

Project Tutorial

Featuring compatibility with nearly all CNC Machines

It is our pleasure to provide our customers with fun and useful projects to enjoy!

Vetric Project Tutorial
www.vetric.com

Created with:
Aspire 3.5

Sample Carved with:
ShopBot Buddy
PRSalph BT48

ShopBot®
www.shopbottools.com

Indian Head-Buffalo Nickel Bank

Designed for Vetric™ by Michael Tyler

Experience a taste of “Western Americana” with this unique coin bank! The bank was inspired by the *original* design of the “Buffalo” nickel which was released in the United States in 1913. Only four months after the original design went into circulation, the design was changed slightly to help reduce wear of the “Five Cents” denomination on the “buffalo” side of the coin. (The animal is actually a bison - *not* a buffalo!)

Although the coin is commonly referred to as the Buffalo nickel, the coin’s official name is the Indian Head nickel.



The coin bank dimensions are 10" in diameter by 3" thick. The coin-access base is about 1½" tall.

Main items you will need:

1) The Project Files (included):

- Nickel_Front-and-Back.crv3d
- Bank_Rings.crv3d
- Alternate_Bank_Rings.crv3d

2) Boards with the following dimensions:

- Front-and-Back:** 0.75 "x 11 "x 22.5 "
Rings: 0.75 "x 11 "x 22.5 "

3) Two 2 " screws, wood glue, clamps, drill, sandpaper, wood stain and/or paint and clear finish

4) A Dremel-type rotary tool with assorted sanding wheels and bits to sand small details and speed up preparation for finishing.



CNC Bits used for the Sample:

- | | |
|------------------|-----------|
| Roughing & Cuts: | 1/4 " EM |
| Finishing: | 1/8 " BN |
| Scoop: | 1/4 " BN |
| Divots & Drills: | 1/8 " EM* |

*Alternate_Bank_Rings uses a 90° V-Bit instead of 1/8 " EM

Indian Head-Buffero Nickel Bank

(cont.)

STEP 1 - Open and Review the Project Files

Start your Aspire software and open the project files. (fig. 1)

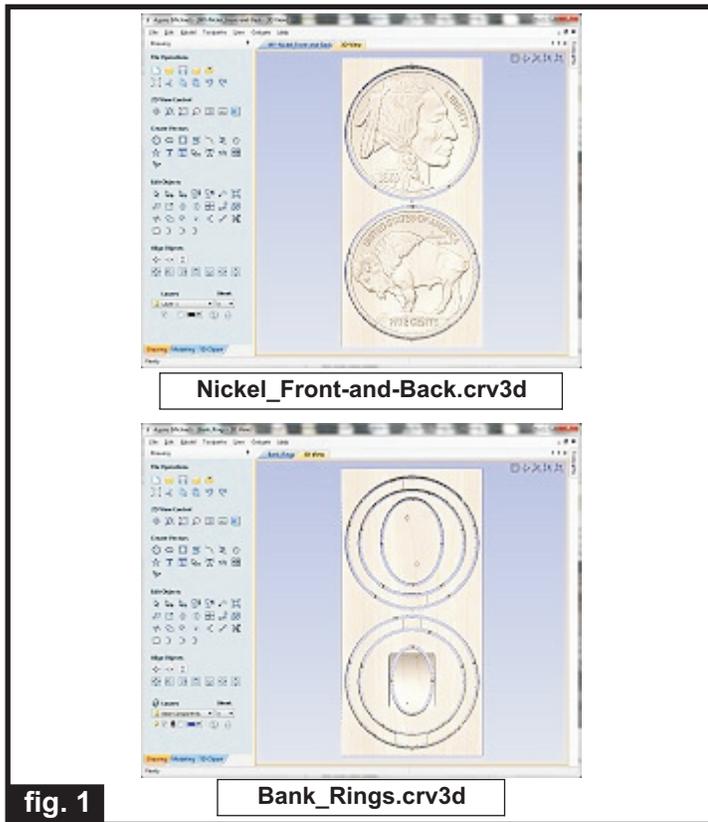


fig. 1

Carefully review all the toolpaths and make any necessary changes to suit your particular bits and machine. The toolpaths are currently set with feed and speeds that were used in creating the original sample. Please don't use them directly until you review them for your own setup.

You can edit the tools and change the settings to your own preferences and requirements. **It is very important to recalculate all toolpaths after making any edits/changes.** Once you have recalculated for your own machine and bits, reset the preview, then preview all toolpaths again to visually verify the project outcome on-screen.

The project is designed with tabs to hold parts in place during the final part cut outs. You may delete the tabs if you use some other reliable hold-down method.

STEP 2 - Run the Project

When you are satisfied with your tool settings, save the toolpaths to the appropriate Post Processor for your machine, place your material on your machine bed and proceed to run the project. (fig. 2a, 2b)

NOTE: If you do not own a 1/8" EM, you can use the Alternate_Bank_Rings.crv3d and a standard 90° V-Bit instead of a 1/8" EM, if desired.

