Dec. 18, 1962 C. P. HANKUS 3,069,192

SEPARABLE JOINT FOR POLES

Filed Oct. 15, 1959

Fig. 1.

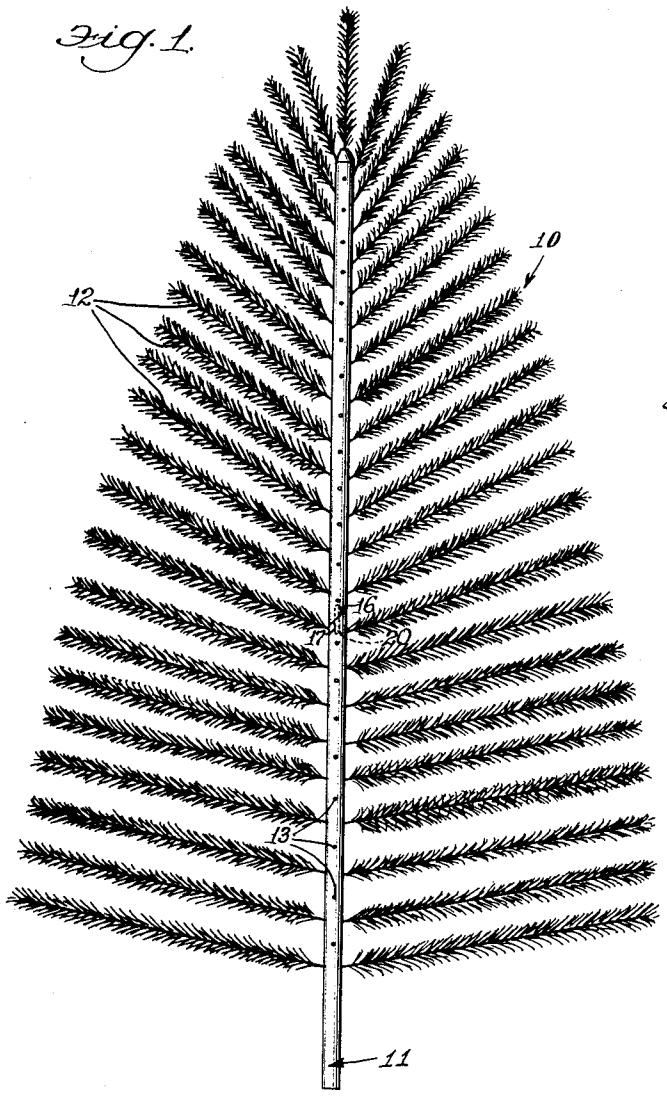


Fig. 2.

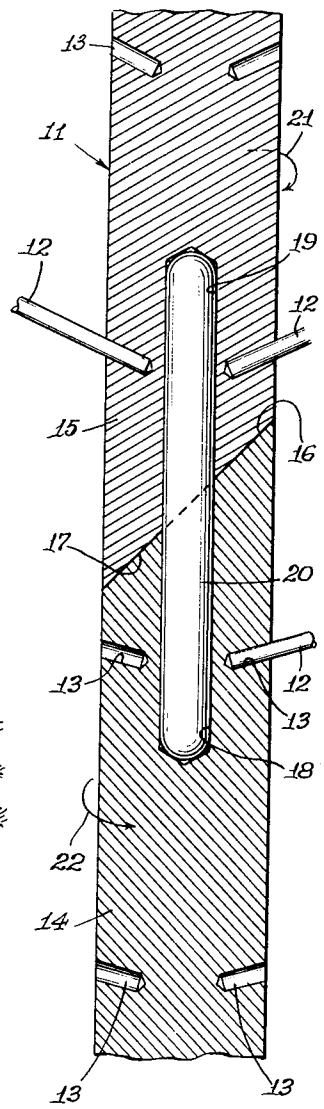
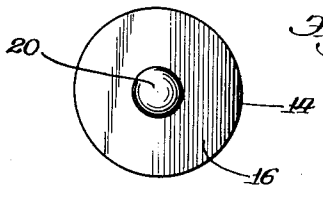


Fig. 3.



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SEPARABLE JOINT FOR POLES

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This invention relates to a new and improved separable joint for poles.

Poles are used for many applications and oftentimes the length of such poles makes storing difficult. Artificial Christmas trees are one industry presently using long wooden poles as the trunks of trees. However, shipment and/or storage of such long trunk poles is impractical. The answer is to divide the pole into shorter lengths to make them more manageable. But, whenever you divide a pole it is difficult to obtain the needed strength of the pole when it is assembled to its extended length. The separable joint is thus the key to successful pole dividing.

A principal object of this invention is to provide a separable joint for poles.

An important object of this invention is the provision of a joint for divided poles which is simple in construction and yet enhances rigidity when the pole parts are assembled.

Another important object of this invention is to supply a long wooden pole with a separable joint intermediate its ends and the joint inherently providing reinforcement when the pole is assembled.

Still another important object is to provide a pole with an angled cut at a position intermediate its ends and having a longitudinally extending dowel joining the pole parts at their center.

Still another important object of this invention is the provision of a separable joint for poles which may be forcefully separated by a relative rotation of the pole parts.

A still further important object of this invention is to equip a divided pole with angularly cut complementary adjoining ends, and one of said angularly cut ends having a relatively small diameter dowel pin projecting from said end on the longitudinal axis of said pole for snug engagement with a mating socket on the longitudinal axis of the other of said angularly cut ends.

Another and further important object of this invention is to supply a separable joint for cylindrical pole parts which automatically retains an exact indexing of the pole parts relative to each other regardless of the number of times the pole parts are separated and assembled.

