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SZWEDA et al.

(54) **VARIABLE BRANCH ARTIFICIAL TREE AND METHODS OF ASSEMBLING**

(71) Applicant: **Belgravia Wood Limited**, Central (HK)

(72) Inventors: **Eric SZWEDA**, Central (HK); **Chin Yin LEUNG**, Central (HK)

(73) Assignee: **Belgravia Wood Limited**, Central (HK)

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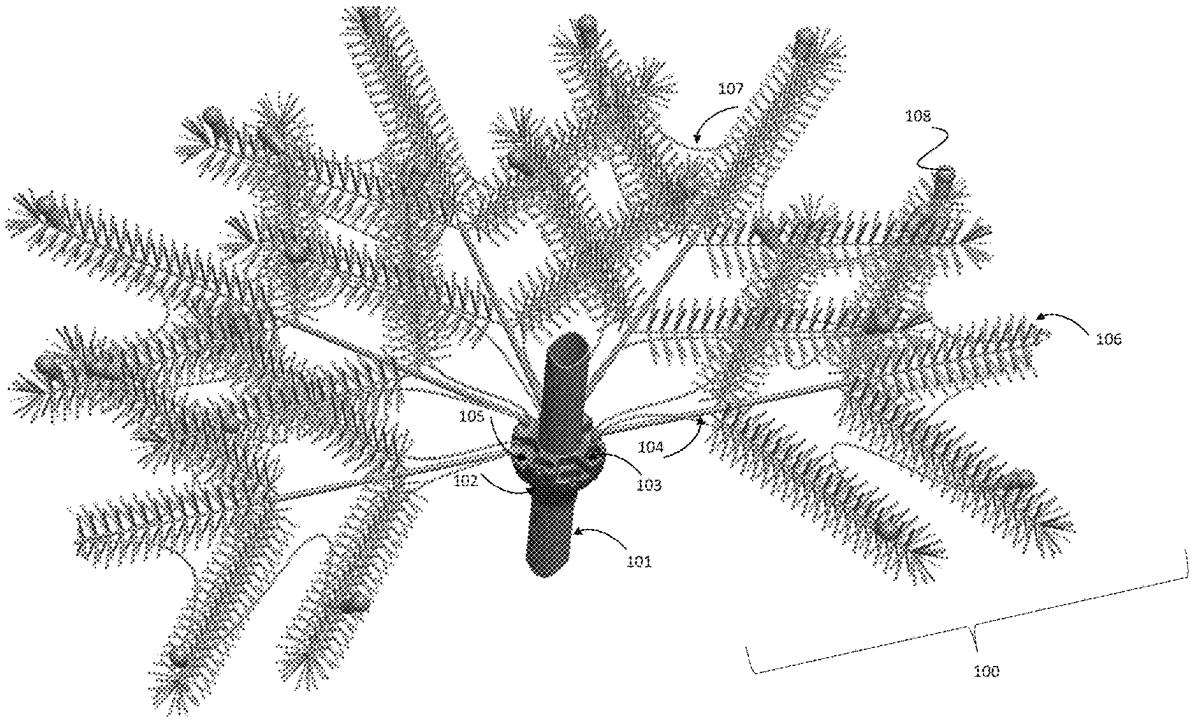
(52) **U.S. Cl.**

CPC ***A47G 33/06*** (2013.01); ***F21S 4/10*** (2016.01); *A47G 2033/0827* (2013.01)

(57) **ABSTRACT**

Disclosed herein are systems and methods for a variable branch artificial tree. The variable branch artificial tree comprises a removably connected branch comprising at least one twig member and a branch connector. Further the variable branch artificial tree comprises a tree trunk component or section comprising a first branch receptacle and a second branch receptacle. The branch connector can be removably inserted into the first branch receptacle to enable secure coupling of the removably connected branch and the tree trunk component or section. Furthermore, the first branch receptacle is adjacent to the second branch receptacle and at a different height on the tree trunk component than the second branch receptacle.



