Feb. 21, 1950 J. D. WEBBER 2,498,467

ANIMATED DECORATIVE DEVICE

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Fig. 1.

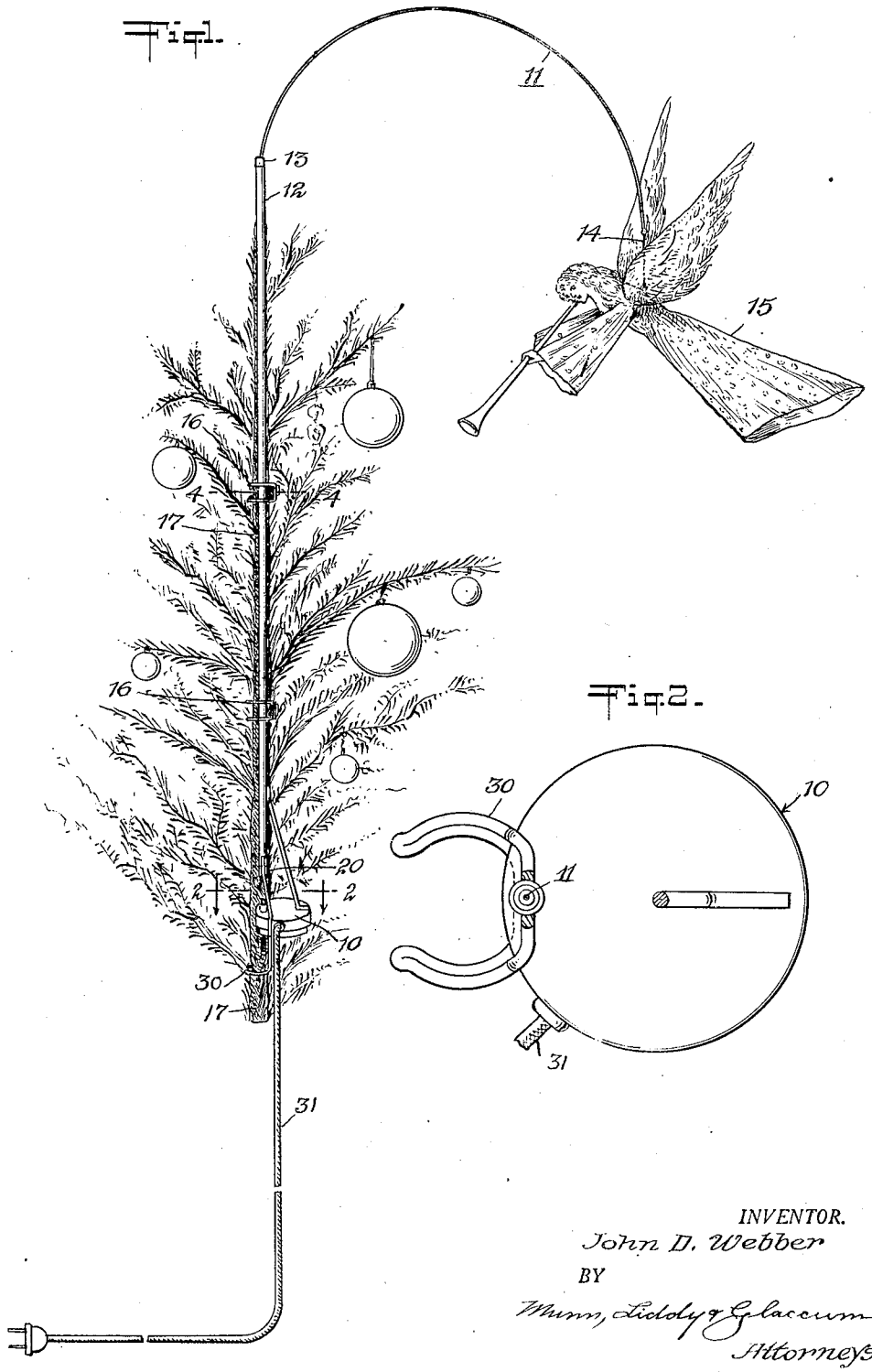


Fig. 2.

