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editor's letter

rbrown@canadianwoodworking.com

It isn't easy to work as finely as Bill Perry requires in his article *Stringing & Banding: Part 1*. Even if you grasp the intricate skills, you need a huge amount of patience to make it work. Meredith Nicole's article is the same. In *Finer Details*, she inlays sliver poppies into a wooden surface. There's a steep learning curve when tackling both of these inlay techniques, but the final results are so stunning that I'm sure you'll agree it's worth the effort, especially if you have the foresight to practice on some scrap wood first.

If tight tolerances and exacting measurements are not your forte, then cutting boards or children's alphabet blocks may be your cup of eggnog. Just in time for the holidays, these projects will turn you into a gift-giving (and -making) hero. My parents have always begged "just *make* us something for Christmas." As woodworkers, we all understand the value of a hand-crafted gift.

And, as Canadians, we've noticed it's getting colder and we are talking about it – the weather is our favourite topic of discussion, after all. Ryan Shervill gives you his thoughts about staying warm this winter, and how you can plan your next shop to be useable all year round. I know hardy *Canadian Woodworking* readers won't let a lack of heat stop the sawdust from flying. However, if you don't like shivering while you work, be sure to treat yourself to a little something this holiday season, too.

We've Got Mail!

A few issues ago I asked for mail and over the last month I got it. Cynthia White's humorous account of women woodworkers made many readers laugh, but it also incited anger. We received more feedback about this article than any other in recent memory. *"My 'Woodchuckle' was intended as a lighthearted view of my own experiences, not as a vehicle to improve the status of woodworking women,"* said Cynthia, when I asked her about the hot topic. Thank you all for your thoughts and keep the letters coming.

Rob Brown

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CANADIAN Woodworking & HOME IMPROVEMENT
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readers' letters

Women Work Wood Too

I read your article by Cynthia White in the October/November issue and it really hit home with me. When I became a homeowner, I discovered as a single mom that I would need to learn how to do things on my own. After taking a few classes, I slowly learned from there, but I agree that the hardest part was trying to get any help in a hardware store. I have gone in with my grown son and the staff always try to talk to him. He just says, "Talk to her [pointing to me], as I have no idea what she wants". I've since gotten married and my husband doesn't know anything about tools and has no desire to learn, but when I go shopping in a hardware store with him they always go right to him and ask him how they can help him. Even when I start talking to them and he is silent, they look at him when giving the answers. Now he just waits with me until someone comes up to help and he walks away. When I go by myself, I have to be very aggressive about finding someone to help me. I have complained to the management about training their staff that there are lots of women involved in woodworking but it makes no difference.

I love the pointed yet humorous way Cynthia has presented these problems. I just said out loud, "right on, girl" and proceeded to read it to my husband. Maybe more articles like this would make more of those men out there realize that men don't have total dominion over woodworking any more.

Keep up the good work. I love your magazine for its information and articles.

Caroline C.
Winnipeg, Manitoba

Off-cut Humour

I don't think you were very responsible in your decision to publish Cynthia White's "A Woman's Place is in the Shop" article in your Oct/Nov 2011 issue. Just because Cynthia is a woman does not mean that her editorial need not be carefully read for insulting content, nor does it mean that she has her thumb on the pulse of most female woodworkers. I certainly hope that if a man wrote something that generalized women the way Cynthia did, the piece would have been pulled. The fact that the writer is a woman does not make it any more acceptable. In the future, I hope you would seek out the opinion of a professional female woodworker (perhaps someone who has been doing it longer than one year). I think you would get a much more realistic idea of what being a female woodworker is like.

Meagan S.
Vancouver, BC

woodworkers' gallery

Custom Bed
by Zhi Tian

Zhi Tian designed and made this bed for his son's sixth birthday. He spent about two years making it, working evenings and weekends when he could, as he works full time, and "life" often gets in the way of his shop time. Aside from finding time to work on the project, Tian said the most difficult part of the build was the inlay, though the numerous curves came a close second. The frame is hard maple and black cherry, and the inlay is purple heart, mahogany, walnut, cherry, maple and locust. Five coats of clear Danish oil help protect the bed. When asked if there was anything else he would like to say about the bed, Tian said "I have to thank my wife and son for their support, as my wife took most of the housework so I could focus on the bed."

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Your Doll House Project Saved Christmas!

Two years ago, I purchased a subscription for Canadian Woodworking Magazine as a gift for my husband, an avid woodworker. We had two granddaughters at the time and had been searching for months for plans for a large-sized doll house. Imagine my husband's surprise when the first issue arrived and on the cover was a beautiful dollhouse! The plans were excellent, with lots of detail. We spent many hours building and decorating our version, completing it very early on Christmas morning, with bedrooms finished the same as our granddaughters'.
It was a huge hit with the girls (and all the bigger girls of the family as well). Thanks for a great project – it made our Christmas!

Cheryl H
Simcoe, ON

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Stanley has reintroduced its "Sweetheart" bevel-edge bench chisels, more than 40 years after discontinuing the line. These tools have always commanded premium prices on the used-tool market because they were well designed and well made. The new version does not disappoint.

Socket-handled chisels are prone to having the handles loosen, especially during the dry winter months. A couple of the handles were loose when the chisels arrived so I took advantage of this to knock them all out, give their tapers a buff with 80-grit paper, and then re-install them with a sharp hammer knock. Meanwhile, the blades went for a soak in lacquer thinner, making it easy to remove their lacquer coating.

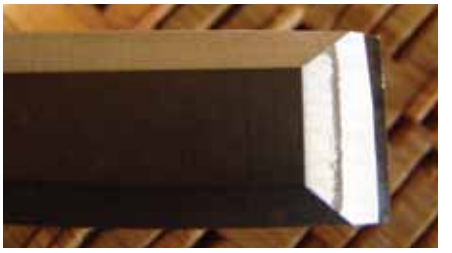
It took me about 25 minutes to lap the backs of all eight chisels using a 1200-grit diamond bench stone, followed by touch-ups on 4000- and 8000- grit waterstones. The bevels were all ground flat and square to a precise 30° – a good compromise for a chisel expected to do everything – so putting a polish and then a micro-bevel on them took only a couple of minutes per chisel.

With grunt work done, I gave them a go. I liked their feel. Their length is nice for paring work and the hornbeam handles are very comfortable in the palm (without the nasty little nibs of dried lacquer that grace inferior tools). They're not for mortising except for paring mortise walls, but for dovetailing they're a treat.

Dovetailing isn't a brutal operation; you don't need a death grip on the tool. The size and weight of these chisels allows you to hold them more as you would a pencil, which is good for precision. But what happens when the cutting edge meets the maple?

It met the oak, actually – one of the nastiest chunks of case-hardened wood I've ever encountered. I cut a few dovetails and the chisels were a treat. They had a nice feel – almost delicate – but still handled mallet blows just fine. To get a better idea of their edge retention, I took a piece of the oak and drove the ¼", ⅜" and ½" chisels into it as if I were aggressively chopping out waste. Each cut drove the chisels about ⅜" deep.

After 150 cuts into the oak, there was no discernable edge degradation. After another 150 chops, one tiny spot on the ⅜" chisel's



edge had crumpled, but not even enough to notice when paring. One hundred and fifty more cuts failed to crumple the edge further. Neither the ¼" nor the ½" showed any edge deformation after this treatment. After a couple of minutes to resharpen, I repeated the test using maple, with no appreciable difference in the performance.

Would I buy these tools? They're the first chisels (Japanese tools excluded) that have really tempted me since I bought my Marples more than 20 years ago. They feel good in the hand, they're well made, nicely finished and appear to offer great value. There just might be a set showing up in my shop soon.

Coming Events

Canadian Home Workshop Show
November 25, 26, 27
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http://www.canadianhomeworkshop.com

Hamilton Woodworking Show
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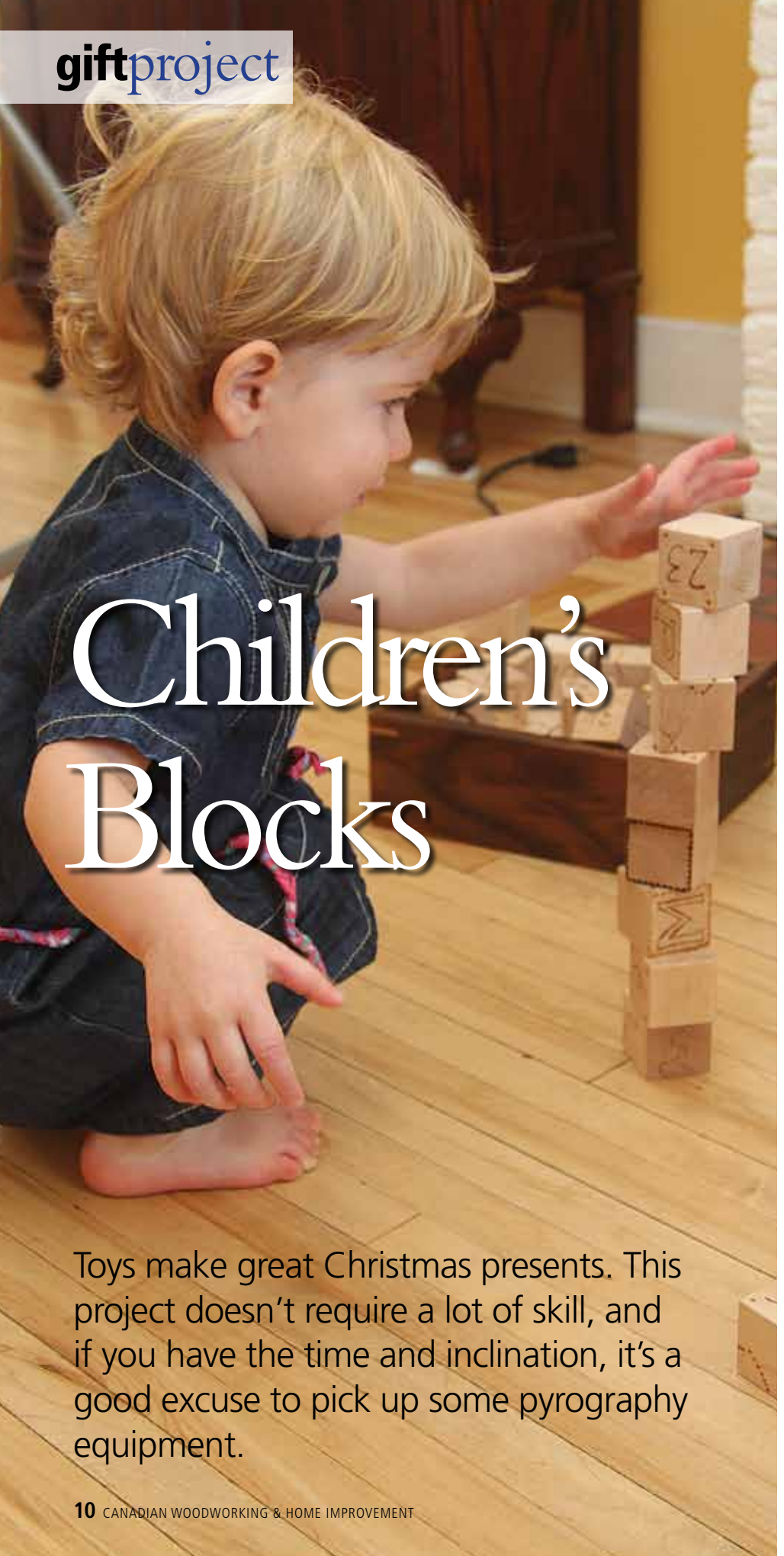


Children's Blocks

Toys make great Christmas presents. This project doesn't require a lot of skill, and if you have the time and inclination, it's a good excuse to pick up some pyrography equipment.

