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PATENT INFORMATION CENTRE (PIC), MANIPUR

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MUSICAL INSTRUMENTS

**Improved Meitei/Meetei Pung
(Manipuri Mridanga)
Dholak & Dhulki**

Patents filed for the Musical Instruments
No. 201731028511 dated August 10, 2017
No. 201831038883 dated October 12, 2018

Inventors & Writers
Thingujam Surendranath Singh
Chanam Sarat Singh

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FOREWORD

The present publication is a product of the Dept. Of Science & Technology, Govt. of India sponsored project entitled “Fabrication and Demonstration of Bamboo Reinforced Polymer Manipuri Mridanga (Meitei/Meetei Pung)” implemented by Manipur Science & Technology Council (MASTEC), Imphal. Under this project, Manipuri Mridanga, Dholak and Dhulki have been fabricated using the new technology and demonstrated to the general public by professional Artists of Manipuri Mridanga (Meitei/Meetei Pung). The patent application for the new Manipuri Mridanga and Dholak/Dhulki are filed under Indian Patent Act 1970.

The Manipuri Mridanga (Meitei/Meetei *Pung*) and Dholak/Dhulki are used in many ceremonies and cultural programmes of Manipur. The Manipuri Pung Cholom is famous all over the world. The wooden body of the Mridanga and Dholak/Dhulki which are made from some special big trees namely Jack Fruit Tree, Mango tree, *Wang tree* etc. are now either very rarely available or available in small sizes. Further, to meet the increasing demand we have to cut down trees which is against Environmental Pollution. Now, the wooden body of the Manipuri traditional Mridanga and Dholak may be replaced by a new body fabricated using the technology of bamboo reinforced polymer. The new Mridanga/Dholak body is free

from termite attacks, have more strength, involve minimum fabrication time and is environment friendly.

We would like to express our sincere gratitude to Shri Ravinder Gaur, Scientist, Dept. of Science & Technology, Govt. of India for sponsoring the project. We also would like to extend many thanks to the Officers and staff of MASTEC who helped us directly or indirectly in bringing out this small book.

AUTHORS

Improved Meitei/Meetei Pung (Manipuri Mridanga)

**Patent filed No. 201731028511 dated
August 10, 2017**

The Manipuri Mridanga locally called 'Pung' stands for the percussion instrument otherwise commonly known as 'Drum'. Pung is said to have been first used in Manipur around 2nd Century AD during the times of its early rulers which used it as 'Yaibungs' mainly to announce the King's proclamation, sound alarms at times of invasions or summon people at times of emergencies. Slowly it came to be used as a percussion instrument to accompany merriment like songs and dances. Many years of refinement later, 'Pung Cholom', the playing of the percussion in Manipuri Sankritana music, came to be an indispensable part of the Manipuri culture and traditions.



Manipuri Mridanga

In Manipuri Sankirtana the 'Meitei/Meetei Pung' which is a variant of the 'Mridanga' came to be used. Unlike the 'Mridanga', which originally is a terracotta percussion instrument the body of which is made from mud thus giving it its name "Mridanga" from the Sanskrit words 'Mrit' for mud

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and “Anga’ meaning body, the Meitei/Meitei Pung however is made from wood with two drum heads/faces of differing sizes, one small (Manao) on the right and the other somewhat bigger called ‘Maru’ on the left, the combination of which gives it its distinctive sounds. The instrument is accorded a very revered status in Meitei’s traditional customs, even worshiped, equated with the body of Lord Vishnu during ceremonies and always seen wrapped finely in a thin white cloth as if being dressed. The playing of the instrument ‘Pung Cholom’ is a highly skilled and developed art that is indigenous to Manipur and with no comparison or likeness to its art form anywhere in the world. It is showcased and highly acclaimed all over the globe as part of the Manipuri Classical music and dance.

Pung Cholom

The ‘Pung cholom’ which generally precedes the singing of the kirtan is a fabulous and enchanting rendering of the instrument with variations in the tempo of the beats ranging from the slow and interrupted rhythm that creates a soulful melody to an energetic and spirited beats climaxing to an explosive rhythm, all the while accompanied by a matching



A traditional Pung cholom performance

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display of fluid and graceful body movements that has been ingeniously incorporated from Manipur's famed martial art form 'Thang Ta' and 'Sarit sarak'. Highly acrobatic and artistic, the Pung Cholom is an exquisite and quite a breathtaking presentation.

