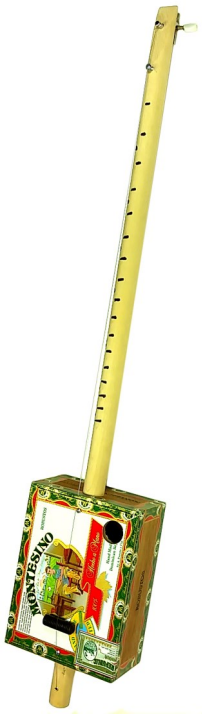
Cigar Box Diddley Bow Kit Assembly Instructions

C. B. Gitty Crafter Supply
WWW.CBGITTY.COM

Product Number 36-008-01



Online Version

Find much more information about diddley bows, this kit, and even the video version of this guide, online at www.CBGitty.com/DiddleyBowKit

Introduction

The Diddley Bow is an ancient instrument, probably one of the first styles of stringed instruments ever to be built by humans. At its most basic, it consists of a string tightened between two posts on a board. When plucked, the string produces a note, and a stick, piece of rock or glass bottle can be used to change the pitch by sliding it up and down the string.

Diddley Bow-like instruments have been a part of many indigenous cultures around the world, but it is the variety that originated in Africa, and came to America during the time of slavery, that has had the most impact on modern music. Many of the founders and fathers of the blues got their musical starts on simple diddley bows and other handmade instruments, and that is the tradition this kit carries forward.

Diddley Bows are easy to build and fun to play, but don't be fooled by their simplicity! Masters of the instrument can coax a huge variety of sounds, notes and rhythms out of that one string, making it moan, sing, talk and cry. So grab your tools, and get ready to have some fun and build your own handmade Diddley Bow!

