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MUSICAL ORNAMENT FOR CHRISTMAS TREES

Filed Sept. 27, 1923

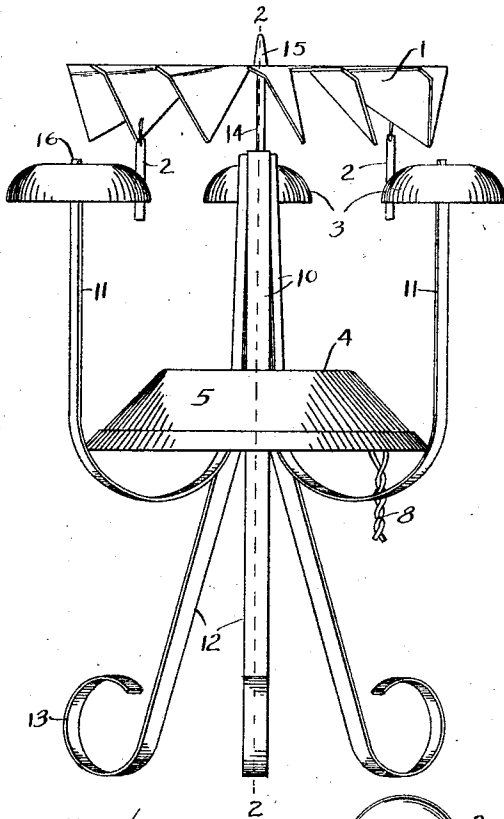


Fig. 1.

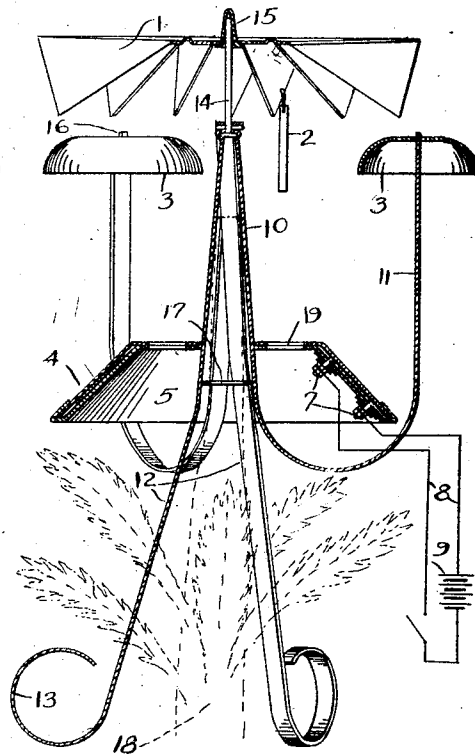


Fig. 2.

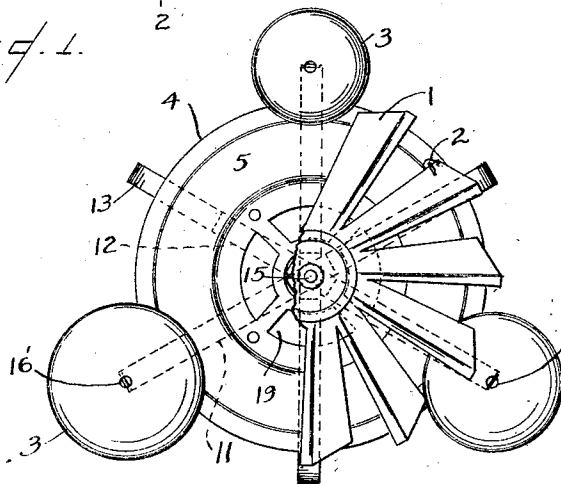


Fig. 3.

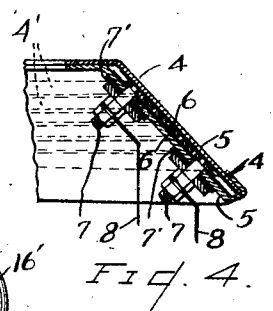


Fig. 4.

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MUSICAL ORNAMENT FOR CHRISTMAS TREES.

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This invention relates to Christmas tree ornaments and particularly to Christmas tree ornaments having a musical as well as a decorative function.

5 It is the object of the invention to provide an ornamental musical device comprising a rotor having vanes adapting it for actuation by an air current, one or more impact members carried by said rotor, a plurality of bells or other resonant members successively engageable by the rotor as the latter rotates, and means arranged below said rotor for electrically generating heat whereby the heated air rising from said means acts to drive the rotor.

A preferred embodiment of the invention is hereinafter described and is illustrated in the accompanying drawings, wherein,

Fig. 1 is a view of the invention in side elevation.

Fig. 2 is a view of the same in sectional elevation, indicating in dash lines a Christmas tree forming a support for the device.

Fig. 3 is a top view of the invention.

Fig. 4 is an enlargement of a portion of Fig. 2, showing the electrical connections to the heating element.

In these views the reference character 1 designates a rotor which may be formed from a sheet metal disk, radially slit to form vanes which are correspondingly deflected at an inclination to the original plane of said disk. From certain of said vanes there are terminally pivotally suspended relatively heavy metal rods 2 which form depending members or strikers adapted, upon rotation of said rotor about a vertical axis, to successively engage a plurality of bells 3 or like resonant elements disposed in the path of travel of said strikers. Preferably said bells are differentially proportioned so as to be productive of different sound tones, or a chimes effect, when the device is in operation. To produce a rising air current, whereby said rotor may be driven, there is arranged below the rotor an electric heating element 4 comprising a resistor 4' coiled in conical form, a pair of sheet-metal plates 5 having conical marginal portions between which said resistor is disposed, insulation 6 between said resistor and plates, and terminal posts 7 to which the ends of the resistor are respectively connected, said posts being insulated from the inner plates 5 as indicated at 7'. In Fig. 2 is diagrammatical-

ly shown an electric circuit 8 for said resistor, including a battery 9, or other source of electrical energy.