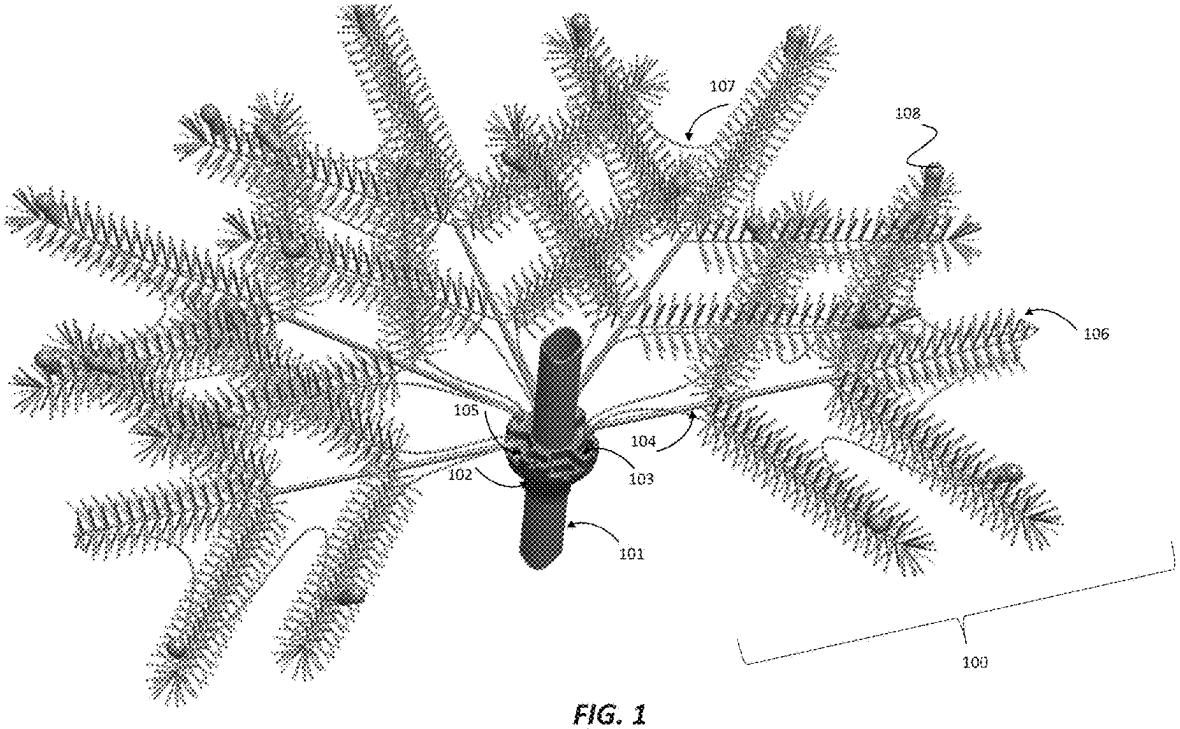


FIG. 1

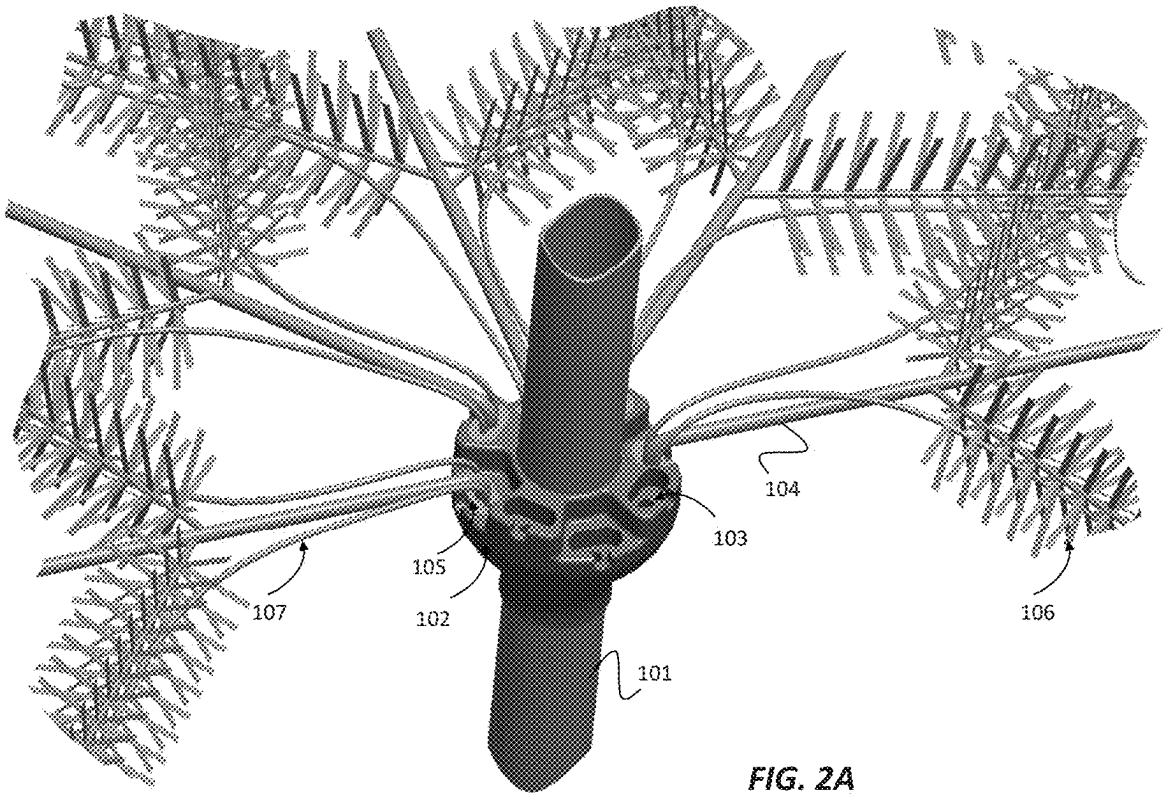


FIG. 2A

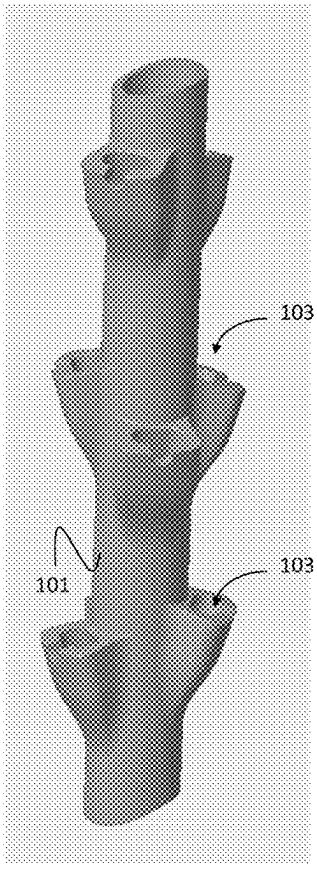


FIG. 2B

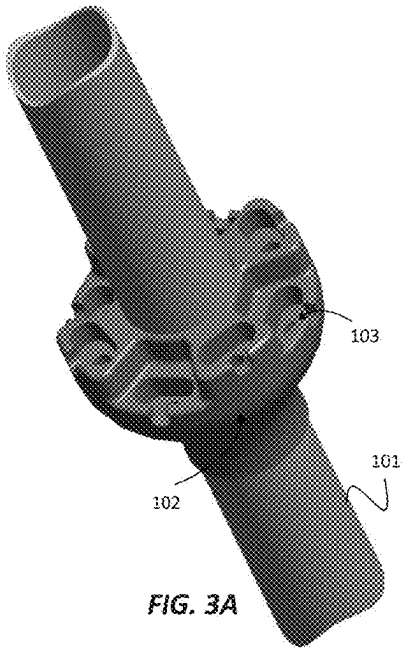


FIG. 3A

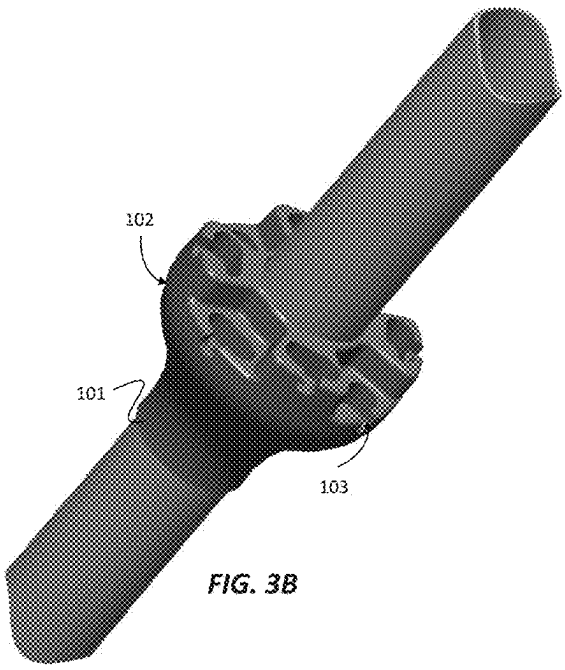


FIG. 3B

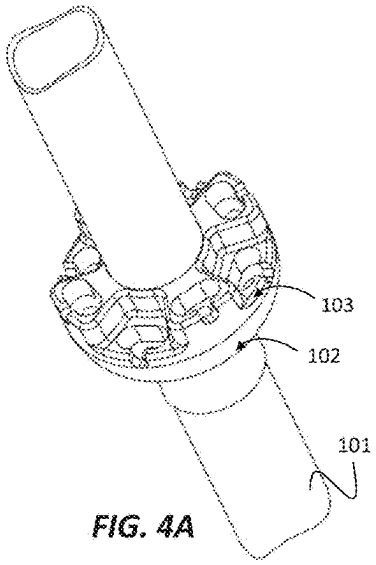


FIG. 4A

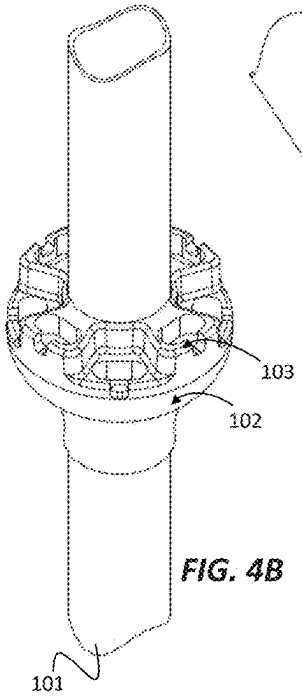


FIG. 4B

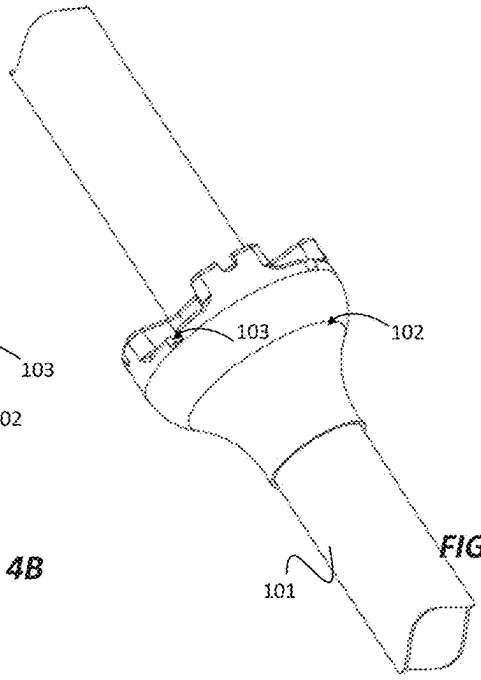


FIG. 4C

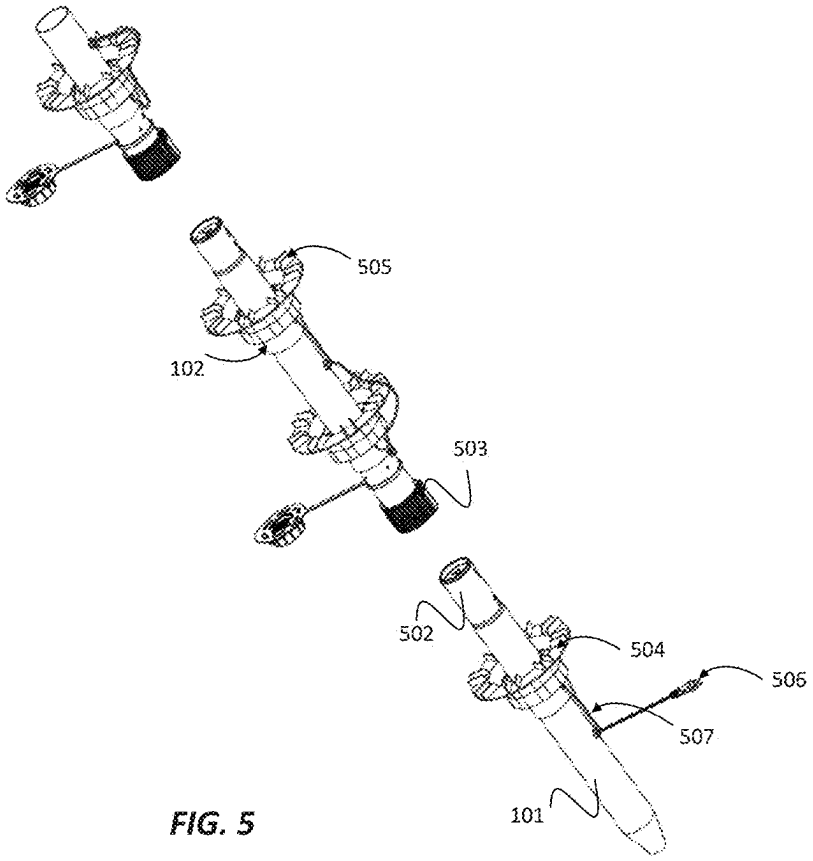


