United States Patent

Birnkrant

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[54] PERCUSSION MUSICAL INSTRUMENT

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[52] **U.S. Cl.** **84/403,** 84/404, 46/191

[51] **Int. Cl.** **G10d 13/08**

[58] **Field of Search** 84/402, 403, 405, 406, 408, 84/409, 404, 457; 46/191

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[57] **ABSTRACT**

A percussion type musical instrument is formed as a representation of a flower having radiating petals. Each petal consists of an open bottom echo chamber and an elliptical tone bar secured to the top of the chamber by snap-type fastening means formed integrally with the chamber. The chambers are integrally formed with a hub section mounted to a downwardly extending stem-like post. Another hub section or cap is snap-connected to the first hub section and frictionally engages the upper end of the post to prevent rotation of the echo chambers about the post.

9 Claims, 7 Drawing Figures

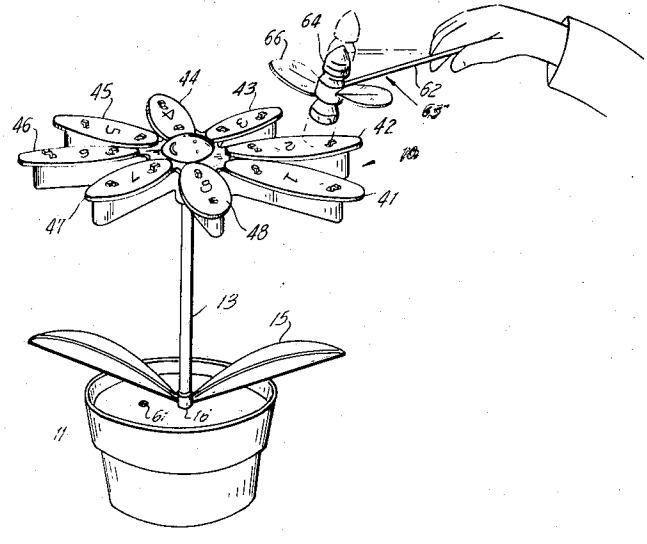


FIG. 1.

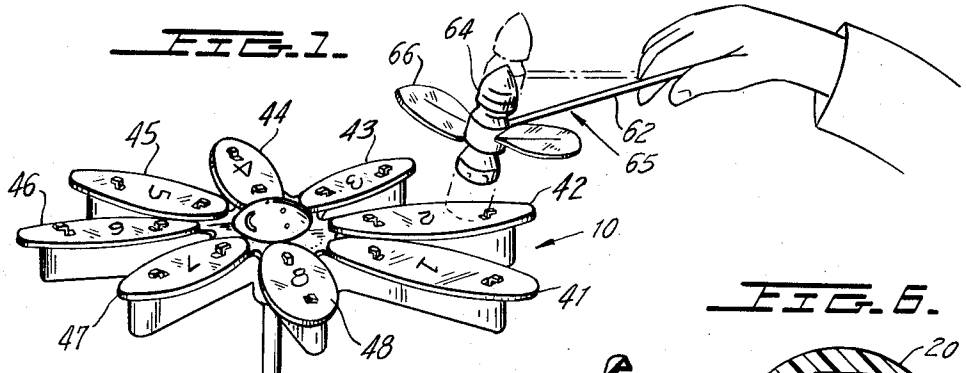


FIG. 6.

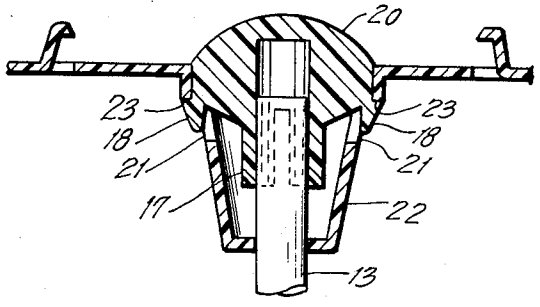
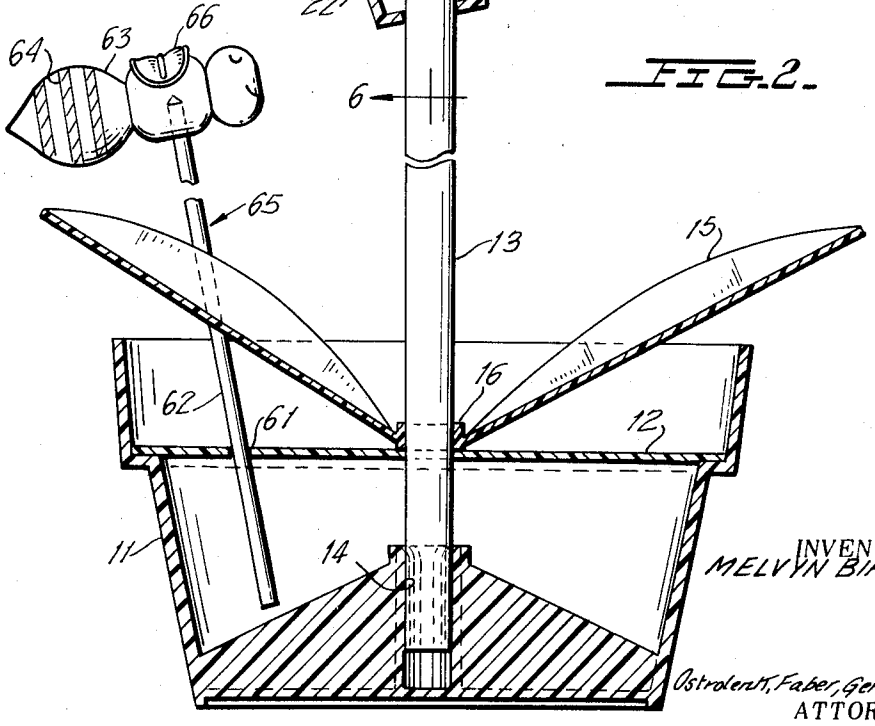