The Manipuri Mridanga (Meitei/Meetei *Pung*) is used in many ceremonies and cultural programmes of Manipur. It is used in every marriage ceremony and ceremonies related to death. It is also used in various forms of Manipuri traditional and classical dances. The Manipuri Pung Cholom - a unique performing art is famous all over the world. The Manipuri Mridanga is made with a wooden hollow body slightly enlarged in the middle. The two ends of the wooden hollow body is provided with two circular sheets of leather, preferably cow's leather fasten with the help of number of thin leather strips laid along the wooden hollow body.

The wooden body carved in the form of pipe is made from some special big trees namely Jack Fruit Tree, Mango tree, Wang tree (a local tree of Manipur) etc. However, these special trees are either very rarely available or available in small sizes since it takes years to mature. Further, for making number of Mridangas to meet the increasing demand we have to cut down trees which is against Environmental Pollution. These wooden made Mridangas are easily breakable and un-repairable. It takes many days even months to make the wooden body and to season it for gain of strength.

To fabricate an improved Mridanga using a new technology for socio-economic development Manipur Science and Technology Council, Imphal carried out a trial for feasibility of making an improved Mridanga using new technology/

materials. The newly developed Mridanga was found to have the following advantages:

- a) It is un-breakable/strong enough.
- b) It is environment friendly.
- c) It takes few hours to fabricate the body of Mridanga.
- d) It does not require seasoning for strength and termite attack.

Finally, the wooden body of the Manipuri traditional Mridanga has been replaced with a new material using the technology of bamboo reinforced polymer. The wooden body may be attacked by germs, termites etc if not kept in a proper place. Further, the wooden body of the Mridanga is not to be kept in touch with the ground to avoid moisture absorption. The new technology is free from such problems and having better strength, more durability, comparatively less fabrication time and is environment friendly.

The improved Mridanga has a bamboo reinforcement polymer body having the following technical specifications :

- i) Length : 60 cm
- ii) Diameter of the small end : 12 cm
- iii) Diameter of the large end : 16 cm
- iv) Diameter of the middle part : 22 cm
- v) No. of Bamboo strips (reinforcement) : 32 Nos.
- vi) Diameter of the bamboo strips : 5 mm
- vii) No. of bamboo rings fastening the bamboo strips : 5 Nos.
- viii) Diameter of the bamboo rings : 8 mm
- ix) No. of polymer layer coated over the bamboo reinforcement : 2 layers.

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The improved Mridanga has been protected under IPR (patented) having **Indian Patent Application No. 201731028511 dated August 10, 2017**. The improved Mridangas have been demonstrated to the mridanga experts and the general public in a demonstration function with Pung Chollom performance by 5 (five) artists. It has been observed that the improved Mridanga producing the same sound as the traditional Mridanga is little lighter than the traditional Mridanga and thus become more comfortable in performing Pung Chollom as per feedbacks from the artists and Mridanga experts.

A percussion instrument modelled after a Manipuri mridanga is disclosed. The percussion instrument comprises a sound resonating chamber, said chamber comprising a first opening and a second opening, the said opening being located at opposite ends of the instrument. The openings are substantially parallel to one another and substantially perpendicular to the axis of the chamber. The resonating

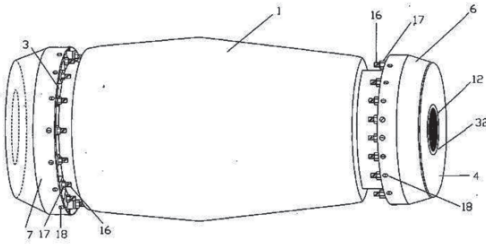


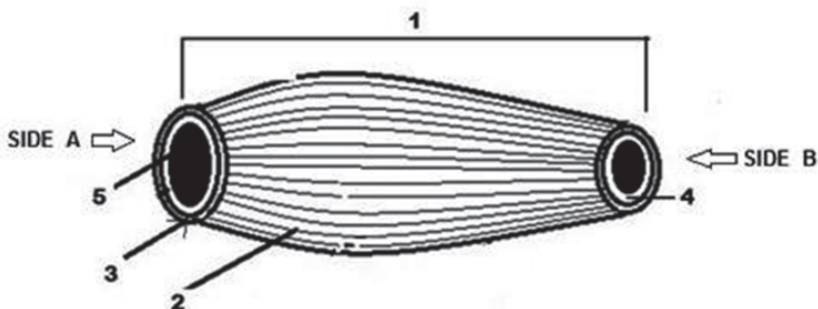
Figure 1 (Prior art)



Figure 2 (Prior art)

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chamber is made of bamboo fibre reinforced plastic. A first vibrating member covers the first opening while a second vibrating member covers the second opening, the vibrating members being stretched so as to cover the openings. A plurality of fastening means, which traverse the entire length of the resonating chamber, are adapted to secure the first and second vibrating membranes to the openings.