FIG. 5

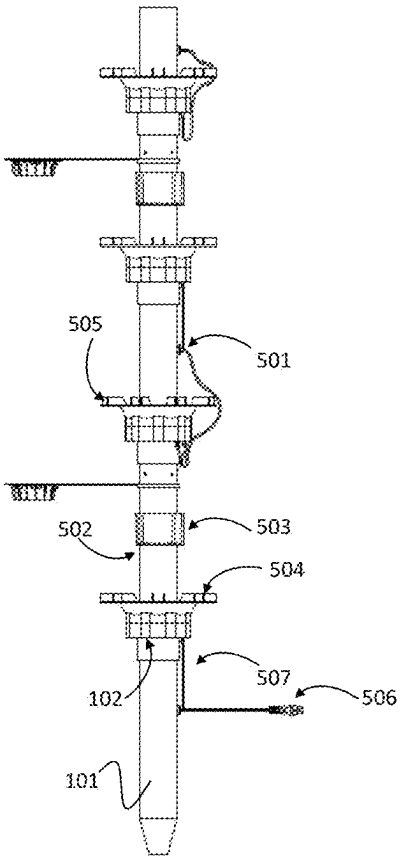


FIG. 6

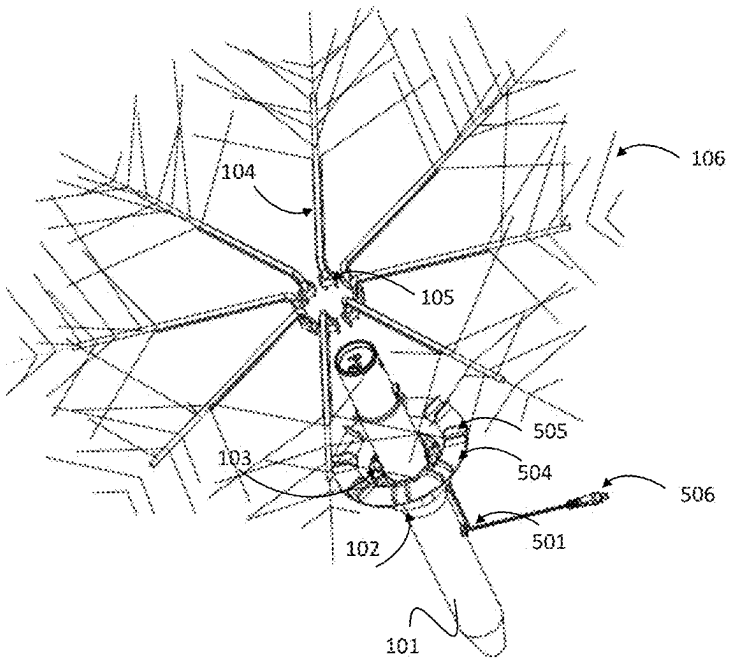


FIG. 7

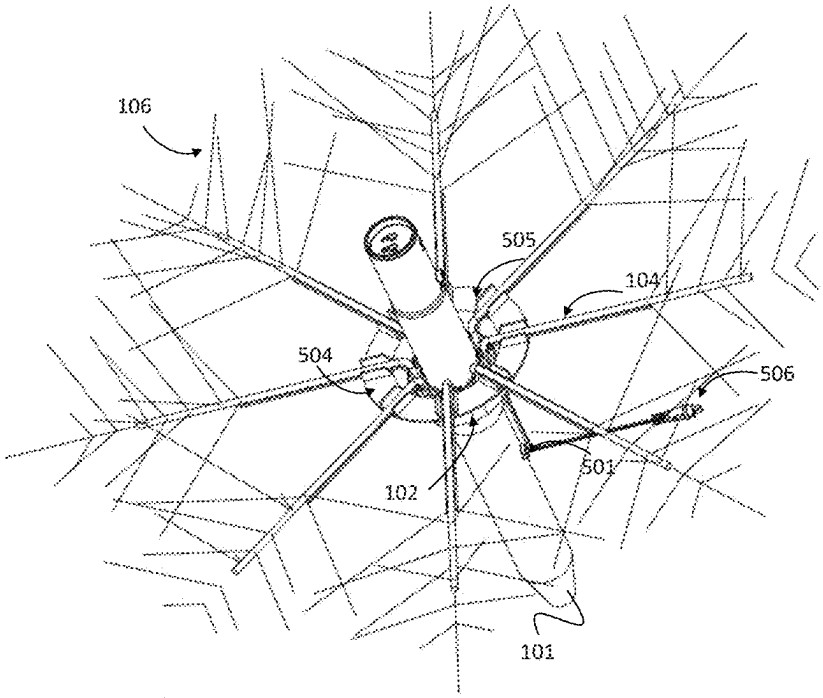


FIG. 8

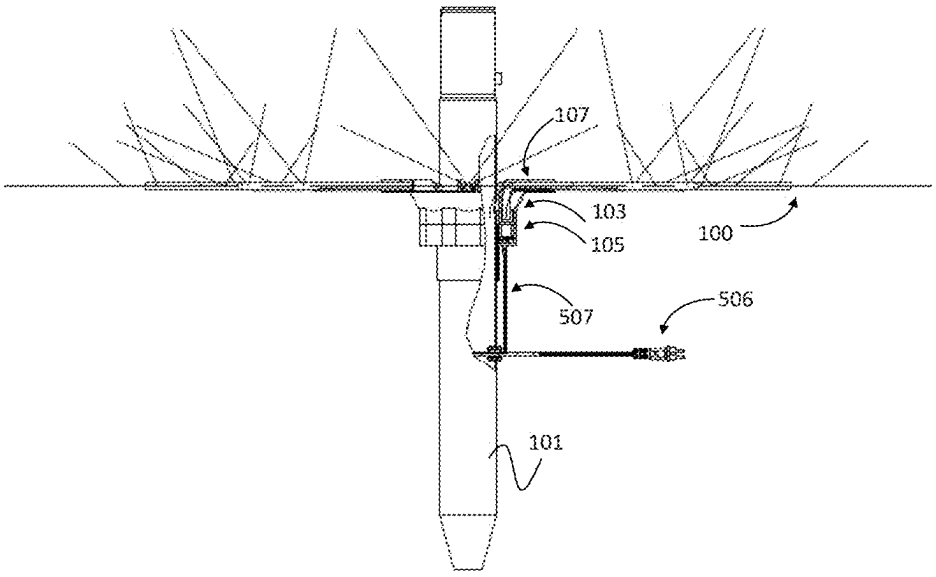


FIG. 9

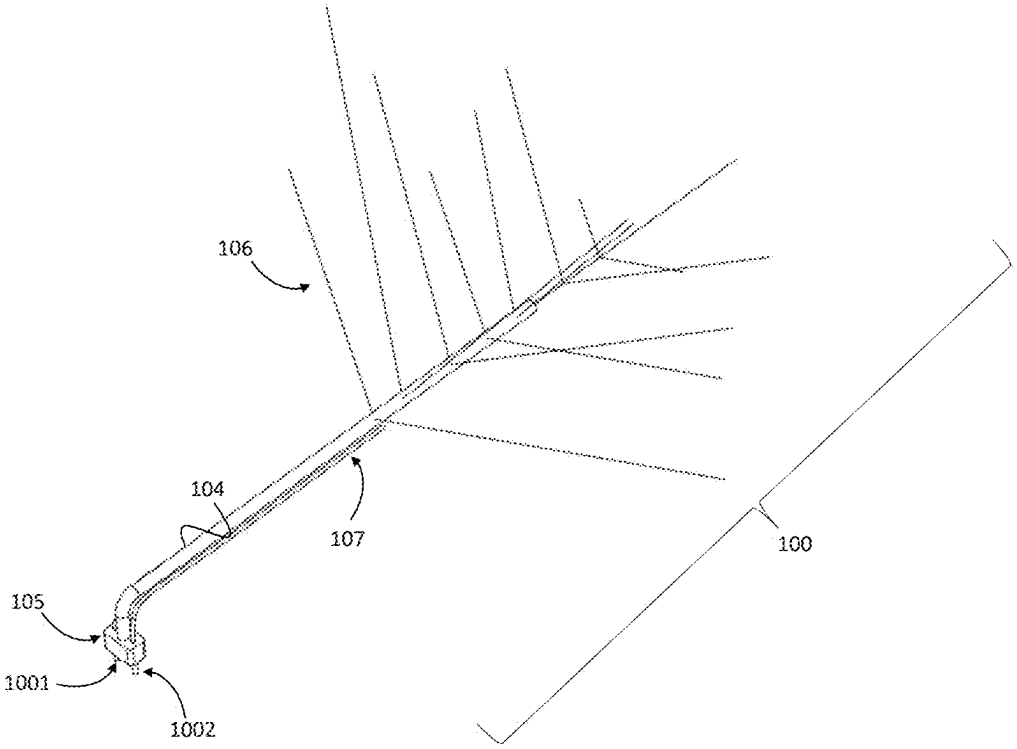


FIG. 10

FIG. 11A

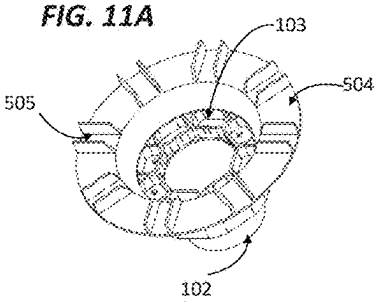


FIG. 11B

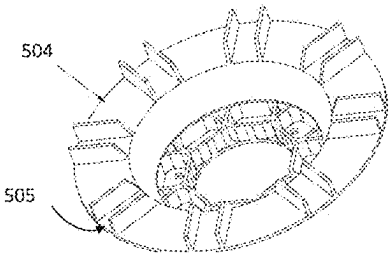


FIG. 11C

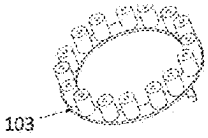
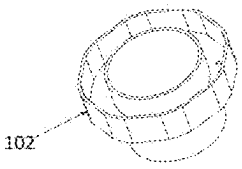