FIG. 2.



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FIG. 3

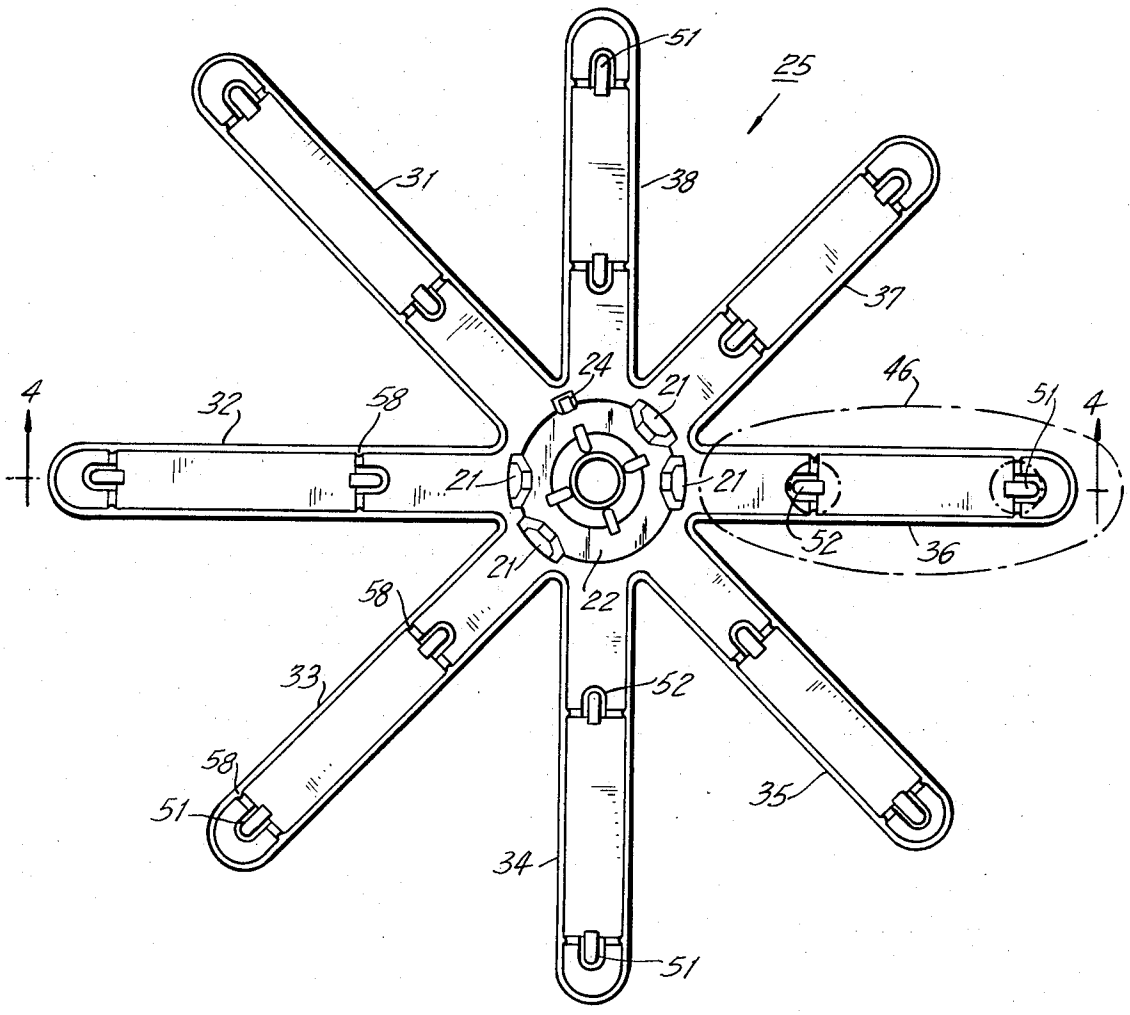


FIG. 4

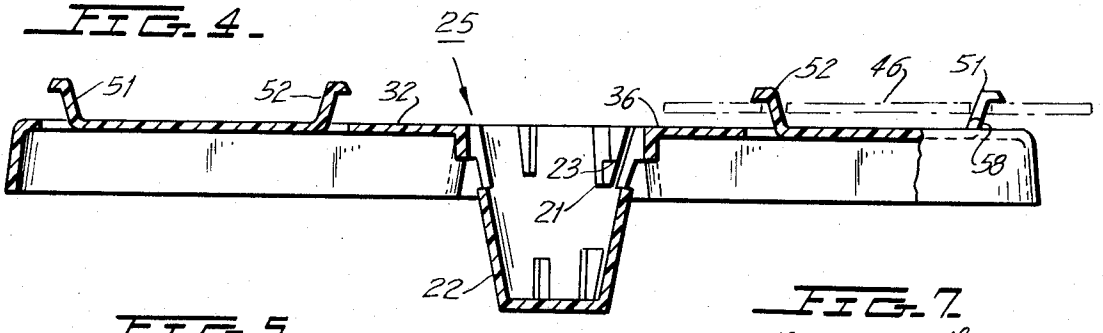


FIG. 5

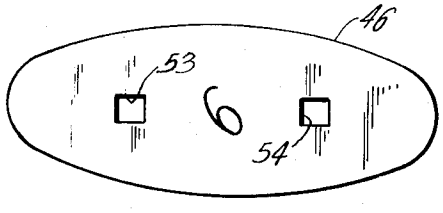
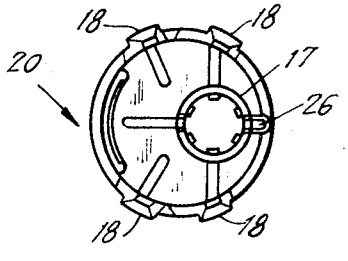


FIG. 7



PERCUSSION MUSICAL INSTRUMENT

This invention relates to percussion musical instruments in general, and more particularly relates to a novel construction for a xylophone-type instrument.

Conventional xylophones are constructed of rectangular bars and resonators arranged in a row. As a practical matter this prior art construction has proven to be relatively bulky and costly.

In contrast, the device of the instant invention comprises elliptical tone bars, each mounted to the top of an elongated open bottom echo chamber constituting an arm radiating from a hub element. The hub element and all of the arms are integrally formed of molded plastic material. Also integrally molded with the arms are L-shaped holding elements which secure the tone bars to the arms. This radiating circular array of elliptical tone bars is arranged to simulate the petals of a flower, thereby resulting in a musical instrument of novel appearance.

Accordingly, a primary object of the instant invention is to provide a percussion type musical instrument of novel construction.

Another object is to provide a musical instrument of this type in which the tone bars are elliptical.

Still another object is to provide a musical instrument of this type in which the echo chambers are integrally formed with a hub section and holding means for mounting the tone bars.

