

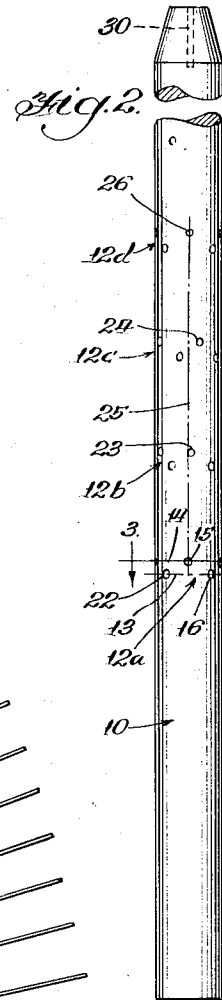
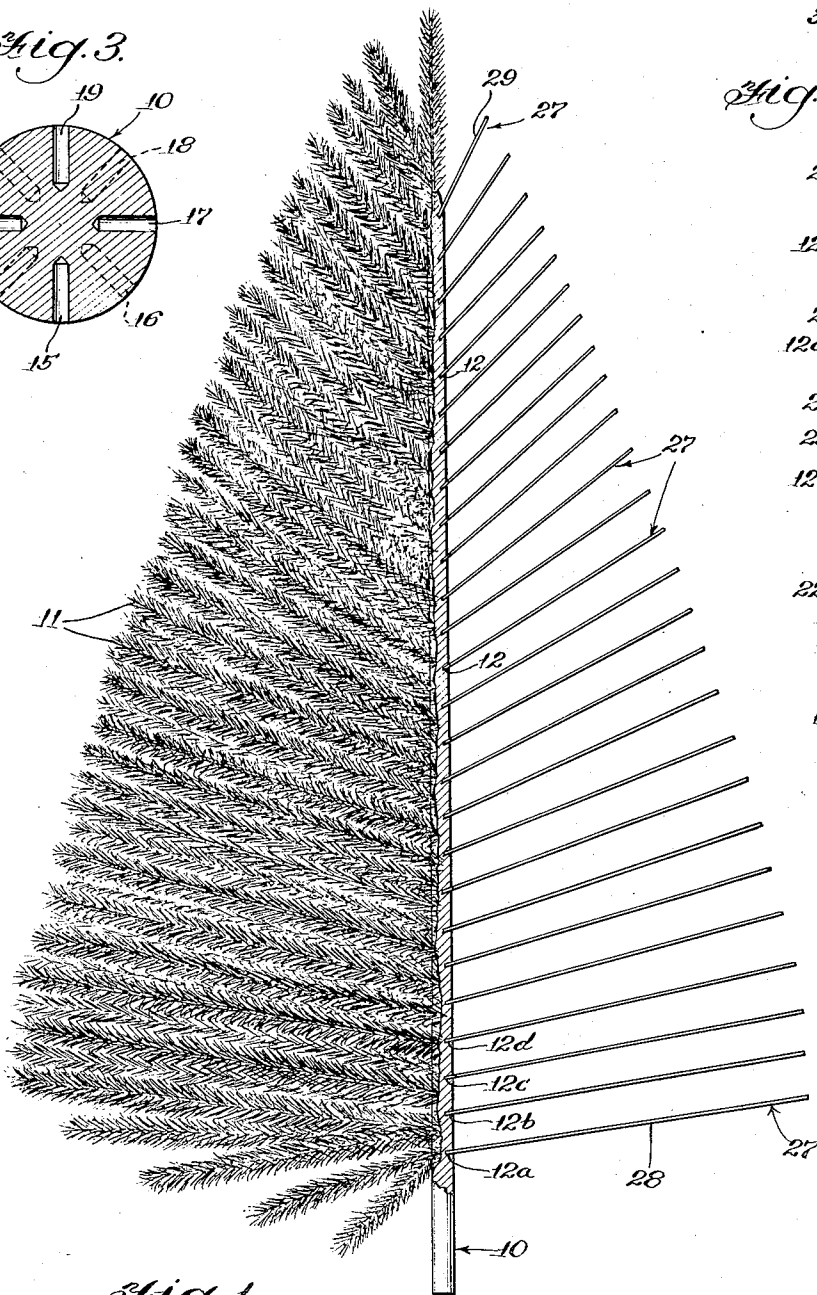
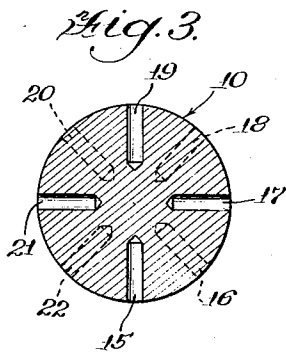
June 9, 1959