BY ROB BROWN

This is one of those projects that you could probably do in an afternoon if you wanted. On the other hand, you could spend hours and hours adding lots of detail to the blocks and constructing a nice box to store everything in. Really, it depends how close to Christmas it is.

I chose to go all out, as these were for my two-year-old daughter. I also wanted to give pyrography a try, and these blocks were the perfect excuse. There were lots of surfaces that needed decoration and if I really messed something up I could always make a new block. The bottom line was this was a low-pressure situation to practice using my new pyrography equipment.

50 Blocks

I had some 8/4 hard maple left over from a job so that's what I went with. Pretty much any wood will do, but hard, dense woods will likely be around and in good shape when your kids' children are born. I was aiming for 50 blocks, for no particular reason. As long as you have at least 26, you and your kids will be able to spell out the alphabet. I started by ripping the stock into 1 ¾" x 1 ¾" strips. After jointing one face and squaring up an adjacent side I planed them to 1 ½" x 1 ½".

Before crosscutting all the blocks to length, I sanded the four faces with my belt sander. I also broke the four edges on the strips with a block plane then a sanding block. As you can imagine, this made the job of sanding and breaking all the edges a bit easier once I had 50 individual blocks to juggle.

With a sharp blade in my mitre saw, I trimmed one end of each of the lengths, then set up a stop block that would give me 1 ½" long blocks. A test cut with a piece of scrap helped me get the exact measurement. I butted the clean end of the maple length against the stop block and made my first cut. All of these

Photos by: Rob Brown

Go All Out – If you have the time, do all you can to personalize the blocks. They will be around for a long time.

Sand the Faces and Edges – I take my time when doing repetitive tasks. Sanding the faces of the blocks took time and patience. My fixture for holding my belt sander worked great for this job (left). Don't forget to ease all the edges (below).

cuts should be made reasonably slowly, as you want the finished surface to be smooth. As soon as the cut was made, I released the trigger and kept the blade down until it stopped rotating. If the blade was lifted up while still spinning there was a high chance the newly cut block would shift slightly, catch on the blade and instantly become airborne.

Take a Break

After my 50 blocks were cut (and a few more just in case pyrography was a lot harder than I anticipated), I cozied up to my belt sander and a fresh 100 grit belt. With my belt sander fixed on edge, I proceeded to sand all six sides of each block – just over 300 surfaces in all. Because my mind tends to wander while doing repetitive tasks, I made sure to keep things safe. I rolled up my sleeves and just did my best to concentrate. As soon as I found my mind wandering, I stopped what I was doing and walked around for a few minutes, to give my mind a break. This works wonders for staying focused. I was also aware of how I held the block and I made sure to keep my hands back from the sanding belt. I find as soon as you feel 100 percent comfortable, things go wrong, so never let your guard down. A sander with a fresh belt can hurt. After the faces were all sanded, I started breaking all the sharp edges. A light touch on the sander was all it took. By keeping pressure even and the block square to the sanding surface you end up with nice lines all around each block. For me a 45 degree sanded chamfer was enough; I didn't feel any hand sanding was required, nor did I like the idea of handling the blocks more than I had to.

The Equipment – The burner (left) and a small selection of pens are all you need to get burning. I bought four pens, but found myself reaching mainly for three of them – the skew, the round stylus ball and the spear shader.

Find a Good Font – I used my Word program to show me what the letters would look like before starting. By typing out the alphabet and enlarging the point size, I had an almost life-size template to use. I also made a simple jig to hold the blocks and raise my hand as I worked.

Pyrography Equipment

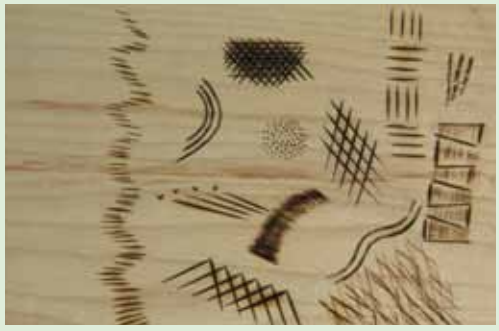
Cam Merkle from Razertip, a Canadian pyrography company, helped me get going. After looking on their website and seeing hundreds of pen options I was confused. A quick discussion about what I planned on doing with my new pyrography tools – general purpose burning on furniture to embellish the surface and add some details – and he gave me his recommendations; a burner that will accept one pen at a time and four pens – a large skew, a 1.5mm round stylus pen, a medium spear shader and a medium spoon shader. Everyone has specific needs, so make sure you figure out what you want to accomplish before you make any purchases. I found I the skew and the round pen the most, followed by the spear shader, but that's just me.

Start Burning

With the blocks machined and sanded you could easily stop here, but I was looking forward to getting to know my pyrography equipment. With some scrap hard maple, I started experimenting. The pens are held just like a regular pen or pencil. In addition to the type of pen one can use, the heat applied to the pen is the other main variable to experiment with. I found the burner to medium heat was appropriate for most of the work I was doing, but how fast you move the pen and the look you're hoping to achieve will also affect the results. After playing around for a while, I figured out how the pens wanted to move, how fast to move them and how much pressure to use for different effects I was looking to get from the different pens. The results are endless.

The Skew

I started with the letters of the alphabet. After deciding on a font and quickly drawing all the letters onto the blocks with a pencil I plugged in my skew and got to work. You don't need to use a pencil to mark everything first, but I wasn't confident in my ability to reproduce letters proportionally onto the blocks. I did the numbers and all the other burning designs without any preliminary layout. The skew is easiest to use while you're dragging it towards yourself. Often I would do all the lines in a top-to-bottom direction then turn the block 90 degrees and finish off with the side-to-side lines. The skew was very accurate and precise, and would leave thin lines on the wood's surface.



The Skew – I used the skew to make the letters, as its strength lies in producing a thin, accurate line. Once I was done with the alphabet, I used the skew to add some details to the other faces of the blocks. Little slashes, long lines and wavy lines were made with ease. Even tiny marks can be made by touching the tip of the skew to the wood.

The Ball Stylus Pen

With the letters complete, I moved on to numbering all the blocks. For this I used the round stylus pen, because it could be moved across the woods' surface in any direction without problems, very similar to a regular pen. I numbered the blocks in order, starting with a "1" on the "A" block. The "Z" received a "26" then the rest of the blocks were numbered up to 50. As long as I didn't push down too hard, the round pen tip would move nicely over the maple surface. With even pressure the lines it left were fairly even in colour and width.

The Ball Stylus Pen – Able to move in any direction, this pen was great for the simple numbers I wanted. It also gave me many options when adding designs to the blocks. A little dot here and there works wonders, and a trail of dots adds movement to the blocks.

Because I was going to be working on a lot of blocks, I made a simple, flat jig to hold each block while I worked on it. It also raised the heel of my hand level with the blocks' surface I was working on, which reduced strain on my wrist. I didn't want to risk hurting my wrist, as I needed it for a big turkey dinner in a few days.

Crop Circles

Everything from chevrons and slashes to crop circles and dot trails made their way onto the blocks. I used all the pens to get a wide variety of effects. This was the part I really enjoyed, as I could play around with what the different pens were capable of. Nature and geometry were where I got most

The Spear Shader

Once the letters and numbers were out of the way I started to add some whimsical designs to the rest of the faces. The spear shader was what I used most often, as it works great for thicker lines and shading different areas. It also can be used on edge to get a fine line.

The Spear Shader – Used, as the name implies, to shade in larger areas, this pen could also be used on its edge similarly to the skew. With a little practice the shader could evenly cover larger areas with an even burn. Temperature played a large role with all of these pens, but the shader was especially sensitive, probably because it's being moved across the wood slower than the other pens.

A Good Home – In order to have somewhere to put the blocks away I made a simple walnut box with two maple keys in each corner. It also adds some character to a gift that will be around for some time and made wrapping a lot easier.

of my inspiration from, but anything your child likes (animals, trains, flowers, etc.) can be worked into the design. I left the blocks unfinished, but a few coats of shellac or food safe oil could be applied.

A Home for the Blocks

Because it's nice to have a tidy place to put all 50 blocks I made a simple box out of walnut. The inside dimensions of the box stored two levels of blocks that were five blocks wide and five blocks deep. After dressing the stock and ripping it to width, I ran a rabbet to accept a ¼" bottom panel. The corners were mitred then the box was glued together. To add a bit of strength and a touch of class I installed two maple keys in each corner. Once it was dry, I installed the bottom, sanded everything, chamfered the top edges with a block plane and applied a few coats of polyurethane. Though not absolutely necessary, it was a nice case in which to store the blocks and made wrapping the blocks a lot easier.

Taking the time to make each block and learning pyrography was a lot of work, but the smile on my daughter's face Christmas morning made it all worth it. Hopefully by the time our four-month-old son wants to play with the blocks, our daughter will enjoy sharing. I can hope, can't I?

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Though he works alone, Rob is never lonely. He shares his shop with his dog Sammy, and he shares his office with his two-year-old daughter, three-month-old son, two cats and his wife.