A further object is to provide a musical instrument of this type which is relatively compact and inexpensive to construct.

These objects as well as other objects of this invention will become readily apparent after reading the following description of the accompanying drawings in which:

FIG. 1 is a perspective of a musical instrument constructed in accordance with teachings of the instant invention.

FIG. 2 is a vertical cross-section through the musical instrument of FIG. 1.

FIG. 3 is a plan view of the echo chamber member.

FIG. 4 is a cross-section taken through line 4—4 of FIG. 3 looking in the direction of arrows 4—4.

FIG. 5 is a plan view of one of the elliptical tone bars.

FIG. 6 is a fragmentary cross-section taken through line 6—6 of FIG. 2 looking in the direction of arrows 6—6.

FIG. 7 is a bottom view of the hub cap member.

Now referring to the figures. Musical instrument **10** includes plastic pot **11** having horizontal partition **12** which simulates soil level in pot **11**. Partition **12** is provided with a central aperture through which stem or post **13** extends, with the lower end of post **13** being frictionally engaged by the interior walls of circular recess **14** provided inside of pot **11** at the bottom thereof. Two-petal plastic leaf member **15** is disposed with its central connecting portion **16** adjacent the upper surface of partition **12**. Post **13** extends through a central aperture in connecting portion **16** and is frictionally engaged by the walls of this aperture.