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

In the drawings:

FIGURE 1 is a front elevational view of an artificial Christmas tree having the two piece trunk pole of this invention and having a portion of the branches removed to show the pole joint.

FIGURE 2 is a vertical sectional view taken through the joint of the trunk pole of FIGURE 1.

FIGURE 3 is a top plan view of the joint end of one of the trunk pole parts.

As shown in the drawings:

The reference numeral **10** indicates generally an artificial Christmas tree in which there is included a trunk **11** and removable branches **12**. The branches **12** are removable to facilitate shipment and storage during non-use. The trunk **11** is provided with holes **13** drilled therein in various angular positions to receive the branches

12. Further, the trunk **11** is divided into two parts, **14** and **15**, to further facilitate a breaking down of the tree for initial shipment and later storage. The present invention is concerned primarily with the separable joint utilized between the pole parts **14** and **15** so that when the tree is assembled there is sufficient strength in the joint to hold the pole parts **14** and **15** in axial alignment and to maintain fixed relative relationship between the parts **14** and **15**. When the pole parts are removed and then re-assembled the branch holes **13** in the trunk remain in their same relative position so that the branch locations are unchanged. If the pole parts were permitted to revolve separately from one another there would be no predetermined position for the branch holes in the respective pole parts so that it would be impossible to maintain tree fullness throughout the extent of the trunk. However, with the parts properly indexed with respect to each other the branches are positioned in the trunk at the points predetermined by the designer thereof.

The separable joint includes a full angled cut **16** extending continuously in a smooth, flat surface across the pole part **14** from one side to the other side. The part **15** includes a similar angled cut **17** at its adjoining end and forms a complementary smooth flat surface extending continuously from one side thereof to the other. These angled cuts **16** and **17** are complementary one to the other and when the adjoining ends of the pole parts **14** and **15** are placed together the angled ends **16** and **17** combine to produce a straight angle in which the pole parts **14** and **15** are in perfect axial alignment and are suitable to receive the branches **12** in the holes **13** in the trunk.

A longitudinal axis socket **18** is provided in the part **14**. The socket opens to the angled end **16** and extends lengthwise of and into the part **14**. Another longitudinal axis socket **19** is provided in the part **15** at its angled end **17** and similarly extends into and lengthwise of the part **15**. A relatively small diameter dowel pin **20** is of a size to snugly engage the sockets **18** and **19** and thus when the pole parts **14** and **15** are assembled with the central dowel **20** in position in the respective sockets **18** and **19** there is a firm holding of the trunk parts **14** and **15** in axial alignment one with the other.

The trunk or large pole parts **14** and **15** with their angled ends **16** and **17** and the intermediately disposed smaller dowel or pin **20** in axial sockets in the respective parts create a separable joint for this pole such that the parts are always in their same relative position because of the adjoining angled cut through the pole parts. Further the parts **14** and **15** are readily separable one from the other by reason of the manual rotation of the one part relative to the other part as shown at **21** and **22** in FIGURE 2. The central dowel **20** performs dual functions, that of holding the pole parts **14** and **15** in axial alignment and that of resisting separation of the pole parts **14** and **15** by reason of its snug engagement in the sockets **18** and **19**. The angled adjoining ends **16** and **17** of the pole parts **14** and **15** also perform two functions, that of holding the same relative position of the circumference of the pole parts **14** and **15** upon every joining of the parts **14** and **15** and secondly that of facilitating easy separation of the parts **14** and **15** even though there is a snug engagement of the pole parts with the central dowel **20**. As previously explained, this is possible by rotating the parts **14** and **15** in opposite directions as shown by the arrows **21** and **22** such that each angled end tends to climb up on the other angled end causing an axial separation of the parts. After this initial start at separation the user may easily pull the pole parts apart.

It is apparent that herein is provided a separable joint for poles for any use in which it is desired to reduce the length of a pole for initial packaging or later storage in

a smaller container and the Christmas tree trunk pole as shown herein is merely one application of this separable joint. The separable joints permit the pole to be used in its assembled relationship with substantial rigidity between the parts and also permits easy separation thereof as just explained. Further, the indexing of the parts one with the other permits use in applications such as the Christmas tree trunk pole wherein it is desired to have the branch holes 13 in their same relative positions at all times.

Various details of construction may be varied throughout a wide 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:

A trunk for an artificial tree having a separable joint, said trunk being of the type having removable branches and comprising a first pole part and a second pole part, said first and second pole parts having complementary diagonal adjoining ends, the first of said pole parts having a centrally positioned longitudinally extending socket disposed axially of said separable joint, the second of said pole parts having a centrally positioned longitudinally extending socket disposed axially of said separable joint

and in alignment with the other of said sockets, a short longitudinally disposed dowel pin press fitted in one of said sockets and projecting outwardly therefrom and press fitted into the other of said sockets, said pole parts each having a plurality of branch receiving holes extending inwardly from around the circumference thereof, the depth of the branch receiving holes being of adequate length to support branches and terminating short of interference with said longitudinally disposed sockets and included dowel pin whereby a relative rotation of the first pole part with the second pole part causes a forced separation of the pole part at the separable joint and when the diagonal end faces are in face-to-face engagement the branch receiving holes in both pole parts are fixed relative to each other.

References Cited in the file of this patent

UNITED STATES PATENTS

113,869	Gaylord	Apr. 18, 1871
1,266,749	Abbott	May 21, 1918
2,915,831	Parker	Dec. 8, 1959

FOREIGN PATENTS

26,267	Denmark	June 30, 1920
56,000	Austria	Oct. 25, 1912