United States Patent

[11] 3,607,586

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[54] BRANCH OF WOUND PLASTIC RIBBON FOR ARTIFICIAL CHRISTMAS TREES

5 Claims, 3 Drawing Figs.

[52] **U.S. Cl.** **161/24,** 161/30, 161/109, 156/257, 156/195
[51] **Int. Cl.** **A47g 33/06**
[50] **Field of Search** 161/21, 24, 13, 17, 22, 30, 109; 72/326; 156/195, 257

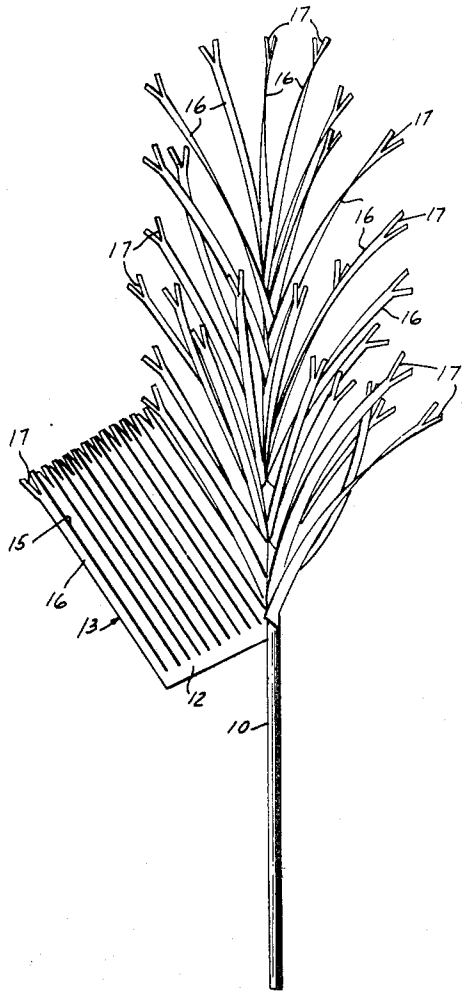
[56] **References Cited**

UNITED STATES PATENTS

3,056,223 10/1962 Crane ..... 156/257 X

Primary Examiner—Philip Dier
Attorney—Hill, Sherman, Meroni, Gross & Simpson

ABSTRACT: Branch for artificial Christmas tree in which a metal rod having a slit extending across the top of the rod receives the end of a bead of a needled ribbon of plastic or metal foil wound about the rod in the general form of the spiral from the top to the bottom of the rod. The ribbon has a narrow bead extending along one side of the ribbon and fitting into a slot in the rod and wound about the rod and bent relative to the plane of the needled ribbon to place a twist in the needles of the ribbon when wound spirally about the rod. The needles of the ribbon are formed in side-by-side relation by slits extending transversely of the bend and at equal leading angles relative to the bead. The ends of the needles are forked by slitting from the ends thereof to increase the appearance of fullness of the branch.



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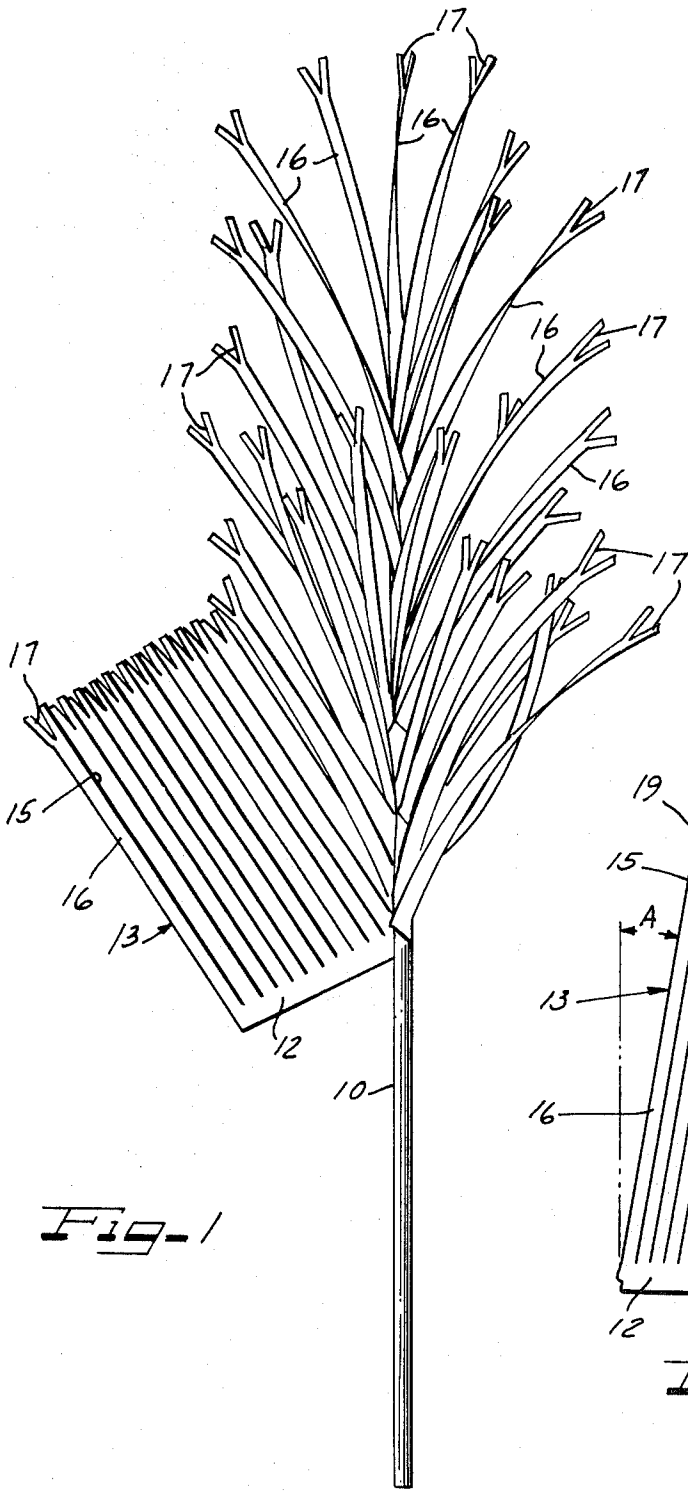