FIG. 11D



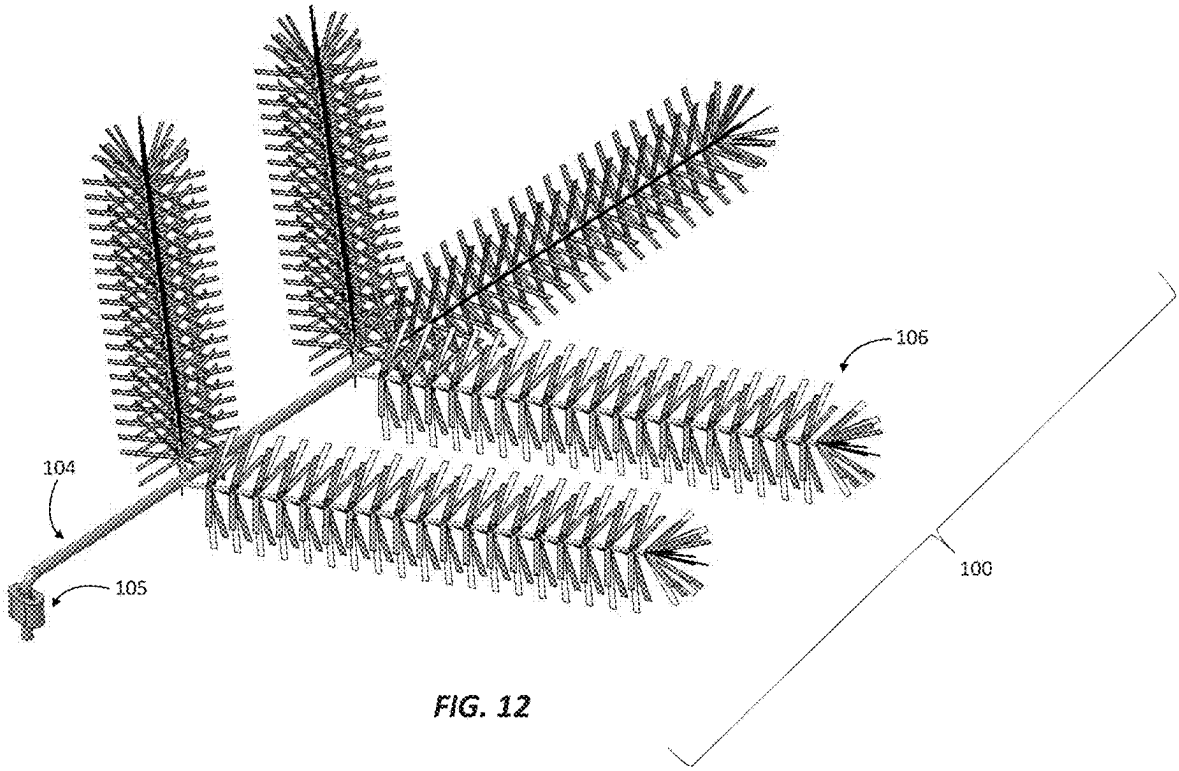


FIG. 12

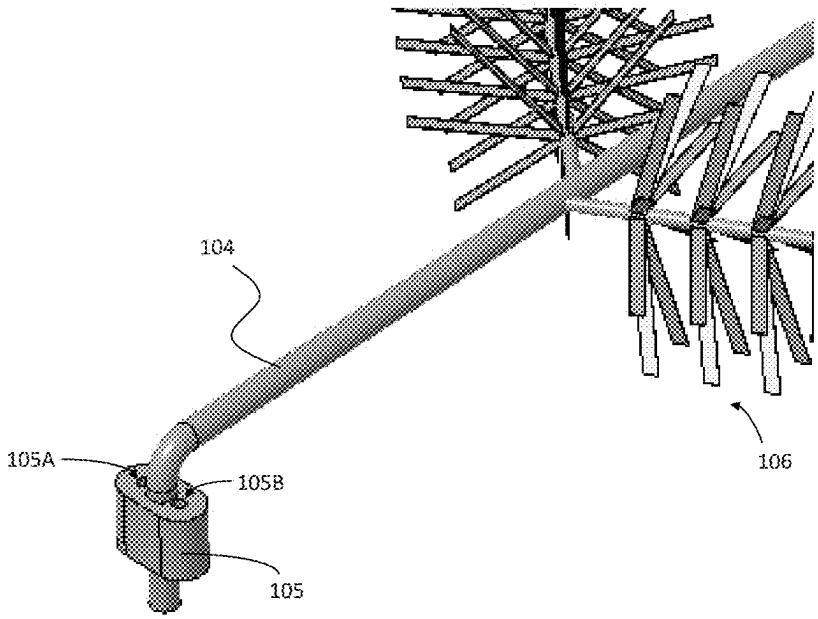


FIG. 13

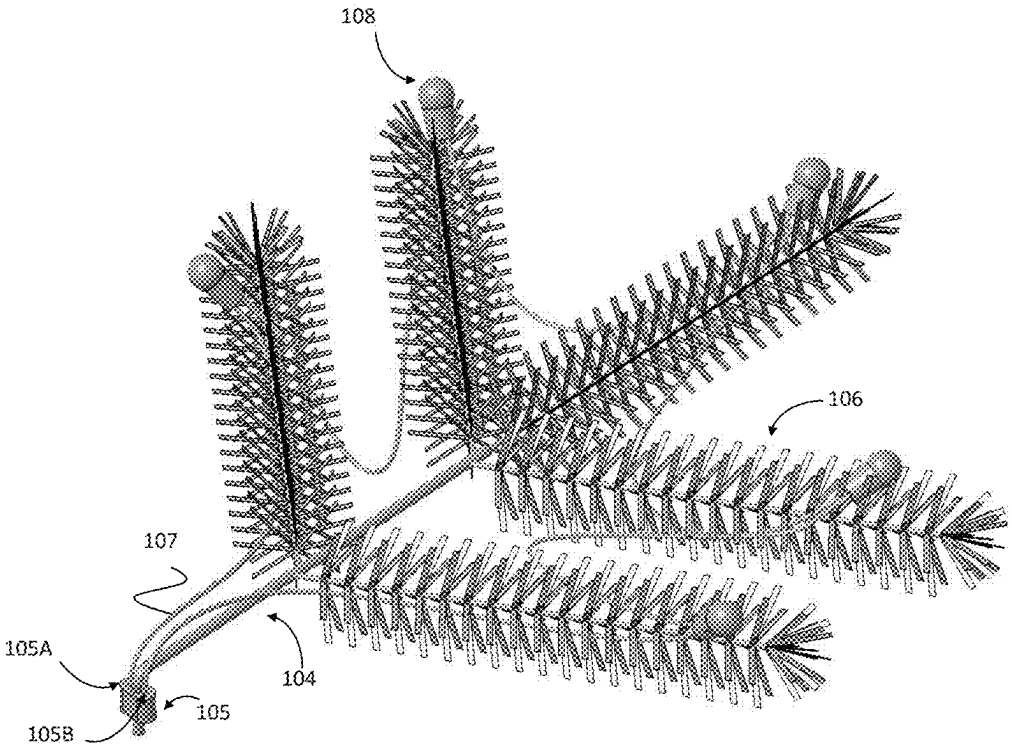


FIG. 14

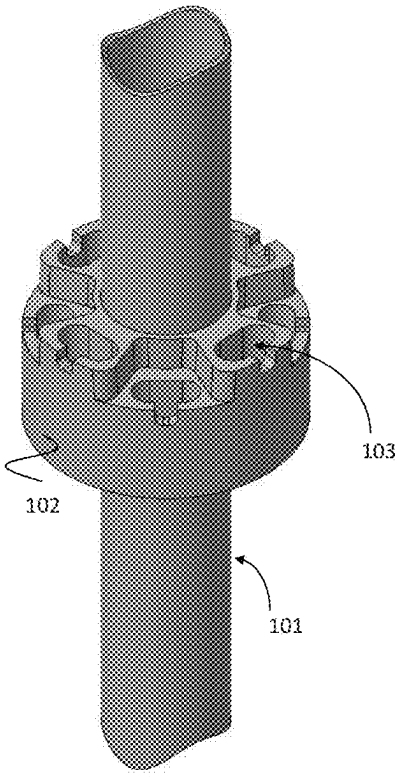


FIG. 15

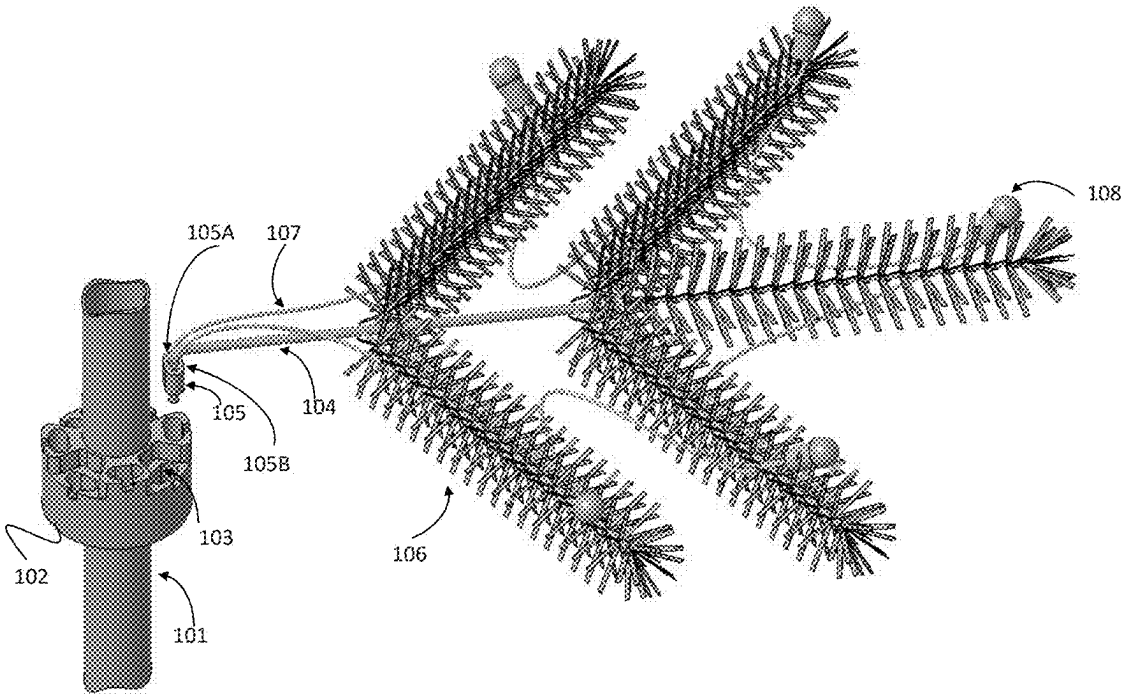


FIG. 16

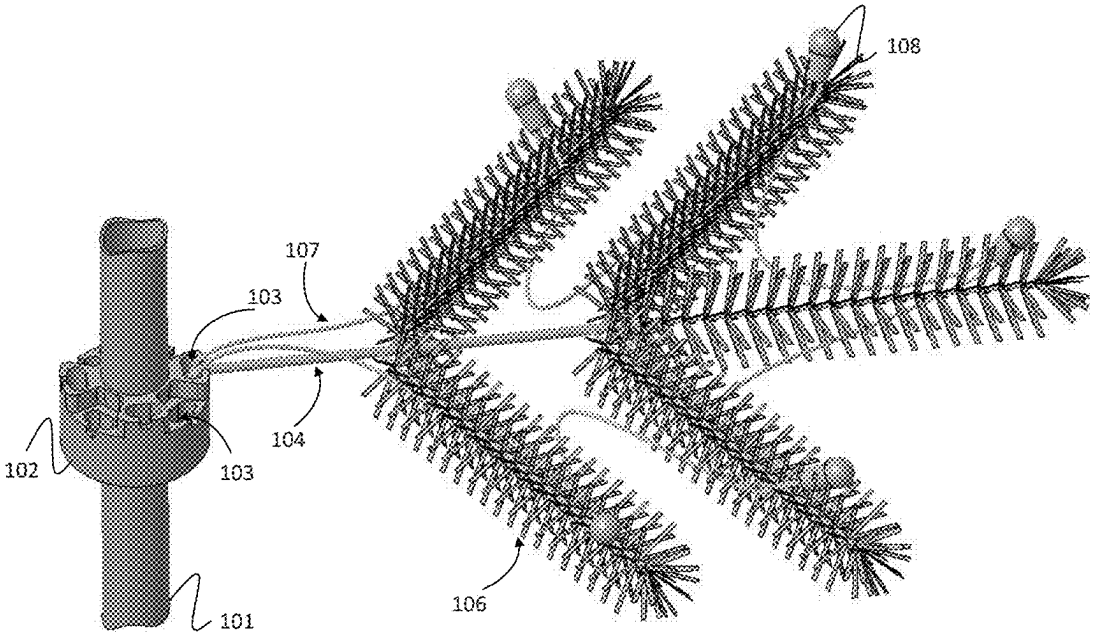


FIG. 17

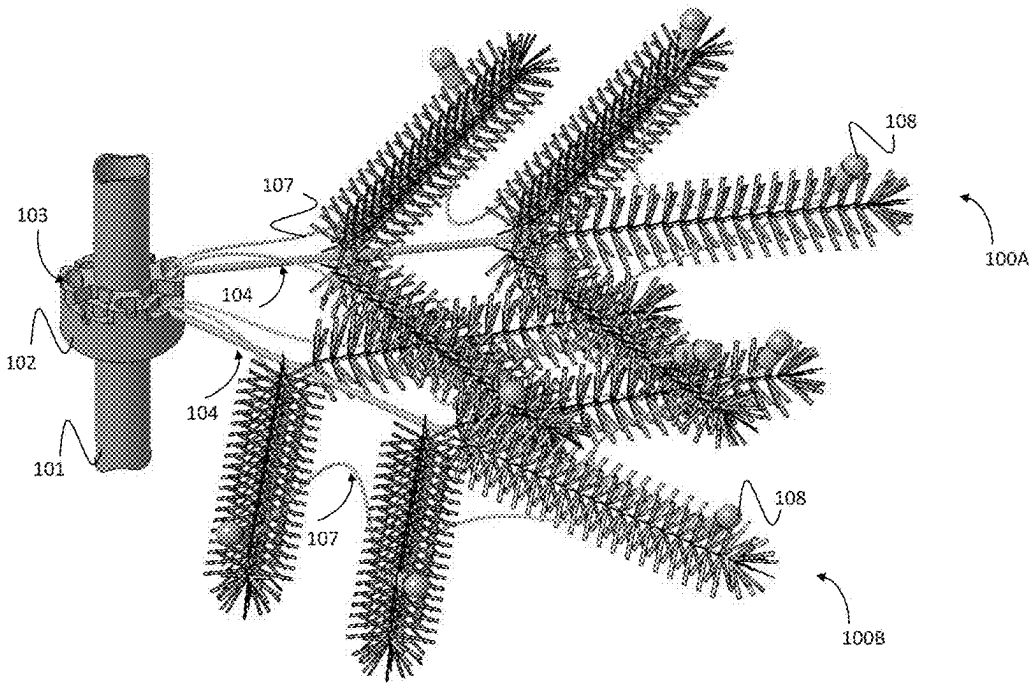


FIG. 18

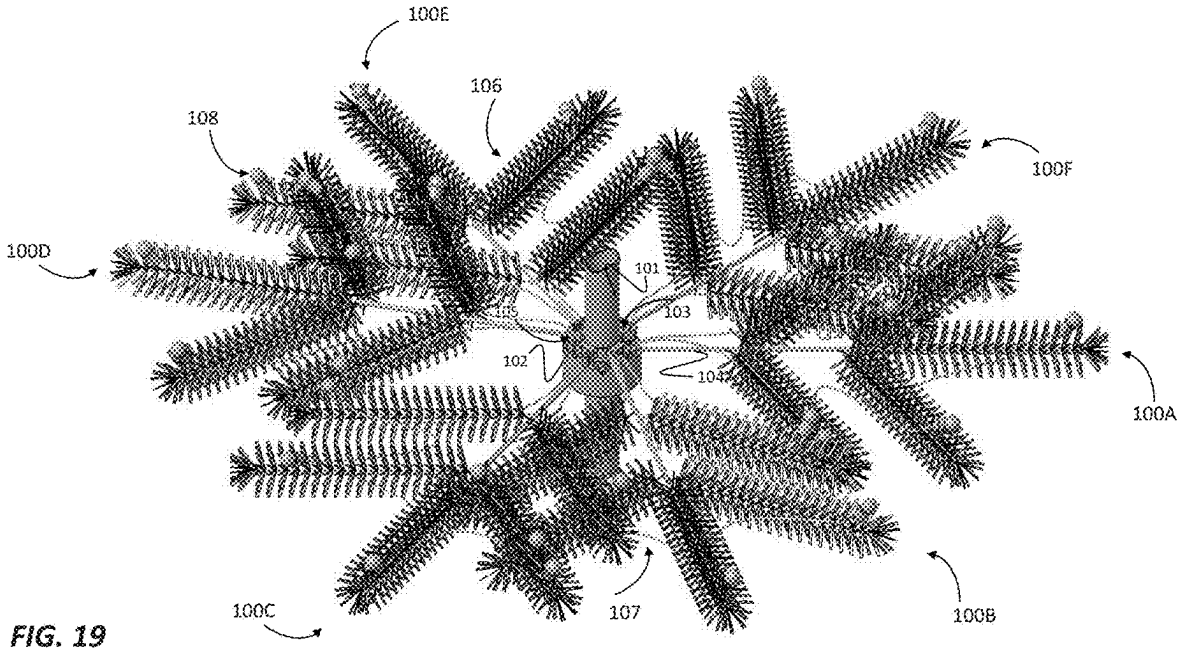


FIG. 19

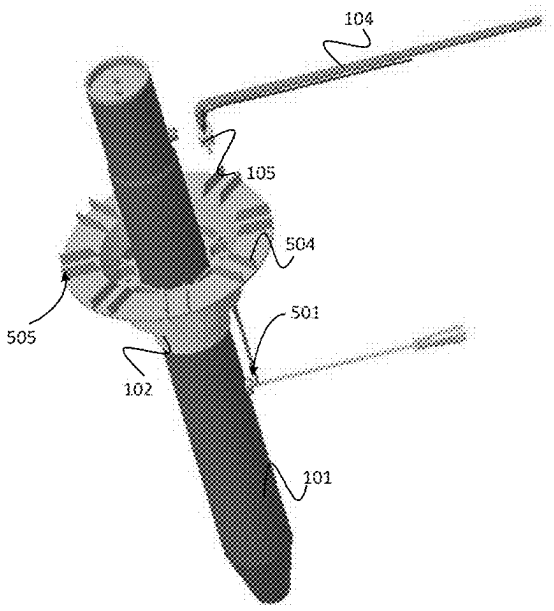


FIG. 20

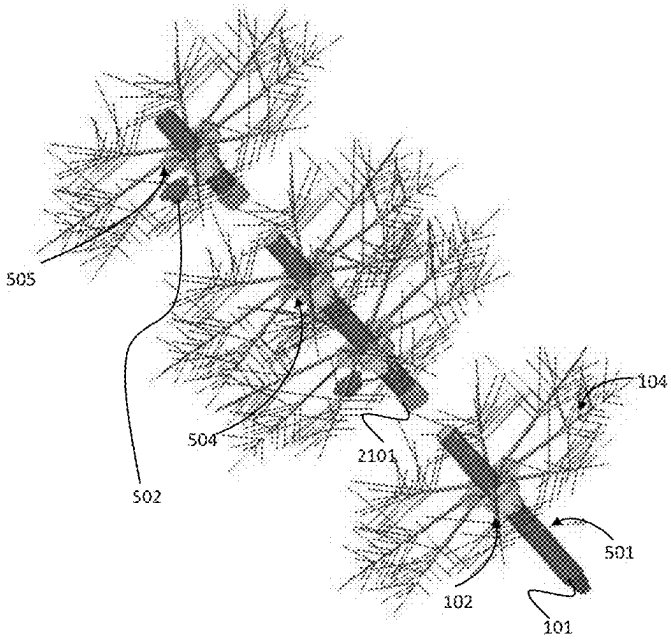


FIG. 21

