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## “SWARANK”

### THE HANDMADE HOLLOW GUITAR

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**Abstract:** Development of a handmade guitar which is non quadrilateral and represents the shape of the national flag of Nepal. The Guitar is made by using raw materials like rosewood, plywood, metal rod and other composite materials. The main features of this guitar are Electric Pick Up, 6.5mm mono input- output jack socket, Strings, Bridge, Notch, Fret and Tuners are attached to the guitar, where the fret is a standard size. The structure of the guitar depicts the unique body design of Nepal's flag where the bottommost part of the guitar just below the Fret depicts sun and a half crescent moon and also the 'Y' shape of fret is made to represent the symbol of peace. The guitar is designed to be played as a bass guitar and a normal guitar as well.

*This paper also helps to describe the process required to construct and fabricate with proper dimensions.*

**Keywords :** String, Guitar, Bridge, Rosewood, IP/OP socket.

#### 1. INTRODUCTION

The Guitar is a fretted musical instrument that usually has 6 strings. It is typically played with both hands by strumming or plucking the strings with fingers or guitar pick.

It is an unimaginable one for a troop without a guitar. It is an inevitable musical instrument for a troop. It is used as a hobby, for prayer in church with choir, musical events and for composing tunes.

This Handmade Guitar symbolizes a unique body design of Nepal's national flag. The staggered position in the guitar permits both strumming the guitar with the thumb and hammering out the bass notes with four fingers. The guitar consists of 6 strings including 3 bass strings and 3 normal strings. The guitar is designed to be played both as a bass guitar and a regular guitar simultaneously.

#### Types of Guitar

There are three main types of guitars:

- i. Classical guitars with nylon strings.
- ii. Acoustic guitars with steel strings.
- iii. Electric guitars with magnetic pickups.

## 2. PROCEDURE/METHODOLOGY

This guitar is made from wooden plywood or rosewood, metal rod and other composite materials. The layout of the guitar is made in the shape of a Nepal's flag where the bottommost part of the guitar just below the Fret depicts sun and a half crescent moon and also the 'Y' shape of fret is made to represent the symbol of peace. The sound hole which resembles the half-crescent moon produces a pleasant sound. The length of the fret is 62cm whereas; the overall height of the guitar is 103 cm.

Similarly, to assemble the strings 6 tuners is attached at the head of the guitar. The regular market available strings are attached to the guitar. The non-quadrilateral flag is a simplified combination of two single pennants or triangular swallowtail. known as a double-pennon.

The crimson color in guitar is symbol of bravery and it also represents the color of the Rhododendron which is the national flower of Nepal. Likewise, the blue border in the guitar is the color of peace. Furthermore, the moon also symbolizes cool weather of the Himalayas whereas, the sun symbolizes heat and high temperature of Nepali lowlands (Terai).

During the earliest time, flags of every country in the Indian Subcontinent were triangular in shape. Meanwhile, every other country has transformed their flag into a rectangular and square shape but still Nepal has simply perpetuated its ancient culture. Although, in the horde of transforming one's flag Nepal prolongs to keep it as it is which makes it look unique as well.