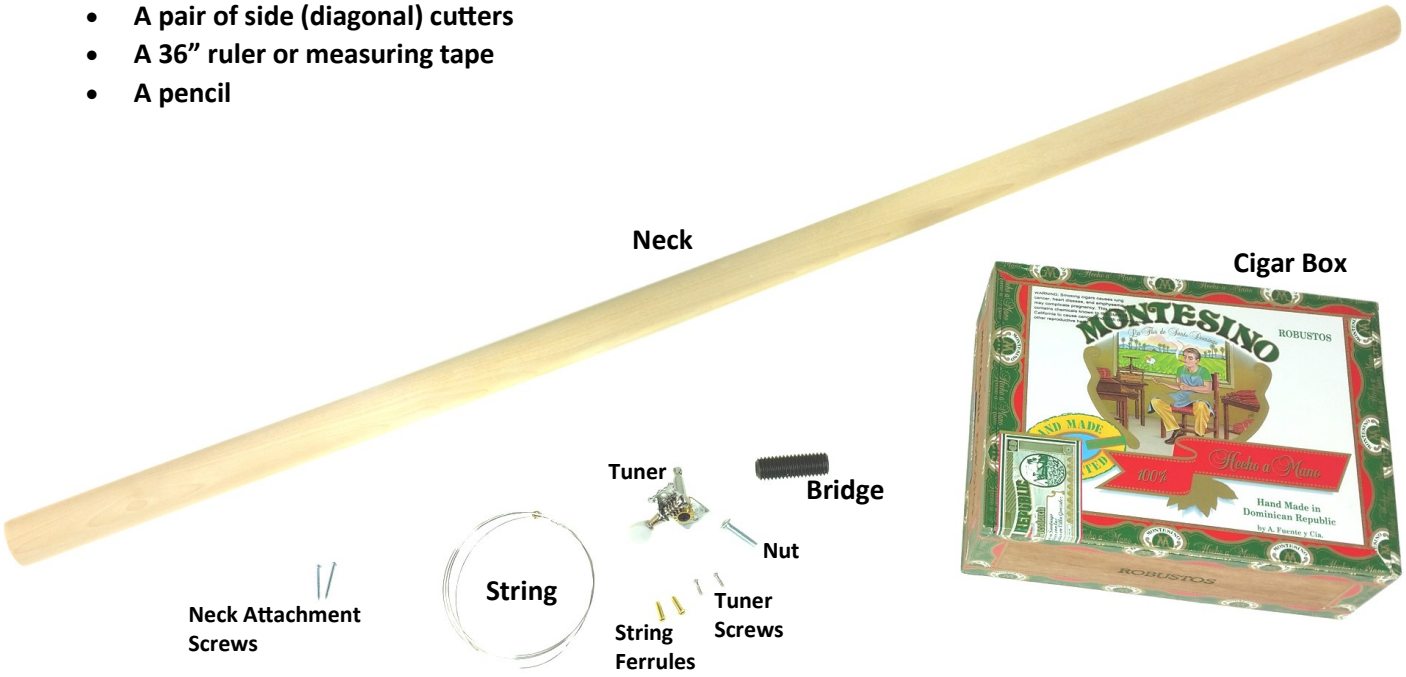
Kit Inventory

(1) Cigar Box (sizes and styles vary)		**(1) Neck (a 32" length of 1" diameter hardwood dowel rod)**	
(2) Phillips wood screws, for attaching the box to the neck		**(1) Tuner with (2) mounting screws**	
(1) Steel Guitar String		**(2) Brass string ferrule eyelets**	
(1) Machine screw nut and (1) threaded rod bridge		**(1) Heaping helping of rich history and mojo-laden musical potential (invisible)**	

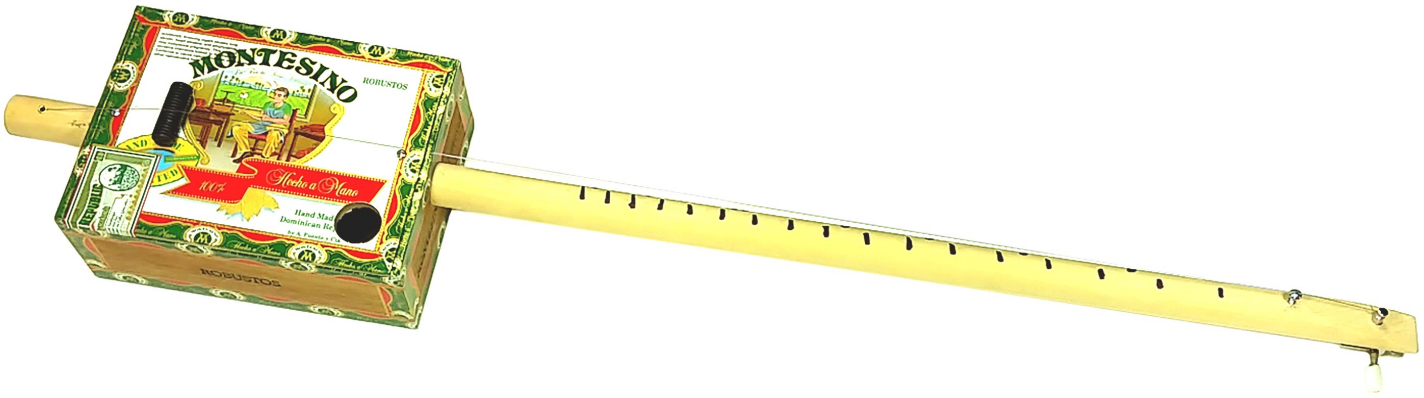
Tools Needed

The following tools are what we recommend for completing this kit—they are the same ones we used when making this guide and the accompanying video. You may be able to substitute other tools and methods, but please before using any tool (hand or power) make sure you follow all safety recommendations!

- **Drill (hand drill or press)**
- **Wood File or Rasp**
- **1/16”, 1/8” and 1/4” drill bits**
- **1-inch Forstner or spade-style bit**
- **Sandpaper (recommended)**
- **Scratch awl (recommended)**
- **A fine-tip Phillips screwdriver**
- **A standard blade-style screwdriver**
- **A pair of side (diagonal) cutters**
- **A 36” ruler or measuring tape**
- **A pencil**



This is your cigar box diddley bow kit inventory. The size and style of the cigar box in your kit will most likely be different from this one.