Fig. 1

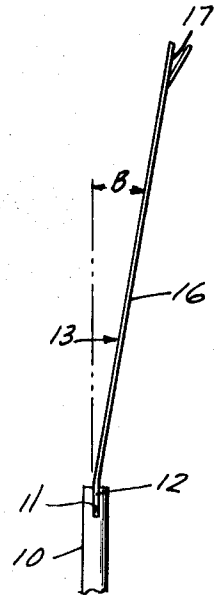


Fig. 2

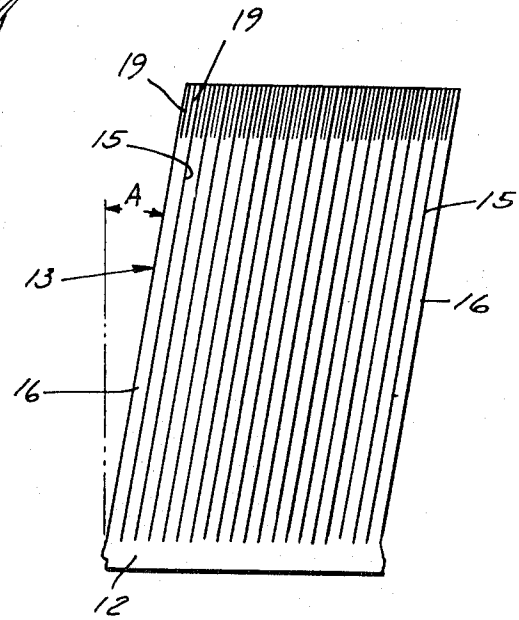


Fig. 3

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BRANCH OF WOUND PLASTIC RIBBON FOR ARTIFICIAL CHRISTMAS TREES

BACKGROUND OF THE INVENTION

Artificial Christmas trees have heretofore been constructed by slitting a ribbon of metal foil perpendicularly to bead extending along one edge of the ribbon. The bead has then been wound spirally about a rod, serving as a branch for the tree, with the slit portions of the ribbon simulating needles and extending from the rod. Assembled branches are then inserted in a post forming a trunk for the tree and may be of various lengths to provide an artificial tree of the desired contour. Such a tree and method of making the branches of the tree is shown in my prior U.S. Pat. No. 2,889,650, dated June 9, 1959.

While such trees have been generally satisfactory and provide a good simulation of a natural tree, it has been difficult to attain the desired appearance of fullness of branches due to the fact that while the slitting of the ribbon is intended to place a twist on the needles, the needles actually extend perpendicular to the bead of the ribbon, giving an artificial appearance, even where two ribbons are wound about a rod in lapping relation.

SUMMARY AND OBJECTS OF THE INVENTION

The present invention improves upon the prior art artificial Christmas tree branches made from a plastic or metal foil ribbon, by slitting the ribbon at an angle relative to the bead, so the outer ends of the needles will lead the bead, and by slitting the ends of the needles to provide forked end portions of the needles to give the appearance of fullness of the branch. The bead of the ribbon is also bent relative to the planes of the needles along a line extending longitudinally of the ribbon during the slitting operation, to cooperate with the leading angles of the needles and increase the twist of the needles.