### 2.2 DIAGRAMS

#### 1: Head Neck

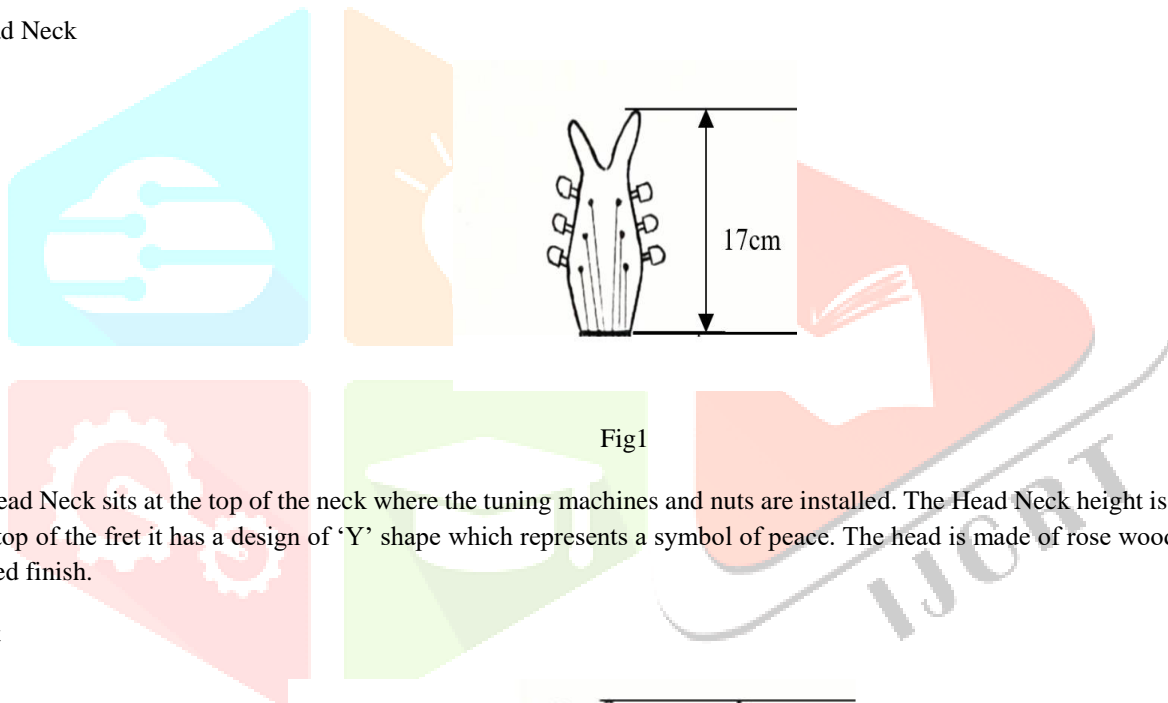


Fig1

The Head Neck sits at the top of the neck where the tuning machines and nuts are installed. The Head Neck height is 17 cm, [fig.1] at the top of the fret it has a design of 'Y' shape which represents a symbol of peace. The head is made of rose wood with a finely polished finish.

#### 2: Fret

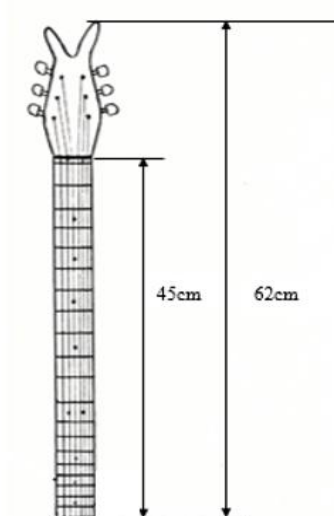


Fig 2

The Fretboard is attached to the top of the neck and it is made up of rosewood. The Fretboard and Head Neck is altogether 62 cm [fig.2] where the Fretboard is only 45 cm height. Fret is a long rectangular rosewood 2.5cm thick. On the front of the fret the metallic strip is placed to generate the required tone and rhythm.