FIELD OF THE INVENTION

The subject matter of the present invention, in general, pertains to musical instruments, and more particularly, to a percussion instrument.

BACKGROUND OF INVENTION

A percussion instrument is a musical instrument that is sounded by being struck or scraped by a beater (including attached or enclosed beaters or rattles); struck, scraped or rubbed by hand; or struck against another similar instrument.

Percussion instruments provide rhythmic accompaniment to instrumental or vocal music. They constitute one of the most important classes of musical instruments. Most percussion instruments have at least one face covered with hide or skin. Of the various types of percussion instruments,

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Membranophones assume a very prominent place. Membranophones are those instruments that produce sound via a thin vibrating membrane held under tension. Membranophones include but do not limit to tabla, pakhawaj, mridangam and the like.

In general, membranophonic percussion instruments can be classified into two categories, namely instruments that produce in-harmonic overtones and Instruments that produce harmonic overtones, depending on the fundamental frequency and the number of distinct higher frequencies known as overtones. Percussion instruments such as Tom Tom, Snare drum, Kick drum, Conga, Djambe, Darbuka, Bongo are Membranophonic percussion instruments producing in-harmonic overtones. All these instruments essentially have a circular, piece of a vibrating membrane that is pulled over the opening of a hollow shell. At times multiple sheets are stacked together to form a thicker sheet, enhancing the durability of the drum head.

The membranophonic percussion instruments of India producing harmonic overtones are the pakhawaj, table, mridanga, *etc.* The mridangam produces near harmonic overtones. The mridangam (also known as mrudanga or mrudangam or mridanga) is constructed using a hollow shell carved out of a single piece of Jack or any other suitable wood, and has drum heads attached to its right and left openings.

The Manipuri mridanga (also known as Meitei Pung) is used in many cultural ceremonies and music festivals of Manipur. It finds a wide application in various forms of Manipuri traditional and classical dances. Like other traditional mridangam, the Meitei Pung, the mridanga body is made of wood of big trees, including but not limiting to mango, jack

tree and Wang tree (local tree of Manipur). However, with the increasing demand of these instruments and scarcity of these trees, meeting the rising demand calls for cutting down of big trees leading to environmental pollution. The wooden mridangas get broken easily and are un-repairable. Construction of a new mridanga takes a long time due to the proper seasoning of wood required for proper strengthening.

Reference has been made to 6303/CHE/2014, which describes a method of construction of the south Indian Mridanga using synthetic materials. The mridanga consists of a fibreglass shell and synthetic drum heads. The right drum head consists of three membranes-an inner membrane, a middle membrane, and an outer membrane. The middle membrane has a centrally located circularly symmetric loaded region formed-by bonding an elastomeric material on to it through a chemical process. The outer membrane with a circular cut out has plastic strips on the underside enabling the production of the “*Chapu*” sound of the mridanga. The inner membrane which is in Contact with the shell has a cut out slightly smaller than the right aperture and serves to protect the middle membrane from wear and tear. The left drum head consists of three membranes-a protective inner membrane in the form of an annular ring, a middle membrane which has an elastomeric loading on the underside so as to be able to produce low pitched bass tones, and an outer membrane with a cut out to prevent ringing of the middle membrane. The drum heads are attached to the shell by means of a set of clamps on the drum heads, a set of lugs on the drum shell, and a set of bolts and nuts. The drum is equipped with side covers to conceal the clamps and provide support for the hands and-fingers while playing the instrument.

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Reference is also made to US 2006/0272478 A1, where a musical instrument, particularly a hand drum or a didgeridoo, moulded of natural fiber-reinforced cellular composite materials designed to match tonal properties of Wood. A sliding block cable tensioning device is employed to create tension on the skin.

Reference is also made to CA 2463901 C, where an associated method of construction and fabrication of organ windpipes and wind musical instruments utilizing composite materials has been disclosed. The fiber reinforced composite construction is a combination of fibers and resinous material. The fibrous material, maybe Carbon fibers, and/or Kevlar fibers, and/or Fiberglass fibers, and/or Wood Veneer(s) and/or core material, or any combination thereof, which is oriented and layered to create a laminate. The fibrous material can be pre-impregnated with a resinous material or impregnated with a resinous material. The acoustical resonance properties of the fiber reinforced composite wall material or laminate resonates with the generated pressure wave of the wind musical instrument, thereby providing improved tonal and acoustic performance. The lightweight fiber reinforced composite wind instrument, produces richer and more brilliant tones, as well as multiple harmonics. In the preferred embodiment, there are minimal dimensional changes unfavourably affecting the musical sound qualities, such as shrinkage or elongation from adverse environmental conditions.

