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Pack for fence posts or other elongate products

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ABSTRACT

A packaging means (10) for packaging a plurality of elongate articles such as fence posts (16), stakes, pipes, steel rods or the like, comprising two opposed clamping elements (12) which are movable towards and away from each other to clamp the elongate objects (16) there between and an end cap (14) attached to the clamping elements for inhibiting axial movement of the elongate articles. The clamping elements comprise a lower clamp and an upper clamp Each end cap (14) defines upper (30) and lower (32) panels connected via an end wall (34). A hole (39) typically reinforced by a metal grommet is provided in each of the two corners of each of the upper and lower panels distal from the end panel for attaching the end cap to the clamping elements.

Pack for fence posts or other elongate objects

This application is a divisional application of Australian Patent Application No. 2013100033, the content of which is incorporated herein by reference.

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Field of the Invention

This invention relates to a pack for use in securing and transporting fence posts or other long thin elongate objects such as, stakes, pipes, steel rods and the like.

10 **Background of the Invention**

Currently, fence posts are typically packed in small bundles of around ten pieces/posts which are tied together using wire ties, to make sure that the bundles do not fall apart, and to prevent individual pieces/posts from slipping out from the bundle. These small bundles are then often packed together in larger units of 200 to 400 pieces and are transported on a pallet or in a simple steel frame.

15 There are a number of disadvantages with the existing method of packing. First for the end user, it takes a relatively long time to untie all the wire ties in the packs and remove the posts, involving manual handling and much fiddly work untying the ties. This frustrates many large scale users of fence posts as the key criteria for them is speed in putting fence posts up, and delays in separation of the posts creates unnecessary delays. Secondly, the existing packs of fence posts tend to quite bulky and heavy and can in some cases exceed weight restrictions when being transported on smaller trucks and vehicle.

25 Any discussion of documents, acts, materials, devices, articles or the like which has been included in the present specification is not to be taken as an admission that any or all of these matters form part of the prior art base or were common general knowledge in the field relevant to the present disclosure as it existed before the priority date of each claim of this application.

30 Throughout this specification the word "comprise", or variations such as "comprises" or "comprising", will be understood to imply the inclusion of a stated element, integer or step, or group of elements, integers or steps, but not the exclusion of any other element, integer or step, or group of elements, integers or steps.

Summary of the Invention

35 According to the present invention there is provided a means for packaging a plurality of elongate articles such as posts, stakes, pipes, steel rods or the like,

comprising two opposed clamping elements which are movable towards and away from each other to clamp the elongate objects there between and an end cap attached to the clamping elements for inhibiting axial movement of the elongate articles.

5 The end cap is preferably made from a high strength flexible woven fabric material such as woven polyester. It typically defines two panels connected via an end wall, typically an upper panel and a lower panel. A hole, typically reinforced by a metal grommet is provided in each of the two corners of each of the upper and lower panels distal from the end panel for attaching the end cap to the clamping elements.

10 Each clamp typically comprises a lower clamping element preferably a hollow tube having a generally rectangular cross section. A post which may be welded to the top of the hollow tube, extends up from each end of the tube. The upper clamping element may define a hole near each end to receive one of the posts. The posts are threaded to receive a nut or the like for securing and tightening posts between the lower and upper clamping elements.

15 Typically, one such packaging means is attached over each end of the bundle of posts. The clamps secure the posts together and prevent, in particular, sideways movement of the posts, while the end caps prevent axial movement of the posts. The number of posts in the pack can be easily varied by moving the clamping elements closer together or further apart.

20 The fabric of the end caps may be coloured and may be printed with particular patterns, words, designs, marketing material or the like.

Inside the packaging, the posts are loose so as soon as the packaging has been removed from one end of the package, at least, the posts can simply be grabbed there is no need to untie any wire ties or separate the posts from one another.

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Brief Description of the Drawings

A specific embodiment of the present invention will now be described, by way of example only, and with reference to the accompanying drawings in which:

30 Figure 1 shows a perspective view of a pack of fence posts;

Figure 2 illustrates the making of a sock/cap which forms a part of the pack shown in Figure 1; and

Figure 3 is an isometric view showing the completed sock/cap; and

Figure 4 is a further isometric view showing the completed sock/cap.