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Fig. 3.

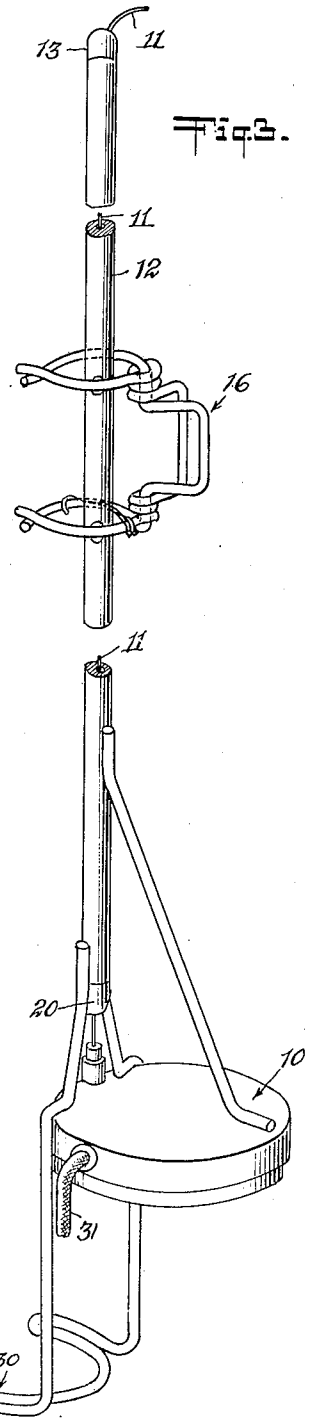


Fig. 4.

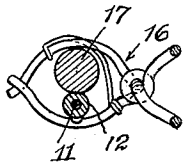


Fig. 5.

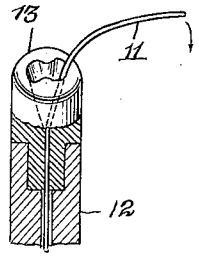


Fig. 6.



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ANIMATED DECORATIVE DEVICE

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3 Claims. (Cl. 272—31)

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This invention relates to animated decorative devices of which an illustration is an animated representation of an angel or of Santa Claus, applied to a Christmas tree for ornamental and decorative purposes.

The principal object of this invention is the provision of an animated device of the general character described which engages in life-like movements through the air, and which appears to engage in such movements without any supporting or driving mechanism. From a reasonable distance the representation of an angel or of Santa Claus or of any other being or object, appears to float through the air by means of some internal force, and it appears further to engage in a considerable number of different types of movement without any apparent compelling force causing such movements.

Another object of this invention is the provision of an animated device of the character described which is of exceedingly simple construction and which may unobtrusively be fastened to a Christmas tree by means of a few simple clamp members.

Referring now to the drawing which shows a preferred embodiment of the invention in which—

Fig. 1 is a side view of such preferred embodiment showing how it is applied to a Christmas tree;

Fig. 2 is a horizontal section substantially on the line 2—2 of Fig. 1, showing in elevation the driving mechanism of the device and one of the clamping members by which said device is fastened to the tree trunk;

Fig. 3 is a fragmentary perspective view of the device;

Fig. 4 is a section on the line 4—4 of Fig. 1;

Fig. 5 is an enlarged perspective view, partly in vertical section, of the bearing of the device and more particularly of a form of bearing which is adapted to produce an undulating movement of the angel or other representation; and

Fig. 6 is a diagram showing some of the different paths of movement of the representation of an angel provided by this device.

The invention herein claimed may be adapted to a great many uses; decorative, ornamental and also commercial. It may be used, for example, for advertising purposes in a department store or as an animated decoration at a party. It may be used at Christmas time in the manner indicated in the drawing, or for other festive occasions such as Hallowe'en where, for example, a representation of a witch riding on a broom may be caused to float around the room. The embodiment of the invention shown in the drawing, therefore, should be understood to be solely illustrative of the great many applications of which this invention is susceptible.