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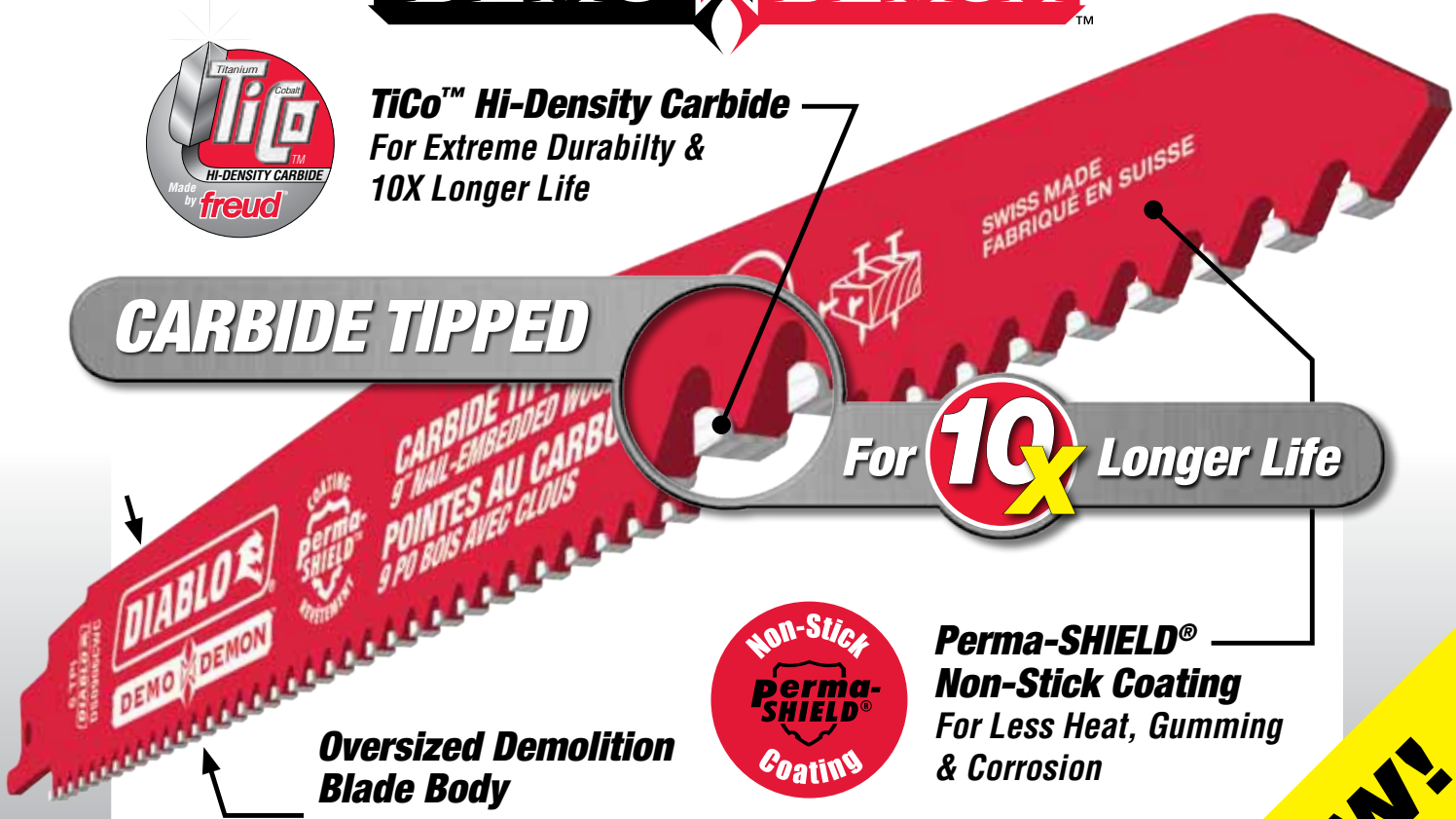

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Restoring a Historic Porch with Custom Details

Attention to heritage details are the key to restoring this porch and maintaining the original look of the home.

BY MATT DUNKIN

Front porches are a lovely feature of older houses, hearkening back to a time when many people would sit out on them and socialize with their neighbours who were walking down the street or going by in carriages or on horseback. Many historic front porches are bearing up well if they've been taken care of. However, many more need work and that puts today's builder in a bit of a bind. Over a century ago when these porches were being built, readily available wood was larger in dimension. Nowadays, rehabilitating a historic porch so that it retains its historical integrity rules out getting your lumber from a big box store, or using stock handrails.

On a recent project, my clients were adamant that the lumber used to restore their porch had to be authentic. As they walked around their neighbourhood, the porches that had been redone with newer more readily available materials all began to look alike – less like the original porches they were replacing and more like one another. In this article, I'll give you a window into the process by which I rehabilitated this porch by looking at the details that reestablished its historical integrity while ensuring the porch endures far into the future.

The porch was in a sorry state when we began. The rotting tongue-and-groove pine decking had been covered with spongy aspenite and then covered with outdoor carpet. Needless to say, it was saturated with the rain that fell around the edges of the porch, and the moisture had been wicking up into the three 8"x8" solid turned posts, creating considerable rot. The original railing

Photos by: Matt Dunkin

had fallen off years before and had never been replaced. We carefully took dimensions from the parts of the existing porch that were still in place, like the skirting and the rotting decking boards. While stripping some paint away, my clients uncovered the tell-tale profile of the handrail and foot rail, so we at least had those details to guide us. As for determining the railing's spindles, we scoured the neighbourhood for intact porches to guide us in deciding their dimensions. I then prepared a scaled drawing of the porch facade to give my clients a sense of how all of the pieces would come together proportionally.

Sourcing lumber in custom sizes takes some strategic planning in advance. Each piece we were seeking was an unusual size: the skirting, for example, was exactly 1" x 4" and the handrail was milled out of 4"x3" stock. Most mills will rough-saw their lumber to be planed down to standard sizes, so a custom order requires enough forethought to get the mill to rough saw it to your specs first so that it can be dried in advance. When it's dry, the mill can plane it down to your finished dimensions. Otherwise, the mill has to plane it out of larger material, adding to waste and cost. It's a good idea to contact mills to see what lead times they need to put together a custom order for you. I worked with Wilson Forest Products in Madoc, Ontario to put together this order of solid eastern white pine, but there are many other options around the country.

Worst Enemy – An outdoor structure's worst enemy is water. The bottom of this post was wet for years and now shows heavy signs of damage.

Time for Repairs – Water and time have taken their toll on the old deck structure. Dunkin's clients wanted to renew the structure, but didn't want it to look like all the other typical porches in the neighbourhood.

Demolition

During the removal of the decking, the porch roof needed to be supported so I installed pieces of 2x10 as bases or feet for diagonal supports made of a t-shaped assembly of 2x6s notched to meet the header. Stakes held the bases from moving during construction. A piece of 6-mil plastic strung

Clues From the Past – Even though much of the deck was not original, Dunkin had to keep his eyes open for clues, as he wanted to maintain the heritage aspect of the porch. This notched post, made to accept the original handrail, gave him something to shoot for.

Helping Hand – While the decking was removed, supports did the heavy lifting, supporting the porch roof.

Prime Then Install – The 5/4 pine decking was primed before installation to protect it from the elements, and prolong the life of the deck.

Clean and Tidy – A mitre joint finishes off the decking ends. The decking ends help protect the decking boards.

across the diagonal braces allowed plenty of light but kept rain at bay, even allowing me to set up a chop-saw under its shelter in some nasty downpours. When removing the old porch decking, we realized how poorly constructed the framing was, and had to begin from scratch with new footings and entirely new framing.

Slope and Managing Water

When rebuilding a porch, or any outdoor structure, it's helpful to spend some time thinking about how to mitigate the effects of the inevitable rains that will slant in to fall on the railings or decking. If water sits anywhere on your porch it will created damage, loosening paint and affecting the integrity of the wood beneath. If it is exposed to end-grain, it will wick into it and begin to rot. But if it is given a way out, it will drain away and not be a problem.

One of the key details of older porches is that they were intentionally canted a couple of degrees to shed rain and melting snow that fell on their surfaces. (A related detail is that the decking should run at right angles to that slope, so that water doesn't get trapped in gaps between the boards.) Instead, it has the opportunity to run down and out. We kept the direction of the original framing running parallel to the length of the porch, so that the decking would run at ninety degrees to that slope. The slope was 1 ½" over 6 feet. I had a couple of neighbours who expressed concern that the porch wasn't level, and I had to explain the method to my madness.

The Decking

The decking I installed was a 5/4"x4" tongue-and-groove pine, which I primed on all sides before installing to seal the decking from excess expansion and contraction from variations in ambient humidity and periodic wetting. I fastened it with 2 ½" galvanized finishing nails nailed into the tongue. I ran one piece of decking that I bullnosed around the perimeter of the porch so as not to leave the cut ends of the decking exposed; I connected it to the decking by inserting the tongue into a groove that I routed into the decking ends, and mitred the joints at the corners.

Remove the Rotten Wood – Dunkin used a straightedge to guide his circular saw as he made cuts around the perimeter of the post. Once the saw did its job, Dunkin grabbed a handsaw and finished removing the rotten section of wood.

The Posts

For a relatively small house, the three turned posts were sizeable, at just over 8" x 8" square. As I mentioned, there was significant rot, which meant I had to cut off the bottom 18" of the post to get past the damage done over the previous century by moisture being drawn up into them. To cut them off accurately, I clamped on a guide for my circular saw to cut through the perimeter of the post and then finished the cuts off by hand. Using a chunk of rough-sawn 10x10, I used a circular saw and chisel to hog off the extra width and then a thickness planer to dress it down to just over the required thickness, calculating a bit of leeway for shrinkage as the timber dried out. I decided to create a shallow ¾" mortise-and-tenon joint to join the old post and new bottom using a router and a template bit with a template guide screwed to the part I was routing. I then connected the new post bottom to the original post with construction adhesive and toenailed with 3 ½" spiral finishing nails. The reason the original posts had rotted was that they were in contact with water from the deck. My solution was to use a CPS7 Simpson Strong Tie composite plastic stand-off base, which I mortised into the post bottom to create a gap between the post and the deck and would later cover with quarter-round. I lagged the stand-off base to the pressure treated post below

Large Mortise and Tenon – The new, lower portion of the post had to be fastened to the existing post. For this, Dunkin first attached a plywood template to run his router bit against and routed a ¾" deep mortise in the underside of the existing post (left). He then attached a second plywood template to the top of the new post bottom, and routed the mating tenon (above).

Thirsty Wood – To keep water from wicking into the end of the post, Dunkin attached a plastic stand-off base to the decking (left), then mortised the underside of the post to accept the plastic base. Quarter-round trim will hide the gap (right).

Camouflage the Joint – To hide the seam a bead was installed between the old and the new sections of post. Caulking helps steer water away from the wood.

Go the Distance – Working from a sketch, Peter Goodwin turned a custom post to match some of the classic details. It is touches like these that really brought the original feel of the porch back to life.

with a ½" diameter x 6" lag screw and fastened it to the post with epoxy as I slid it into place. I covered the back with a piece of pine glued in and sanded flush. To finish the connection between post and bottom, I created a piece of beading with a round-over router bit, mitred at the corners around the joint and caulked it to prevent water penetration.

Newel Posts

There were no commercially available newel posts that would match the dimensions or style of the original porch, so we borrowed some details from the posts themselves. I traced the originals and, with input from my clients, added in a spherical finial on top then used a photocopier to scale them down to the pine 6x6 size I thought would fit with the scale they needed to be. I took my sketch and 6x6s to the masterful Peter Goodwin of Goodwin Creations, a local custom woodworker with a penchant for turning wood. His General International lathe will accommodate length of up to 8', so these 5' newel posts were not a problem. The resulting posts fit beautifully in with the scale of the railings and the style of the original posts.

