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(54) **An artificial christmas tree**

Künstlicher Christbaum

Arbre de Noel artificiel

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(56) References cited:

DE-A- 3 240 446 **DE-U- 8 705 329**
IE-B- 59 161

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EP 0 920 826 B1

Description

[0001] The present invention relates to an artificial Christmas tree, in particular to a collapsible tree which is assembled from a kit of parts including identical stem sections which may be fitted together to form trees of different heights, the stem sections including means for inserting branches therein.

[0002] Numerous constructions for an artificial Christmas tree have been described in the prior art, wherein the stem is not collapsible and comprises a stiff rod or pole, to which the branches either must permanently be attached, or slotted into a series of collars, or holes drilled in the pole, with the option that the branches may be folded back or removed for storage. The branches tend to break off very easily, and a long box is required to ship the product.

[0003] The prior art also includes constructions for an artificial Christmas tree having a collapsible stem section. According to our Irish Patents Nos. S59161 and 68051, the collapsible stem comprises a series of identical hollow tubes which are rigidly interengageable, each having a male section at one end and a female section at the other, such that when the two are coupled together a series of longitudinal slots is defined at the junction between them. The roots of the branches are inserted in the slots, with both a male and a female section bearing against the branches to wedge them tightly in place. However, on account of the diameter of the tubes, only about six slots can be accommodated. In a taller tree, this does not allow for a very dense array of branches near the base, which is a disadvantage. Also, for disassembly purposes, it has been found that the customer may prefer to strip off the branches leaving the assembled tubes comprising the stem intact, but in the arrangement disclosed in IE-S59161 and IE-68051, the branches can only be removed by completely disassembling the tubes comprising the stem, which is time-consuming.

[0004] Other arrangements including interengageable tubular stem sections are disclosed in GB-A-0,303,270 and GB-A-0,874,704. An arrangement with alternate tube sections and collar sections is described in EP-A-0,527,711. However, all of the artificial Christmas trees described in this prior art require to be completely disassembled, i.e. all of the stem sections must be separated, to satisfactorily remove the branches, for storing the tree. This of course weakens the parts.

[0005] DE-A-3,240,446 however describes an artificial Christmas tree in which the branches may be inserted or removed after the stem sections have been assembled. The leafy portions of the branches are supported by a protruding ledge from a collar which is integrally formed with the stem section, the root portions of the branches being folded back to prevent the branches from falling out, so that the branches are still rather difficult to detach, and are relatively loosely held in place. The ledges protruding from the collar give the assembled

tree a somewhat unnatural appearance, which is another disadvantage with this design. A pole is provided to fit inside the hollow assembled stem sections, for stiffening and rigidity as more branches may be attached around the outside of the stem.

[0006] It is therefore an object of the present invention to combine the advantages of a fully collapsible artificial Christmas tree construction, i.e. ease of shipment in a smaller box, flexibility in terms of assembling trees of different heights, reduced manufacturing costs, etc., with the advantages of the partially collapsible type of construction, i.e. where only the branches need to be removed for the purpose of storing them in a box, and saving the tree from deteriorating from one Christmas to the next, say in an attic or garage.

[0007] The present invention aims to provide a very strong stem assembly, where the sections may even be pre-assembled prior to shipment or assembled by the customer. Furthermore, while providing a series of protruding collars or sleeves for slotting the branches onto the stem may give the stem a somewhat unnatural appearance, the present invention seeks to overcome this problem by providing a collar with over ten slots, preferably fifteen, about its circumference, such that branches may be quite densely packed, when attached, thereby giving an artificial Christmas tree where the stem (and the collars) are not easily visible between the mass of branches when the tree is finally assembled.

[0008] Accordingly, the present invention provides an artificial Christmas tree assembled from a kit of parts in accordance with the claim which follows.

[0009] Each stem section is most preferably identical, comprising a male portion at one end and a corresponding female portion at the other end. The stem sections are preferably hollow, but they may be solid.

[0010] The male and female portions preferably may be coupled together with a tight or interference fit for maximum rigidity.

[0011] Suitably, there are at least ten, and preferably fifteen, slots defined in the collar.

[0012] A preferred embodiment of the invention will now be described with reference to the accompanying drawings, in which:

Figure 1 is a longitudinal cross section of a stem section for an artificial Christmas tree;

Figure 2 is a plan view from above of the stem section shown in Figure 1,

Figure 3 is a plan view from below of the stem section shown in Figure 1,

Figure 4 is the same view as in Figure 3, showing part of three tripod legs attached, and,

Figure 5 is a side view of a preferred tripod leg for the base of the artificial Christmas tree.