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The constructional features of the invention as shown in the drawing and as hereinafter described may, however, be used in connection with each and all of these applications. But, even these constructional features are illustrative rather than definitive of the invention.

The invention herein claimed comprises a driving mechanism 10, a wire 11 connected to said driving mechanism, a wire support 12 having a wire bearing 13, a very thin strand of nylon or other material 14 connected to the free end of the wire 11, and the representation 15 of an angel affixed to the free end of the nylon strand. The supporting member 12 may have a plurality of clamp members 16 connected thereto for fastening the same to a Christmas tree 17 or to any other suitable object.

The driving mechanism 10 is simply an electric motor and a speed reducing gear train (not shown because not claimed as such) enclosed within a suitable casing or housing. In the preferred form of this invention a standard 110–120 volt alternating current synchronous induction type of electric motor is used which is geared down to but very few revolutions per minute. The gear train is connected in a conventional manner to the wire 11 which in the preferred embodiment is simply an ordinary piano wire which is sprung at its free end into arcular shape. This arc may be seen especially in Fig. 1. The unsprung portion of the wire is carried within the supporting column 12, said column comprising a tubular member or a steel rod having a bore hole extending through its longitudinal axis. This tubular member is packed with graphite or grease so that relatively little friction is experienced between the wire and the inner wall of the tubular member.

A packing cap or gland 20 is provided at the bottom of the tubular member and the bearing 13 is provided at its top end. This bearing, as will be apparent from Fig. 5, is adapted to serve as a packing gland in addition to serving as a bearing. It will be noted in Fig. 5 that the hole extending through the bearing has a diameter at its lower end corresponding substantially to the diameter of the wire, and that at the upper end the hole flares outwardly until it assumes a funnel-like shape. Although the cross-sectional shape of the hole at its lower end is perfectly circular, the upper flared end assumes a wavy or undulating

shape. More specifically in the form shown in Fig. 5, a pair of raised portions are provided between a pair of valley-like portions. This uneven bearing surface provides very interesting effects as will hereinafter become apparent.

The device herein claimed is affixed to a suitable support such as tree 17 in the manner shown in Fig. 1 by means of clamp members 16. A clamp such as 30 may also be used to fasten the device to the tree. It will be noted in Fig. 3 that clamp member 30 is really a bracket in addition to being a clamp which supports column 12 upon the casing enclosing the driving mechanism 10. The column 12 is positioned as shown in the drawing in upright position, its upper end, and more particularly the bearing 13 at its upper end, clearing the top of the tree.

The representation 15 of an angel is suspended from the free end of the wire 11 by means of the thread or strand 14, above described. The representation or figure of the angel is thereby enabled to move relatively to the wire 11. The strand or thread 14 permits such movement, but of course such movement is limited in accordance with the length of said thread.

When the motor of the driving mechanism 10 is connected to a suitable source of electric current by means of conductor 31, the driving mechanism causes the wire 11 to rotate at the predetermined low speed within the column 12. The free end of wire 11, however, engages not only in movement of rotation, but also and simultaneously therewith in movement of revolution. Since said free end of wire 11 is pre-fashioned or sprung into arcuate shape, an uneven twist or torque will be produced in the wire which at times during its course around the tree, will untwist and produce a relatively faster motion than would otherwise be produced by the driving mechanism itself. This uneven twist has the effect of causing the sprung end of the wire to come to a relatively complete stop following such relatively faster motion, until the unsprung and more particularly the lower end of the wire catches up with the sprung end.

It will be apparent from the foregoing that as the wire 11 and more particularly its sprung end twists and turns and slows down and speeds up, and moves upwardly and then downwardly, the figure of the angel will engage in corresponding movements. But, in addition to these movements the figure being suspended from a very thin thread or strand of nylon material, will engage in a series of movements in addition to the movements imposed upon it by the moving, twisting sprung end of wire 11. The figure will sway gently and turn slowly and gracefully to the right and then to the left as it moves along in a forward direction upwardly and downwardly, slowly and more speedily with the sprung end of the wire.