The Railings

Using the original marks left from the old handrail as a guide, I set about with table saw and router to recreate a replica handrail. The original design had incorporated a sloped top to shed water, a scalloped side to create an easy grip, and a plough to contain the balusters. I cut the plough first with a couple of passes with a dado blade. The closest router bit I could find to scallop the side of the handrail was a 3 ½" Cove Raised Panel bit, which worked nicely. Finally, I cut the sloped top on the table saw and sanded the surfaces flat and eased the edges. The foot rail was simpler with its top sloped to shed water. I ripped the balusters out of wider stock and gang-planed them on my thickness planer to the exact dimensions I wanted at 1 ¾"x1 ¼". I cut a birdsmouth in the bottom of

Keeping It Simple – Unadorned balusters and skirting added a simple touch to the overall look of the porch.

Secure the Rails to the Posts – After a 5" lag screw was installed in the post a mating notch was routed in the ends of the rails. Coupled with a pair of toenailed screws, this joint will keep the rails fastened for many years to come.

Conversational Pace – The slope of the stairs is gentle with a generous tread. The stairs also have bullnosed leading edges and ends making them comfortable, inviting and ready for a conversation.

them on my mitre saw to straddle the shallow inverted 'v' of the top of the foot rail. I installed them by toenailing them into the foot rails and handrails with a spacing of 2 ½". In the plough beneath the handrail, I cut spacers and nailed them into place to maintain that spacing.

I set ½" diameter by 5" lag screws into the posts at foot rail and handrail height but left them protruding by just over an inch. Next I routed a dado into the ends of the handrail and foot rails that would just allow the lag screws to fit in. The railing sections fit down onto the lag screws and, with one toenailed hidden screw on either end, are completely solid but can also be removed if needed. I caulked the top of the joint where the handrails meet the posts to keep water out.

Skirting and Stairs

The skirting was substantially sized full 1"x4" pine mounted vertically with a 1x6 top and bottom horizontal frame – it will keep larger animals out but allow for adequate ventilation of the area beneath the porch. Stairs take a beating from the elements because they are fully exposed so I placed two 6" sonotubes down four feet to prevent wracking of the porch from frost heaving and the horizontal edges of the stair stringers I covered in strips of rubberized asphalt flashing to prevent water damage and rot. The slope of the stairs is gentle with a generous tread created by 2x6 and 2x8s with bullnosed leading edges and ends so they would be comfortable places to sit and enjoy a conversation with passersby. The final step when all the pieces were assembled was to prime and paint all of the components before the plastic was taken down.

Conclusion

Sometimes we get trapped in the convenience of building using commercially available components. This project highlights the opportunities to use some creative techniques and custom materials to create a fully unique project with basic woodworking tools. This porch restoration has recreated a sense of connection between the house and street, much to the delight of its owners and neighbours. I give much credit to the vision of my clients and their uncompromising approach to maintaining the beauty of the past. With some careful attention to the details, it promises to offer lasting beauty and durability for many years to come.

MATT DUNKIN
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Matt's woodworking projects are often realized in improvised outdoor spaces near the homes he renovates. His writing is really a ploy to slowly recoup the cost of his English degree.

Build a Cherry Night Table

Honest, traditional joinery, coupled with a sleek design, sets this night table apart.

BY RYAN COYNE

This bedside table is one of a pair that was commissioned for a client's cottage. The tables were custom-built to fit into a rather large space beside the bed. They needed to be both wider and taller than most off the shelf products, while at the same time not feel bulky and oversized. In solid cherry, they have a simple and uncluttered appearance with smooth and subtle curves. Mortise and tenon joinery, and a web frame inner structure combine,which means that these tables will be around for a very long time.

Breakout

I like to use thick material whenever possible. It allows me to re-saw boards to create perfectly matching panels, and I can usually cut thick parts such as legs out of a single piece, avoiding glue lines. A large band saw is a phenomenal tool in this respect and will make resawing a safer and more efficient task. 8/4 stock is the most common and easily handled of the thicker stuff, but 10/4, 12/4 and even 16/4 can be great if you can find it. For this project I used all 8/4 cherry. Keep track of resawn boards with cabinetmakers triangles. They take a lot of the guesswork out when matching up parts after machining.

The drawer front and drawer rails should all be cut from the same board. This gives a very nice appearance when the drawer is closed, as the grain matches.

While machining and cutting all your parts to size add a groove to the inside edges of the lower stretchers – around ¼" by ¼" is fine. The groove will hold the cabinetmakers buttons, which are used to hold the shelf in place while allowing it to expand and contract. Buttons can also be used for the top, as the web frames will already have a groove milled into them.

Web frames

While the mortise and tenon joints in the legs and rails are more than strong enough to carry the weight of the table and whatever might be placed on it, something is needed to add rigidity to the structure. Corner blocks are a simple way to deal with this, but when a drawer is involved they might just get in the way. I chose to use web frames as they can be glued to the side and back rails to prevent racking, and the bottom frame also acts as a drawer slide. A hard species of wood should be used for the frames as the lower one is also the drawer runner. It must stand up to some wear.

A simple stub tenon that fits into a groove is all that's needed to join the four pieces of the web frame. Be absolutely certain to glue up the frames completely flat.

The drawer rails need to be glued to the web frames and can be attached in one of two ways. After the table has been glued up, they can be cut to fit and glued in place. Or, as I prefer, glued to the web frames ahead of time and cut when the web frames are notched around the legs. This ensures a tight and consistent fit. Pay attention to your triangles so the rails remain in the correct orientation with the drawer front.

With the web frames dry, notch the corners around the legs. A tight fit helps keep things rigid. Now is also a good time to run a rebate in the top and bottom edges of the side and back rails. This allows the table to be glued up, and the web frames dropped into place after, which greatly simplifies the gluing process. The depth of the top rebate is cut to

Lead Photo by Kelly Hollinshead, Photos By Ryan Coyne

Rebate the Rails – A rebate in the top and bottom edges of the side and back rails will accept the web frame when assembled.

Build a Simple Jig – A simple jig, and a collar on a router, makes short work of cutting mortises in the legs. The same jig can be use to cut the mating mortises in the rails. The jig ensures the mortises are all the same size and in the same location.

the thickness of the web frame, while the bottom rebate must match the height of the drawer rail. This keeps the bottom edge of all the rails in one line.

Legs

The legs have a somewhat deceptive appearance. They are smoothly curved, but only on the outside faces. The two inside faces of each leg are perfectly flat making the joinery much more straightforward.

Make a template of the leg shape in ¼" material. This can be used to mark the leg blanks, and also to make a routing jig. The router jig needn't be complicated. Cut a piece of three-quarter ply to 8" x 36". Place the template flush along the long edge of the ply and clamp in place. Mark the profile on the jig and band saw close to the line. The stops used to hold the leg in place are ¾" ply cut to 1 ¾" wide to match the thickness of the legs. Three stops are needed: one the same length as the leg, and two end stops that trap the leg at both ends. Glue and screw the stops in place. Installing a screw in each of the end stops will keep the leg blank from shifting loose during routing. You can then use the template as a pattern to rout the exact shape into the jig. While you're at it, use the other long edge of the jig to draw the curve for the table-top. This is why the jig is 36" long. It's great to consolidate your jigs whenever you can to keep your shop from becoming lost under a pile of jigs.

Draw the outline on each leg blank and mark where the mortises are to be cut on the inside faces. Now here's the important part: don't do any shaping until the mortises are cut, as it's much easier to rout the mortises while the legs are still flat and square. The next step – cutting the mortises – is much easier when you know what the leg orientation is.

A Second Jig – The mortise jig can be used for the narrow rails as well, but a second jig has to be used with it. The second jig is made from two pieces; a flat piece of plywood with a strip of wood attached to it at a 90 degree angle. This piece is clamped to the workpiece, and keeps the initial jig square and stable.

Machine Some Mortises

Slip tenons are a perfect choice for this project. I chose to use a template guide jig to rout the mortises, but an edge guide and some careful layout is just as effective. Drawing the leg shape on the blanks is helpful when laying out the position of the mortises. There are no mortises on the inside face of the front legs where the drawer will go, so make sure you don't machine any there. The side and back rails have a double mortise and tenon because of the width of the rail. Two narrower tenons are better than one very wide tenon. This joint is time consuming to cut when using a traditional mortise and tenon, but is a breeze when using slip tenons. The mortises should not be so deep that two adjacent mortises on the legs meet each other. This could cause problems during glue up, where one tenon prevents the other from seating fully. A ⅜" thick tenon is fine for the rails, while a ¼" tenon is probably better for the much smaller lower stretchers. When routing the ends of the rails,

be sure to reference off the same face for both ends. You will thank yourself during assembly. Now is a good time to cut the curves in the legs.

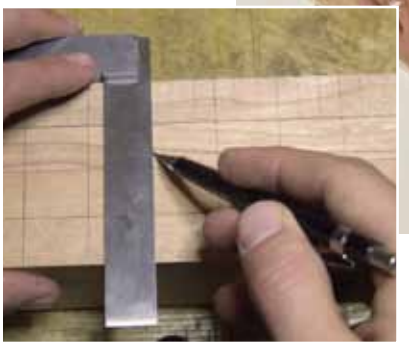
Back Slats

The placement of the slats is purely subjective, but should be balanced and in proportion with the rest of the table. I used 1 ¼" wide slats with a ½" gap between. The end gaps between the last slat and adjacent leg are a little wider than the rest; this is appealing to my eye, and helps set the slat/gap pattern apart from the rest of the table.

The layout of the slats is tricky, so take your time. The length of the back rail and stretcher is 28 ½", so we must come up with some combination of slats and gaps that fits nicely into this dimension. A slat (1 ¼") plus a gap (½") is 1 ¾". 1 ¾" goes into 28 ½" 16.28 times. The most we can use then is 16 slats with a very small leftover space between the legs and slats. I used 15 slats to allow the end gaps to be larger than the rest. So, 1 ¾" x 15 is 26 ¼", leaving 2 ¼" for the end gaps. We also have to subtract one gap width from our formula so that we end up with a slat at the end of the run, not a ½" gap, or else there would be a ½" gap plus the end gap making the whole thing unbalanced. So we take our slat/gap total of 26 ¼" and subtract ½", giving us 25 ¾". 28 ½" minus 25 ¾" is 2 ¾", divided by two is 1 ⅜"; this is the width of the two end gaps.

You may need to rest after that. I did. If it weren't for the wider end gaps, the layout would be far simpler, but I think the look is worth it.

Time to Cut the Legs – Once the mortises in the legs are cut Coyne uses a pattern jig to cut the legs to final shape. This is done on the router table.