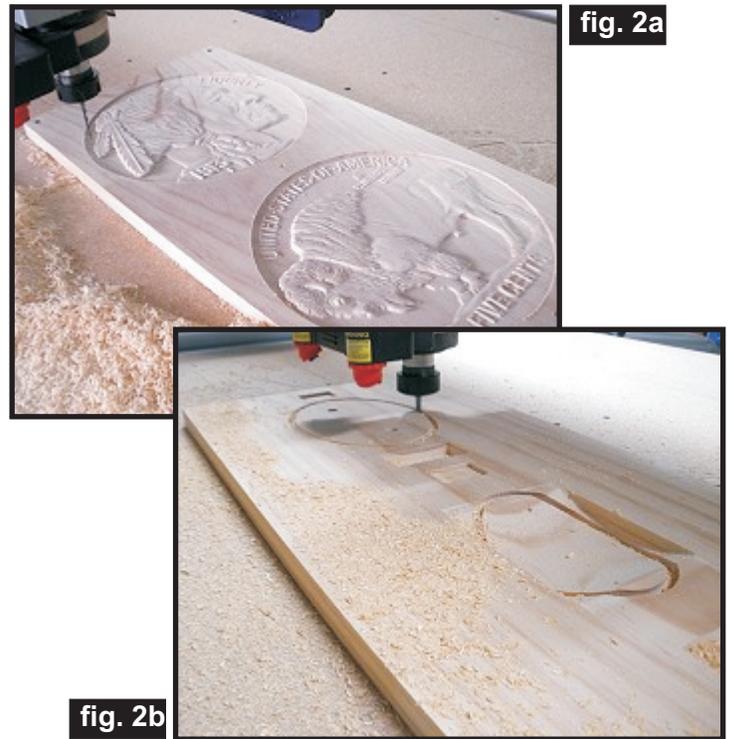


fig. 2b

Your machined parts will look something like this. (fig. 2c)

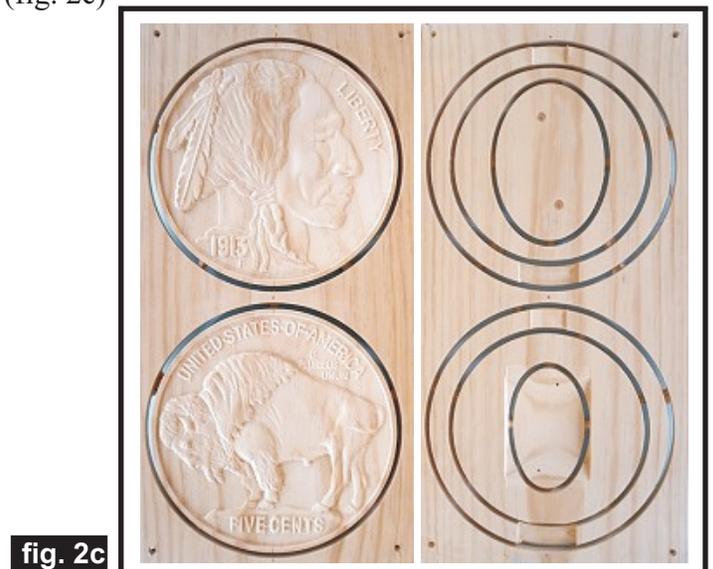


fig. 2c

Indian Head-Buffalo Nickel Bank

(cont.)

STEP 3 - Mark, Release Parts and Sand Tabs

You will notice three “divots” spaced along the length of each board (top, middle, bottom). These are visual aids for the next step...

BEFORE separating the parts from the boards, place a straightedge lengthwise on the board along the center of the “guide divots”. Use a pencil to make small marks on the top and bottom of each of the coin face rim and ring parts. These marks will serve to help align the components during glue-up later. (fig. 3a)



fig. 3a

After marking, separate all the parts from the boards with a utility knife or small saw and sand off the tab remnants. (fig. 3b)



fig. 3b

Use a pencil to extend the marks down along the edges of each part. I used a small T-square to make accurate mark extensions. (fig. 3c, 3d)



fig. 3c



fig. 3d

STEP 4 - Assemble and Final Sand Parts

Glue the two center rings together with the carved areas of the coin slot and coin access port aligned and facing each other.