In view of the aforementioned disadvantages of the wooden Manipuri mridanga and keeping in view the environmental pollution caused due to the cutting down of large trees for the construction of these instruments, there lies a need for an

improved, eco-friendly and durable mridanga with enhanced sound quality, which will be a boon to the Manipuri society, particularly to the Meitei community.

SUMMARY OF THE INVENTION

The following presents a simplified summary of the invention in order to provide a basic understanding of some aspects of the invention. This summary is not an extensive overview of the present invention. It is not intended to identify the key/critical elements of the invention or to delineate the scope of the invention. Its sole purpose is to present some concept of the invention in a simplified form as a prelude to a more detailed description of the invention presented later.

An object of the present invention is to provide an eco-friendly percussion instrument.

Another object of the present invention is to provide an easy to fabricate percussion instrument that does away with the need for seasoning of wood, as is the case with traditional mridangas.

Another object of the present invention is to provide a mridanga with an unbreakable durable body.

Another object of the present invention is to provide enhanced sound quality.

Yet another object of the present invention is to provide a percussion instrument having a Bamboo Fiber Reinforced Polymer (BFRP) body that is substantially cylindrical, having varying cross-sectional area and slightly enlarged in the middle with apertures at its ends.

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Yet another object of the present invention is the unequal diameter shapes of the apertures to produce different harmonics.

Yet another object of the present invention is to provide a percussion instrument having a plurality of leather strips laid along the body to fasten the leather drumheads with apertures.

Accordingly, in one aspect of the present invention, a percussion instrument comprising a sound resonating chamber with varying cross-sectional area, said chamber comprising a first opening and a second opening, the said openings being located at opposite ends of the instrument; wherein the resonating chamber is hollow and substantially cylindrical in shape; wherein the largest cross-sectional area of the resonating chamber is substantially closer to the first opening; wherein the openings are substantially parallel to one another and substantially perpendicular to the axis of the chamber; wherein the resonating chamber being made of reinforced fiber; a first vibrating member to cover the first opening and a second vibrating member to cover the second opening; the vibrating members being stretched so as to cover the openings; and a plurality of fastening means adapted to secure the first and second vibrating membranes to the openings; wherein the fastening means traverse the entire length of the resonating chamber is disclosed.

Other aspects, advantages, and salient features of the invention will become apparent to those skilled in the art from the following detailed description, which, taken in conjunction with the annexed drawings, discloses exemplary embodiments of the invention.

BRIEF DESCRIPTION OF THE ACCOMPANYING DRAWINGS

The above and other aspects, features, and advantages of certain exemplary embodiments of the present invention will be more apparent from the following description taken in conjunction with the accompanying drawings in which:

Figure 1 illustrates an isometric view of a South Indian fully assembled synthetic mridanga as prior art.

Figures 2(a) and 2(b) illustrate an existing traditional Manipuri mridanga as prior art.

Figure 3 illustrates a percussion instrument modelled after the traditional Manipuri mridanga, according to one aspect of the present invention.

Persons skilled in the art will appreciate that elements in the figures are illustrated for simplicity and clarity and may have not been drawn to scale. *For example*, the dimensions of some of the elements in the figure may be exaggerated relative to other elements to help to improve understanding of various exemplary embodiments of the present disclosure. Throughout the drawings, it should be noted that like reference numbers are used to depict the same or similar elements, features, and structures.

DETAILED DESCRIPTION OF THE PRESENT INVENTION

The following description with reference to the accompanying drawings is provided to assist in a comprehensive understanding of exemplary embodiments of the invention. It includes various specific details to assist in

that understanding but these are to be regarded as merely exemplary.

Accordingly, those of ordinary skill in the art will recognize that various changes and modifications of the embodiments described herein can be made without departing from the scope of the invention. In addition, descriptions of well-known functions and constructions are omitted for clarity and conciseness.

The terms and words used in the following description and claims are not limited to the bibliographical meanings, but, are merely used by the inventor to enable a clear and consistent understanding of the invention. Accordingly, it should be apparent to those skilled in the art that the following description of exemplary embodiments of the present invention are provided for illustration purpose only and not for the purpose of limiting the invention as defined by the appended claims and their equivalents.

It is to be understood that the singular forms “a”, “an”, and “the” include plural referents unless the context clearly dictates otherwise.