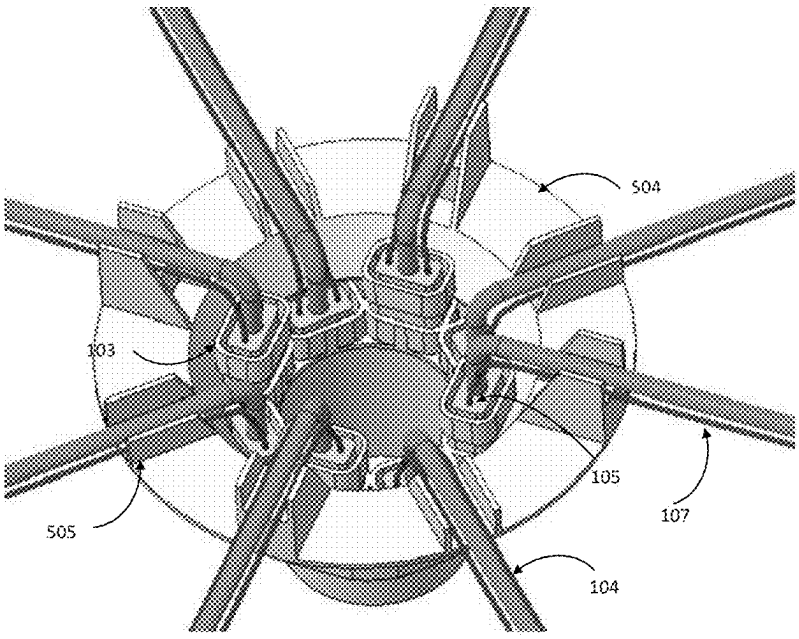


FIG. 22

VARIABLE BRANCH ARTIFICIAL TREE AND METHODS OF ASSEMBLING

TECHNICAL FIELD

[0001] The present disclosure generally relates to festive goods and holiday decorations and, more particularly, variable branches for artificial trees. The variable branches can enable easy tree assembly and disassembly of an artificial tree. Furthermore, the variable branches enable a reduced overall storage volume of the artificial tree when disassembled. The disclosed invention also enables a more realistic looking artificial tree.