### 3: Body Part

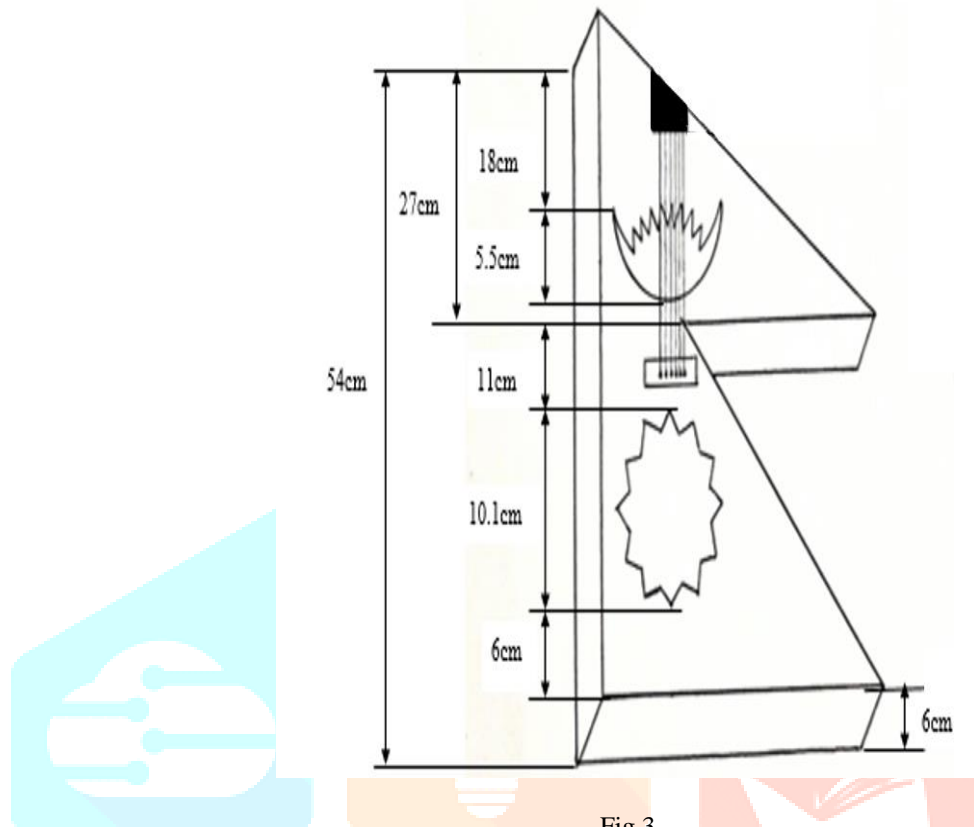


Fig 3

The body part of the guitar plays a vital role in the tonal characteristics in the instrument[fig3.]. The body length of the guitar is 54 cm. The Bridge is situated in between the design of the sun and the moon. The bottommost part of the guitar just below the Fret depicts the sun and a half crescent moon with proper dimensions.

The body part is made up of plywood and wooden sticks. The sun and the half crescent moon in the guitar is designed in plywood and finished by cutting with proper dimensions.

### 4: Materials used in the Guitar and their proportion

Materials	Number of Quantity
Rosewood	1
Plywood	1
Fret	1
Tuner	6
Bridge	1
Bridge Pin	6
Saddle	1
Strings	6
Screw & Nuts	8
Metal Strips(3cm)	25
Guitar PickUp	1
Input-Output jack	1

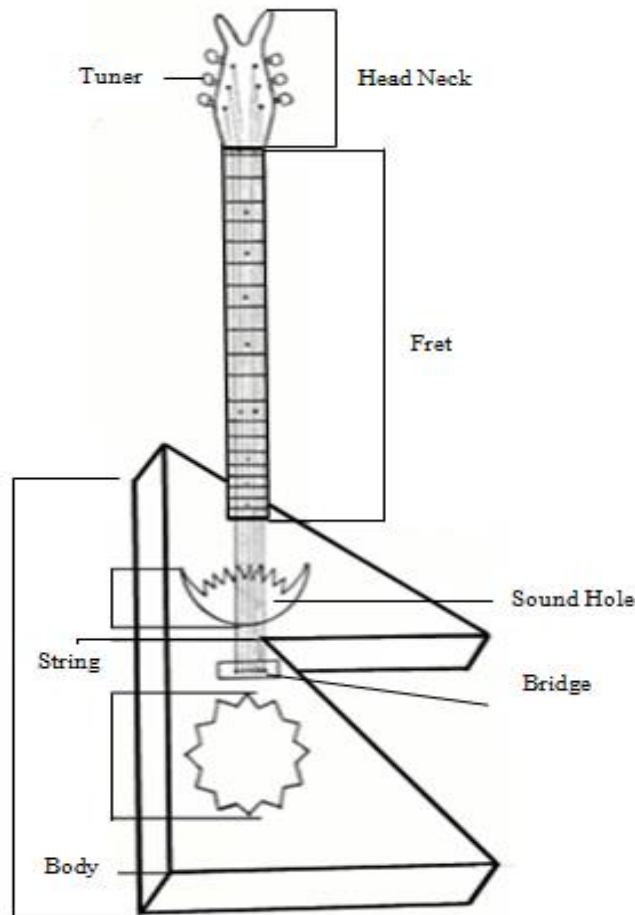


Fig4

There are three fundamental parts of guitar i.e.- Head Neck, Fret and Body[fig4.]. Similarly, it also consists of other parts like Tuner, Strings, Bridge, Nuts, Bridge Pin, Saddle, etc.

## 5: Complete Assembling

The finishing of the guitar was done by assembling the Head Neck, Fret, Body and other parts. The total height of the guitar is 103 cm.

