Heirlooms in the Making

Turned Baby Rattles

By Nick Cook

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American Association of Woodturners

Heirloom:
an object passed down
from one generation
to another.

Heirlooms: That is exactly what many of my early baby rattles have become. Countless children I turned rattles for in the 1970s have grown up and are now having babies of their own. The original rattles are now being handed down to the new babies.

The first rattles I turned were made from a solid piece of maple. They were barbell shaped with captured rings that rattled between bulbous ends. The loose rings fascinated parents; however, adults expressed concern that the child could choke on a broken ring. Back to the drawing board.

That was when I started exploring other styles and methods of production rattles. I tried another version by drilling into the end grain of one end of an 8/4 square of hard maple. I placed dried beans in the hole, then glued a turned plug in the hole before turning the rattle.

My next attempt involved a table router with a 1" core box bit protruding through the router table. Blocking and guides allowed me to push my blanks down onto the router bit and create the appropriate void in each piece. After nearly losing a finger, I decided this technique was too dangerous.

That was when I designed the version I still turn today at my lathe. In fact, I still use the same fixture I made more than 25 years ago. I have assembled a spotless new jig for this article.

Recommended tools: drive center, live center, $1\frac{1}{4}$" roughing gouge, $\frac{1}{16}$" parting tool, and $\frac{1}{2}$" detail gouge. Before turning, you'll also need a plunge router and 1" core box bit.

Build a router jig

The fixture base and guides are from 3/4" plywood or MDF, as shown in the drawing on page 53. The top stop is chamfered so you can easily remove the blank from the fixture.

The next layer creates a track for the router base. You must adjust the width to match the width of your own router base plate. After attaching the sides, measure and mount stops at each end of the fixture. Be sure to allow enough material at the end of the blank to separate the finished rattle from the lathe.

Prepare the blanks

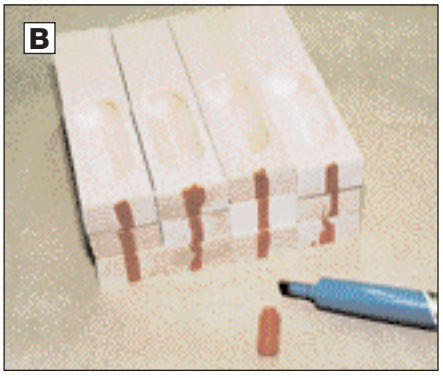
For my setup, I mount a 1" core box bit in a 2 1/2 hp plunge router as shown in Photo A. I rely on 1/2"-shank bits; I have tried 1/4"-shank bits and they will not hold up to the heavy cuts.

The cavity in the blank you rout should be 1/2" deep, approximately 1 1/4" wide, and 3" long. Make several 1/16" passes rather than trying to accomplish all with one heavy cut.

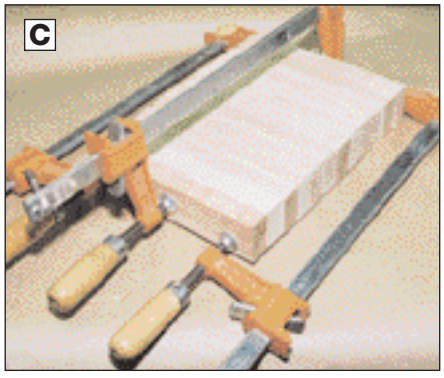
Once all the blanks are routed, use a red marker to identify the end with the cavity as shown in Photo B. This will keep you from accidentally "spilling the beans" (cutting into the cavity) later.

The router bit will fuzz grain at the beginning and end of each cut. To remove this fuzz and provide a better surface for gluing, make a light (1/32") pass across the jointer. For safely joining with these small pieces, be sure to use a hold-down block and a handle that rides above the jointer fence.

To rout the rattle cavity, use a 2 1/2 hp plunge router fitted with a 1" core-box bit.



To prevent an oops at the lathe, mark the rattle end of the blanks in red. This clearly identifies your rattle end and handle end during glue-up and turning.



Glue up six sets of rattle halves at one time. Three clamps will ensure even clamping pressure.

I suggest making six rattles at a time. Match up pairs of blanks for consistent grain and color. Drop nine dried black-eyed peas into six halves, then apply a thin film of woodworker's glue to the other six halves. A plastic glue spreader will help you avoid applying too much glue. (Too much glue will force squeeze-out into the cavity and bond the peas to the wood.) Clamp with three clamps as shown in Photo C.