The bearing 13 also contributes to the several different movements and gyrations of the sprung end of the wire and of the figure suspended therefrom. It has previously been stated that the bearing is provided with alternately high and low bearing surface portions. An undulating effect is thereby produced upon the wire 11 as it rotates and as its sprung end revolves about the column 12.

The total effect therefore of the mechanism and structure hereinabove described is extremely decorative and striking. Particularly is this the case when the column 12 is painted or otherwise colored to blend in with its surroundings and more particularly with the natural colors of the tree. The wire 11 is a relatively thin wire which cannot ordinarily be discerned in light-softened surroundings and of course the thread or strand of nylon 14 is even less discernible in such surroundings. The net result of using such color scheme and a wire and thread of such dimensions is to conceal the entire device, exclusive of the figure of the angel. A remarkable effect is produced therefore when the device is used in the surroundings above described, because the figure of the angel appears to float in mid air without any tangible supporting means.

It has already been indicated that the embodiment above described is but a preferred embodiment of the invention. It is solely illustrative and it may be modified in a great many ways to produce different effects. For example, the wire 11 has been described as a piano wire. Obviously any other type of spring wire may be used for the same purpose. The particular contours of the bearing surface shown in Fig. 5 are not crucial and a different type of bearing may be used to the same advantage.

The column 12 as shown in Fig. 3 appears to be of a relatively rigid unbending nature, but it will be appreciated that the wire 11 may be encased in any other desirable kind of supporting casing such as flexible tubular members used in flexible wire drives. Where the unsprung part of the wire is sufficiently stiff and unbending to support itself in desired position, a supporting tube may be dispensed with. Where desired the nylon strand or thread 14 may also be eliminated from the structure. The essential features of the invention therefore may be listed as follows: A partly sprung wire, a drive mechanism causing rotation of the unsprung part of the wire, and rotation and revolution of the sprung part, and a decorative or other device suspended from the sprung end of the wire. When a casing is used to enclose part of the wire, there are two alternatives as to which part of the wire may be inserted into the casing. It has above been stated that that part of the wire which extends outwardly from the casing is pre-sprung into the shape of an arc and that the rest of the wire is not sprung. It will be appreciated that substantially the same effect may be obtained by introducing the sprung end of the wire into the casing and leaving the unsprung end extending outwardly from the casing. The unsprung end of the wire would assume an arcuate shape as shown in Fig. 1 by virtue of the weight of the figure upon it. The torsional twists and turns above described will be caused by the confined sprung end of the wire. But, in such construction the casing must not be too closely confining with respect to the sprung portion of the wire.

I claim:

1. A device of the character described comprising a spring wire one end of which is sprung into arcuate shape, a vertical tubular casing enclosing the unsprung portion of said wire, said wire passing through bearings at both ends of said casing, the top bearing opening having an enlarged irregular periphery on which the arcuate portion of the wire rides as the wire is rotated to cause said arcuate portion to revolve about said casing, a driving mechanism connected to the lower end of said wire for causing rotary movement thereof, a thin thread connected to the sprung end of said wire, and a decorative device suspended from said thread.

2. A device in accordance with claim 1 in which clamping members are provided on the

casing whereby said device may be clamped to a supporting post.

3. An animated decorative device which includes a length of wire, a casing surrounding one end of said wire, bearings for the wire at each end of the casing, the other end of the wire extending beyond the casing and bent into an arcuate form, a display figure, a thread connecting the figure to the bent end of the wire, a drive motor at the first mentioned end of the wire and connected thereto to rotate the same, the bearing at the end of the casing adjacent the arcuate end of the wire having an irregular periphery to guide the adjacent portion of the bent wire into an irregular path as it is rotated and revolved.

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