BACKGROUND

[0002] The present disclosure relates in general to an artificial tree, and more specifically, to removably connected branches that can be removably attached to the tree trunk to assemble the artificial tree.

[0003] It is known in the prior art that there are artificial trees. Most artificial trees are created to resemble real trees. These artificial trees differ in construction and assembly methods. Many artificial trees have multiple sections with branches joined to a pole section and the branches are pre-affixed to the pole section. Consumers can then assemble these trees at home or the location of display by joining the sections of the artificial tree. Some of these trees also come with pre-strung lighting. Many artificial trees assembled with this design are heavy and difficult to assemble for some consumers due to the weight and size of the various sections.

[0004] The present disclosure differs from the above referenced disclosures and others that are similar in that the present disclosure reduces the storage volume for the artificial tree when disassembled, provides for easier assembly and disassembly, and enhances realism.

SUMMARY

[0005] Embodiments of the disclosure provide a variable branch artificial tree. The variable branch artificial tree comprises a removably connected branch comprising at least one twig member and a branch connector. Further the variable branch artificial tree comprises a tree trunk component or section comprising a first branch receptacle and a second branch receptacle. The branch connector can be removably inserted into the first branch receptacle to enable secure coupling of the removably connected branch and the tree trunk component or section. Furthermore, the first branch receptacle is adjacent to the second branch receptacle and at a different height on the tree trunk component than the second branch receptacle.

[0006] It is to be understood that both the foregoing general description and the following detailed description are exemplary and explanatory only and are not restrictive of the disclosed embodiments.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] The accompanying drawings, which are incorporated in and constitute a part of this specification, illustrate several embodiments and, together with the description, serve to explain the disclosed principles. In the drawings:

[0008] FIG. **1** is a perspective view of the tree trunk and multiple removably connected branches connected to the tree trunk;

[0009] FIG. **2**A is an enlarged perspective view of the tree trunk and multiple removably connected branches connected to the tree trunk;

[0010] FIG. **2**B is a perspective view of the tree trunk of the present disclosure with receptacles at different elevations;

[0011] FIG. **3** is a perspective view of the tree trunk, displaying the receptacle ring of receptacles;

[0012] FIG. **4** is a perspective view of an embodiment of the tree trunk of the present disclosure and the receptacle ring of receptacles;

[0013] FIG. **5** is a perspective view of multiple tree trunks, displaying the receptacle ring of receptacles locked into place by the ring of collars and shows the electrical plug;

[0014] FIG. **6** is a perspective view of the tree trunks connected to one another;

[0015] FIG. **7** is a perspective view of the branch stems connected to the branch connectors, above the tree trunk before the branch connectors are inserted into the receptacles;

[0016] FIG. **8** is a perspective view of the branch connectors inserted into the receptacles;

[0017] FIG. **9** is a perspective view of the tree trunk of the present disclosure with the branch connectors inserted into the receptacles and displays the electrical plug;

[0018] FIG. **10** is a perspective view of an embodiment of the removably connected branch of the present disclosure;

[0019] FIG. **11** is a perspective view of the ring of collars attached to the receptacle ring of receptacles;

[0020] FIG. **12** is an embodiment of the removably connected branch of the present disclosure;

[0021] FIG. **13** is an enlarged perspective view of one of the removably connected branches, displaying the branch connector;

[0022] FIG. **14** is a perspective view of the removably connected branch and the lighting elements for each branch, including the light strings, and the light components;

[0023] FIG. **15** is a perspective view of an embodiment of the tree trunk of the present disclosure and the receptacle ring of receptacles;

[0024] FIG. **16** is a perspective view of the tree trunk and one of the removably connected branches, displaying how the branch connector is inserted into the receptacle;

[0025] FIG. **17** is a perspective view of one of the removably connected branches connected to the tree trunk;

[0026] FIG. **18** is a perspective view of two of the removably connected branches connected to the tree trunk;

[0027] FIG. **19** is a perspective view of multiple of the removably connected branches connected to the tree trunk;

[0028] FIG. **20** is a perspective view of the tree trunk of the present disclosure with a ring of collars; and

[0029] FIG. **21** is a perspective view of multiple tree trunk elements connected to multiple removably connected branches; and

[0030] FIG. **22** is an enlarged view of the branch stems connected to the branch connectors, which are inserted into the receptacles and the ring of collars is locked into place.

DETAILED DESCRIPTION

[0031] Reference will now be made in detail to exemplary embodiments, examples of which are illustrated in the accompanying drawings. The following description refers to the accompanying drawings in which the same numbers in different drawings represent the same or similar elements

unless otherwise represented. The implementations set forth in the following description of exemplary embodiments do not represent all implementations consistent with the disclosure. Instead, they are merely examples of apparatuses and methods consistent with aspects related to the disclosure as recited in the appended claims. The terms and definitions provided herein control, if in conflict with terms or definitions incorporated by reference.

[0032] Removably connected branches **100** are generally shown in FIG. **1**, connected to a tree trunk component **101**. As shown in the embodiment in FIG. **1**, each removably connected branch **100** can include a branch stem **104**. In the embodiment show in FIG. **1**, the removably connected branch **100** includes branch stem **104**, branch connector **105**, and twig members **106**. In the embodiment shown in FIG. **1**, each branch stem **104** is connected to a receptacle ring **102** in communication with the tree trunk component **101**. Furthermore, in the embodiment shown in FIG. **1**, each branch connector **105** is inserted into a branch receptacle **103** provided by the receptacle ring **102**. Tree trunk component **101** can be constructed out of PVC, other plastics, man-made composites or fibers, wood, metal or other hard materials that can maintain the structural integrity of the tree trunk component. In some embodiments, the branch stem **104** can be comprised of a metal, plastic, or other hard materials that can maintain the structural integrity of the branch stem. In some embodiments, the twig members **103** can be comprised of polyvinyl chloride ("PVC"), polyethylene ("PE"), other plastics, or other hard materials. In the embodiment shown in FIG. **1**, the removably connected branch **100** is provided with pre-strung light strings **107** and light components **108**. In alternative embodiments, the removably connected branch **100** is not provided with light strings or other lighting components.

[0033] As shown in greater detail in FIG. **2**A, each of removably connected branches **100** comprises at least one branch connector **105**. In the embodiment shown in FIG. **2**A, the branch connectors **105** are removably inserted into branch receptacles **103** in the tree trunk component **101**. As shown in FIG. **2**A, the relative height of the branch receptacles **103** on the receptacle ring **102** can vary. The varied height of the removably connected branches **100** in accordance with present disclosure can more closely emulate the varied elevation of the branches of a natural tree; thus, the artificial tree enabled by the present disclosure can more closely resemble a natural tree. Artificial trees are often more beneficial than natural trees because they may be used each year and reduce the annual expense, waste, and environmental impact associated with the use of live trees. However, consumers desire to maintain the look of a natural tree and the aesthetic of a natural tree. Embodiments of the present disclosure allow consumers to add each branch; thus, the removably connected branch **100** can be placed at varied elevations. The variable and more random location of the removably connected branches **100** emulates the look of a natural tree over previous designs. The branch placement feature enables the consumer to change or insert branches of their choice; thus, allowing consumers to mimic the look of a natural tree based on personal preference. In other embodiments, the branch receptacles **103** can be more randomly or sporadically placed about the tree trunk components **101** to provide a more realistic looking tree.

[0034] FIG. **2**B illustrates an alternative embodiment of the tree trunk component **101**, that comprises branch receptacles **103**. In the embodiment shown in FIG. **2**B, the branch receptacles **103** are integral to the tree trunk component **101**. Furthermore, in this embodiment, the branch receptacles **103** are not provided in a receptacle ring **102**. In the embodiment shown in FIG. **2**B, the branch receptacles **103** are placed at various locations about the tree trunk component **101**. The location of the branch receptacles **103** in this embodiment can be more randomly located to enable are more realistic look that more closes emulates the random location of the branches on a real tree. In some embodiments, the branch receptacles **103** are sparsely positioned about the tree trunk component **101** to emulate a real tree with fewer limbs. In other embodiments, more branch receptacles **103** can be provided on the tree trunk component **101** in sporadic locations to emulate the aesthetic of random branch placement on a real tree. The consumer does not have to connect a removably connected branch **100** into every branch receptacle **103** of the tree trunk component **101**, as the variable branch artificial tree enable the user to customize the look of the tree at the point of assembly. In some embodiments, a branch receptacle cap can be provided with the tree trunk component **101** to be inserted into any unused branch receptacles **103** on the tree trunk component **101**. Once inserted into the branch receptacle **103**, the branch receptacle cap can emulate and provide the aesthetic of a knot in the tree trunk component **101**.