Now, turn the blanks

Before mounting blanks on the lathe, rap the rattle blank on the

Continued

tailstock to make sure all the peas are free to rattle. Locate and mark the center on each end of the blanks and punch the center with a spring-loaded automatic center punch. This creates a dimple to help you locate the centers.

I use a 1/2" Stebcenter drive center in the headstock and a live center in the tailstock. (I've found the Stebcenter's multiple teeth are well suited for driving small blanks.) Once between centers, position the tool rest to within 1/4" of the corners of the blank and just below the center.

I set the lathe speed at 3,000 rpm. But if you are more comfortable at a lower speed, use it. With a 1 1/4" roughing-out gouge, turn the blank into a cylinder. To remove material quickly, I grind my gouge to about a 45-degree bevel.

Once round, mark each end of the cavity. An unglued rattle blank makes a handy guideline as shown in Photo D.

After marking, make a cut at each end of the cavity with a 1/16" parting tool. Next, eliminate most of the waste at the tailstock end and reduce the diameter on the handle end of the rattle. The roughing gouge makes this quick and easy work. I use the 1/2" detail or spindle gouge with a 25-degree fingernail grind to round over each end of the cavity.

Now, round over the handle end of the rattle. The template *opposite* will help you size a pleasing rattle, which complies with federal guidelines. For more details, see the boxed material at *right*. To comply with federal guidelines, the diameter should be 1 11/16" or larger (I make mine 1 3/4"). After shaping the rattle (use the template *opposite* as a guide), pare down each end to approximately 1/2" before sanding. Then sand with 150-, 180- and 220-grit sandpapers.

Apply finish and personalize

Although I relied on mineral oil for many years, I recently switched to walnut oil because it dries to a harder surface that I prefer. With paper towels (never use rags), burnish the oil into the maple. When dry, apply a light coat of bee's wax and buff.

After the wax has dried, part off with a 1/2" spindle gouge with a long fingernail grind as shown in Photo E. For a consistent sheen, reapply bee's wax to both ends of the rattle.

When dry, personalize the rattle by adding the baby's name and birth date either by hand or with a laser engraver.

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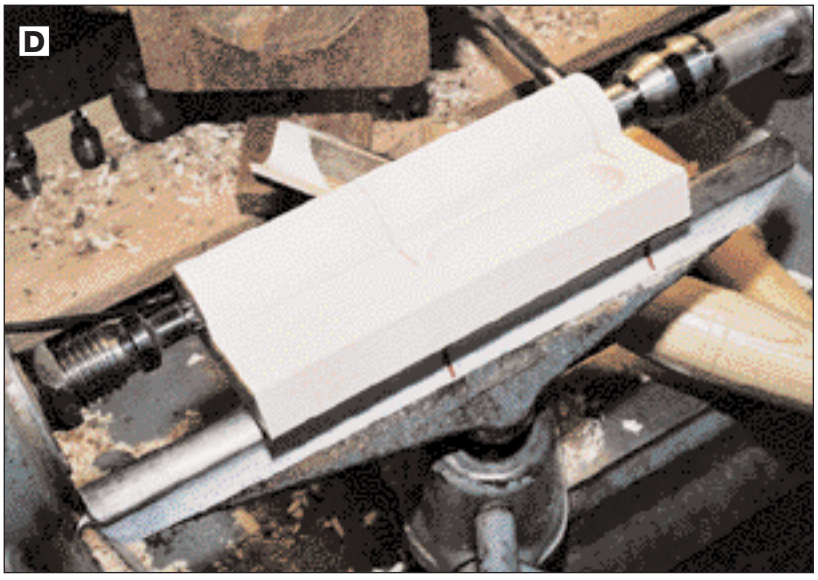
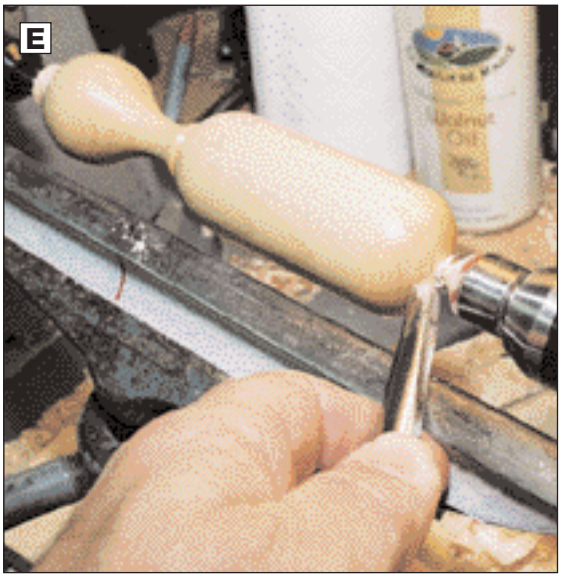
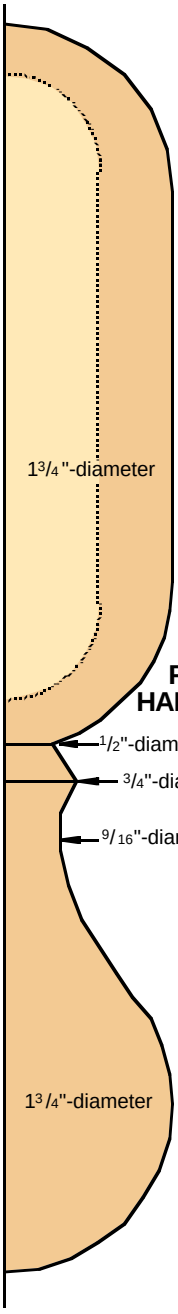