C. P. HANKUS
ARTIFICIAL TREE

2,889,650

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2 Sheets-Sheet 1



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2 Sheets-Sheet 2

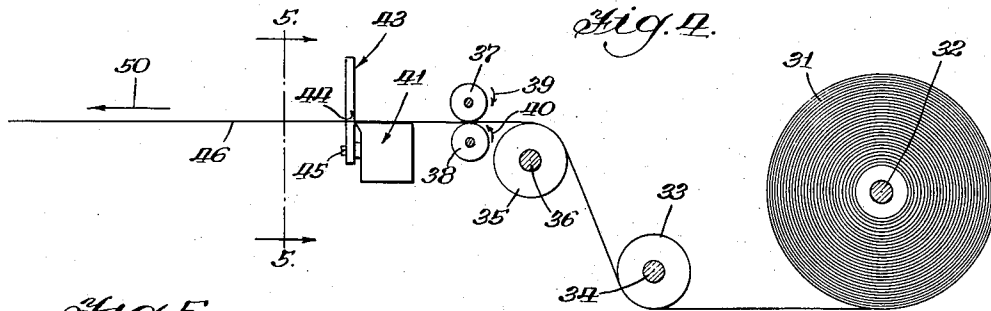


Fig. 5.

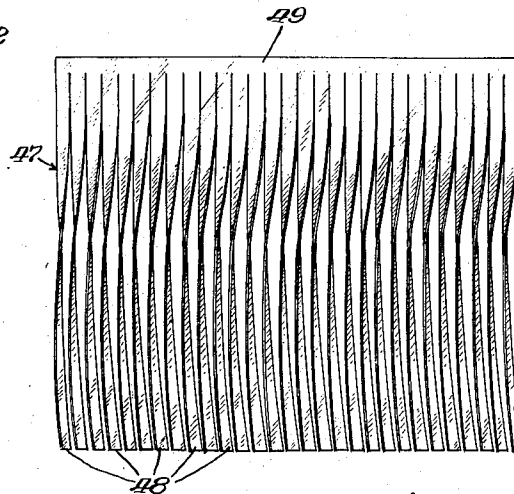
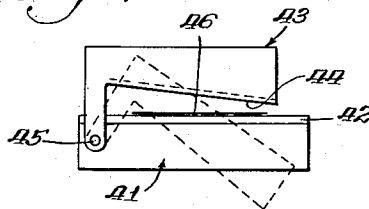
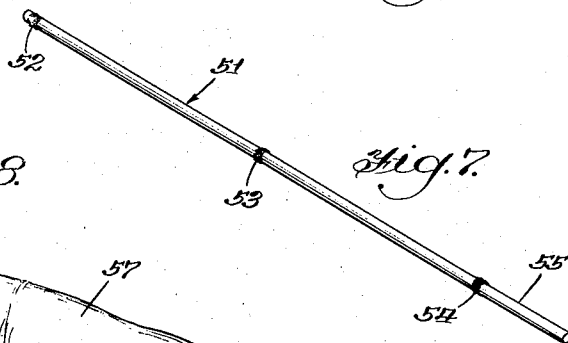
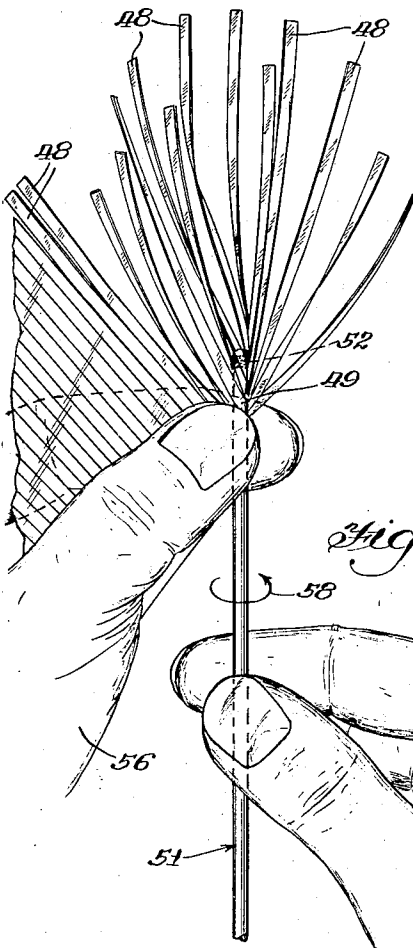


