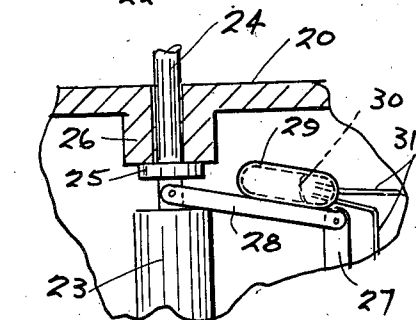
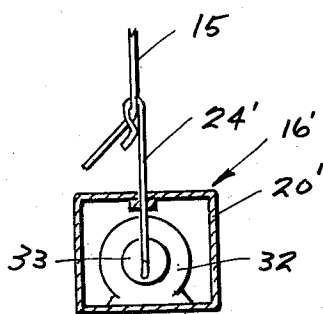
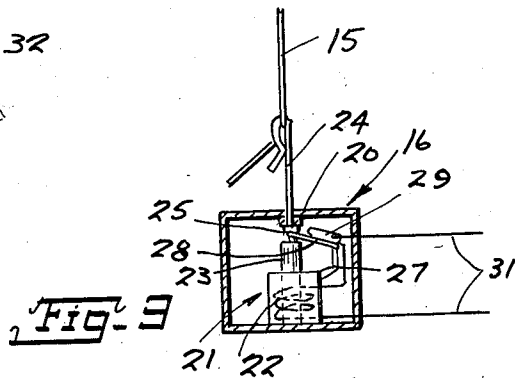
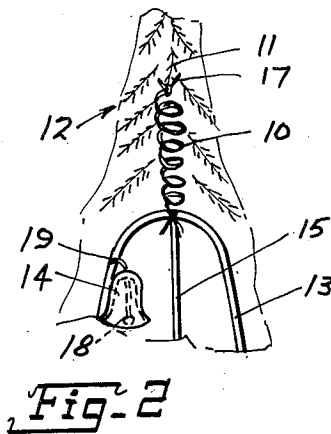
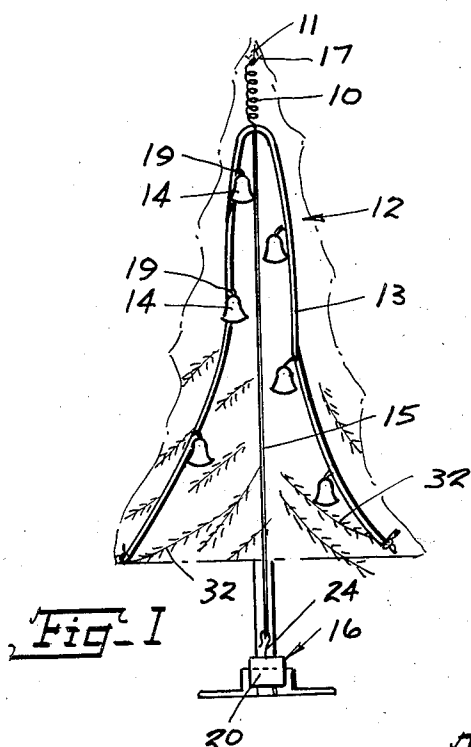


July 18, 1950

F. L. BRONSON
RINGING BELL DEVICE FOR CHRISTMAS
TREES AND OTHER USES
Filed Aug. 6, 1949

2,515,439



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2,515,439

RINGING BELL DEVICE FOR CHRISTMAS TREES AND OTHER USES

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Application August 6, 1949, Serial No. 108,901

5 Claims. (Cl. 177-7)

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This invention relates to new and useful improvements in ringing bell devices for Christmas trees and for other uses, particularly at parties.

Heretofore, it has been customary to ornament Christmas trees with small bells, each one of which was associated with a solenoid for ringing it. However, the use of a separate solenoid for each bell is relatively expensive, and moreover, quite objectionable for the reason that each solenoid when operating has a hum, and collectively produces a good deal of noise.

This invention particularly proposes a new arrangement by which a plurality of bells may be conveniently supported on a Christmas tree, or other object, and may be simultaneously rung with one solenoid, or motor, or other operating device.

Particularly, it is proposed that an elastic member, such as a coil spring, be attached at its top portion to a top portion of a Christmas tree, or other point of support. A ribbon is connected with and depends from this elastic member, and a plurality of bells are mounted at spaced positions upon said ribbon. An important object of this invention resides in connecting a cord with a bottom portion of said elastic member and extending the cord downwards so that the cord may be periodically pulled downwards and released for shaking the ribbon and in this way ringing the bells. Means is associated with the cord for periodically drawing said cord down and then releasing the cord so that said elastic member may draw said cord upwards, when released, for shaking said ribbon and so ringing the bells.