A completed cigar box diddley bow, built during the writing of this guide.

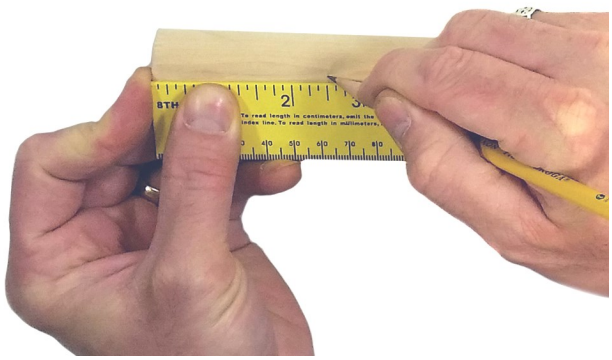
Verify Kit Inventory

Before getting started, verify the inventory of your kit, using the inventory list and kit contents photo above .

Please note that the style of cigar box will vary from kit to kit depending on our available supply. Because the way boxes are put together vary, you might have to make slight departures from the exact instructions below to make yours work—particularly in regards to drilling the holes for the neck. But don't worry!

Part 1—Prepping the Headstock

Step 1—Mark Key measurements on the Neck



Decide what is going to be the top end (headstock) of your neck. This will be the top of the instrument where the tuner is mounted. It might be a good idea to write "top" on the round cut end of the neck to help keep this straight going forward.

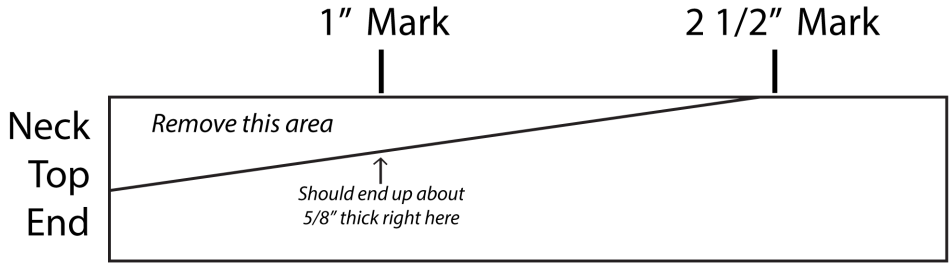
Next, using your ruler or tape measure, mark the following positions on the neck from the top end:

1 inch, 2 1/2", 3", 28" and 30"

These positions will be used throughout the assembly as reference and placement points.