The upper end of post **13** is entered into the central aperture in downward extension **17** of cap or hub section **20**. The latter is constructed of plastic material and is provided with four holding elements **18** entered into apertures **21** in hub section **22** of echo chamber member **25**. Elements **18** are disposed behind ledges **23** to hold cap **20** in its operative position. Interior slot **24** in hub section **22** receives complementary rib **26** (FIG. 7) in cap **20** to establish the relative angular position between hub sections **20** and **22**. Radiating from hub section **22** and formed integrally therewith are eight equally spaced arms **31–38**. The arms are graduated in length, with arm **31** being the longest and arm **38** being the shortest. Each of the arms **31–38** is formed as an elongated open bottom echo chamber. At the top of each arm **31–38** are a pair of inverted oppositely facing L-shaped holding elements **51, 52** formed integrally therewith.

Holding elements **51, 52** extend into the respective apertures **53, 54** in each of the eight elliptical tone bars **41–48** constructed of metal sheet material. The spacing between apertures **53** and **54** for each of the tone bars **41–48** is such that it corresponds to the spacing between only a single set of holding elements **51, 52** so that each of the tone bars **41–48** is mounted to the proper echo chamber arm **31–38**, respectively. An annular felt pad **57** is mounted to each holding element **51, 52** to provide a soft resting place for tone bars **41–48** and spaces them slightly above the upper surfaces of echo chamber arms **31–38**. However, the major spacing function is achieved by ribs **58** formed on the upper surfaces of arms **31–38** adjacent holding elements **51, 52**. This mounting of tone bars **41–48** to arms **31–38** is in a loose fashion so that each tone bar **41–48** is free to vibrate at its characteristic frequency when struck by head **63** of hammer **65**. Preferably, each of the tone bars is constructed of anodized aluminum.

Both hub cap **20** and echo chamber member **25** are molded of high density polyethylene so that holding elements **18, 51, 52** are deflectable from their normal holding positions, and return to these normal positions after deflecting forces are released to act as snap-type retaining means. It is noted that the orientation of hub cap extension **17** is such that with post **13** held vertical, the plane containing echo chamber arms **31–38** is inclined so that the tone bar having the lowest characteristic frequency (longest tone bar **41**) extends to a higher point than any of the other tone bars **42–48**.

Partition **12** is also provided with aperture **61** which removably receives handle **62** of hammer **65**. Hammer head **63** is designed to simulate a bee and includes wooden body **64** and plastic wings **66**.

Thus it is seen that the instant invention provides a novel construction for a percussion-type musical instrument including a set of elliptical tone bars arranged in circular radiating fashion to simulate the petals of a flower. All of the echo chambers are integrally formed of molded plastic material, with the molding also including hook-like holding elements for maintaining the tone bars mounted to their respective echo chambers.

Although there have been described preferred embodiments of this novel invention, many variations and modifications will now be apparent to those skilled in the art. Therefore, this invention is to be limited, not by the specific disclosure herein, but only by the appending claims.

The embodiments of the invention in which an exclusive privilege or property is claimed are defined as follows:

1. A percussion-type musical instrument including a plurality of elongated tone bars each of a different characteristic frequency, support means including a hub and a plurality of arms extending radially from said hub, each of said tone bars mounted to a different one of said arms and extending radially from said hub, said tone bars being arranged in a circular array in order of their characteristic frequencies except that the tone bar having the highest characteristic frequency is adjacent to the tone bar having the lowest characteristic frequency, said support means including a post extending downward from a plane in which said arms are disposed, and said instrument appearing as a representation of a flower with said post constituting a stem and said tone bars in combination with said arms constituting petals.

2. A percussion-type musical instrument as set forth in claim 1 in which the tone bars are elliptical.

3. A percussion-type musical instrument as set forth in claim 1 in which each of said arms includes an echo chamber.

4. A percussion-type musical instrument as set forth in claim 3 in which the plurality of arms are formed integrally as a molded plastic member.

5. A percussion-type musical instrument as set forth in claim 4 in which each of said arms is provided with integrally formed snap-type holding elements to retain said tone bars operatively mounted to said arms in position above said arms.

6. A percussion-type musical instrument as set forth in claim 5 in which there are pad elements mounted to the holding elements and interposed between the tone bars and the arms.

7. A percussion-type musical instrument as set forth in claim 5 in which the tone bars are mounted to the tops of the arms and the echo chambers have open bottoms.

8. A percussion-type musical instrument as set forth in claim 5 in which the hub includes a hollow section formed integrally with said arms and a cap closing the open top of said hollow section, snap-type holding means connecting said cap to said hollow section.

9. A percussion-type musical instrument as set forth in claim 1 in which said tone bars are elliptically shaped.

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