A principal object of the present invention, therefore, is to increase the fullness of artificial Christmas tree branches, in which the needles are simulated by a slit ribbon having a narrow bead wound about a rod, by slitting the ends of the needles and inclining the needles to lead the bead of the ribbon.

Another object of the invention is to provide an improved Christmas tree branch in which a ribbon of plastic material is transversely slit at uniform intervals for the length thereof to a narrow bead spirally wound about a rod, in which the appearance of fullness of the branch is simulated by inclining the needles at leading angles relative to the bead of the ribbon, by bending the bead of the ribbon relative to the plane of the needles, prior to spirally winding the ribbon about its rod, and by slitting the ends of the individual needles to give a forked and full appearance to the needles.

These and other objects of the invention will appear from time to time as the following specification proceeds and with reference to the accompanying drawings.

DESCRIPTION OF THE DRAWINGS

FIG. 1 is a view in side elevation of a Christmas tree branch constructed in accordance with the principles of the present invention, showing the branch in a partially assembled state;

FIG. 2 is a fragmentary side view of the rod for the branch, showing the bead of a slit ribbon in a slot extending across the rod at the initiation of the operation of winding the ribbon about the branch, and illustrating the tilt of the needles relative to the bead of the ribbon; and

FIG. 3 is a plan view of a ribbon prior to winding about a rod and illustrating the ends of the needles of the ribbon slit to form forked ends of the ribbon.

DESCRIPTION OF PREFERRED EMBODIMENT OF INVENTION

In the embodiment of the invention illustrated in the drawings, I have shown in FIGS. 1 and 2, a rod 10 having a slot 11 extending diametrically across the end thereof and receiving a bead 12 of a ribbon 13, slit as indicated by reference character 15 to form a plurality of individual needles 16 extending laterally of the bead 12. The bead 12 holds the slit ribbon together as a unit and is wound about the rod 10.

The ribbon 13 may be made from a flexible material having sufficient body to maintain its general shape when slit, and to accommodate the bead to be bend relative to the plane of the slit portion of the ribbon, as shown in FIG. 2, and may be a plastic ribbon or a metal foil ribbon of a selected color, which usually comes in rolls. As for example, a green or white tree may be constructed from a thin plastic ribbon of the required color, while a metallic tree may be constructed from a suitable metal foil. The plastic may be a vinyl resin, or any other suitable plastic.

The ribbon may be fed from its roll and transversely slit to the narrow bead 12 to form needlelike members 16 of equal width throughout the length of the ribbon. The slitting of the ribbon to form the needles may be attained in a manner similar to that shown and described in my U.S. Pat. No. 3,067,796 and is no part of the present invention so need not herein be shown or described in detail. One material difference in the forming of the needles over that of my U.S. Pat. No. 3,067,797 is that the ribbon is slit at an acute angle with respect to the longitudinal edge of the bead, which may be of the order of between 78° and 95°. This positions the needles to lead the bead 12 at angle A which may be from 12° to 5°. An angle of lead in the order of 10° has been found to be a satisfactory angle of lead.

In forming the needles, during the slitting operation and as a continuation of the forming operation, the bead may be bent relative to the plane of the body or needles of the ribbon by the slitter or by a suitable rolling arrangement, or by any other well-known means, placing a bend between the bead and needles at an angle B, as shown in FIG. 2. The angle of bend of the bead may be of the order of 10° relative to a vertical line extending along one side of the bead, as indicated in FIG. 2. This bending of the bead relative to needles places a twist on the needles when spirally wound around the rod 10, which thereby enhances the appearance of fullness of the branch.

During the operation of slitting the ribbon to form the needles 16, the ends of the needles are slit as indicated by reference character 17 in FIGS. 1 and 2. In these figures, the slits are along the centers of the needles to provide forked end portions of the needles, further increasing the appearance of fullness of the branch. The slitting of the ends of the needles may be carried out during the operation of slitting the ribbon to form the needles, by a slitting blade in addition to the blade slitting the ribbon in the form of needles. The additional blade may act in cooperation with the blade for slitting the needles and may be stationary while the blade for slitting the needles may be movable or the blade may move with the blade for slitting the needles in cooperation with a stationary mandrel. The mechanism for slitting the needles and bending the bead relative to the needles is no part of the present invention so need not herein be shown or described further.