By the term “substantially” it is meant that the recited characteristic, parameter, or value need not be achieved exactly, but that deviations or variations, including *for example*, tolerances, measurement error, measurement accuracy limitations and other factors known to those of skill in the art, may occur in amounts that do not preclude the effect the characteristic was intended to provide.

Features that are described and/or illustrated with respect to one embodiment may be used in the same way or in a similar way in one or more other embodiments and/or in combination with or instead of the features of the other embodiments.

It should be emphasized that the term “comprises/ comprising” when used in this specification is taken to specify the presence of stated features, integers, steps or component but does not preclude the presence or addition of one or more other features, integers, steps, components or groups thereof.

The subject invention lies in providing an eco-friendly, cost effective, durable percussion instrument modelled after a Manipuri mridanga having BFRP body.

In the present invention, a durable percussion instrument modelled after a Manipuri mridanga having BFRP body and producing an enhanced sound quality has been disclosed. Strong bamboo reinforcement has been provided for enhancing the stability and durability of the percussion instrument. The body is substantially cylindrical in shape, with varying cross-sectional area and being slightly enlarged in the middle, with apertures of different diameters at its ends. The apertures are covered by drumheads which are fastened with plurality of thin leather strips laid along the body. Strong bamboo reinforcement is provided for increased durability and stability. The apertures of different or unequal diameters produce different harmonics.

In one implementation of the present invention, a percussion instrument modelled after a Manipuri mridanga, as illustrated in figure 3, is provided for. The percussion instrument comprises a sound resonating chamber (1), said chamber comprising a first opening (A) and a second opening (B), the said openings being located at opposite ends of the instrument. These openings are substantially parallel to one another and substantially perpendicular to the axis of the chamber. The resonating chamber (1) is made of reinforced fiber. A first vibrating member (4, 5) covers the first opening

(A) and a second vibrating member (4, 5) covers the second opening (B) of the percussion instrument, said vibrating members (4, 5) being stretched so as to cover the two openings. A plurality of fastening means (2) are adapted to secure the first and second vibrating membranes to the openings, where the fastening means (2) traverses the entire length of the resonating chamber (1).

The resonating chamber (1) is a hollow cylindrical tube like structure with varying cross-sectional area and made up of bamboo-fibre reinforced polymer. The highest cross-sectional area of the resonating chamber is situated substantially closer to the first opening (A) (than the second opening (B)) and gradually decreases therefrom. The diameter of the first opening (A) is slightly greater than the diameter of the second opening (B). The two vibrating members (4, 5) covering the two openings are preferably made of leather and fastened by thin strips of leather.

It is typically 600 millimetres in length, with the two apertures at the two ends having different diameters of 120 millimetres and 160 millimetres. The cross-sectional area varies from both the ends as it gradually increases at the middle portion, said middle portion is slightly enlarged having a diameter of 220 millimetres. The apertures of different diameters are covered by leather drum heads, said drumheads are fastened with plurality of thin leather strips laid along the body. The two drum heads/faces of differing sizes, one small called “*Manao*” on the right and the other somewhat bigger called ‘*Maru*’ on the left, the combination of which gives it its distinctive sounds. The drumheads are made of leather, including but not limiting to cow’s leather.

Some of the important advantages of the present invention, considered to be noteworthy are mentioned below:

1. The invention is an improvement to the existing traditional product by increasing its strength, quality at lower cost.
2. The present invention has an improved durability and sound.
3. It is environment friendly as no big trees are being cut down for making the Mridanga body.
4. Lesser time is needed to fabricate the Mridanga body as it does not require seasoning of wood for its strength like the traditional Mridanga.
5. The cost of fabrication of the new Mridanga body is comparatively lower than the traditional wooden Mridanga body.
6. It is un-breakable/strong enough since the material used is strong/free from termite/insect attacks.

Although a simple, economic, durable and eco-friendly percussion instrument modelled after a Manipuri mridanga has been described in language specific to structural features, it is to be understood that the embodiments disclosed in the above section are not necessarily limited to the specific features or methods or devices described. Rather, the specific features are disclosed as examples of implementations of the percussion instrument.

WE CLAIM:

1. A percussion instrument comprising:
a sound resonating chamber with varying cross-sectional area, said chamber comprising a first opening and a second opening, the said openings being located at

opposite ends of the instrument;

wherein the resonating chamber is hollow and substantially cylindrical in shape;

wherein the largest cross-sectional area of the resonating chamber is substantially closer to the first opening;

wherein the openings are substantially parallel to one another and substantially perpendicular to the axis of the chamber;

wherein the resonating chamber being made of reinforced fiber;

a first vibrating member to cover the first opening and a second vibrating member to cover the second opening; the vibrating members being stretched so as to cover the openings; and a plurality of fastening means adapted to secure the first and second vibrating membranes to the openings;

wherein the fastening means traverse the entire length of the resonating chamber.