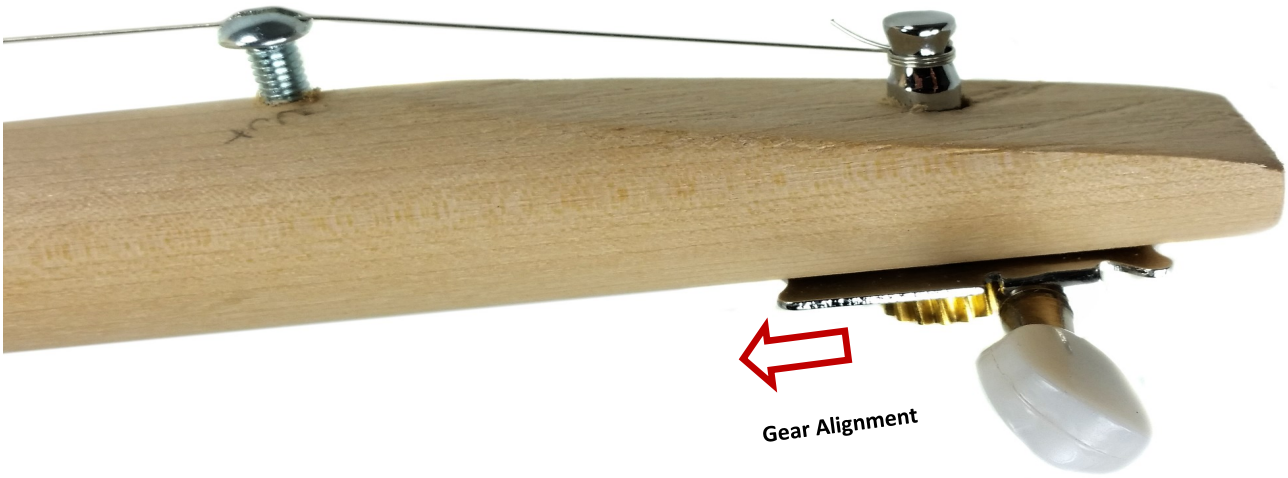
Step 2—File Down the Headstock

Now it's time to pick up some tools! The first goal is to shape the headstock so that the shaft of the tuner will reach through from the back side. The most common way to do this without power tools is to use a rasp to file an angle into the wood, starting from the 2 1/2" point you marked to the very top of the headstock. The goal is to make the wood be about 5/8" thick at a point 1" from the end, where the tuner will be mounted.



The angled line shows the recommended way to angle/recess the headstock.

You can either do a nice even slope, a notch, or whatever other method you want to reduce the thickness, just don't



This photo shows the headstock once it has been recessed/angled, and with the tuner and nut installed.

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go beyond the 2 1/2" mark when doing it. If when trying to install the tuner (Part 4 below) it isn't coming through enough, you can always thin the headstock down a little more until it works.

When finished you should end up with something similar to what is shown in the photo below. When done filing/rough shaping the headstock, you can use sandpaper to smooth off any rough edges if desired. This is also a good time to do any other sanding and smoothing you want to do on the neck.

After you're done with all filing and sanding, re-mark your 1" and 2 1/2" locations on the neck if necessary. Center them on the neck relative to the flattened area of the headstock.

Step 3 —Install the Tuner

Make sure your measurement mark at the 1" point is visible and as close to the center of the flat part of the headstock as possible. This is where you will be drilling the hole for the tuner shaft. Use your scratch awl to make a starter hole.

Using the 1/4" drill bit, drill a hole all the way through the neck dowel at the 1" point. Do your best to drill exactly perpendicular to the BACK of the neck (the untangled/notched side), so that the tuner's shaft isn't forced into a weird angle when mounted into position. Once the hole is drilled, clean up any wood stragglers from the edges.

Dry-fit your tuner to make sure everything is good. In doing so, the brass gear part of the tuner should be more towards the long part of the neck, and not the top/short part (see the photo above, where the brass gear is visible. Note that your tuner might stick out either to the left or right side of

the neck, just make sure that the brass gear is aligned towards what will be the body of the instrument, not the top of the headstock.

With your tuner in place, use the scratch awl to make starter holes. Use the mounting holes in the tuner base plate as a guide. Then, using your 1/16" drill bit, pre-drill pilot holes about 3/8" deep for the tuner screws. It can help to put a piece of masking tape on your drill bit 3/8" from the end to help serve as a depth gauge.

Once drilled, screw in the two small silver tuner mounting screws. Use a fine-tipped Phillips screwdriver for this, and be careful not to over-tighten—snug is fine. When finished, the tuner should look like the one in the photo above.

Step 4—Install the Nut

Now that the tuner is installed, it is time to add the "nut" to the instrument. This is a 3/4" round-head slotted machine screw, that gets mounted at the 3" mark on the neck. The string will go up over this machine screw and rest in its slot.

Use your scratch awl to make a starter hole at the 3" mark on the neck—before doing so, make sure that you are as centered as possible in comparison to the tuner shaft. Then, use your 1/8" drill bit to drill a hole about 3/8" deep at the 3" mark—we recommend using a piece of masking tape on the drill bit to serve as a depth guide.

Once the hole is drilled, use your scratch awl to widen out the top of the hole a little (this makes it easier to get the machine screw started in it) and then use your standard screwdriver to screw it down until it sticks up about 3/8" or so from the neck surface. The slot of the screw should be parallel with the neck and the course of the string.

Part 2—Preparing the Cigar Box

Step 1— Drill the Neck Holes

Now it's time to drill the holes in the box that the neck will go through. This involves a little bit of math, but don't get too worried, you can always just eyeball it if you want.