Fig. 6.



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2,889,650

ARTIFICIAL TREE

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2 Claims. (Cl. 41—15)

This invention relates to a new and improved artificial tree.

Pine and spruce trees are the traditional symbols of Christmas. Many attempts have been made to artificially simulate these Christmas trees. Still others have produced artificial trees differing in many respects from natural trees.

The tree of the present invention has for one of its principal objects a symmetrical shape, removable branches, and a dense metal foil body.

An important object of this invention is to equip an ornamental artificial Christmas tree with a main trunk and a plurality of branches for removable positioning in the trunk.

A further important object of this invention is to supply an artificial tree trunk with a plurality of vertically spaced apart "rings" of branch receiving holes wherein adjacent holes in each "ring" are arranged offset vertically with respect to each other and wherein the holes of adjacent "rings" are offset circumferentially with respect to each other.

An important object of this invention is to provide a branch receiving artificial tree trunk in which a plurality of holes are made in said trunk and wherein the angle of inclination of the holes increase from the top to the bottom of the trunk.

Another and further important object of this invention is the provision of a branch covering ornamental strip material for simulating the needles of an evergreen tree.

An important object of this invention is to provide a metal foil decorative strip material in which the strip includes fingers cut laterally inwardly from one side and wherein the fingers are spiraled about their own axes.

Another important object of this invention is the provision of means for spirally attaching a metal foil fingered strip on a rod base wherein the foil fingers are themselves spiraled about their own axes to produce a full and dense appearing artificial tree branch.

A still further important object of this invention is to provide a cutting device for decorative strip foil material in which fingers are cut laterally inwardly from one side of said strip foil material.

Another and further important object is to cut metal foil fingers in a strip material with a reverse angle shear thereby forming or bending the fingers down away from the strip material prior to actual cutting to thereby effect a spiraling of the fingers.

Other and further important objects and advantages will become apparent from the disclosures in the following specification and accompanying drawings.

In the drawings:

Figure 1 is a front elevational view of the artificial tree of this invention and having a portion thereof in section to show constructional details of the trunk and removable branches.

Figure 2 is an elevational view of the trunk used in the tree of this invention.

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Figure 3 is a sectional view taken on the line 3—3 of Figure 2.

Figure 4 is a diagrammatic view of the foil slitting mechanism used to make the foil branch covering or needles of this invention.

Figure 5 is an enlarged sectional view taken on the line 5—5 of Figure 4.

Figure 6 is a top elevational view of the spirally slitted foil of this invention.

Figure 7 is a perspective view detail of one of the branch rods of this invention.