Another object of this invention resides in associating a hook with the means for periodically drawing said cord downwards in such a way that the cord may be engaged upon the hook in various drawn positions to stretch the elastic member to different degrees of tension and in this way control the loudness and softness of the ringing of the bells. It is proposed that the hook be associated with reciprocating means by which the hook is reciprocated and in this way pulls downward and releases the cord.

Another object of the invention is the construction of a device as described which is simple and durable and which may be manufactured and sold at a reasonable cost.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawing, and to the appended claims in which the various novel features of the invention are more particularly set forth,

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In the accompanying drawing forming a material part of this disclosure:

Fig. 1 is a schematic elevational view of a Christmas tree provided with a ringing bell device constructed in accordance with one form of this invention.

Fig. 2 is a fragmentary enlarged detailed view of the top portion of Fig. 1.

Fig. 3 is a fragmentary enlarged detailed view of the bottom portion of Fig. 1, certain parts being omitted to clarify the parts illustrated, and the casing which is illustrated is shown in section to disclose interior parts.

Fig. 4 is a fragmentary enlarged detailed view of a portion of Fig. 3.

Fig. 5 is a sectional view similar to Fig. 3 but illustrating a modification of the invention.

The ringing bell device for Christmas trees and other uses, in accordance with this invention, includes an elastic member 10 attached at its top end upon one of the branches 11 of a Christmas tree 12 or other supporting member. A ribbon 13 is connected with and depends from said elastic member 10 and extends downwards along the sides of the Christmas tree. A plurality of bells 14 are mounted at spaced positions upon the ribbon 13. A cord 15 connects with the bottom portion of the elastic member 10 and extends downwards in order that the elastic member 10 may be pulled downwards and released for shaking said ribbon 13 and in this way ringing the bells 14. The cord 15 is connected with means 16 mounted at the base of the Christmas tree 12 for periodically drawing said cord 15 down and then releasing said cord 15 in order that said elastic member 10 may draw said cord 15 upwards for shaking said ribbon 13 so as to ring the bells 14.

The elastic member 10 is shown to comprise a helical spring. Said elastic member 10 is attached to the limb 11 of the tree 12 with a string 17. The ribbon 13 may be of cloth, or of braided material, or other material upon which the bells 14 may be readily mounted and removed. The bells 14 have the usual clappers 18 so that when the bells are shaken the clappers will strike the bell bodies and produce the ringing sound. Each bell 14 is provided with a top hook 19 by which it is mounted upon the ribbon 13.

Said means 16 for periodically drawing said cord 15 down, and releasing the cord 15 comprises a casing 20 in which a solenoid 21 is mounted. This solenoid 21 includes a coil 22 and a movable core 23. The movable core 23 connects with and supports a hook 24. A collar

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25 is mounted upon the inner end of the hook 24 and engages a boss 26 formed upon the bottom face of the top wall of the casing 20 for limiting upward motion of the hook 24.

A bracket 27 is physically attached to the coil 22. A lever 28 is pivotally connected with the bracket 27 at one end, and is pivotally connected at its other end with the bottom portion of the hook 24. A mercury switch 29 is mounted on the lever 28. When the core 23 of the solenoid 21 is in its raised position, the mercury switch 29 tilts, as illustrated in Fig. 4, so that the mercury 30 thereof engages across the terminals of the switch for closing an electric circuit 31. Said electric circuit 31 connects the mercury switch 29 and the coil 22 in series. The bottom end portion of the cord 15 is clamped in position by the hook 24. The cord 15 may be pulled out and clamped in selected positions so as to stretch the elastic member 10 to predetermined amounts.

The ribbon 13 is illustrated attached at its center to the bottom of the elastic member 10. The side portions of the ribbon 13 extend downwards, and the bottom ends of the ribbon 13 are connected with the branches 32 of the Christmas tree 12 in order that the bottom ends of the ribbon 13 are resiliently supported and the sides of the ribbon curve upwards so that the ribbon 13 may easily move upwards and downwards during the bell ringing operation.

The operation of the device is as follows:

When current flows in the circuit 31, the solenoid 21 becomes energized so that its core 23 moves downwards pulling the cord 15 downwards and stretching the elastic member 10. When the core 23 reaches its down position, the lever 28 is moved to tilt downwards, tilting the mercury switch 29 downwards so that the mercury 30 thereof flows to the other end of the switch tube, breaking the circuit between the terminals of said mercury switch 29. Current then ceases to flow to the solenoid 21 so that the core 23 becomes de-magnetized and the elastic member 10 moves the cord 15, the hook 24, and the core 23 of the solenoid 21 upwards. In the up position, the mercury switch 29 again closes, and the operation repeats. In this way the cord 15 is pulled and released, stretching the elastic member 10 and causing the ribbon 13 to be shaken so as to ring the bells 14. The loudness of the ringing bells may be controlled by engaging the bottom portion of the cord 15 in different positions upon the hook 24 so as to cause the elastic member 10 to be initially stretched to pre-selected tensions.