2. The percussion instrument as claimed in claim 1, wherein diameter of the first opening is slightly greater than the diameter of the second opening
3. The percussion instrument as claimed in 1, wherein the fiber is preferably reinforced with plastic.
4. The percussion instrument as claimed in 6, wherein the fiber is preferably bamboo fiber.
5. The percussion instrument as claimed in 1, wherein the vibrating members are preferably made of leather.
6. The percussion instrument as claimed in 1, wherein the securing means are preferably thin strips of leather.

Improved Dholak & Dhulki

Patent filed No. 201831038883 dated October 12, 2018

Dholak is a South Asian barrel-shaped, two-headed hand drum made of wood. Its construction is very simple. It may either have traditional lacing or turnbuckle tuning. Dholak is a musical percussion instrument which is being used in various Manipuri traditional Tribal Dances,. during Holi Festival and specially in Manipuri performing art “Dhol Dholak Cholom”.

The wooden body is made from some special big trees namely Jack Fruit Tree, Mango tree, Wang tree (a local tree of Manipur) etc. However, these special trees are either very rarely available or available in small sizes. Further, for making number of Dholaks to meet the increasing demand we have to cut down trees which is against Environmental Pollution. These wooden made Dholaks are easily breakable and un-repairable. It takes many days even months to make the wooden body and to season it for gain of strength.

The present Dholak consists of a combination of Steel Chicken Wire Mesh provided with Fiber Reinforced Polymer instead of the wooden body and lacing is done with leather strips. The shape, size and other material of the present Dholak will remains the same.

Manipur Science and Technology Council, Imphal already developed a Bamboo Reinforced Polymer made Manipuri Mridanga in which the wooden body of the Mridanga is replaced with Bamboo Reinforced Polymer body. The present device

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in the Dholak is of Steel Chicken Wire Mesh reinforced Fiber body as it has a bigger body and may not be suitable only by bamboo reinforcement.

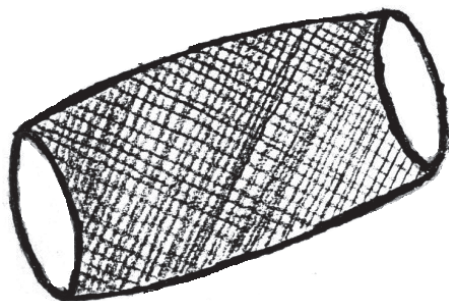
To fabricate an improved Dholak/Dhulki using a new technology for socio-economic development Manipur Science



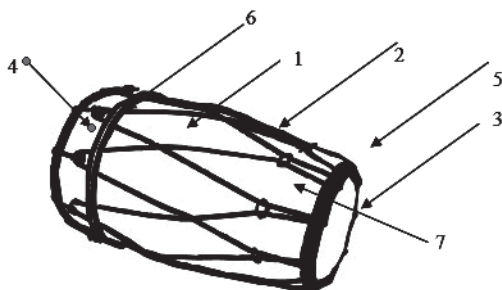
Dhol-Dholak Cholom - A Manipuri Performing Art (Folk Dance)

and Technology Council, Imphal carried out a trial for feasibility of making a steel chicken wire mesh fiber reinforced polymer Dholak/Dhulki.

The present Dholak is about 60 cm in length. Its one head is about 25 cm in diameter and the other one is about 20 cm in diameter. Its weight is about 3 kg which is lighter than the wooden Dholak weighing about 4-5 kg.



Line Diagram of Steel Chicken Wire Mesh Dholak/Dhulki body



Line Diagram of a complete Dhulki

Legends :

- 1 - Steel Chiken Wire Mesh Fiber Reinforced Body.
- 2 - Leather Strips.
- 3 & 4 - Circular Leather Face.
- 5 & 6 - Bamboo Strip Embedded with Leather.
- 7 - Iron/Steel RIngs.

FIELD OF THE INVENTION

The subject matter of the present invention, in general, pertains to musical instrument, and more particularly, pertains to a percussion instrument.

BACKGROUND OF INVENTION

Percussion is commonly referred to as “*the backbone*” or “*the heartbeat*” of a musical ensemble. Dholak is a musical percussion instrument and is a South Asian barrel-shaped, two-headed hand drum. Dholak is used in various Manipuri traditional Tribal Dances in India especially during Holi Festival. Also, it is used in Manipuri performing art “*Dhol Dholak Cholom*”.