Figure 8 is an elevational view of the slitted spiral fingered foil of Figure 6 being spirally applied to the branch rod of Figure 7.

As shown in the drawings:

The reference numeral 10 indicates generally the trunk of an artificial Christmas tree as shown in Figure 1. Only one-half of the tree has been depicted in full in Figure 1 with the remaining right half shown in section to indicate the positioning of the branches on and in the trunk 10. The tree has foil wrapped branches 11 as shown in Figure 1. On the right half of the tree the branches are shown bare to permit examination.

The tree trunk 10 has a plurality of vertically spaced apart bands or rings of branch receiving holes. These rings 12 comprise a lower annular path of holes 13 and an upper annular path of holes 14. Together these annular paths of holes 13 and 14 form an undulating path of branch receiving holes for each of the plurality of rings 12. For purposes of convenience and a clearer understanding of this invention the holes in the lowermost ring 12 on the trunk 10 shall be individually identified. Still further this lowermost ring or band of undulating holes shall be termed 12a and the succeeding bands 12b, 12c, 12d, and so on up the trunk of the tree although only the first four bands are shown in detail in Figure 2. Let us start with the hole 15 which is in the lowermost ring 12 or as just stated the ring 12a. This first hole 15 is in the upper annular path 14 of the ring 12a. The second hole going around the circumference of the trunk is shown at 16 and is in the lower annular path 13. Similarly the third hole is shown at 17 on the upper annular path 14 and following in succession the fourth hole 18 on the lower annular path 13, the fifth hole 19 on the upper annular path 14, the sixth hole 20 on the lower annular path 13, the seventh hole 21 on the upper annular path 14, and the eighth hole 22 on the lower annular path 13. Figure 3 shows a sectional view of the tree trunk 10 taken through the upper annular path 14 in the ring of holes 12a so that the branch receiving holes 15 through 22 are clearly designated. It will be noted that adjacent holes are on different levels and thus form an undulating pattern around the entire trunk.

As shown in Figure 2 the first hole 23 of the second ring 12b of branch receiving holes is offset slightly in a circumferential direction from the first hole 15 of the lowermost ring 12a. Similarly all of the other holes in this ring 12b are slightly offset from corresponding similar holes in the lowermost ring 12a. The first hole 24 in the third ring 12c is offset circumferentially slightly farther than the hole 23 and thus the remaining holes in that ring of branch receiving holes are slightly offset in the same direction as the first hole. In order to clearly indicate the circumferential offsetting of the holes in the rings 12b and 12c from the holes in the ring 12a a vertical guide line 25 has been shown on the surface of the trunk 10. It will be seen that the guide line passes through the center of the first hole 15 in the lowermost ring of holes 12a. The first hole 23 in the second ring 12b is positioned slightly to the right of the vertical guide line 25 and the first hole 24 in the third ring 12c is

positioned still farther to the right of the guide line 25. The first hole 26 in the fourth ring 12d is directly above the first hole 15 in the lowermost ring 12a and thus also has the vertical guide line passing through the center thereof. It should thus be apparent that the annular rings of undulating holes are spaced apart vertically and in addition are spiraled about the tree trunk as shown by the holes 15, 23, and 24 whereafter the holes repeat themselves in this pattern up the remainder of the tree trunk. It is this offsetting or spiraling of the annular rings of holes that permits the positioning of branches therein without interference with each other and permits the hanging of ornaments or the like on the tree branches without interference with the branches positioned immediately therebeneath. Further the positioning of the branch receiving holes facilitates and provides for a full appearing ornamental Christmas tree.

