May 21, 1968 M. LOGAN 3,384,689

METHOD OF MAKING ARTIFICIAL FREE BRANCHES

Filed Oct. 6, 1964

Fig. 1.

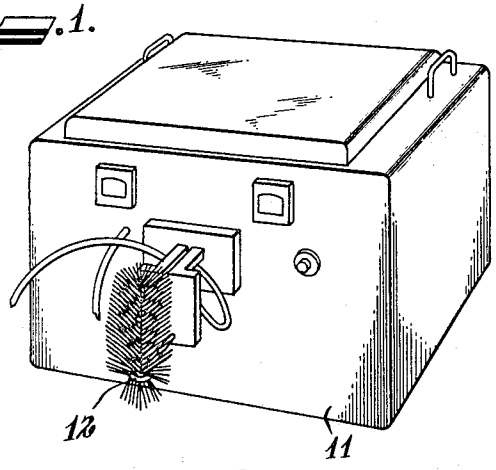


Fig. 6.

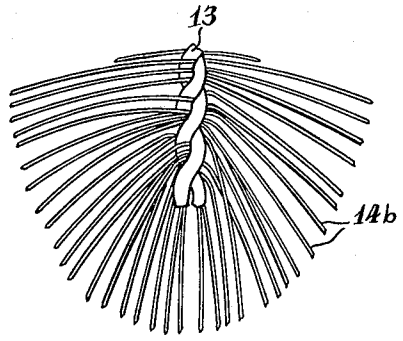


Fig. 4.

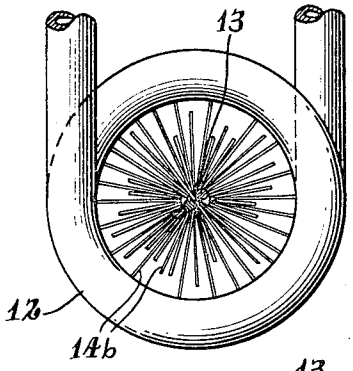


Fig. 5.

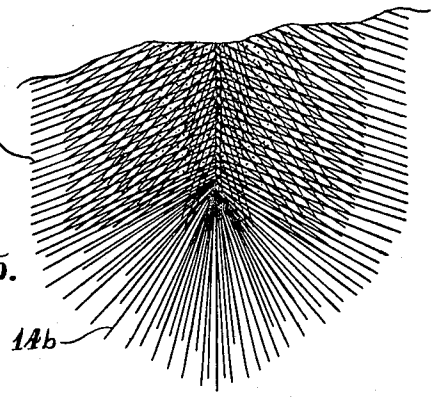


Fig. 2.

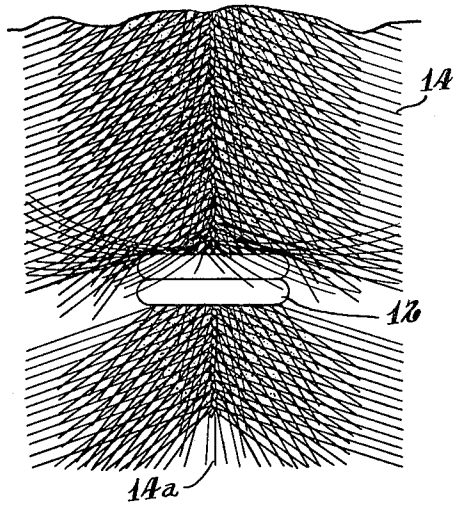
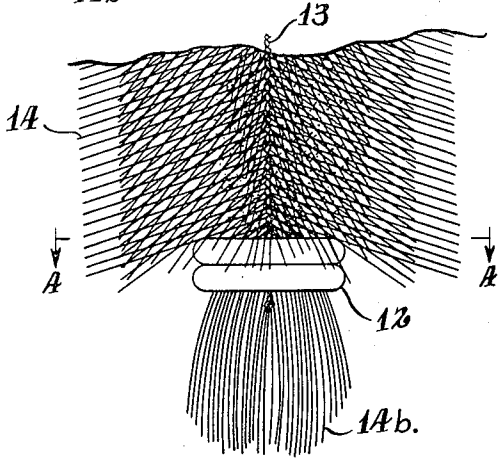


Fig. 3.



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METHOD OF MAKING ARTIFICIAL TREE BRANCHES

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3 Claims. (Cl. 264—25)

ABSTRACT OF THE DISCLOSURE

The steps of the method of bunching a mass of plastic fibers around the terminal end of a core rod which comprises thrusting a core rod with fibers attached through an induction coil in a manner to bunch fibers around the end of the core rod and heat treating the fibers to cause them to remain in a bunched up condition.

This invention relates to improvements in artificial branches for Christmas trees and to the method of manufacturing same, and is more particularly concerned with the novel method of and means for shaping the needles on the projecting or free end of the branch into a natural shape.