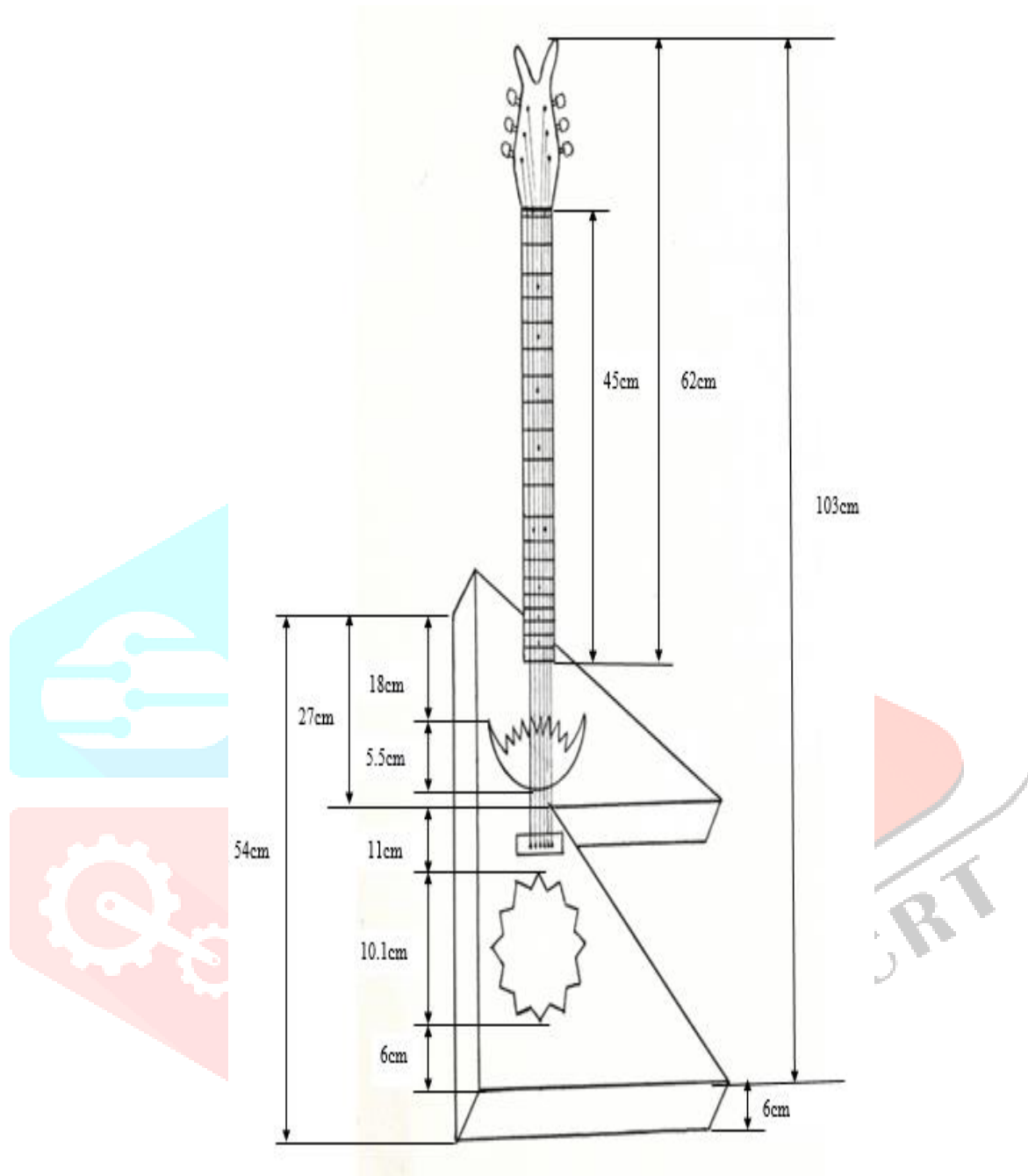


Fig 5

The above [fig5.] shows the complete assembling of the guitar. All the dimensions are in cm.

## ADVANTAGES

1. There is a natural warm tone that hollow body guitar produces when played without any other effects.
2. The shape is peculiar with a unique body design.
3. It gives a great look for stage performance.
4. Comfortable with vertical & non quadrilateral body.
5. It has a pickup for distortion.
6. It can be used both for rock and metal.
7. Easy to carry, light weight and cost effective.

## DISADVANTAGES

1. It cannot retain sound for too long like those of electric guitar but it emits sound like a normal guitar.
2. Needs to be amplified with an amplifier for loud volume.
3. It takes much longer to repair in case of damage.
4. Multi effects instruments like pedal, zoom need to be connected in order to produce specified effect.

## 3. OBJECTIVES

- To assess the uniqueness of the guitar.
- To discuss the architecture of the guitar.
- The pitch and sound of an end product is unique, more pleasing and more fun to play.
- To bring innovation in every existing architecture.
- To request for appropriate permission and patent.

## 4. CONCLUSION

The product is the development and architecture of a uniquely made musical instrument. The guitar's uniqueness is not only reflected in the overall design but also in the use of raw materials such as rosewood, plywood, and metal rod among others to create an exclusive shape of Nepal's flag. The novelty of guitar is used to create superior acoustic sound to the signal coming from the instrument.

The entire guitar is hand-made and can be used both as a bass and an acoustic guitar. Both the half crescent moon and the sun present in Nepal's flag are depicted in the guitar body. The head of the guitar has a 'Y' shape representing peace and prosperity. The half crescent moon in the guitar is also its sound hole. The entire design is a unique representation, which has not been seen in any guitar till date. The guitar has the potential to be a national representation for Nepal.

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