First, do your best to find the center point on each end of the box (usually the shorter sides of the box are used as the ends, but it's up to you). To do this, measure the width with a ruler and then divide by two. If the box is 6 inches wide, the halfway point would be 3". If it's 5 3/4", the halfway point would be 2 7/8". If it's 5 1/2", the halfway point would be 2 3/4", and so on. Make a light pencil mark on the center point of both ends of the box.

Now, measure how thick the lid of the box is. Generally you'll want the neck dowel to not touch the lid

inside the box, so you want to allow for the lid thickness when placing the holes. Generally lids are between 1/8” and 1/4” thick.

Once you know the lid thickness, add about 3/4” to this, and then make a mark on each end of the box, on the center line. This should allow for the 1” diameter of the dowel and about 1/4” of air space between it and the lid. Of course none of this is set in stone and you can adjust as required by the box you are using. The one thing to be absolutely sure of is that you are far enough down so that the drill bit won’t hit the side of the lid once you get through the box wall.

Once you have the drill centers marked, load the 1” Forstner or spade bit into your drill and make a hole in both ends of the box. Insert the neck through them in a “dry fit” manner to make sure everything is good.

Since you have the 1” bit in the drill already, this is a good time to drill a sound hole as well. Sound holes aren’t absolutely necessary, but most people feel that they make the instrument louder by letting more of the sound out and projecting it towards the listeners. Choose one of the four corners of the box for your sound hole—just stay away from the center part where the neck goes through. Don’t drill too near the edge of the box, since you don’t want to hit one of the walls. The photo below shows where we chose to place the sound hole on the diddley bow we built while writing this guide.

Step 2 —Attach the Neck

Once you have all of the drilling done, it’s time to attach the neck to the box. This is basically just screwing the two longer screws through the box lid and into the neck inside the box.

To begin, insert the neck dowel into the holes you drilled in the box, so that the line you marked at the 30-inch point is flush with the bottom panel. This should leave about 2 inches of dowel protruding from the bottom of the box. It doesn’t have to be 100% exact, but try to get pretty close.

Now, use the 1/16” drill bit to drill down through the box lid, right in the center, so that the pilot hole goes through the lid and into the neck dowel inside the box. Drill these holes about 3/4” in from the edges of the box, so that you are well away from the sides. Be careful not to turn/twist the dowel once you’ve drilled the pilot holes, or getting the screws to line up will be tricky.

Now screw in the two longer box attachment screws, snugging them up nicely but not over-tightening. Once done, the neck should be firmly mounted into the box. The photo above shows the box top with attachment screws in place.

Step 3 —Install the String Ferrules

This is the final step before you get to string her up! Installing these small brass ferrules into the base of the neck dow-

el helps keep the string from cutting into the wood.

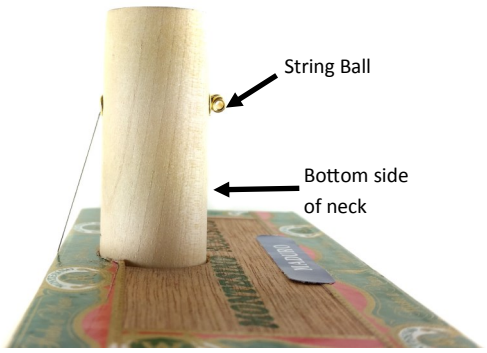
Use your 1/8” drill bit to drill all of the way through the neck about 1” up from the bottom end. Use the scratch awl to start the hole, and try to make it as centered as possible, relative to the cigar box top and nut.

Once the hole is drilled, clean up the hole openings and insert the ferrules, one on each side of the neck. If they seem a bit too loose, pull them back out and LIGHTLY crimp them about halfway up the shaft with your side cutters… this crimping spreads them out just a hair, causing them to fit more snugly into a 1/8” hole.

Part 3—Stringing it Up

Step 1—Get the String Installed

The final step is to string up your diddley bow and get the bridge in place. To install the string, insert the thin end of the string (the one without the small brass “string ball”) up through the string ferrule on the bottom of the neck, then out through the string ferrule on the top of the neck, and then pull it taut so that the brass string nut is snug against the mouth of the bottom string ferrule. See the photo below for reference.