In FIGS. 1 and 2 of the drawings, I have shown the needles slit at 17 along the centers of the needles to provide double tined forked ends of the needles. In FIG. 3, I have shown each needle slit from its end by parallel slits 19 to provide three tined forked ends of the needles. Any number of slits may be provided, but due to the narrow width of each needle, it is not practical to provide more than three tined forked ends for the needles.

In forming the branch, a slit ribbon 13, slit to position the needles 16 to lead the bead 12, as the needles extend outwardly of the bead, in which the bead is inserted at one end of the ribbon in the slot 11. Prior to insertion of the end of the bead of the ribbon in the slot 11, the rod may be coated with adhesive, either adjacent its opposite ends, or for substantially the full-length of the rod. The rod is usually in a vertical position during winding of the ribbon thereon and may be held at its lower end in the chuck of a spinner, spinning the rod to effect winding of the ribbon spirally along the rod under the

control of the hand. The end of the ribbon, at the lower end of the rod, may then be taped or stapled to the rod in cooperation with the adhesive, to maintain the ribbon tightly wound about the rod, with the needles 16 extending therefrom and of a generally spiral form, as shown in FIG. 1.

The wound rods may then be inserted in drilled holes in a vertical post, forming the trunk of the tree (not Shown) and inclined at a selected angle relative to the vertical, as shown in my U.S. Pat. No. 2,889,650, and no part of the present invention so not herein shown or described further.

It should here be for an that while I have shown only one ribbon spirally wound about the rod 10 along the bead 12 of the ribbon, a double thickness of ribbon may be wound about the rod, if desired, to further increase the appearance of fullness of the branch. It has been found, however, that the slitting of the ends of the needles and inclining the needles to lead the bead as well as the bending of the bead relative to the needles is sufficient to create the desired appearance of fullness to the branch and that two ply strips are not usually desirable, except under special circumstances.

While I have herein shown and described one form in which the invention may be embodied, it may be understood that various variations and modifications in the invention may be attained without departing from the spirit and scope of the novel concepts thereof.

I claim:

1. A branch construction for artificial Christmas tree comprising,

a rod,

a needled ribbon having a narrow bead extending along one side thereof, and having inner and outer longitudinal margins and wound along said rod in a helical path, said ribbon having a plurality of parallel equally spaced slits extending transversely of said bead and terminating at the inner longitudinal margin of said bead and forming the needles of the ribbon,

the outer ends of said needles being slit to provide forked ends for the needles to enhance the appearance of fullness of the branch, and the equally spaced slits forming said needles being inclined at an acute angle relative to the edge of said bead at equal leading angles in the range of between 5° and 12° relative to a line extending perpendicular to the longitudinal inner margin of said bead.

2. A branch construction in accordance with claim 1, wherein the needles are bent relative to the plane of the bead substantially along the inner margin thereof, to place a spiral twist on the needles.

3. The branch construction of claim 1,

wherein the rod has a slit extending thereacross and opening to the end thereof and receiving an extreme leading end of the bead and cooperating therewith to retain the bead thereto, as wound about said rod.

4. An elongated ribbon adapted to be helically wound along a rod to simulate a needled Christmas tree branch comprising,

a bead extending along one side of the ribbon and having outer and inner longitudinal margins,

a plurality of slits in the ribbon extending transversely of the bead to said inner longitudinal margin of said bead and forming the needles of the ribbon,

said slits being parallel and equally spaced and inclined at an acute angle relative to a line perpendicular to the longitudinal inner margin of the bead to lead the bead at an acute angle in the range of between 5° and 12° relative to the perpendicular line,

said ribbon being bent relative to the plane of the bead along said longitudinal inner margin for the length thereof.

5. The ribbon of claim 4,

wherein the ribbon has slits extending along the needles equal distances between the slits extending transversely of the bead, and providing forked ends for the needles.

UNITED STATES PATENT OFFICE

CERTIFICATE OF CORRECTION

Patent No. 3,607,586 Dated September 21, 1971

Inventor(s) Chester Peter Hankus

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

Please add the following references, which were cited in the first action from the Patent Office:

3,477,897	11/69	Hankus	Cl. 161/24xr
2,893,149	7/59	Reece et al	Cl. 161/24
3,020,660	2/62	Scherotto	Cl. 161/24xr
708,727	5/65	Hankus (Canada)	Cl. 161/22

Column 1, line 6, after "to", insert --a--.

Column 2, line 7, change "bend" to --bent--;
line 20, change "3,067,796" to --3,067,797--.

Column 3, line 7, change "(not Shown)" to --(not shown)--;
line 11, change "for an" to --understand--.

Signed and sealed this 10th day of October 1972.

(SEAL)
Attest:

EDWARD M.FLETCHER,JR.
Attesting Officer

ROBERT GOTTSCHALK
Commissioner of Patents