In Fig. 5 a modified form of the means for periodically drawing the cord 15 down and releasing said cord has been shown. This means is generally indicated by reference numeral 16'. It comprises a casing 20' housing an electric motor 32 driving a disc 33 to which a vertical hook 24' is eccentrically connected. This hook 24' connects with said cord 15. When the electric motor 32 operates the disc 33 revolves causing the hook 24' to reciprocate vertically, which in turn pulls and releases the cord 15 so as to ring the bells. The cord 15 may be connected with the hook 24' at different positions so as to control the loudness of ringing in a manner similar to that described in the preferred form of the invention.

While I have illustrated and described the preferred embodiment of my invention, it is to be understood that I do not limit myself to the precise construction herein disclosed and the

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right is reserved to all changes and modifications coming within the scope of the invention as defined in the appended claims.

Having thus described my invention, what I claim as new and desire to secure by United States Letters Patent is:

1. A ringing bell device for Christmas trees, and other uses, comprising an elastic member for attachment at its top upon the top portion of a Christmas tree, a ribbon connected with and depending from said elastic member for extending down the side of said Christmas tree, bells mounted at spaced positions upon said ribbon, a cord connected with a bottom portion of said elastic member and extending downwards by which said elastic member may be pulled downwards and released for shaking said ribbon so as to ring said bells, and means for periodically drawing said cord down and then releasing said cord in order that said elastic member may draw said cord upwards for shaking said ribbon so as to ring said bells.

2. A ringing bell device for Christmas trees, and other uses, comprising an elastic member for attachment at its top upon the top portion of a Christmas tree, a ribbon connected at its center with and depending from said elastic member for extending down the sides of said Christmas tree, bells mounted at spaced positions upon said ribbon, a cord connected with a bottom portion of said elastic member and extending downwards by which said elastic member may be pulled downwards and released for shaking said ribbon so as to ring said bells, and means for periodically drawing said cord down and then releasing said cord in order that said elastic member may draw said cord upwards for shaking said ribbon so as to ring said bells.

3. A ringing bell device for Christmas trees, and other uses, comprising an elastic member for attachment at its top upon the top portion of a Christmas tree, a ribbon connected at its center with and depending from said elastic member for extending down the sides of said Christmas tree, bells mounted at spaced positions upon said ribbon, a cord connected with a bottom portion of said elastic member and extending downwards by which said elastic member may be pulled downwards and released for shaking said ribbon so as to ring said bells, means for periodically drawing said cord down and then releasing said cord in order that said elastic member may draw said cord upwards for shaking said ribbon so as to ring said bells, and means for resiliently supporting the bottom ends of said ribbon in spaced positions so that the sides of said ribbon curve upwards.

4. A ringing bell device for Christmas trees, and other uses, comprising an elastic member for attachment at its top upon the top portion of a Christmas tree, a ribbon connected at its center with and depending from said elastic member for extending down the sides of said Christmas tree, bells mounted at spaced positions upon said ribbon, a cord connected with a bottom portion of said elastic member and extending downwards by which said elastic member may be pulled downwards and released for shaking said ribbon so as to ring said bells, means for periodically drawing said cord down and then releasing said cord in order that said elastic member may draw said cord upwards for shaking said ribbon so as to ring said bells, and means for resiliently supporting the bottom ends of said ribbon in spaced positions so that the sides of said ribbon curve up-

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wards, said cord extending downwards centrally of the side portions of said ribbon.

5. A ringing bell device for Christmas trees, and other uses, comprising an elastic member for attachment at its top upon the top portion of a Christmas tree, a ribbon connected with and depending from said elastic member for extending down the side of said Christmas tree, bells mounted at spaced positions upon said ribbon, a cord connected with a bottom portion of said elastic member and extending downwards by which said elastic member may be pulled downwards and released for shaking said ribbon so as to ring said

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bells, a hook for connection with various points along said cord when said cord is pulled to stretch said elastic member, means for vertically reciprocating said hook for shaking said cord to ring said bells, and means for limiting upward motion of said hook in order that said cord may be connected with said hook to produce a selected initial tension in said elastic member for controlling the loudness of ringing of said bells.

FREDERIC L. BRONSON.

No references cited.