Now, pull the loose end of the string up to where the tuner post is, wrap it around the tuner shaft two or three times in a clockwise motion, and then push the loose end of the string through the hole in the tuner shaft. The online video version of this guide shows you how to do this very well. The web address for the video is on the first page of this guide.

Give the tuner 10 or so turns to tighten the string up a bit, but don’t get it too awful tight at this point.

Step 2—Install the Bridge

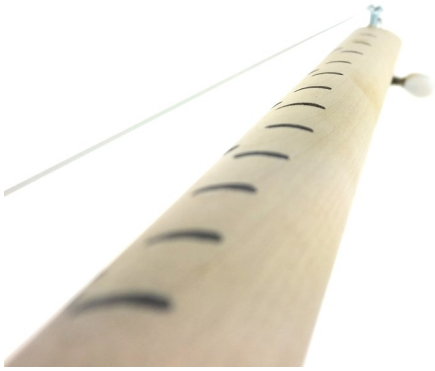
Now measure from the front side of the nut screw head, and make a mark exactly 25 inches away from it on the box top. This is where the bridge will rest.

Take the black threaded rod bridge (which should be the only piece left from the original kit parts), and gently lifting up the string, slide the bridge under (so that it is centered under the string), and slide it over the box until it rests exactly over the pencil mark you made at 25”. See the photo on the previous page for a visual reference.

You can now tighten up the string a bit more, until it rings nice and clear. The string supplied with this kit is a .016” plain steel guitar string, which you should be able to tune to a high B or C note. (the B would be the same as the second smallest string on a standard 6-string guitar). If you are only going to be playing this by yourself, the exact tuning doesn’t matter. Just be careful not to tighten the string too much or it will break!

Step 3 —Mark the Fret Positions (Optional)

This optional step involves marking the fret positions onto the neck as an aid in playing. These positions are based on where the metal frets would be on a standard guitar neck with a 25” scale length (which is what this diddley bow has). This is not necessary for playing your diddley bow, but can make it easier to get the notes you want, especially for a new player.



Measuring from the nut, make a mark on the neck at the positions shown in the chart below. We recommend starting with a pencil and later finalizing it with a pen or Sharpie marker once you’re sure everything is as close as you want it. Once all the lines are drawn, this should give you a fairly close approximation of a standard guitar neck/fretboard.

In the table below, we give you both the exact decimal measurement and the “closest spot on a yardstick” measurement as well. You can be as exact about this as your personality demands, just try to stay relaxed and not worry too much. Remember that you are making a primitive instrument out of a cigar box, a stick and a string. It doesn’t have to be perfect.

For the measurement savvy, or folks with finer-graduated yardsticks, “half a mark” is roughly 1/16”. A “hair” is roughly 1/32”. A smidge is about 1/64”. All measurements are from the nut.

Fret #	**Exact Position**	**Yardstick**
1	1.431”	Half a mark under 1 1/2”
2	2.782”	A hair over 2 3/4”
3	4.057”	Half a mark over 4”
4	5.261”	Just a smidge over 5 1/4”
5	6.397”	A smidge over 6 3/8”
6	7.469”	A hair under 7 1/2”
7	8.481”	A hair under 8 1/2”
8	9.436”	Half a mark under 9 1/2”
9	10.338”	A hair under 10 3/8”
10	11.189”	Half a mark over 11 1/8”
11	11.992”	Just about right on 12”
12	12.750”	Exactly on 12 3/4”
13	13.466”	A hair under 13 1/2”
14	14.141”	A hair over 14 1/8”
15	14.779”	A hair over 14 3/4”
16	15.380”	Just a smidge over 15 3/8”
17	15.948”	Half a mark under 16”

Take a look at the photo of the completed diddley bow at the beginning of this guide for a visual of how it looks once

marked.