[0013] An artificial Christmas tree in accordance with a preferred embodiment of the present invention is assembled from identical tubular stem sections (1) as shown in Figure 1. The top male portion (2) is slightly tapered so as to fit inside the bottom female portion (3) with a tight or interference fit. However, in an obvious equivalent, two stem sections could be used, one defining a male portion at each end, the other defining a female portion at each end, fitting together alternately. A collar (4) is integrally formed in a mould on the outside of the stem section and comprises a ledge (5) which defines fifteen longitudinal slots (6) about its circumference. Each slot receives the root portion (7) of a branch for the tree, which will not be described in detail as the branches are of a known construction. A leafy portion (8) of the branch projects out from the collar (4) and is accommodated by a notch (9) formed in a parapet (10) formed on the collar.

[0014] This arrangement provides a firm seating for the branches which may be inserted in some or all of the slots, as desired, once the stem sections have been joined together. It should be noted that the end surface (11) of the female portion engages with the ledge (5) when the sections are pressed tightly together, but does not interfere with the insertion or removal of the root portions (7) of the branches, since the slots (6) for receiving the branches are coincident with the outer sidewall of the stem sections (1). Therefore, once the stem sections have been assembled, the branches can be inserted and removed quickly. In most cases, the customer is content to leave the stem sections joined together for storing the parts until the next Christmas. Only the branches and tree decorations need to be stored in a box.

[0015] On the underside of the collar (4) a skirt portion (12) is formed, with three large notches (13) formed therein, for receiving three tripod legs (14). A pin (15) is formed on each tripod leg, positioned to slot into the slots numbered 6a in Figure 3. A hook (16) is positioned to fit into the female portion (3) engaging with the edge (11) of the stem section. As seen in Figure 4 each of the three tripod legs (14) abut each other when inserted in the bottom stem section of the artificial Christmas tree assembly, so that the legs are sturdy and cannot move laterally.

Claims

1. An artificial Christmas tree assembled from a kit of parts including stem sections (1) which may be fitted together by means of male (2) and female (3) portions to form trees of different heights, and branches comprising a root portion (7) and a leafy portion (8), each stem section (1) having an integrally-formed collar (4) defining a series of longitudinal slots (6), for receiving the root portions of the branches, and each collar defining on its outer pe-

riphery a parapet (10) with a gap (9) adjacent to each slot for receiving the base of the leafy portion of each respective branch, adapted to maintain the branches in firm engagement with and radially spaced with respect to the stem, wherein the longitudinal slots (6) defined therein are coincident with the outer sidewall of the stem, such that the branches may be inserted and removed after the stem sections have been assembled, in use,

characterized in that

each collar (4) is spaced from both ends of its stem section (1), and in that the longitudinal slots (6) are arranged for downward insertion of the branch root portions (7), and in that each collar (4) defines a skirt portion (12) with three notches (13) formed therein adapted to receive a respective one of three tripod legs, in a tripod leg arrangement, wherein each of the three tripod legs (14) is adapted with a pin (15) for engaging one (6a) of the slots (6) of a collar (4) from underneath, and with a hook (16) for engaging with the stem from underneath, the hooks being adapted to abut each other.

Patentansprüche

1. Künstlicher Christbaum, zusammengebaut aus einem Bausatz aus Teilen, die Stamm-Abschnitte (1), die mittels Steck- (2) und Aufnahme-Teilen (3) zusammengesetzt werden können, um Bäume verschiedener Höhe zu bilden, und Zweige umfassen, die einen Stielteil (7) und einen Blattteil (8) aufweisen, wobei jeder Stamm-Abschnitt (1) einen einstückig geformten Ring (4) enthält, der eine Reihe von Längsschlitz (6) zur Aufnahme der Stielteile der Zweige abgrenzt, und jeder Ring an seinem Außenumfang einen Wall (10) mit einem an jeden Schlitz angrenzenden Spalt (9) zur Aufnahme der Basis des Blattteils je eines Zweiges abgrenzt, der dafür eingerichtet ist, die Zweige in festem Eingriff mit dem Stamm und radial davon beabstandet zu halten, wobei die darin abgegrenzten Längsschlitz (6) mit der äußeren Seitenwand des Stammes zusammenfallen, so dass die Zweige im Gebrauch eingesetzt und entfernt werden können, nachdem die Stamm-Abschnitte zusammengebaut worden sind,

dadurch gekennzeichnet, dass

jeder Ring (4) von beiden Enden seines Stamm-Abschnitts (1) beabstandet ist, dass die Längsschlitz (6) für ein Einsetzen der Zweig-Stielteile (7) nach unten angeordnet sind und dass jeder Ring (4) einen Saumteil (12) mit drei darin gebildeten Kerben (13) abgrenzt, die dafür eingerichtet sind, jeweils einen von drei Dreibein-Beinen in einer Dreibein-anordnung aufzunehmen, wobei jedes der drei Dreibein-Beine (14) mit einem Stift (15) zum Eingriff in einen (6a) der Schlitz (6) eines Rings (4) von unten

und mit einem Haken (16) zum Eingriff in den Stamm von unten eingerichtet ist, wobei die Haken dafür eingerichtet sind, aneinander zu stoßen.