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Detailed Description of the Preferred Embodiment

Referring to the drawings, Figure 1 shows a pack of fence posts 10. The packing comprises two opposed clamps 12 each of which is attached to a flexible end cap or sock 14. A plurality of fence posts 16 are secured between the pair of clamps 12 and are “loose” within the packing, in the sense that they are not tied to each other in bundles.

Each clamp 12 comprises a lower clamping element comprising a hollow steel tube 20 having a generally rectangular cross section. A rod or post 22 which is welded to the top of the tube extends up from each end of the tube 20. The upper clamping element 24 is L-shaped and defines a hole near each end to receive one of the posts 22. The post is threaded to receive a nut 26, a wing nut or the like for securing and tightening posts between the lower and upper clamping elements.

Figures 2 to 4 show the socks/end caps 14 in more detail. With reference to those Figures, each of the socks has an upper panel 30, a lower panel 32 an end panel 34 , and two opposed relatively short side panels 36, 38. A hole 39, reinforced by a metal grommet is provided in each of the two corners of each of the upper and lower panels distal from the end panel 34.

Figure 2 illustrates the manufacture of the end caps 14 which are formed from a high strength woven polyester fabric, although other suitable high strength materials may be used. The sheet is cut to shape and stitched to define the lower panel 32, side panels 36, 38 end panel 34 and two flaps 40, 42, which are folded over as shown and stitched to the underside of the top panel 30.

The fabric may be coloured and may be printed with particular patterns, words, designs, marketing material or the like.

The grommets/holes 39 fit over the threaded posts 22 which project up from the rectangular steel tube 20 thus securing the socks/end caps to the clamps.

In use the steel posts or the like are assembled in the pack with the top and bottoms of the posts retained in the end caps preventing axial movement of the posts.

The posts 22, and upper and lower clamping element can be tightened using to nuts to secure the fence posts 16 together under compression and prevent separation/lateral movement of the fence posts.

The steel tubes that form the base are strong enough to support the posts and allow the pack to be moved around by a forklift, pallet truck or the like. No separate pallet is required.

Once the pack 10 is opened on site by loosening the nuts and removing one or both of the end caps/socks, it is a simple matter for the operator to grab the loose posts to commence fencing. The pack can be re-fastened if all the posts are not used.

5 Although the drawings show a pack of steel fence posts, it will be appreciated that the packing can be used for other long thin products such as stakes, pipes steel rods or the like.

10 It will be appreciated by persons skilled in the art that numerous variations and/or modifications may be made to the above-described embodiments, without departing from the broad general scope of the present disclosure. The present embodiments are, therefore, to be considered in all respects as illustrative and not restrictive.

THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. A packaging means for packaging a plurality of elongate articles such as posts, stakes, pipes, steel rods or the like, comprising two opposed clamping elements which are movable towards and away from each other to clamp the elongate objects there
5 between and an end cap attached to the clamping elements for inhibiting axial movement of the elongate articles.
2. A packaging means as claimed in claim 1 wherein each clamp comprises a lower clamping element preferably a hollow tube having a generally rectangular cross
10 section, a post extending up from each end of the tube and an upper clamping element which define a hole near each end to receive one of the posts and wherein the posts are threaded to receive a nut or the like for securing the elongate articles between the lower and upper clamping elements.
- 15 3. A packaging means as claimed in claim 1 or claim 2 wherein the end cap is preferably made from a high strength flexible woven fabric material such as woven polyester and typically defines two panels connected via an end wall, typically an upper panel and a lower panel, and wherein a hole, typically reinforced by a metal grommet, is provided in each of the two corners of each of the upper and lower panels distal from
20 the end panel for attaching the end cap to the clamping elements.
4. A packaging means as claimed in claim 3 wherein the fabric of the end caps is printed with particular patterns, words, designs, marketing material or the like.
- 25 5. A package comprising an assembly of a plurality of loose elongate elements, such as fence posts, arranged side by side and substantially parallel in a bundle, with a packaging means as claimed in any preceding claim attached over each axial end of the assembly.