Its construction is very simple. The barrel-shaped body of the dholak is made of wood. It may either have traditional

lacing or turnbuckle tuning, around the body. There are two drum-heads, a smaller one and a bigger one. The material of the member making up the drum head is dependent on the sound pitches required from the dholak.

The wooden body is made from some special big trees namely Jack Fruit Tree, Mango tree, Wang tree (a local tree of Manipur) etc. However, these special trees are either very rarely available or available in small sizes. Further, for making a number of Dholaks to meet the increasing demand of the same requires cutting down of trees which brings about Environmental degradation. These Dholaks having wooden bodies are easily breakable and un-repairable. Further, it takes many days and even months to make the wooden body and to further season it for the wooden body to gain strength.

Manipur Science and Technology Council, Imphal has developed a Bamboo Reinforced Polymer made Manipuri Mridanga (another percussion instrument) in which the wooden body of the Mridanga is replaced with Bamboo Reinforced Polymer body. Since dholak has bigger body, it may not be suitable to replace the wooden body only by bamboo reinforcement.

Therefore, there is a need for Dholak with body of the dholak being made of a suitable substitute for wood such that it is durable, inexpensive and at the same time produces the same requirement of music as a wooden bodied dholak would.

SUMMARY OF THE INVENTION

The following presents a simplified summary of the invention in order to provide a basic understanding of some aspects of the invention. This summary is not an extensive overview of the present invention. It is not intended to identify

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the key/critical elements of the invention or to delineate the scope of the invention. Its sole purpose is to present some concept of the invention in a simplified form as a prelude to a more detailed description of the invention presented later.

An object of the present invention is to provide a dholak that overcomes the drawbacks of the prior art.

Another object of the present invention is to provide a dholak having a body that is made of a suitable substitute of wood.

Yet another object of the present invention is to provide a dholak having a body that is made of Chicken Wire Mesh Fiber Reinforced Polymer.

A further object of the present invention is to provide a dholak that is durable and inexpensive.

According to the present invention, a Dholak is provided, the body of the dholak is made of Chicken Wire Mesh reinforced Fiber.

The present invention discloses a percussion instrument comprising a hollow cylindrical shaped body having two circular open ends; membranes covering the said circular open ends, the membranes are adapted to receive a beating force, laces that are laced on the hollow cylindrical body, plurality of rings through which the laces are laced over the body, plurality of strip on the circumference of the circular openings to hold the membrane and the laces on to the body. The percussion instrument is characterized by Chicken Wire Mesh Fiber Reinforced Polymer body.

Other aspects, advantages, and salient features of the invention will become apparent to those skilled in the art from

the following detailed description, which, taken in conjunction with the annexed drawings, discloses exemplary embodiments of the invention.

BRIEF DESCRIPTION OF THE ACCOMPANYING DRAWINGS

The above and other aspects, features, and advantages of certain exemplary embodiments of the present invention will be more apparent from the following description taken in conjunction with the accompanying drawings in which:

Figure 1 illustrates the Steel Chicken Wire Mesh Body (pre re-inforced) of the percussion instrument according to the present invention.

Figure 2 illustrates the diagram of the percussion instrument according to the present invention.

Persons skilled in the art will appreciate that elements in the figures are illustrated for simplicity and clarity and may have not been drawn to scale.

DETAILED DESCRIPTION OF THE PRESENT INVENTION

The following description with reference to the accompanying drawings is provided to assist in a comprehensive understanding of exemplary embodiments of the invention. It includes various specific details to assist in that understanding but these are to be regarded as merely exemplary.

Accordingly, those of ordinary skill in the art will recognize that various changes and modifications of the embodiments described herein can be made without departing from the scope

of the invention. In addition, descriptions of well-known functions and constructions are omitted for clarity and conciseness.

The terms and words used in the following description and claims are not limited to the bibliographical meanings, but, are merely used by the inventor to enable a clear and consistent understanding of the invention. Accordingly, it should be apparent to those skilled in the art that the following description of exemplary embodiments of the present invention are provided for illustration purpose only and not for the purpose of limiting the invention as defined by the appended claims and their equivalents.

It is to be understood that the singular forms “a”, “an”, and “the” include plural referents unless the context clearly dictates otherwise.

Features that are described and/or illustrated with respect to one embodiment may be used in the same way or in a similar way in one or more other embodiments and/or in combination with or instead of the features of the other embodiments.

It should be emphasized that the term “comprises/ comprising” when used in this specification is taken to specify the presence of stated features, integers, steps or component but does not preclude the presence or addition of one or more other features, integers, steps, components or groups thereof.