[0035] Embodiments of the present disclosure enable an artificial tree that can be customized by the consumer at the point of assembly. For example, the consumer could choose to assemble a sparser looking tree with fewer removably connected branches **100** for one decorating season. Furthermore, in the next decorating season, the consumer may choose to connect all the removably connected branches **100** to the tree trunk component **101** to provide a dense aesthetic to the tree. Embodiments of the present disclosure also enable the consumer to have multiple sets of removably connected branches **100** for a single variable branch artificial tree. For example, a first set of removably connected branches **100** could provide evergreen style branches, a second set of removably connected branches **100** could provide branches with flocking, a third set of removably connected branches **100** could provide a fail foliage aesthetic, and a fourth set of removably connected branches **100** could be themed and exhibit colors for specific holidays and or celebrations, such as Valentine's Day, St. Patrick's Day, July 4^{th}, and Halloween. Accordingly, a single variable branch artificial tree could be configured by the consumer for many different styles of tree decoration or blends of different styles of tree decoration.

[0036] As shown in greater detail in FIGS. **3**A and **3**B, embodiments of the tree trunk component **101** can provide a receptacle ring **102** with branch receptacles **103** at different elevations. In some embodiments, the tree trunk component **101** can comprise the entire trunk of the artificial tree, and in other embodiments, the tree trunk component **101** is just one component of the entire trunk of the artificial tree. In the embodiment shown in FIGS. **3**A and **3**B, the tree trunk component **101** provides branch receptacles **103** for receiving the branch connectors **105**. In the embodiment shown in FIGS. **3**A and **3**B, the branch receptacles **103** are provided in a receptacle ring **102**. The receptacle ring **102** can be provided in communication with tree trunk component **101**. In some embodiments, the branch receptacles **103** provide apertures that are complementary in shape to the branch

connectors **105**. The complementary shape enables the branch connectors **105** to be securely and removably installed into the branch receptacles **103**.

[0037] As shown in FIGS. **4**A-**4**C, the receptacle ring **102** can provide multiple branch receptacles **103**. Furthermore, the receptacle ring **102** can provide the branch receptacles **103** in varying heights in relation to the tree trunk component **101**. The varied height of the branch receptacle **103** can enable the assembled artificial tree to provide a more realistic aesthetic due to varied height and location of the removably connected branches **100**.

[0038] FIGS. **5** and **6** depicts an alternative embodiment of the receptacle ring **102**. The receptacle ring **102** provides collars **505** on collar ring **504** to restrict the lateral movement of the removably connected branches **100**. Each collar ring **504** can be securely connected to the receiving ring **102** of the tree trunk component **401**. Further, the embodiment in FIGS. **5** and **6** shows how tree trunk components **101** may be connected to each other by connecting the distal end **503** of one tree trunk component **101** to the proximal end **503** of another tree trunk component **101**. Furthermore, in the embodiment shown in FIGS. **5** and **6**, the tree trunk component **101** can provide electrical wires **507** in communication with an electrical plug **506**. In some embodiments, electrical plug **506** can be connected to a power source to provide power to electrical wires **507**. Furthermore, in some embodiments, this may provide electrical power to the light strings **107** on removably connected branches **100** connected to receptacle ring **102**. Accordingly, in some embodiments, light components **108** on the removably connected branches **100** may be illuminated using electrical wires **507** and electrical plug **506** when electrical plug **506** is plugged into an electrical outlet.

[0039] As shown in the embodiment depicted in FIG. **7**, the receptacle ring **102** connected to tree trunk component **101** can include a collar ring **504**. FIG. **7** further depicts how branch connectors **105** may be inserted into branch receptacles **103** of receptacle ring **102**. Once connected, the movement of the removably connected branches **100** can be restricted by the collars **505** of the receptacle ring **102**. In alternative embodiments, a collar ring **504** may not be connected to receptacle ring **102**.

[0040] As shown in the embodiment depicted in FIG. **8**, the receptacle ring **102** connected to tree trunk component **101** can include a collar ring **504**. Branch connectors **105** can be inserted into branch receptacles **103**.

[0041] FIG. **9** depicts an alternative view of branch connectors **105** inserted into branch receptacles **103**. As shown in FIG. **9**, the electrical wire **107** of the removably connected branch **100** can be connected to the electrical wire **507** of the tree trunk component **101**. Furthermore, in the embodiment shown in FIG. **9** the tree trunk component **101** can provide electrical wires **507** in communication with an electrical plug **506**. In some embodiments, electrical plug **506** can be connected to a power source to provide power to electrical wires **507** and thus the light string **107** provided with removably connected branch **100**. Accordingly, in some embodiments, light components **108** on the light string **107** may be illuminated using electrical wires **507** and electrical plug **506** when electrical plug **506** is plugged into an electrical outlet.

[0042] An embodiment of the removably connected branch **100** is generally depicted in FIG. **10**. In the embodiment shown in FIG. **10**, the removably connected branch **100** comprises branch stem **104**, branch connector **105**, light string **107**, and twig members **106**. As shown in the embodiment in FIG. **10**, the branch connector **105** can include a hot terminal **1001** and a neutral terminal **1002**, as termination points for the light string **107**. In some embodiments, the hot terminal **1001** and a neutral terminal **1002** can be connected to corresponding terminals in the branch receptacle **103** such that power can be provided to the light string **107**.

[0043] FIG. **11** depicts an enlarged perspective receptacle ring **102** of collar ring **504** and multiple collars **505**. In FIG. **11**A, collar ring **504** is connected to receptacle ring **102**.

[0044] Receptacle ring **102** contains receptacles **103**. In alternative embodiments, receptacle ring **102** may not be connected to collar ring **504**. FIG. **11**B depicts an alternative view of collar ring **504** connected to receptacle ring **102**. FIG. **11**C depicts branch receptacles **103** of the receptacle ring **102**. FIG. **11**D depicts a base component of receptacle ring **102**.

[0045] FIG. **12** depicts an alternative embodiment of removably connected branch **100**. As shown in the embodiment in FIG. **12**, each removably connected branch **100** can include a branch stem **104**. In the embodiment show in FIG. **1**, the removably connected branch **100** includes branch stem **104**, branch connector **105**, and twig members **106**.

[0046] As shown in greater detail in FIG. **13**, each of removably connected branch **100** comprises at least one branch connector **105**. In the embodiment shown in FIG. **13**, the branch connector **105** is an oval shape and is oriented in generally vertical orientation. A person of skill in the art would understand that the branch connector **105** can be configured as a oval, a rectangle, a square, a triangle, or other suitable shapes capable of mating with a corresponding branch receptacle **103**. In some embodiments, the branch connector **105** can be comprised of a metal or metal alloy and in other embodiments, the branch connector **105** can be comprised of a hardened plastic or other rigid polymer. As shown in FIG. **13**, the branch connector **105** can be disposed on the proximal end of the removably connected branch **100** so as to provide easy engagement with the tree trunk component **101**. In the embodiment shown in FIG. **13**, the branch connector **105** can provide apertures **105**A and **105**B.

[0047] As shown in the embodiment depicted in FIG. **13**, the branch stem **104** of the removably connected branch **100** can be configured with a greater than 90 degree bend in the area of the branch stem **104** that is distal to the branch connector **105**. This greater than a 90-degree bend can provide improved weight support for the removably connected branch **100** when mated with the branch receptacle **103** in the tree trunk component **101**. Alternatively, the removably connected branch **100** can be configured with a 90-degree bend in the area of the branch stem that is distal to the branch connector **105**.

[0048] FIG. **14** illustrates an embodiment of the removably connected branch **100** that is pre-strung with lighting components, namely light string **107**. In the embodiment shown in FIG. **14**, the light string **107** is provided on each of the twig members **106**. In alternative embodiments, the light string **107** can be provided on less than all of the twig members **106**. Furthermore, the light string **107** includes light components **108**, which may be LED lights, incandescent lights, fiber optics, or equivalent lighting components to each of these three. In the embodiment show in in FIG. **14**, the light string **107** provides electricity to the light string components **108**. Furthermore, in the embodiment shown in

FIG. **14**, the light string **107** can be strung to pass through apertures **105**A and **105**B in the branch connector **105**.

[0049] Alternatively, the lighting elements may be powered wirelessly.

[0050] FIG. **15** depicts an embodiment of tree trunk component **101**. As shown in FIG. **15**, the tree trunk component **101** can provide a receptacle ring **102** and multiple branch receptacles **103**.

[0051] FIG. **16** illustrates an embodiment of the removably connected branch **100** positioned for insertion into the branch receptacle **103** of the receptable ring **102** in communication with tree trunk component **101**. As shown in the embodiment in FIG. **16**, the branch connector **105** can be inserted into the branch receptacle **103**. Furthermore, as shown in the embodiment in FIG. **16**, the light string **107** can provided with the branch connector **105** such that an electrical connection can be made when the removably connected branch **100** is inserted into the branch receptacle **103**. Accordingly, the removably connected branch **100** provides a convenient and easy way to connect the light string **107** of the branch **100** to a power source. In this embodiment, no further electrical connection is needed to provide power to the light string **107** of the branch **100**.

[0052] FIG. **17** illustrates an embodiment of the removably connected branch **100** connected to the branch receptacle **103** of the receptable ring **102** in communication with tree trunk component **101**. Furthermore, as shown in the embodiment in FIG. **17**, the light string **107** can provided with the branch connector **105** such that an electrical connection can be made when the removably connected branch **100** inserted into the branch receptacle **103**.

[0053] FIG. **18** illustrates an embodiment in which both a first removably connected branch **100**A and a second removably connected branch **100**B have been inserted into branch receptacles **103** of the receptacle ring **102** in communication with tree trunk component **101**. Furthermore, as shown in the embodiment in FIG. **18**, the second removably connected branch **100**B is configured at a lower height than that of the first removably connected branch **100**A. The configuration of different branches **100** at different heights enable the artificial tree to provide a more realistic look.

