on the hook of a crane. When the load is then raised, the knots 8 slide so that the load is permanently compressed whereby 15 it can later easily be transported for instance by fork-lifts and similar, to be placed in railway cars, on trucks, etc.

The invention is of course not limited to the embodiment described hereabove, considering that numerous modifications thereto may be made, within the scope of the appended claims.

CLAIMS:

1. A method for self-tightningly and self-lockingly inter-connecting two looped parts, respectively a bottom and top part of a sling made of webbing, placed respectively underneath and on top of a load, in which the loop of the top loop part
5 is passed through the loop of the bottom loop part from between the latter and the load and then passed successively twice between the legs of the top loop part, making one full turn around one of said legs during the second passage.
2. A method according to claim 1, in which the second passage
10 between the legs is effectuated closer to the top of the load than the first.
3. A self-tightening sling for unit loads of bagged material, for carrying out the method according to claim 1, having a webbing bottom part of clover-leaf configuration, and a single
15 top part made of webbing and providing two attached loops, each loop of which is of such a length that, when the sling is placed on and around a unit load, it can be shaped into two sub-loops each of which still has a sufficient length to be tied to a loop of the bottom part by means of a self-locking
20 sliding knot whilst forming a hoisting loop.
4. A self-tightening sling according to claim 3, substantially as hereinbefore described and as illustrated in the accompanying drawings.