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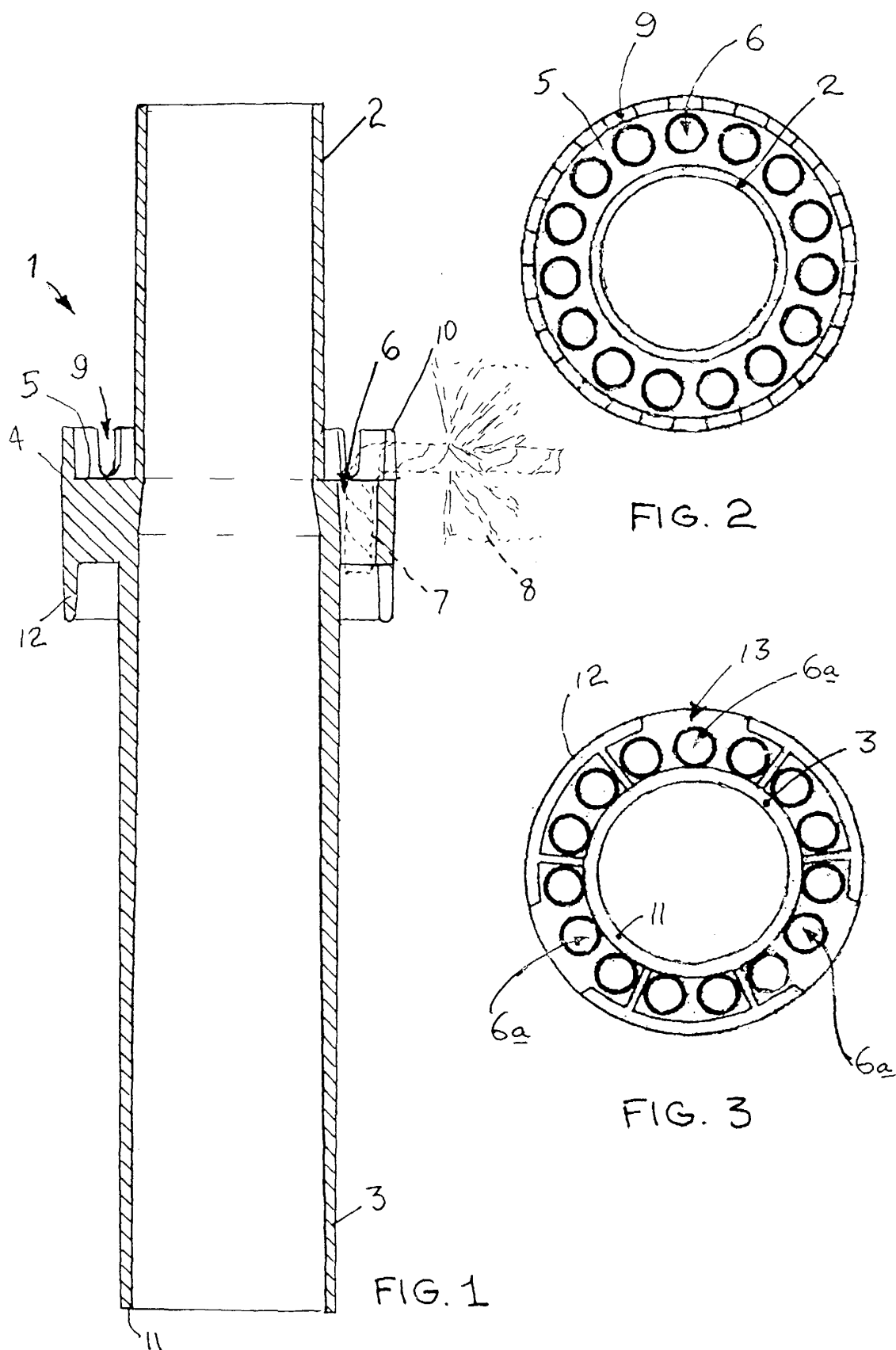
Revendications