Artificial Christmas tree branches are formed with a twisted wire core and a multiplicity of plastic needles interlaced therein. These branches are manufactured in lengths exceeding the intended length of the branch which then is cut into the desired branch length. Such cutting leaves both ends of the branch raw; that is, the wire core extends to the extreme ends thereof. When these branches are mounted on a trunk or other standard, the raw ends present an unattractive unnatural appearance.

The present invention is concerned with the method of treating one end of the branch in such manner and by such means that the end of the wire core is concealed beneath a mass of needles that are permanently bunched over and around said core end so as to present a finished natural appearance.

It is therefore an object of the invention to provide an artificial tree branch of the character described.

Another object is to form an artificial tree branch with a finished end.

Another object is to provide a novel method for forming the end of an artificial tree branch.

The structure and method by means of which the above noted and other advantages and objects of the invention are attained will be described in the following specification, taken in conjunction with the accompanying drawings, showing a preferred illustrative embodiment of the invention, in which:

FIG. 1 is a perspective view of an induction generator showing an artificial tree branch positioned therein.

FIG. 2 is an enlarged elevational view of the induction work coil, showing the end of an artificial branch positioned as initially thrust therinto.

FIG. 3 is a view similar to FIG. 2, showing the artificial branch partially withdrawn so as to bunch needles around the end thereof.

FIG. 4 is a sectional view taken substantially on line 4—4 of FIG. 3.

FIG. 5 is an elevational view of a branch end fabricated in the manner described herein.

FIG. 6 is an enlarged detail fragmentary view of the fabricated end of the branch.

Referring to the exemplary disclosure in the accompanying drawings, the method is performed in conjunction with the use of an induction generator **11** which includes

a work coil **12** disposed, in this disclosure, in a horizontal plane. The function and operation of such an induction generator is well known and it includes the work coil **12** that functions, when electric current is flowed therethrough, to generate heat that is concentrated within metallic electrical conductive material inserted therethrough and to be treated.

In the present use of the induction generator an artificial branch comprised of a twisted metallic wire core **13** and a multiplicity of needle like plastic fibres **14** is positioned within the work coil **12** and retained in such position for a period of time required to cause softening and deformation of the fibres in the immediate area of the wire core **13**.

As best shown in FIG. 2, the branch end is thrust through the work coil, while current to said coil is off, a distance sufficient to dispose a considerable quantity of the fibres **14** beneath same, as indicated at **14***a*. The branch then is partially withdrawn upwardly so as to cause said mass of fibres **14***a* to be folded in a downward direction and bunched over and around the terminal end of the wire core. This bunching is illustrated at **14***b* in FIG. 3.

While the branch is held in the FIG. 3 position, current is supplied to the work coil so as to generate, by induction, sufficient heat in the terminal end portion of the wire core **13** so as to soften the fibres **14***b* in the immediate region thereof whereupon said fibres will lose their resiliency in the region of the wire core only and assume the bunched up position shown. When the branch is withdrawn upwardly from the work coil, or when the current is cut off while still within said coil, the previously softened portions of the fibres will set. As a consequence the fibres **14***b* that had been displaced to bunch up over and around the terminal end of the wire core become fixed so that the finished branch will appear substantially as shown in FIG. 5 wherein it will be noted, the terminal end of the wire core is completely surrounded by and enclosed within the set mass of fibres **14***b*.

Although I have described a preferred embodiment of my invention, in considerable detail, it will be understood that the description thereof is intended to be illustrative, rather than restrictive, as many details of the disclosure may be modified or changed and the steps of the method may be varied, without departing from the spirit or scope of the invention. Accordingly, I do not desire to be restricted to the exact disclosure described.

I claim:

1. The steps of the method of bunching a mass of substantially rigid plastic fibres around the terminal end of a metallic core mounting said fibres, which comprises, thrusting the terminal end of said core downwardly through an induction coil so as to locate a mass of said fibres beneath said coil, withdrawing said metallic core partially from said coil to displace the said mass of fibres in a downward direction over the end of said core, applying electric current to said coil for induction heating of the core and softening of the fibres in the area of said core, and allowing said core to cool so as to cause the fibres to regain their initial rigidity in substantially their bunched up condition.

2. The steps of the method of bunching a mass of substantially rigid plastic fibres around the terminal end of a metallic core mounting said fibres, which comprises, thrusting the terminal end of said core through an induction coil so as to locate a mass of said fibres beneath said coil, withdrawing said metallic core partially from said coil to displace the said mass of fibres over the end

of said core, applying electric current to said coil for induction heating of the core and softening of the fibres in the area of said core, and allowing said core to cool so as to cause the fibres to regain their initial rigidity in substantially their bunched up condition.

3. The steps of the method of bunching a mass of substantially rigid plastic fibres around the terminal end of a metallic core mounting said fibres, which comprises, thrusting the terminal end of said core through an induction coil so as to locate a mass of bunched fibres beneath said coil, applying electric current to said coil for induction heating of the core and softening of the fibres in the area of said core, and allowing said core to cool so as to cause the fibres to regain their initial rigidity in substantially their bunched up condition.

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