[0054] FIG. **19** illustrates an embodiment in which both a first removably connected branch **100**A, a second removably connected branch **100**B, a third removably connected branch **100**C, a fourth removably connected branch **100**D, a fifth removably connected branch **100**E, and sixth removably connected branch **100**F have been inserted into branch receptacles **403** of the receptable ring **402** in communication with tree trunk component **401**. Furthermore, as shown in the embodiment in FIG. **19**, removably connected branches **100**A-**100**F are configured at alternating heights. The configuration of different branches **100** at different heights enable the artificial tree to provide a more realistic look.

[0055] FIG. **20** depicts an alternative embodiment of the receptacle ring **102**. The receptacle ring **102** provides collars **505** on collar ring **504** to restrict the lateral movement of the removably connected branches **100**. Each collar ring **504** is secured into place on tree trunk component **401** using spring button **501**.

[0056] FIG. **21** illustrates as multiple tree trunk components, **101**A, **101**B, and **101**C, having multiple receptacle rings. For the embodiment shown in FIG. **21**, the multiple tree trunk components, **101**A, **101**B, and **101**C, can be connected to assemble the artificial tree. A person of ordinary skill would understand that the removably connected branches **100** can be connected to receptacles in the corresponding tree trunk component prior to or after the assembly of the tree trunk components together.

[0057] FIG. **22** illustrates how branch stems **104** are inserted into branch receptacles **103** using branch connectors **105**. Each branch stem **104** is secured into collars **505** on collar ring **504**.

[0058] Previous designs of artificial trees are not optimized for storage volume in the disassembled state; thus, such artificial trees typically require relatively large boxes to accommodate the tree design for shipping and storage. Embodiments of the present disclosure allow each removably connected branch to be packed essentially flatly, reducing space when packing the artificial tree. Artificial trees in accordance with embodiments of the present disclosure can be stored or shipped in containers that are no wider than the width of the widest removably connected branch **100** in a compressed configuration. Embodiments of the present disclosure can reduce the amount of unused or open space in the storage container for the artificial tree because the removably connected branches **100** can compressed and stacked on top of each other to minimize the amount of open and unused space in the storage container. Embodiments of the present disclosure can enable more artificial trees to shipped in standard size shipping containers than conventional artificial trees. The reduced shipping and storage volume associated with the embodiments of the present disclosure can reduce shipping costs and reduce energy usage associated with shipping multiple artificial trees.

[0059] Previous designs of artificial trees also utilize prelit lighting on the trees. This design feature makes it difficult for consumers to replace or repair a tree with lighting issues without replacing section of the tree or even the entire tree. Embodiments of the present disclosure allow consumers to repair or replace only one removably connected branch should lighting issues occur on any one branch. The ability to repair or replace only one branch reduces consumer costs and minimizes potential waste.

[0060] In the foregoing specification, embodiments have been described with reference to numerous specific details that can vary from implementation to implementation. Certain adaptations and modifications of the described embodiments can be made. It is also intended that the sequence of steps shown in figures are only for illustrative purposes and are not intended to be limited to any particular sequence of steps. As such, those skilled in the art can appreciate that these steps can be performed in a different order while implementing the same method.

[0061] As used herein, unless specifically stated otherwise, the term "or" encompasses all possible combinations, except where infeasible. For example, if it is stated that a module can include A or B, then, unless specifically stated otherwise or infeasible, the module can include A. or B, or A and B. As a second example, if it is stated that a module can include A. B, or C, then, unless specifically stated otherwise or infeasible, the module can include A, or B, or C, or A and B, or A and C, or B and C, or A and B and C.

[0062] As used herein, the terms "comprises," "comprising," or any other variation thereof are intended to cover a non-exclusive inclusion, such that a process, method, composition, article, or apparatus that comprises a list of elements does not include only those elements but can include other elements not expressly listed or inherent to such

process, method, composition, article, or apparatus. The term "exemplary" is used in the sense of "example" rather than "ideal."

[0063] In the drawings and specification, there have been disclosed exemplary embodiments. It will be apparent to those skilled in the art that various modifications and variations can be made to the disclosed apparatuses, systems, and related methods. Other embodiments will be apparent to those skilled in the art from consideration of the specification and practice of the disclosed apparatuses, systems, and related methods. It is intended that the specification and examples be considered as exemplary only, with a true scope being indicated by the following claims and their equivalents.

1. A variable branch artificial tree, comprising:

a first removably connected branch comprising at least one twig member and at least one branch connector;

a tree trunk component comprising a first branch receptacle and a second branch receptacle;

wherein the at least one branch connector of the first removably connected branch can be removably inserted into the first branch receptacle to enable secure coupling of the first removably connected branch and the tree trunk component; and

wherein a first branch receptacle is adjacent to the second branch receptacle and at a different height on the tree trunk component than the second branch receptacle.

2. The variable branch artificial tree of claim **1**, further comprising a second removably connected branch comprising at least one twig member and at least one branch connector.

3. The variable branch artificial tree of claim **2**,

wherein the at least one branch connector of the second removably connected branch can be removably inserted into the second branch receptacle to enable secure coupling of the second removably connected branch and the tree trunk component;

and

wherein the second removably connected branch is adjacent to the first removably connected branch when coupled to the second branch receptacle and at a different height on the tree trunk component than the first removably connected branch.

4. The variable branch artificial tree of claim **3**, further comprising:

a third removably connected branch comprising at least one twig member and at least one branch connector;

wherein tree trunk component further comprises a third branch receptacle; wherein the at least one branch connector of the third removably connected branch can be removably inserted into the third branch receptacle to enable secure coupling of the third removably connected branch and the tree trunk component; and

wherein the third removably connected branch, when coupled to the third branch receptacle, is adjacent to the first removably connected branch and the second removably connected branch and at a different height on the tree trunk component than both the first removably connected branch and the second removably connected branch.

5. The variable branch artificial tree of claim **1**, wherein the first removably connected branch further comprises at least one pre-strung light string.

6. The variable branch artificial tree of claim **5**, wherein at least one pre-strung light string of the first removably connected branch further comprises at least one light component.

7. The variable branch artificial tree of claim **6**, wherein the branch connector of the first removably connected branch comprises a hot terminal and a neutral terminal as termination points for the at least one pre-strung light string.

8. The variable branch artificial tree of claim **7**, wherein the first branch receptacle further comprises a hot terminal and a neutral terminal enabled to communicate with the corresponding hot terminal and neutral terminal of the branch connector.

9. The variable branch artificial tree of claim **8**, wherein electrical power can be provided the at least one pre-strung light string when the branch connector is coupled to the first branch receptacle.

10. A variable branch artificial tree, comprising:

a tree trunk component comprising a first branch receptacle at a first elevation on the tree trunk component, a second branch receptacle at a second elevation on the tree trunk component, and a third branch receptacle at a third location on the tree trunk component;

a first removably connected branch comprising at least one twig member and a branch connector;

a second removably connected branch comprising at least one twig member and a branch connector;

a third removably connected branch comprising at least one twig member and a branch connector;

wherein the branch connector of the first removably connected branch can be removably inserted into the first branch receptacle to enable secure coupling of the first removably connected branch and the tree trunk component, the branch connector of the second removably connected branch can be removably inserted into the second branch receptacle to enable secure coupling of the second removably connected branch and the tree trunk component, and the branch connector of the third removably connected branch can be removably inserted into the third branch receptacle to enable secure coupling of the third removably connected branch and the tree trunk component; and

wherein first elevation on the tree trunk component is different than the second elevation on the tree trunk component and the third elevation is different than the first elevation and the second elevation.

11. The variable branch artificial tree of claim **10**, further comprising a fourth branch receptacle at a fourth elevation on the tree trunk component, and a fourth removably connected branch comprising at least one twig member and a branch connector,

wherein the branch connector of the fourth removably connected branch can be removably inserted into the fourth branch receptacle to enable secure coupling of the fourth removably connected branch and the tree trunk component, and

wherein the fourth elevation on the tree trunk component is different than the first elevation, the second elevation, and the third elevation.

12. The variable branch artificial tree of claim **11**, further comprising a fifth branch receptacle at a fifth elevation on the tree trunk component, and a fifth removably connected branch comprising at least one twig member and a branch connector,

wherein the branch connector of the fifth removably connected branch can be removably inserted into the fifth branch receptacle to enable secure coupling of the fifth removably connected branch and the tree trunk component, and

wherein the fifth elevation on the tree trunk component is different than the first elevation, the second elevation, the third elevation, and the fourth elevation.

13. The variable branch artificial tree of claim **10**, wherein the distance between the first elevation and the second elevation is a first distance and the distance between the second elevation and the third elevation is a second distance and the first distance is different than the second distance.

14. The variable branch artificial tree of claim **13**, wherein the distance between the second elevation and the third elevation is a second distance and the distance between the third elevation and the fourth elevation is a third distance and the second distance is different than the third distance.

15. A method of assembling a variable branch artificial tree, comprising:

providing a first removably connected branch comprising at least one twig member and at least one branch connector;

providing a tree trunk comprising a first branch receptacle; and

inserting the first branch connector into the branch receptacle of the tree trunk component to enable secure coupling of the first removably connected branch and the tree trunk component.

16. The method of assembling a variable branch artificial tree of claim **15**, further comprising:

providing a second removably connected branch comprising at least one twig member and at least one branch connector;

providing a tree trunk comprising a second branch receptacle;

inserting the at least one branch connector of the second removably connected branch into the second branch receptacle of the tree trunk component to enable secure coupling of the second removably connected branch and the tree trunk component;

and

wherein a first branch receptacle is adjacent to the second branch receptacle and at a different height on the tree trunk component than the second branch receptacle.

17. The method of assembling a variable branch artificial tree of claim **16**, wherein, upon insertion, the second removably connected branch is adjacent to first removably connected branch but a different height on the tree trunk component so as to more closely emulate a natural tree.

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