1. Arbre de Noël artificiel assemblé à partir d'un ensemble ou kit de pièces détachées comprenant des sections de tronc (1) pouvant être ajustées ensemble au moyen de parties mâles (2) et femelles (3) pour former des arbres de différentes hauteurs, et des branches comportant une partie de racine (7) et une partie feuillue (8), chaque section de tronc (1) ayant une bride (4) formée d'une seule pièce définissant une série de fentes longitudinales (6) pour recevoir les parties de racine des branches, et chaque bride définissant à sa périphérie extérieure un rebord (10) avec un jour (9) au voisinage de chaque fente pour recevoir la base de la partie feuillue de chaque branche respective, adapté pour maintenir les branches en engagement solide et avec un espacement radial par rapport au tronc; les fentes longitudinales (6) définies ici coïncidant avec la paroi latérale extérieure du tronc, de sorte que les branches puissent être insérées et retirées après que les sections de tronc ont été assemblées, à l'utilisation, **caractérisé en ce que** chaque bride (4) est espacée des deux extrémités de sa section de tronc (1), en ce que les fentes longitudinales (6) sont conformées pour une insertion vers le bas des parties de racine des branches (7), et en ce que chaque bride (4) définit une partie de jupe (12) munie de trois encoches (13) conçues pour recevoir le pied respectif d'une configuration en trépied, chacun des trois pieds (14) du trépied étant muni d'une tige (15) pour s'insérer dans une (6a) des fentes (6) d'une bride (4) depuis le dessous, et d'un crochet (16) pour s'insérer dans le tronc depuis le dessous, les crochets étant conçus pour venir en butée les uns contre les autres.

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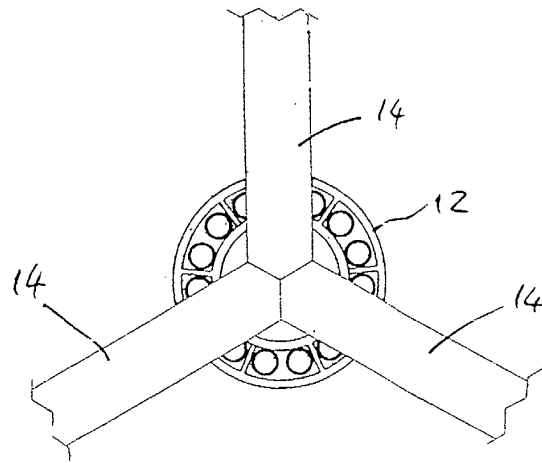


FIG. 4

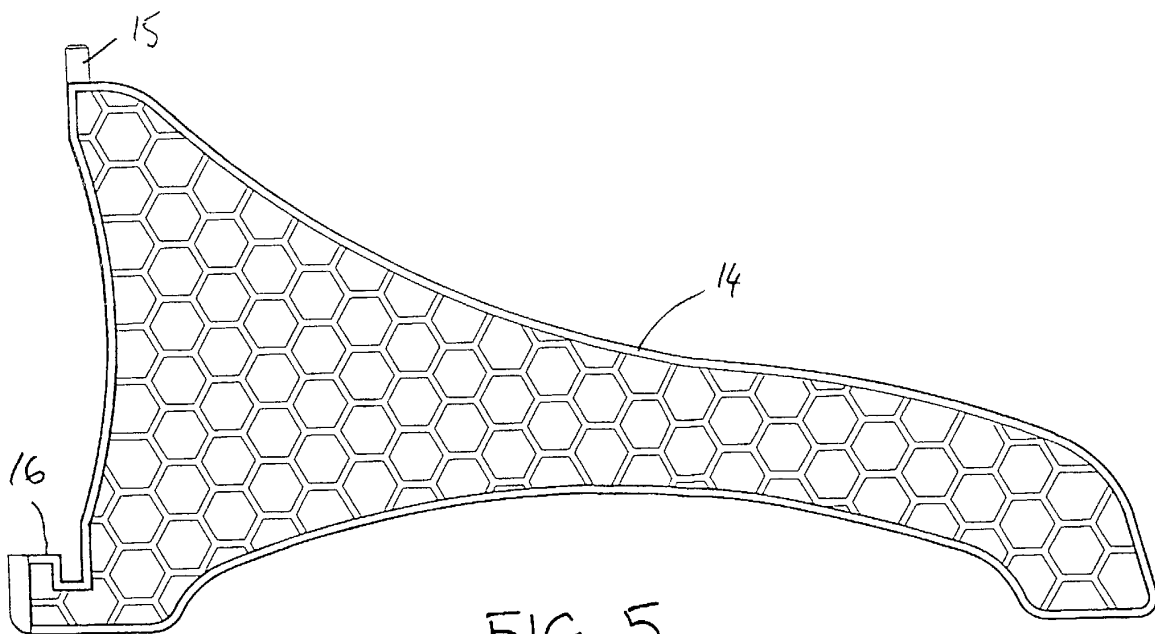


FIG. 5