The angular disposition of the branch receiving holes in the trunk 10 decreases in gradual increments from a high angle approaching 90 degrees in the undulating ring 12a of holes to a relatively small angle near the top of the trunk. This change in angle of insertion of the branches into the trunk provides a full and natural shape of the completed tree. This is clearly evidenced by the showing of the tree in Figure 1 and particularly the sectioned half of the tree wherein the foil has been removed from the branch rods to indicate the positioning of the branch rods from the top to the bottom of the tree. Figure 3 shows the depth of the branch receiving holes in the trunk and it is evident the holes may removably receive branch rods designated generally by the numeral 27. The longer branch rods 27 are further identified as 28 and they are positioned near the bottom of the trunk 10 whereas shorter branch rods 27 are designated as 29 and are positioned at the top of the trunk. A hole 30 is provided in the top of the trunk to receive an upper continuation or needled portion of the trunk 10. This continuation merely constitutes a branch with the foil wrapped thereon as will be subsequently described.

As best shown in Figure 4 a roll supply 31 of strip metal foil is mounted on a supporting shaft 32. A guide roller 33 lies parallel to and spaced from the roll or reel supply 31 and is journaledly mounted on a supporting shaft 34. A second parallel guide roller 35 is carried on a journaled shaft 36 in spaced relation from the guide roller 33. Vertically arranged cooperative foil feeding rolls 37 and 38 are driven in the direction of the arrows 39 and 40 respectively so that foil fed therebetween will be moved away from the roll supply 31. A stationary shear table 41 is provided with an undercut lip 42. A reciprocable shear or knife 43 cooperates with the stationary shear 41 for the cutting of the fingers in the foil strip. The reciprocable shear has a reverse angle cutting edge 44 which provides for the simultaneous spiraling of each individual foil finger about its own longitudinal axis as it is cut by the shear members 41-43. The reciprocating shear member 43 is hinged at 45 on the stationary table 41 and thus effects reciprocation by rocking thereabout. When the shear 43 rocks on its hinge 45 a foil strip 46 from the roll supply 31 is cut to produce a fingered foil as shown in Figure 6. In other words the foil strip 46 is unwound from the roll 31 and guided around the guide rollers 33 and 35 and thence into and through the cooperative feeding rolls 37 and 38. As these feeding rolls are driven in the direction of the arrows 39 and 40 the foil is fed across the stationary shear table 41 and has slits cut inwardly from the one side of the strip to a position just short of the other side of the strip of foil. The fingers 48 of the fingered foil have their width controlled by the speed of the cooperative feed rolls 37 and 38 in combination with the speed of reciprocation of the cutting shear 43. Thus the foil strip is cut through one side and continues through the strip except for a narrow edge on the opposite side of the strip as shown at 49. This edge 49 is continuous and

uncut and holds the foil material together as a unit as shown in Figure 6.

It is the reverse angle 44 on the cutting edge of the reciprocable shear that causes the foil fingers 48 to spiral or curl from the outer cut edge of the strip 46 inwardly to the uncut edge 49 of the strip 46 about their own longitudinal axes. The reverse angle 44 causes the outer edge of the foil strip 46 to be bent downwardly away from the shearing edge of the cutter prior to the time any cut in the foil is made. This means that the foil is bent or curled downwardly away from the strip just in advance of the cutting of the fingers 48. The spiraling or curling of the fingers is enhanced by the undercut lip 42 on the stationary shear 41 as it cooperates with the reverse cut of the reciprocating shear to move the formed fingers down under the stationary shear. The reason for the greater spiraling or downward bending of the outer cut edge of the strip 46 is that the reverse angle 44 is a rocking shear and the outer edge is bent and cut prior to the cutting of the fingers inwardly to the uncut edge 49 of the strip. Thus the fingers 48 are uniformly formed in a single helix and are bent or folded over substantially 90 degrees at their outer ends whereas at their inner ends adjacent the uncut edge 49 there is a minimum, zero, or no bend and the formed fingers blend into the uncut edge at a substantially flat or straight angle therewith. The rocking, bending, and cutting tool 43-44 is clearly shown in Figure 5 and cooperates with the stationary shear table 41 with its undercut lip 42. The foil 46 and the fingered foil 47, that is after it has been slit transversely by the reciprocable shear 43, moves in the direction of the arrow 50 for subsequent use in the application as a branch covering for the Christmas tree of this invention.