Measure Twice, Cut Mortises – After some mathematics, lay out the mortises. Bu clamping the parts together you will ensure all the mortises are the same.

Another Jig – Alhough an edge guide could be used, Coyne prefers the accuracy of another jig. This one has to be moved after routing each mortise.

Tune the Edge – After cutting the curve on the top, Coyne uses a hand plane to perfect the edge.

Plane and Sand Before Assembly – It is much easier to prepare the surface while all the parts are apart.

Transfer these hard-earned dimensions onto the back rail and stretcher very carefully and mark out the mortises. I used the same method for mortising as I did while working on the legs and rails. Be sure to watch the orientation of the pieces and don't flip anything the wrong way. The tenon can be quite thin, $\frac{1}{8}$" or $\frac{3}{16}$" as it just needs to keep the slats from twisting.

The Top and Shelf

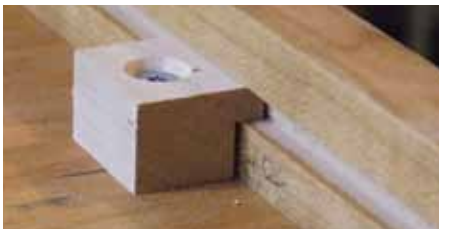
Draw the curve onto the front edge of the top and rout it using the back edge of the leg jig. The total deflection on the top is one inch over the 36" length. I also use a hand plane to break the edge of the curve. The shelf needs to be notched much like the web frames, but not as close fitting. You must leave room across the grain for the shelf to expand without pushing apart the legs.

Make up enough buttons for both parts (they may not be the same size). A simple rebate in a length of stock is all that's needed. The stock is then cut to 1" (or so) lengths for the buttons.

Glue up

I like to plane or sand all the parts that I can before gluing, as it's much easier

Sub-Assembly – Because it is too involved to assemble everything at once, take the time to glue everything up in stages. The back rail, stretcher and back slats are first to get glued, and the legs are added without glue, to ensure everything fits together.



Buttons – Attach the top and shelf with cabinetmakers buttons. These wooden cleats will hold the top and bottom on, and allow wood movement to occur at the same time.

with individual pieces and leads to a better finish. Some touching up is inevitable after gluing, but try not to mark the parts too much. This glue up, as with most, needs to be done in stages. I glued the back rail, stretcher and back slats together first, so they could be handled as one piece. I dry fit the legs to the sub-assembly while the assembly dryed, to make sure everything fit. Next, glue the short rails/stretchers to the front and back legs. Then the two "short" sections are glued to the back section, and the front stretcher. Put the web frames in place (without glue) during this stage to

Looks and Function – Hand-cut dovetail joints are Coyne's choice for strength and class. When finished the drawer will be slightly wider at the back, and the drawer guides will be angled slightly as well. This causes the drawer to tighten up as it's pulled out. (Photo by Kelly Hollinshead)

keep the table square. The last step is to glue the web frames in place. Breaking the glue-up into stages almost always leads to better results, and a much less stressed out woodworker.

Drawer

I build all my drawers with hand cut dovetails. If you can cut this joint neatly, use it. There is no substitute in fine furniture for this joint. I do like

Materials List

Part	Qty	T	W	L
Cherry				
Top	1	1 1/8	18	36
Legs	4	1 3/4	1 3/4	27 1/4
Short Rails	2	3/4	5 7/8	13 1/4
Long (back) rail	1	3/4	5 7/8	28 1/2
Drawer Rails	2	3/4	1	28 1/2 *cut from same piece as drawer front
Short stretchers	2	3/4	1 1/8	13 1/4
Long stretchers	2	3/4	1 1/8	28 1/2
Shelf	1	3/4	15 1/4	31
Back slats	15	3/8	1 1/4	13 5/8
Drawer front	1	3/4	3 3/4	28 1/2 *cut from same piece as drawer rails
Drawer sides	2	1/2	3 3/4	14 7/8
Drawer back	1	1/2	3 1/4	28 *must be cut to fit
Bottom	1	3/8	14 1/4	28
Hardwood				
Web Frames	2	3/4	15	30 overall – rails and stiles are 2 1/2 wide

Large But Light – The open design makes the night table look lighter, even though it is larger than average. (Photo by Kelly Hollinshead)

to use a sliding dovetail at the back of the drawer. This allows me to get just the right fit so that the drawer doesn't just fall out when pulled on. Before making the drawer attach the top and shelf, using the cabinetmakers buttons. Attaching these two parts sometimes shifts the piece ever so slightly, and would throw off an otherwise perfect fitting drawer.

Effectively, the drawer is a touch (just a touch) wider at the back than the front. The drawer pulls out smoothly, but when nearing the end of its travel it tightens up ever so, and can be pulled completely out of the table if necessary. This takes a bit of practice, a lot of patience and more than a few extra scraps of wood to get the hang of, but in my mind is the finest way to fit a drawer. A piece of wood will have to be glued on the lower web frame in the gap that is created by the offset of the short rail and inside face of the legs. This keeps the drawer running straight.

Finishing Up

My favourite finish for furniture like this is a wiping varnish made up of one part varnish, one part tung oil, and one part mineral spirits. At least three coats are used, and finished off with a beeswax polish. The drawer is finished only with the beeswax polish, to prevent the inside of the drawer and its contents from smelling of wood finish. Attach the top and shelves, fit a nice drawer pull and you're done.

RYAN COYNE
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Ryan builds fine furniture and doesn't get out of the shop much. When he does, he loves hiking in the forest and playing music.

Cutting Boards

The Gift That Keeps On Giving

BY MARK SALUSBURY

Both decorative and functional, a bread board, serving board or cutting board is a wonderful way to show your skills and make someone very happy. Each time it is used it will bring a smile and a warm feeling to the user. Boards can be as simple or as decorative as you wish and sized to suit the intended function or the needs of the lucky user.

When determining the overall size of the board you are going to make, there are no hard rules. As long as the board works well, looks unique, is solidly made and is nice to use and handle, you really can't go wrong.

When choosing woods, hardwoods both look good and last longest. They are also available in the broadest range of colours to create stunning designs. Maple is a great place to start. Maple strips can be alternated with black walnut or cherry strips and/or veneers to create boards with a domestic flare. For some "exotic" pizzazz, maple can be mixed with exotic hardwoods such as padauk, pau amarello, bubinga, imbuya, sapele, bloodwood, purpleheart and others in either solid stock or veneers.

I start the creative process with a quick line sketch, showing the sizes and types of boards I want to make. Designing before I cut any wood. I might next "model" an assembly using paper strips representing the species and widths of the strips I'd like to use; a great way to decide on the final number and sizes of strips needed to create the full width required. If the wood has been already cut and ripped, modelling a layout can be done accurately using the material milled at hand.

As we know, wood moves.

To prevent cutting boards from warping, all wood strips should be assembled with their annual rings oriented vertically in a "quarter cut" presentation. Then, all the wood can move in unison, perpendicular to the cutting boards faces as the cutting board is moistened and dried in use and cleaning.

Conveniently, most lumber comes "flat cut", the annual rings lying parallel to the face of the plank; by ripping such a plank into strips just wider than the cutting board's final thickness and flipping the strips 90 degrees, the annual rings become vertically oriented.

"Wonky" wood makes for wonky projects. Straight grained, figure-free stock is the best to work from; wood which joints and planes easily and rips into straight strips with minimal tension released in the process.

Cut all rough stock to the same length; I use a stop block for simplicity. Next, inspect the endgrain of each length to decide how to get the quarter-cut orientation preferred for board-making. Then joint, thickness and rip the chosen stock into straight, square strips. Referring to the design, it's easiest to make all the parts of one species, size and dimension then move on to make the other parts, one size and species at a time.

With the stock prepared and stacked in an orderly fashion for easy selection, arrange the strips to produce a pleasing pattern. Next, using yellow

Photos by: Mark Salusbury

Grain Orientation – Salusbury takes special care when laying out the individual strips of wood for each board. Each strip must be quarter-cut, with the annual growth rings running perpendicular to the face of the board.

The Big Glue-Up – With clamps, adhesive and straight and square stock, you're ready to apply the glue. Keep the wood strips organized so you don't get confused during glue-up. Craft paper on the work surface is a nice touch.

cabinetmakers glue, bond each strip to its neighbour in sequence and clamp up the assembly to make a board "blank".

I make my blanks long enough to yield one large or two or three smaller finished boards, adding 2" of extra length and an extra ¼" of both width and thickness, allowing for jointing, planing, cutting and trimming into individual boards. By keeping the blank about 24" in length, a variety of boards can be produced from stock that is kept a fine length for safe machining plus a convenient size for handling, glue-up and clamping to achieve a flat glue-up.

Quality clamps that will promote a flat and true glue-up are a huge asset. With straight, squarely milled stock, only four clamps are needed for a 24" blank; the investment is well worth the resulting quality glue-ups and reduced aggravation. Gluing and clamping should be done on a known flat surface covered by thin MDF, heavy craft paper or flooring underlayment; anything clean that lays flat and protects the work surface from glue squeeze-out.

After clamping overnight, a sharp paint scraper will remove dried glue from both faces of the blank for accurate jointing and planing. Taking light passes, the blank is next jointed and planed to finished thickness, leaving a little for final sanding. Now the one, two or three cutting boards required are cut from the blank. A thin MDF template will provide repeatable shapes which can be clean and simple or decoratively different. Curved shapes can be cut with a bandsaw, coping saw or scroll saw.

With the boards cut, shaped and sanded quite smooth (120 grit) overall, a ¼" round-over router bit with a ball-bearing pilot eases all edges, adding a pleasant detail, and letting the board come comfortably to hand. Alternately, a ball-bearing piloted ⅜" cove cutting bit produces an uplifting appearance and a small finger grip around the underside of your board for when it's to be lifted in use. A trim router with the cutting board sitting stably on a clean router mat works well, as does using a bit mounted in a table-mounted router. Either way, take several light passes and the proper care and safety measures when working with small pieces.

Lots of Options – Cutting boards come in all shapes and sizes. Consider what a board's end use will be before cutting your strips. Holes or a routed edge in a board make it easier to handle and hang.

Try a Turned Board

For those of you with lathes, a round board or "trivet" can be easily made by cutting a circular disc from the blank. With the bottom perfectly flat and sanded smooth, center it on a faceplate with double-sided carpet tape or use a four-jaw or vacuum chuck; all should be suitably sized to offer adequate support and attachment. Taking light, controlled cuts, shape, refine and detail the disc to make a beautiful complement to a matching cutting board or stand-alone accessory to be proud of.

A generous coat of thin varnish or thinned urethane, brushed on, kept wet for several minutes then wiped off and allowed to cure thoroughly before use, is an excellent finish. Alternately, and for maintenance on all woodenware, thin mineral oil (available at your pharmacy) rubbed in with salt and rinsed clean then repeated whenever the wood appears dry is a fine natural coating.