A support for mounting the rotor, bells, and heating element in a proper co-operative relation is formed by three similar strap-metal members, each comprising a central return-bent portion 10 forming an acute angle, and having end portions 11 and 12 projecting respectively upwardly and downwardly, the former serving to mount one of the bells 3 and the other projecting downwardly to form a supporting leg, the lower end thereof being formed in a loop as indicated at 13. In assembling the device, the angular portions 10 are positioned radially in spaced circumferential relation, being nested one upon another, and a pin 14 secured to the apex of one of said portions and upwardly projecting therefrom is passed through the apices of the other two portions 10. The upper end of said pin is pointed to form a pivotal support for the rotor, which has its central portion upwardly indented, as indicated at 15, for the reception of said pin. The upper ends of the bell supports 11 are reduced as indicated at 16 to loosely engage in central openings 16' formed in the bells to support the latter. The plates 5 of the heating element are centrally apertured to fit over the angular portions 10 of the three-part support, confining said portions in assembled position. Thus the heating element assists in holding the parts of the support in proper assembly and is, at the same time, itself firmly held in place owing to the taper of said expansive stress exerted by said portions 10. 17 designates a washer which is engaged between the nested portions 10 to act as a spacer and hold said portions separated. The Christmas tree, which is indicated at 18, has its reduced upper end inserted into the tapering socket formed by the nested portions 10, thus supporting the device conspicuously in a central and top-most position upon the tree.

In the use of the described invention, the circuit 8 which engages the heating element 4 may be the same circuit by which the tree is usually lighted. The temperature rise resulting from energization of said heating element will be productive of a rising air current, which, upon encountering the vanes of the rotor will impart rotation to the latter. The strikers 2 being thus successive-

ly carried into engagement with the differently toned bells 3, a musical tinkling will result, resembling the sounding of chimes. It will be noted that the heating element 4 is formed in its flat central portion with openings 19 through which air may flow upwardly, and the flaring or conical marginal portion of said element has the effect of deflecting air toward and through said openings and directing the same in a centralized volume upon the rotor so as to reduce to a minimum the ineffective portion of the air current rising outside the periphery of the rotor.

15 The construction is one comprising simple and inexpensive parts, adapted to be quickly assembled without the use of screws, bolts or similar attaching means.

What I claim is:

20 1. In a device of the character described, the combination with a rotor having radial vanes and journaled to turn about a vertical axis of a striker carried by said rotor, a resonant member arranged in the path of said striker, an electrical heating element 25 disposed co-axially with said rotor beneath the same, and a common mounting for said rotor, resonant member, and heating element, said mounting comprising a plurality of parts, and said heating element forming 30 a means for holding said parts assembled.

2. In a device of the character described, the combination with a rotor having radial vanes and journaled to turn about a vertical 35 axis of a striker carried by said rotor, a resonant member arranged in the path of said striker, a centrally apertured electric heating element disposed co-axially with said rotor beneath the latter, and a common 40 mounting for said rotor, resonant member, and heating element, comprising a plurality of parts having similar portions upwardly projecting through the central opening of said heating element, whereby the latter 45 holds said parts in assembly.

3. In a device of the character described, the combination with a rotor having radial vanes and journaled to turn about a vertical axis, of a striker carried by said rotor, a 50 resonant member arranged in the path of said striker and an electric heating element disposed coaxially with said rotor beneath the outer portions of the rotor vanes, having

an opening in its central portion for the up-flow of air.

4. In a device of the character described, the combination with an electric heating element having an opening in its central portion for the upflow of air and mounted with the axis of said opening substantially vertical, of a pivot member mounted above said heating element, and having its axis substantially coincident with the extended axis of said opening, and a rotor having radial vanes mounted to turn freely upon said 65 pivot and freely detachable from said pivot, and actuable by the rising current of heated air generated by said heating element.

5. In a device of the character described, the combination with an electric heating 70 element having the form of a ring and mounted with its axis substantially vertical, of a rotor having radial vanes mounted above said heating element, and having its axis substantially coincident with the extended axis of said element, said rotor being 75 actuable by the rising air current generated by said element when energized, and means actuable by said rotor for producing musical sounds.

6. In a device of the character described, the combination with a rotor journaled to turn about a vertical axis, and actuable by rising air current, of an electric heating element comprising a resistor in the form of 85 a ring, and means enclosing said resistor arranged below said rotor in a substantially coaxial relation with the latter, and productive when energized of an air current for energizing said rotor, the diameter of 90 said rotor and the external diameter of said heating element being substantially the same.

7. In a device of the character described, the combination with a rotor having radial vanes and journaled to turn about a vertical 95 axis, a musical device actuable by said rotor upon rotation thereof, a frame mounting said rotor and musical device, and an electric heating element having the form of a ring, disposed below, and substantially coaxial with said rotor, mounted upon said 100 frame and quickly detachable therefrom.

In testimony whereof I sign this specification.

OSCAR F. KEYDEL.