A sample branch rod 51 is shown in perspective view in Figure 7 and is similar to the branch rods 27 previously described. The rod 51 is equipped with spaced spots of adhesive 52, 53, and 54. This adhesive or cement is applied to the rod 51 for the purpose of securely holding the fingered foil material 47 as shown in Figure 6 thereto. The adhesive spot 52 is positioned at the outer end of the branch rod 51 and the spot 53 is positioned substantially midway of the rod while the spot 54 is near the inner end of the rod, but spaced from the end thereof to permit the removable attachment of the end portion 55 into any one of the branch receiving holes in the trunk 10. In the application of the fingered foil 47 to the rod 51 as shown in Figure 8 an end thereof is placed against the adhesive spot 52 at the outer end of the branch rod and as the material is held in the left hand 56 of the operator the operator's right hand 57 rotates the rod 51 in the direction of the arrow 58 thereby causing the spiral fingered foil to be helically wound with the continuous edge 49 along the length of the rod whereafter the foil material will be firmly and securely held to the rod by the subsequent adhesive spots 53 and 54. The branch rod 51 is wound from the top thereof to the lowermost adhesive spot 54 whereby the resultant branch as shown at 11 in Figure 1 throughout the entire left side of the tree is full and beautiful in appearance. The ornamental tree of this invention presents a unique and pleasing appearance by reason of the spirally wound fingered foil onto the branch rods, the spiraling or curling of the individual fingers about their own longitudinal axes, and the particular branch positioning on the trunk. Thus the several mechanical features produce an unusual and desirable ornamental tree particularly useable at the Christmas season. After the branches have been wound with the spirally fingered foil they remain so wound and in this condition the branches may be inserted or removed from the trunk as desired. When it is desired to store the artificial, ornamental, Christmas tree of this invention the branches are removed from the trunk and preferably held in an upright position and stored in cartons or the like whereupon when it is again desired to assemble

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the tree the trunk is held in a stand or the like and the branches inserted into the trunk holes with the longest branches adjacent the bottom and gradually tapering down to the very short branches at the top of the tree.

It is apparent that herein is provided a novel artificial Christmas tree wherein the mechanical features thereof, that is the spiraling of the foil fingers about their own longitudinal axes and the helical winding of the fingered foil onto the branches along with the branch arrangement on the trunk of the tree produces an effective and very desirable ornamental Christmas tree. Various details of construction may be varied throughout a considerable range without departing from the principles disclosed herein and I therefore do not propose limiting the patent granted hereon otherwise than as necessitated by the appended claims.

What is claimed is:

1. A strip material formed of a metal foil, said metal foil being formed to have a longitudinal securing strip along one marginal edge thereof and a plurality of foil fingers extending transversely from one side of said longitudinal securing strip, each of said foil fingers being uniformly formed, a branch rod, and said strip material having its longitudinal securing strip helically wound on

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and adhesively secured to said branch rod causing each of the uniformly formed foil fingers to extend outwardly from said branch rod and be spaced from one another.

2. A device as set forth in claim 1 in which each of said foil fingers substantially defines a single helix moving from a zero angle at said longitudinal securing strip to an angle of approximately ninety degrees to said longitudinal securing strip at the outer ends thereof.

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Disclaimer

2,889,650.—*Chester P. Hankus*, Chicago, Ill. ARTIFICIAL TREE. Patent dated June 9, 1959. Disclaimer filed Aug. 14, 1962, by the inventor and assignees, *Peter Van Beek*, *Theodore Hankus* and *Kenneth T. Snow*.

Hereby enter this disclaimer to claim 1 of said patent.

[*Official Gazette September 18, 1962.*]