Enjoy this project … those you give your boards to certainly will!

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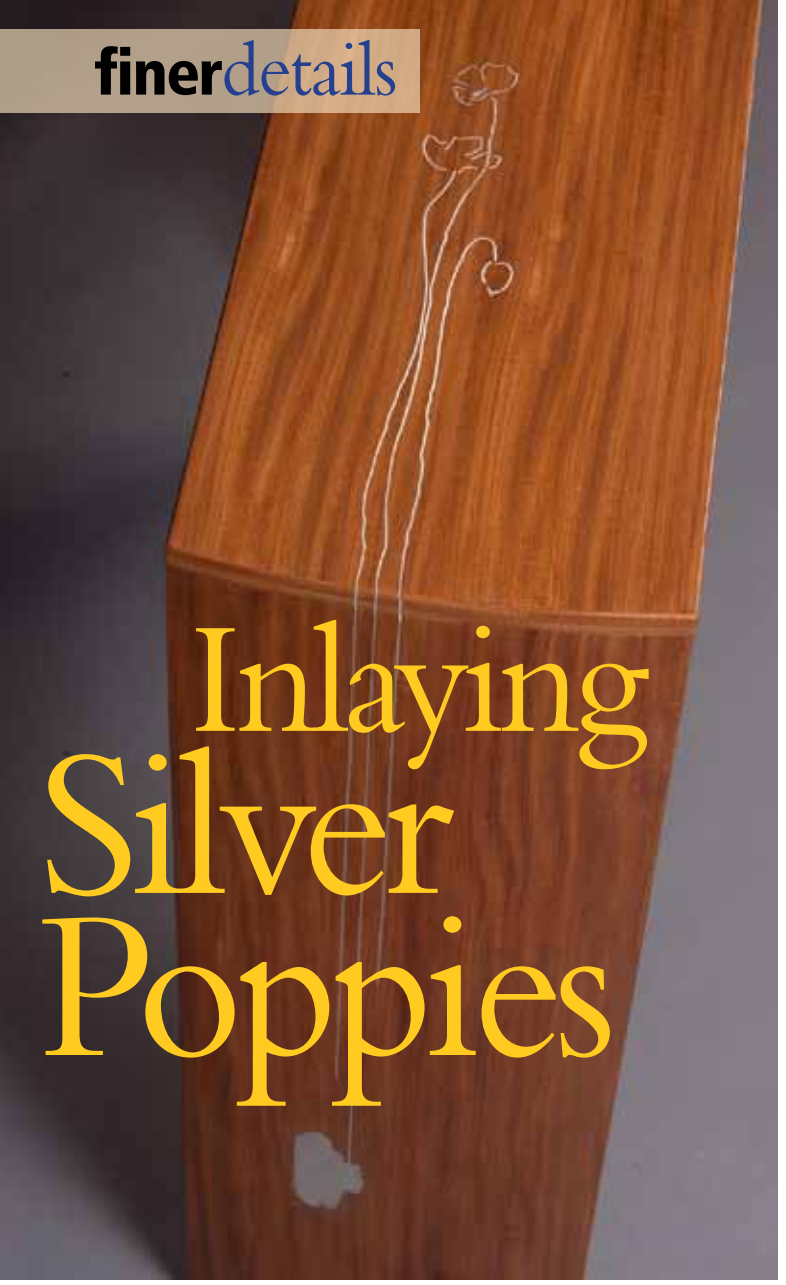
Mark is stoked by bluesy music and the sweet scents of fresh wood shavings. Outside the shop, sporty cars and long roads soothe his soul.



Inlaying Silver Poppies

It's rare for a piece of furniture to evoke thoughts of life and death, destruction and grace. This table, with its inlayed silver, does all that and more.

BY MEREDITH NICOLE

My inlay design is a WW2 tank "shooting" three bullets (represented by straight lines) up a leg panel. The bullets meet with the table top, becoming organically shaped poppies. The material for the bullets and poppies is 1mm x 4mm sterling silver flat wire, which I bought through a local jewellery supply shop. To make the 3mm deep groove to house the silver wire, I used a plunge router with a 1mm dia. spiral bit.

First, I dry assembled the pre-finished panels to make the table. Then I drew the design onto tracing paper and laid it onto the panels until I found grain patterns that complemented the design. For the poppy design I used a craft glue stick to tack the tracing paper down. For the straight lines on the leg panel I used a ruler and a white pencil to mark their location.

I disassembled the table and routed the straight lines first. With the distance from the center of the bit to the edge of the router's base in mind, I used double-stick tape to attach a straight piece of wood to the legs' surface so the router base would have something to run against. This was an easy set-up, which I could quickly adjust to cut the different grooves.

With the three straight grooves finished, I reassembled the

Layout is Adjustable – Once the design was drawn onto a sheet of tracing paper, Nicole was able to position it where it would look best on the piece. She used a glue stick to temporarily tack it down.

A Clear Groove – With the 1mm wide groove machined, Nicole made sure there were no splinters or debris in it; she used a modified card scraper. (Photo by Mark Henderson)

Lead Photo by Ingeborg Suzanne, Photos By Bruce Hobson

Install the Silver – For the curved sections a plane hammer was used to gently tap the silver into its final home. For the longer lengths of silver, a flat wooden block was placed on top of the silver to spread out the impact from a hammer's blow.

Tank Cavity – After making a negative template, Nicole ran a laminate trimmer with a bearing bit against it to produce the cavity that would house the silver tank. After a practice attempt with scrap to ensure the method would work, she tackled the real thing.

Clean the Area – After the adhesive dried, Nicole cleaned the wood surface and inlay of all the tape. If she were to do this again she would not have used tape to mask off the area, because little bits of tape adhered to the inlay.

table to ensure the bullet lines matched the poppy stems. I disassembled the table and cut the grooves for the flowers. To get an organic look I did this freehand with the router and made sure to only drink tea before starting, as a steady hand was needed. Then I used a card-scraper, which I modified to have a slight hook, and cleaned out the grooves of any debris.

To determine the length of silver I needed, I measured the groove with a piece of string. This helped prevent the finished surface from getting scratched and made measuring the curved parts on the flower petals easier. I then placed two towels over the panel on either side of the grooves to protect the wood. Using wire cutters, I cut the silver to length and turned it on edge. I abraded the sides of the silver in order to give the silver some tooth. I mixed up small amounts of two-part epoxy, which had nine minutes of open time. Working in short sections, I put the epoxy into the groove using a wooden BBQ skewer, which I modified to have a flat paddle-like end.

Finished Poppies – The silver inlay dramatically stands out from the rich wood background. (Photo by Ingeborg Suzanne)

I used two methods to tap in the silver. For the straight sections I placed a small block of wood on the silver and tapped that with a small hammer. For the flower petals I used my plane adjustment hammer, which has a wood block on one side of the head.

After completing each straight line, I put a board with some weight on top of the inlay and let the epoxy harden. I inserted the flower stems in the same way as the bullets, but for the flower petals I used short strips of silver and manipulated them to match the curves with tweezers. For some of the petals I used a knife to extend the routed groove to create a thinner more organic line and cut or hammered the silver tips to match the groove size.

I let everything dry overnight and used a steel-bottomed block plane (brass is too soft) to flush the silver to the wood.

I used the epoxy sparingly to avoid a mess. Don't use green tape to mask off the wood as I did. I didn't notice that tiny pieces of tape got stuck between the wood and the silver until it was too late. I had many tiny green monsters to deal with.

To make the silver tank I photocopied my design and used craft glue to attach it to an 18 ga. sheet of silver. Using a small coping saw with a metal blade, and beeswax for lubrication, I cut the tank out. I then filed the edges and had a local jeweller buff the tank to a nice polish.

To trace the tank design onto the wood, I made a negative template and tacked it to the wood using craft glue. I used a laminate trimmer to remove most of the waste for the tank then used a small chisel to perfect the edges. After doing one practice piece, then the real thing, I epoxied the routed area and laid the tank in. I clamped on a wooden caul I made to match the tank profile and let the glue cure overnight.

MEREDITH NICOLE
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Types of SHOP HEATING

If you have a small stand-alone shop, or plan on building one, the consideration of heat is an important one. The bottom line is that there are many options and each situation is different.

BY RYAN SHERVILL

This article set out to attain a definitive answer as to what is the best type of heating to use for a small home workshop. I came up with the following answer: *It depends*.

There are so many variables when it comes to small shop heating that it becomes impossible to recommend just one single form of heating. Shop size and ceiling height, local climate, amount of insulation, access to electricity, gas, or propane, budget, and of course, installation ability all come into play.

So rather than try and narrow it down to a single method, I'm going to take an overall look at the common types of heating available and look at their pros and cons. While this article won't tell you what heater to buy, it will help serve as a starting point for your own research into what type of heater best suits your shop, your needs and your budget.

Let's look at the most common types of heaters available to the home workshopper: Forced air gas/propane, radiant gas/propane, electric radiant, electric forced air, portable electric element and convection. Although radiant in-floor heating is both effective and popular, it is virtually impossible to retrofit into an existing shop, so we won't be covering it. However, if you are in the planning stages of a new shop, definitely take a look at in-floor systems.

Photo: Dreamstime

Forced Air Gas/ Propane

There are two main types of FA heaters found in workshops: wall-mounted heaters and overhead units. Plumbed to run on gas or propane, these units pull air into the unit and over a heat exchanger where it is warmed, and then returned to the shop. When looking at these units, it is imperative to find a direct-vent unit. What this means is that outside air is used for combustion and exhaust is vented outside. Not only does this make for more efficient heating, it is also safer as there is no flame open to the inside of the shop, which eliminates the risk of dust fires or explosions.

PROS: Fast, efficient heat. Low operating costs mean the heater can maintain a constant working temperature without breaking the bank. Rapid heating means the temperature can be lowered when you are not in the shop but will rapidly heat the space when it's time to get to work.

CONS: One of the most expensive options to purchase and to install and you must have access to gas or propane. Installation costs vary but in addition to the price of the unit itself, you must also consider the cost for a gas fitter and pipe, as well as an electrician and any required electrical supplies such as wiring and a breaker. Also, this type of heater moves air, which can stir up latent dust that can lead to issues if you finish projects in your shop.

Gas Radiant

Gas radiant heating uses a similar setup to the FA above, but rather than warming and circulating the air, it converts the fuel to radiant heat. Radiant heat works very much like the sun in that it warms objects rather than the air. With a radiant tube setup, the heat is projected down into the shop and warms up your tools, your floor and you. The objects in the shop then release this heat into the air, making for a warm work environment. One of the best parts about radiant heat is that because it heats you directly, you can keep your shop at a lower temperature but still feel comfortable.