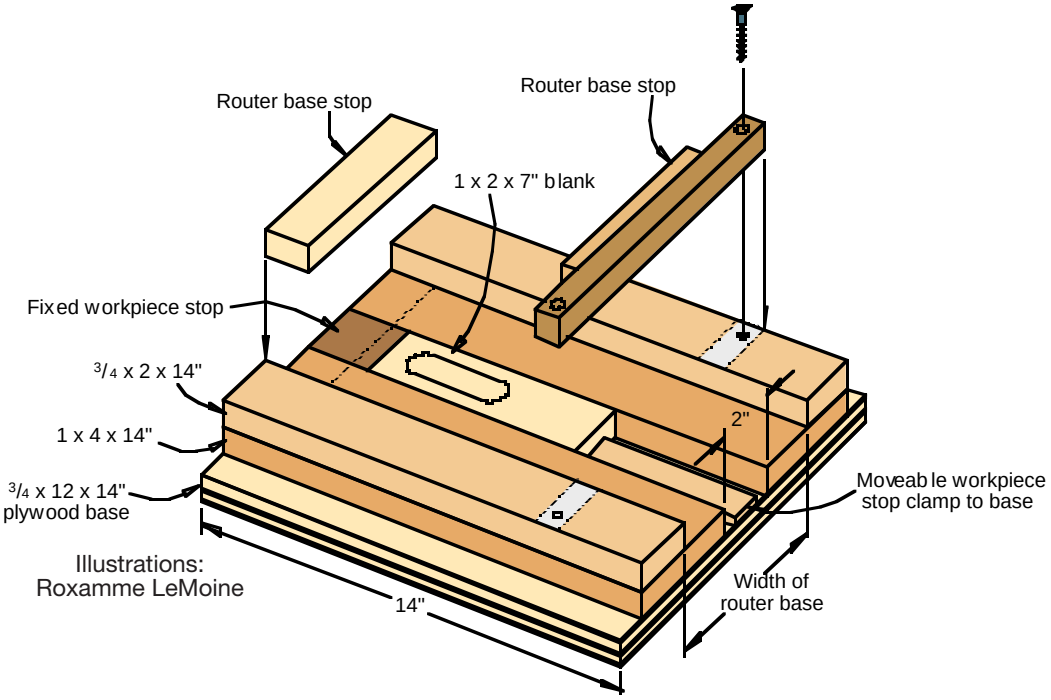
With an extra blank, mark out the rattle ends on the blanks (pencil lines) and tool rest (red lines).



With a 1/2" spindle gouge, part off the rattle end. A long fingernail grind guarantees success.



FULL-SIZE HALF-PATTERN



Illustrations: Roxamme LeMoine

Baby Choke Tester

Also known as a Small Object Tester, a choke tester should be a part of every home to verify if toys and other objects are safe for infants. I have discovered that choke testers are challenging to locate. After visiting several baby and toy stores, I finally found one at www.homesafetysolutions.com and ordered several for $2.85.

I also located helpful information at the U. S. Consumer Product Safety Commission at www.cpsc.gov. There I found a two-page document titled *Small Parts Regulation, Toys and Products Intended for Use by Children Under 3 Years Old.* It contains the specifications for a small-parts test fixture. Details about additional rattle requirement (16 CFR Part 1510), also are available at the same website. This states that a rattle diameter must be 1 11/16" or larger as shown at *right*.

—Nick Cook

Too small! This rattle fails the U.S. Consumer Product guidelines for a 1 11/16" diameter or larger parts. The hole shown was drilled with a 1 3/4" Forstner bit.