You can also go one step further and mark the “important” frets, which can be an additional help when playing. The frets used most often when playing a diddley bow are the 3rd, 5th, 7th, 9th and 12th. You can make a small circle or X in the center of these frets if you want… just be sure to make the mark where you’ll be able to see it when playing. You can see some of these marks in the picture of the finished diddley bow at the beginning of this guide.

Part 4—Tuning and Playing

As mentioned above, you should be able to tune this instrument to a B or C note if desired. But if you are playing by yourself, you don’t need to worry too much about what it is tuned to.

When it comes to playing your diddley bow, you will need something to use as a slide. This can be an actual guitar slide, or a lot of other things will work too—a short length of pipe, a pen knife (with the blade closed), a small bottle, even the handle of a butterknife. Set the diddley bow on your lap, pluck the string with your right hand, and move your slide up and down the string over the neck with your left hand (reverse hands/position if you’re a lefty). When you pluck the string and move the slide, you should hear the pitch of the string changing.

T. J. Wheeler is a modern master of the one-string diddley bow. He is seen here playing one in the C. B. Gitty studio.

As we mentioned in Step 3 above about marking fret positions, there are some places on the neck that are more “important” than others, when trying to play a song. Some call these the “magic” notes, and of course there are fancier names for them, but for now just keep these in mind:

- 3rd fret (just a hair over 4” from the nut)
- 5th fret (just a smidge over 6 3/8” from the nut)
- 7th fret (a hair under 8 1/2” from the nut)
- 9th fret (A hair under 10 3/8” from the nut)
- 12th fret (exactly at 12 3/4” from the nut)

We recommend marking at least these positions on your neck, as a guide to playing. Start off practicing hitting some of these positions in different orders. Start by plucking the open string, then while still plucking, touch your slide just over the mark for the 5th fret. Then, still plucking, remove the slide so the string is open again. Repeat this with the seventh fret, then go back to the open string. You may not be able to quite hear it yet, but you have just played a progression of notes that is common to a huge number of popular songs.

To play your first real ditty, you will begin by plucking the open string, and then moving the slide from the 5th to the 3rd fret positions, before sliding up to the 12th fret position. The goal here is to play the classic Muddy Waters blues riff from Hoochie Coochie Man, Mannish Boy and other famous songs. Dah DAH da DAH dum dum, DAH.

Open / 5th fret / Open / 3rd Fret / Open / Open / 12th Fret

There are many more diddley bow demos and lessons available online, especially on YouTube. We recommend the “How to Play the Diddley Bow Pt. 1” by Shane Speal on YouTube: http://www.youtube.com/watch?v=KojZ7CmT4Ik

Closing

We hope that this kit has worked well for you, and that your first attempt at building a cigar box diddley bow has been a successful one! Please remember that you can always find more how-to info about cigar box instruments over at www.cbgitty.com, as well as at the sites linked below. Welcome again to the world of diddley bows, handmade/homemade instruments, and Cigar Box Guitars!

Happy diddlin'!

Online Resources

Here are some places you can go online to find more resources for diddley bows, cigar box guitars and other handmade instruments:

- **www.CigarBoxGuitar.com** — this is the knowledge base library of the cigar box guitar and handmade instrument movement. It hosts an ever-expanding library of great information, covering both how-to-build and how-to-play topics, as well as presenting historical information, photos and more. Best of all, it's all free!
- **www.CigarBoxNation.com** — the online home of the cigar box guitar revolution, this is a community of over 13,500 members where you can take part in discussions, get advice, upload your photos and videos, and check out the pics and vids uploaded by others. Since 2008 Cigar Box Nation has been the premiere community and gathering place of the worldwide handmade music movement, and it is packed full of great people and awesome information.
- **wikipedia.org/wiki/Diddley_bow** —the Wikipedia entry for the Diddley Bow, a good starting point for learning more about the instrument.
- **Youtube videos** —there are a host of videos on Youtube of people playing diddley bows, and also instructional videos of people showing you how to play them. We especially recommend the series of diddley bow videos by Shane Speal—search for "Shane Speal Diddley Bow" on Youtube and they will come right up.

Now it's time for your next project...

www.CBGitty.com/PureAndSimple