PROS: Very even, dry, comfortable heat. It is very quiet and because it doesn't move, air dust is not a concern. High efficiency and low operating costs make it easier to maintain a constant temperature in the shop. The warming effects of radiant heat means that you can be working in a cold shop faster than if you had to wait for a forced air unit to bring up the temperature.

CONS: Like the FA units, these radiant heaters will generally require you to hire a pro for some aspects, as well as extra materials. Make sure when pricing units that you also take these extra costs into account.

Installed Electric Forced Air

(Photo by Dimplex North America)

These units also come in wall-mounted and overhead-mounted configurations. Acting very much like a home furnace, they draw air into the unit and pass it over an electric element to warm it, and then blow the warm air into the shop. Just like the radiant units, installation of these forced air heaters can vary from simple "plug and play" operation to a full-blown hardwired install.

PROS: These units tend to warm an area quickly and are generally available at a cost that is much lower than their gas counterparts. Very few moving parts mean maintenance is kept at a minimum and longevity tends to be very good.

CONS: Generally less efficient than gas heaters, they can cost more to operate. Heating elements should be kept clean for safety and efficiency.

Portable Electric Forced Air

(Photo by Dimplex North America)

These units range from small 250 watt electric micro heaters up to large 5000 watt construction heaters. Regardless of which model you look at, they all work pretty much the same way. A small fan draws air into the back of the unit and passes it over heating coils as it blows out the front. Power requirements vary depending on the model but most will plug into a standard 115 volt outlet with some larger models (such as the construction heaters) requiring 220V to operate. They can also be used as supplemental heating to keep temperatures above zero while the shop is not in use and a larger heating system is not active.

PROS: Inexpensive to purchase (less than $100), these heaters have thermostats built right into the unit and only require being plugged in to begin heating. Maintenance is a simple matter of taking the heater outside and blowing it out with compressed air. If you are in a well insulated shop, these can be the least expensive heating method as any additional energy costs are offset by the low initial purchase price and lack of install charges.

CONS: Electricity costs can be high, and limited air volume means it can take a long time for these small heaters to bring up temperatures. Generally speaking, the thermostats tend not to be as accurate as a wall mounted stand alone, and they can be noisy to run.

Electric Radiant

(Photo by Lee Valley)

Like its gas-powered bigger brother above, an electric radiant uses infrared energy to heat the objects in a room rather than the room itself. Electric radiants come in a huge number of sizes, voltages, configurations and, of course, prices. At the smaller end of the scale are the inexpensive stand-alone units that simply plug into a 115V outlet. These small units are more suited to heating a specific area (such as a workbench) rather than the shop as a whole. Some models contain a thermostat and many also incorporate a light for additional illumination over a work area. Larger units can heat an entire shop and do so with no air movement. These units can cost as much as a gas unit and will require wiring of electrical circuits and separate thermostats. They also have stringent clearance requirements.

PROS: Absolutely silent operation (all models), zero air disturbance (all models), can be installed where there is no access to gas or propane. Because the radiant heaters heat objects, you feel warmer than the surrounding air temperature, which means that thermostats can be kept lower while still maintaining a comfortable working environment

CONS: Smaller units only efficiently heat small areas and larger units can be quite expensive. When researching larger fixed units, ensure you factor in material and installation costs for hardwiring the units. Depending on where you live and your hydro rates, operation can be expensive compared to gas.

Convection

(Photo by Dimplex North America)

Convection heating draws air naturally over a heating element or plate and then releases it back into the room. The heating and cooling of the air creates a circular air current, eliminating the need for fans. Some examples of convection heaters are baseboards, oil-filled heaters and even radiators.

PROS: These heaters are readily available and tend to be inexpensive to purchase. They are absolutely silent to operate and because the air currents generated are so mild, there is no chance of the units stirring up dust.

CONS: While great for maintaining a constant temperature, these units are slow to heat a cold space and are best suited to well insulated shops that do not see a lot of in/out traffic. Fixed installations such as baseboards will require professional installation and operating costs can be quite high.

Some other alternatives, and why I don't recommend them

The woodstove

While there is a financial and aesthetic appeal to a woodstove in a shop, there are a few reasons why I recommend avoiding them.

FLOOR SPACE: Woodstoves take up a lot of shop space and space is always at a premium.

SAFETY: Some people claim that an open flame source can ignite fine airborne dust, and that may very well be true, but in my shop, the greater concern is flammable liquids and vapours. Being a multi-use shop, I spray flammable finishes and use/store all kinds of other flammables, so having an open flame 12" above floor level isn't comforting.

HEATING: Woodstoves make fantastic heat but only when they're lit. Maintaining temperatures 24/7 is near impossible and the resulting temperature swings can cause condensation and be hard on tools and supplies.

INSURANCE: Many insurance companies will not insure a woodshop heated by a woodstove. Make sure to check with your agent before installing a woodstove.

Non-vented (stand alone) fuel burning heaters

These heaters openly burn the fuel to create heat. Configurations range from catalytic type heaters to tube-shaped forced air construction heaters. Regardless, there are four things that all fuel burning heaters have in common: Lack of efficiency, carbon monoxide, fire danger and moisture.

EFFICIENCY: Any fuel-burning appliance requires air to operate, which means that the air used by the heater will need to be replaced, and this air usually comes in the form of cold outside air being pulled into the shop.

CO: Every year hundreds of people die from CO poisoning and in many cases it was due to not following the number one safety rule when using these heaters: use in a well ventilated area.

FIRE DANGER: Similar to a woodstove, the open flame in these units poses a dust and vapour ignition danger. Also, some of these units can create sufficient heat to ignite flammable material, even when it is several feet away.

MOISTURE: Fuel burning appliances release water vapour as a byproduct of combustion, and too much water in a wood shop is a bad thing, especially when it comes to keeping wood stable and machines rust-free. For example, burning just one kg of propane releases 1.64 kgs of water vapour into the air … that's a lot of moisture over a full heating season!

I'd like to give you one more point to consider though. In most cases, money spent on improving your shop's insulation and sealing is a much better investment than even the most efficient heater. In my own shop I have my walls insulated to R22, my ceiling to R40, triple glazed windows and insulated doors. As a result, I heat my 26x34', one-and-a-half storey shop full time with a simple $75 220V construction heater, and my heating costs are very low.

RYAN SHERVILL
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When he's not out enjoying the woods and water surrounding his home, you will likely find Ryan Shervill in his Penetanguishene, ON workshop building custom furniture for clients throughout North America.

An Introduction to Stringing and Banding

Part 1

Here's how to add a high-end accent to your furniture projects without spending a high-end fortune on tools and materials.

BY BILL PERRY

In this article, Bill Perry covers how to produce the stringing material and how to cut grooves in wood that will accept the stringing. In our Feb/Mar 2012 issue, Perry will discuss how to install and finish the stringing, as well as how to use pre-made bandings to dress up your next project.

Stringing involves inlaying fine "strings" of contrasting-colored wood into the surface of a piece of furniture. These strings can highlight details of the furniture's design – crisply defining a taper or outlining an otherwise bland surface. Banding is the same, except it uses wider "bands" of contrasting woods instead of narrow strings. Either technique creates details that can take your furniture from everyday to eye-catching. In this article, we're not about to jump into the deep end with garlands of inlaid veneer bellflowers, but if you master the basic skills of this technique, you'll have the foundation you'll need to move on to more complex projects.

Both techniques are straightforward: you cut a narrow groove in your workpiece, glue in a thin strip of wood, and then plane, scrape or sand it smooth. The only problem is that this is very fine – and very visible – work. That may be why many people are reluctant to try it: if you mess up it's going to be right up front for the entire world to see. So, unless you're the kind of person who enjoys rewiring the house with the power turned on, first practice on some scrap before pulling out the rosewood and mahogany.

Making the Stringing

Stringing is most easily made by cutting it from a sheet of veneer using a scalpel, hobby knife, veneer saw, or a cutting gauge. But here's the rub: you're looking for strings about 1/16" or more wide, which means that with many of today's thinner veneers you will have to glue two or three sheets of veneer together to get adequate thickness. Another alternative is to cut thin strips of solid wood using the table saw equipped with a thin kerf blade,

Photos by: Bill Perry

Low-Tech Options – There are two hand-powered options to create the bandings; a specialized veneer saw (left), and a knife (below). When using either of these options, use light passes or the tool will tend to follow the grain of the wood.

clean them up with a bench plane, and then use a knife, cutting gauge or saw to slice strings off of these strips.

No matter which tool you choose, use a light touch when cutting. If you apply too much pressure, the

High-Tech Option – If power tools are your thing, you can use a table saw, equipped with a thin kerf blade and zero clearance insert, to rip stringing material (left). Saw marks can be removed with a hand plane (below).

blade will follow the grain and your cut will wander. Instead, use repeated light strokes of the knife or saw to sever the wood's fibres.

It takes quite a few passes of a knife to cut through the veneer or wood strip. This quickly dulls the tool to less than "razor sharp". In response, I have turned to using Olfa®-type utility knives, which use snap-off blades. They're quicker to change and far cheaper than using hobby knife (e.g., X-Acto®) blades, which I now reserve for detail work. Although a veneer saw doesn't dull anywhere near as quickly, multiple light cuts still yield the best result. Joint the wood after cutting off each strip. It's not safe to joint these tiny strips on a power jointer, however. Instead, place a bench plane upside down in a vise and draw the wood strips over the blade to clean up the edge.

Unplugged Jointing – Don't even think about jointing small strips on a power jointer. Instead, hold a bench plane upside down in a vise, and draw the strips of wood over the blade.

Veneer Saw Tuneup

The first time you use a veneer saw can be frustrating. This is because, like so many tools, a veneer saw requires some preparation before use (and nobody tells you this beforehand). The classic veneer saw has a rectangular blade with convex cutting edges and an offset handle. To prepare it, remove the screws holding the blade to the handle. The teeth will probably be ground square across, whereas what you need is a sharp bevel.

You can use a file or a stone to shape the bevels; a stone is better since it leaves a finer edge. Use a "touch-and-go" type of stroke with the blade on the stone, touching it down and lifting it off as you follow the curve of the blade. Once you have formed a sharp bevel at the cutting edge, turn the blade over and smooth its back on the stone to remove any burr that has been raised. Finally, use the stone to smooth the inside face of the handle where it contacts the blade, making sure there is a smooth mating surface between the two pieces of metal. Reassemble the saw and you're ready to go.

As an option, there is a new veneer saw on the market made by Chestnut Tools and sold through Lee Valley. This saw has a super-fine blade with 50 teeth per inch milled into its cutting edge and needs next to no preparation. Just unwrap it and get to work.

Cutting the Grooves

Once you have a supply of stringing, cutting the grooves for it is much the same as cutting dados or grooves for regular joinery – just much smaller. You have the choice of using hand or power tools. Hand tools include knives, chisels, scratch stocks and fine saws. For power tools, you might choose a laminate trimmer or small router, but you'd better have nerves of steel and ice water in your veins. That's a lot of torque to mill a very tiny slot. A Dremel® rotary tool equipped with a custom router base is a better choice. More on this later.