The present invention discloses a percussion instrument that comprises a hollow cylindrical shaped body having two circular open ends; membranes covering the said circular open ends, the membranes are adapted to receive an external beating force, laces that are laced on the hollow cylindrical

body, plurality of rings through which the laces are laced over the body, plurality of strip on the circumference of the circular openings to hold the membrane and the laces on to the body. The percussion instrument is characterized by Chicken Wire Mesh Fiber Reinforced Polymer body.

The present invention discloses a percussion instrument such as a Dholak comprising of a combination of Chicken Wire Mesh provided with Fiber Reinforced Polymer. The chicken wire mesh is made of steel. This material substitutes the usual wooden body of the Dholak. The lacing of the Dholak is done preferably with leather strips. The shape and the size of the Dholak are same as that existing in the art. Figure 1 illustrates the steel chicken wire mesh body (pre re-inforced) of the dholak as per the invention disclosed herein.

Figure 2 illustrates the Dholak in accordance with a preferred embodiment of the present invention. It comprises a body of chicken wire mesh reinforced polymer (1). The chicken mesh is made of steel. The body of the dholak is cylindrical preferably bulging out in the middle, resembling the shape of a barrel. The body is laced with leather strips (2). The dholak comprises two heads (3, 4) covered with a membrane. The circular faces of the heads may be covered with leather as the membrane. The circumferences of each of the circular heads are covered with bamboo strip embedded with leather (5, 6). The lacing of the Dholak is done via the said bamboo strip embedded with leather (5, 6). The lacing of the body (1) with the leather strips (2) passes through plurality of rings (7). The lacing of the body via the rings and the bamboo strip embedded with leather is configured to tune the dholak as per the requirement of the user. The ring (7) may be made of steel or iron.

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With the Steel Chicken Wire Mesh Reinforced Polymer body as per the present invention the Dholak is strong enough to resist breakage, and is light in weight to be used by the drummer. Further, to make it, the trees need not be cut down and hence is environment friendly. The manufacture of the Dholak as per the present invention takes only few hours to fabricate the Dholak body. This is advantageous over the tedious process of manufacture of the Dholak of the existing art. Further, it does not require seasoning to increase its strength.

In a preferred embodiment of the present invention, the Dholak having Steel Chicken Wire mesh reinforced polymer body, is of length 60cm. The bigger drum head of the Dholak is of diameter 25cm and the smaller drum head is about 20cm in diameter. Its weight is about 3 kg which is lighter than the wooden Dholak weighing about 4-5 kg.

The materials making up the drum head and the other features of the Dholak as per the present invention is same as that of the ones existing in the art.

Advantages of the Dholak as per the present invention are:

1. It is durable or rather strong enough to resist easy breakage.
2. It is of light weight to be used by the drummer.
3. It is environment friendly.
4. It takes few hours to fabricate the Dholak body.
5. It does not require seasoning for strength.

The list of reference numerals and features:

- 1: Steel Chicken Wire Mesh Reinforced Polymer Body
- 2: Leather Strips
- (3, 4) : Circular Leather face
- (5, 6) : Bamboo strip embedded with leather
- 7 : Rings

WE CLAIM:

1. A percussion instrument comprising:
a hollow cylindrical body (1) having two circular open ends;
membranes (3, 4) covering the said circular open ends,
wherein the membranes are adapted to receive a beating force;
laces (2) laced on the hollow cylindrical body (1);
plurality of rings (7) through which the laces are laced
over the body (1);
plurality of strips (5, 6) on the circumference of the circular
open ends to hold the membrane and the laces on to the body
(1);
characterized in that the body (1) is made of Chicken Wire
Mesh Reinforced Polymer.
2. The percussion instrument as claimed in claim 1,
wherein the body (1) is bulging out in the middle.
3. The percussion instrument as claimed in claim 1,
wherein the chicken wire mesh is of steel.
4. The percussion instrument as claimed in claim 1,

wherein the body (1) is laced using leather strips (2).

5. The percussion instrument as claimed in claim 1, wherein the membrane (3, 4) is made of leather.

6. The percussion instrument as claimed in claim 1, wherein the strips (5, 6) are bamboo strip embedded with leather.

7. The percussion instrument as claimed in claim 1, wherein laces (2), the plurality of rings (7), the plurality of strips (5, 6) on the circumference of the open ends are configured to tune the instrument.

ABSTRACT

The present invention relates to a percussion instrument. It discloses a percussion instrument that has a Chicken Wire Mesh Polymer Reinforced body (1) instead of the traditional wooden body.