Clamp or weigh down until set. (fig. 4a)



fig. 4a

Glue the front and back of the coin to the inner ring assembly. Use the pencil marks as a guide to help you align the pieces so all the components are centered vertically with each other. Clamp or weigh down the entire assembly overnight. (fig. 4b, 4c)

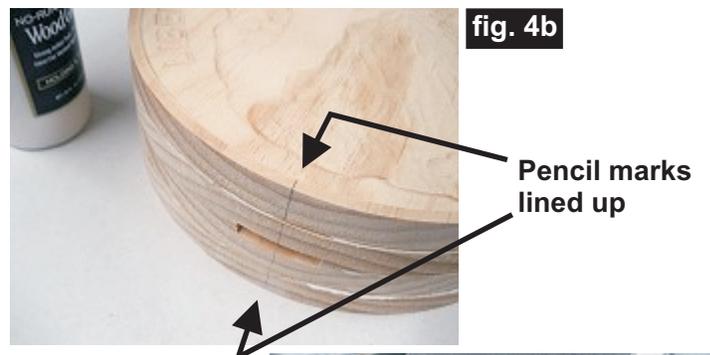


fig. 4b

Weight or Clamp overnight



fig. 4c

Glue the base parts together. Insert a couple finish nails in the holes to help align the parts while the glue dries.

NOTE: You will need to drill holes manually (using the V-bit divots as a guide) if you used the alternate file that did not drill the holes automatically. (fig. 4d)



fig. 4d

Indian Head-Buffalo Nickel Bank

(cont.)

STEP 4 - Assemble and Final Sand Parts (cont.)

Sand the edges of the “coin” to blend the sections nicely. A benchtop belt sander makes this part of the job go quickly and efficiently. (fig. 4e)



fig. 4e

Sand the carving details to remove any “fuzzies” and undesirable toolmarks. Use a Dremel-type tool with various abrasive wheels/tips to make detail sanding go faster. (fig. 4f)



fig. 4f

STEP 5 - Base Assembly

Stand up the “coin” upside-down on your work surface and tape the base assembly (centered) on the bottom of the “coin”. The base doubles as a coin retrieval cover. (fig. 5a)



fig. 5a



Use a long-reach drill bit to drill pilot holes for the screws through the base, and into the coin assembly. (fig. 5b)

fig. 5b

Alternatively, you can use an awl or sharp nail to mark the coin hole locations through the base holes, remove the base, then drill the two pilot holes through the coin assembly.

Install the base onto the coin using two 2" screws to complete the assembly (I used coarse-thread drywall screws). (fig. 5c)

Remove the base before applying your finish.



fig. 5c

STEP 6 - Apply Finish

Apply your choice of finish. Here’s what I used on my Indian Head-Buffalo Nickel Bank sample made from Select Pine:

- Two coats of thinned Zinnser Bulls Eye Seal Coat (50% denatured alcohol and 50% Seal Coat), sanding after each coat
- Applied 2 coats of Sculpt Nouveau Silver B, followed by 2 coats of Sculpt Nouveau Smart Coat clear Satin, then a coat of black wax. The wax was wiped off to highlight the carving details. (NOTE: No clearcoat can be applied over the Sculpt Nouveau wax...the wax is the final coat for the coin)
- Minwax English Chestnut stain #233 on the Base and several coats of Krylon Crystal Clear Acrylic gloss (on the Base only)

IN CONCLUSION

I hope you enjoyed making your Indian Head-Buffalo Nickel Bank! An optional final touch is to add self-stick cork, felt, or plastic ‘dots’ to the bottom of the base to protect the surface where you place your bank.

Another option is to apply a finish that allows the wood grain to be obviously visible by applying regular wood stain or leaving the wood natural. The addition of a contrasting/darker glaze coat (wiped-on/wiped-off) will enhance the details of the low-relief carving. The result will be an authentic “wooden nickel”!

Happy Carving!

Michael

Materials Source Page

- 3M Radial Bristle Discs from www.mcmaster.com
(stack 3 discs at a time on your rotary tool mandrel)

80-grit: part # 4494A19
220-grit: part # 4494A18



Krylon Clear Gloss Acrylic
from WalMart™

Metallic Finish Supplies from www.sculptnouveau.com

- Silver B Metal Coating
- Smart Coat Satin Clear Sealant
- Black Wax



Miscellaneous Items Purchased at Home Depot™

- Zinnser Bulls Eye Seal Coat
- Denatured Alcohol
- Minwax English Chestnut Stain #233
- Paint Rags and disposable brushes

Additional Resources

RESOURCES...

There are numerous resources for Vectric software owners to make their experience with their products more enjoyable. The Vectric website includes videos and tutorials to provide a good overview of the software products and how to use them. (http://www.vectric.com/WebSite/Vectric/support/support_vew_tutorials.htm)

As well as the resources available from the Tutorial page, please also visit the 'FAQ' and 'How To' pages for more support information...

'How To' webpage

http://www.vectric.com/WebSite/Vectric/support/support_how_to.htm

'FAQ' webpage

http://www.vectric.com/WebSite/Vectric/support/support_faq.htm

Vectric User Forum

Every owner should join the Vectric User Forum (<http://www.vectric.com/forum/>) where fellow users share their experience and knowledge on a daily basis. It is a FREE service that you will surely appreciate. A handy Search Feature helps you find answers to any questions you may have. There are Gallery sections as well, where you can post and view photos of projects created with Vectric software.

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