Continued on page 48

HotProducts2011

At this time of year a lot of people traipse through the aisles of their local hardware or woodworking supply store, looking for that special something for that special someone. If not familiar with the products themselves, it can be confusing as to whether a particular tool would be useful in the shop or not. To help avoid this confusion, and to draw attention to tools that have proven themselves in woodworking shops across Canada, I contacted the sponsors of Canadian Woodworking & Home Improvement, and asked them "What is your hottest product for 2011, and why?"

Black & Decker **Sure Grip Laser Level**

Get a grip on leveling with the new Black & Decker SureGrip™ All-In-One Laser Level (BDL100AV-CA). This innovative level securely suctions to walls for up to two hours without leaving marks or holes. A magnetic strip allows users to remove the level from the wall mount and flip it to change direction. Added versatility includes the laser line visible from both sides and wraps corners. The bubble vial changes from red to green once the line is level so you can quickly identify if any adjustments are needed. Available for $29.99 at all home improvement and general retailers across Canada. www.blackanddecker.com

Boeshield **T-9**

A wax-based metal protectant and lubricant developed by the Boeing Company for long-term metal protection – can last for months and even years. Penetrates, lubricates, displaces moisture, stops exisiting rust and resists salt corrosion. No mixing, not damaged by freezing, indefinite shelf life. Economical to use – up to 500sq.ft/can.

Why It's Hot: Clean and easy to use. Provides lasting protection and a smooth sliding surface on equipment tables (spray lightly and wipe dry) – no waiting, no fisheye. Easy to maintain and re-apply. A little goes a very long way. Many other uses.

www.boeshieldcanada.com

DEWALT **Precision Framing Blade**

DEWALT's new Precision Framing Blades feature outstanding blade control, longer life* and durability. DEWALT designed the new accessories to meet contractors' demands for a framing blade that is easy to control, and has longer life. The new Precision Framing Blades are ideal for professionals tasked with applications involving framing, roofing and siding installation and concrete forms. The Precision Framing Blades are compatible with both DEWALT saws and competitive units – The new blades are offered in a variety of diameters and tooth counts, including 6-½ inch (24T and 40T), 7-¼ inch (24T, 40T and 60T), and 8-¼ inch (40T). Available at all independent contractor locations and home improvement retailers across Canada.

www.dewalt.com *Compared to previous DEWALT and competitive blades

Boeshield **Blade & Bit**

Don't send saw blades out for unnecessary sharpening when they only need cleaning - avoid losing valuable carbide. Clean your blades in seconds to minutes. Our Blade & Bit cleaner has almost no odour and can clean the most gummed up blades. Let it soak in a little and brush off. Clean grit style grinding bits, router bits, planer blades, etc.

Why It's Hot: With regular cleaning you can actually maintain the blade right on the saw in seconds: Wet the blade teeth with a toothbrush while manually rotating the blade away from yourself and wipe dry. A little goes a long way.

www.boeshieldcanada.com

DEWALT **DWS780 Compound Mitre Saw**

DEWALT announces the launch of its new 12" Sliding Compound Miter Saw (DWS780), which is precise and accurate enough for fine woodworking, yet durable enough for framing and deck building. The DWS780 is ideal for a variety of end users, including cabinetmakers, trim carpenters, framers, installers and many other professional contractors who require a product that delivers the accuracy, capacity, durability, portability and ease-of-use that this saw offers. Retail $599 at all home improvement retailers across Canada. The product will come with a three-year limited warranty, one-year free service contract and 90-day money-back guarantee.

www.dewalt.com

Porter Cable **Corded and Cordless Oscillating Tools**

PORTER-CABLE launches its first ever cordless (PCL120MTC-2) and corded (PC250MTK) oscillating tools. Both models have been designed to offer remodelers, carpenters, general contractors and other pros the quality and control they need to complete a variety of applications, including: cutting wood, drywall, and nails; sanding; grout removal; and scraping paint and caulk - in one tool.

Why It's Hot: The units incorporate contractor-driven innovation such as the patent-pending, Tool Free System accessories change, which gives professionals the ability to quickly and efficiently change the tool's blade to accommodate different applications, in only a few seconds. Available at Lowe's - PCL120MTC-2 for $139.99 and the PC250MTK for $169.99

www.portercable.com for more information.

ToughBuilt™ **F180 18" Bolt Cutter**

Finally, a great pair of bolt cutters that fold to fit your toolbox or bag. ToughBuilt™ introduces its game-changing 18" FlipFold™ Compact Bolt Cutters, which fold in seconds for easy carrying and storage, and then flip back open with a flick of the wrist. Forged, heat-hardened jaws and rigid Cro-Mo joints deliver extreme cutting capability. ForceFormed™ high-torque padded handles provide maximum power with minimum pain. Patented FlipFold™ latches let you fold up shop with just a flick of your fingers. Available in 14", 18" and 24" sizes. Suggested retail $39.99.

Available at: Princess Auto, Totem Building Supplies, Millwork Home Centre, Select BMR stores

www.toughbuilt.com

ToughBuilt™ **C470 Sawhorse**

ToughBuilt™ designed the all-steel C470 Sawhorse to be strong, simple to fold, compact to store and comfortable to carry. ToughBuilt™ then added thoughtful features that make your work safer, faster and easier: 2 x 4 support arms to help you quickly set up a sturdy jobsite table; top mounting points for sacrificial 2 x 4s to protect your blade, hands and sawhorse; fold-out cutting pegs to make it easy to cut plywood; and high-tensile-steel, corrosion-resistant, zinc-plated-and-powder-coated construction for strength and a long useful life.

Suggested retail $49.99 each.

Available at: Princess Auto, Millwork Home Centre, EG Penner Building Centre, Select BMR stores

www.toughbuilt.com

Wagner **Control Spray Double Duty**

Wagner Control Spray Double Duty uses HVLP (High Volume Low Pressure) air power technology to spray thin materials such as stains, sealers, urethanes, varnishes, and lacquers. It features a two stage indoor/outdoor rated air turbine for a continuous flow of material and air producing a professional fine finish whether staining your deck or refinishing your kitchen cabinets. $109.99

Why It's Hot: Three-position air cap adjusts the spray pattern for either vertical fan, horizontal fan, or round pattern shapes to most effective results. Material flow is easily controlled with the variable trigger allowing the user to spray 1/2 inch wide to 9-inch wide patterns.

www.wagnerspraytech.com

ToughBuilt™ Cliptech™ **Handyman's Set**

The ToughBuilt™ Handyman's Set gives you two innovative Cliptech™ Pouches, a customizable-length Cliptech™ Tool Belt, and two Cliptech™ Hubs™ to let you quickly configure your tools and supplies to suit the job at hand. Pouches quickly clip on and off, letting you add or remove tools and supplies, reducing hassle and fatigue. Cliptech™ Pouches feature flip-out kickstands, for quick tool access on the floor or counter, No-Snag Hidden-Seam™ Pockets and abrasion-resistant rubber bottoms. Custom tape measure clips, an extreme-duty hammer loop, and platic-lined utility knife pocket help you work smarter, faster and stronger. Suggested retail $59.99.

Available at: Millwork Home Centre, Select BMR stores

www.toughbuilt.com

ToughBuilt™ **8" tote + Universal Cliptech™ Pouch**

The ToughBuilt™ 8" Tote and Universal Cliptech™ Pouch make the perfect tool-carrying combination for any task, in the home or on the jobsite. The 8" Tote delivers maximized storage capacity, with a variety of internal dividers and external pockets. The Cliptech™ Universal Pouch can quickly clip and unclip from bag to belt, helping you carry with confidence. The pouch comes with versatile pockets, a custom tape measure clip, and plastic-lined utility knife pocket. Heavy-duty construction, with rivet-reinforced stress points & rugged materials make this set capable of conquering the toughest environments. Suggested retail $49.99.

Available at: Millwork Home Centre, Select BMR stores

www.toughbuilt.com

Stanley Bostitch **FN1664 Nailer**

Stanley-Bostitch's FN1664K nailer is ideal for applications including moldings, door/ window casings, trim, hardwood flooring, furniture, and woodworking. Weighing only 3.9 pounds, the FN1664K nailer accepts standard 16 gauge finish nails between 1" and 2 ⅕" long. The tool's weight & balance are complemented by a molded grip. The FN1664K breaks through the barrier with the industry's only (patent pending) set of six non-marring profile tips to assume the shape of a host of finish-related materials.

Why It's Hot: The kit includes a convex tip for fluted trim, an offset tip for door/ window molding, a tongue-and-groove tip for hardwood flooring, and a recess tip for crown molding as well as two standard no mar tips for a total of six. $189 at all home improvement and contractor stores across Canada. www.bostitch.com

The Best Built Challenge No Cordless Drill Can Match Us.

Introducing the new 18V Compact Tough™ and Brute Tough™ tools from Bosch.

These next-generation drills have been completely re-engineered for unbeatable run time, unmatched power, less weight and more compact than ever before.

Why It's Hot:

Up to 50% more run time.
Performs in cold weather up to -20C (-4F).
Battery fuel gauge (To see the lifetime of the battery).

Take the Best Built Challenge, visit BoschBestBuilt.com
Various Kits Starting at 229.00

Cut. Sand. Scrape. Grind.

NEW! The Multi-X™ MX25E features 2.5 Amps for heavy duty jobs and the OIS™ 12-pin interface that ensures a secure connection for high-torque applications.

Bosch multi-tool accessories offer best in class speed, performance and durability.

Designed for many applications and materials, including flush-cutting, plunge cutting, sanding, grinding, grout removal and scraping

Why It's Hot: The Bosch Oscillating multi-tool system gives you the versatility and power to tackle any job with ease – power and versatility within reach.

Visit Boschtools.com/MX25E for more information.
Starting at $175.00

Evolutionary Performance. Revolutionary Design.

Introducing the Bosch 12" Dual Bevel Axial-Glide™ Miter Saw. Another game-changing breakthrough from the innovation leader. Carpenters, remodelers and cabinet and furniture makers will marvel at our new patented Axial-Glide™ system, featuring a robust cast aluminum arm with sealed ball bearings to deliver durable precision and smooth travel and control at all angles. Upfront bevel controls make adjustments quick and easy.

Why It's Hot: The rail-less design of the GCM12SD achieves an amazingly compact footprint – up to 12" smaller than competitive saws. Evolutionary performance – revolutionary design – by Bosch.

Learn more: www.boschtools.com
Starting at $799.00

Bosch **10-piece Daredevil Spade Bit Set**

The DareDevil spade bit's conical threaded tip pulls the bit through the wood for fast, effortless drilling – requiring 53% less force than a standard spade bit and drilling up to 10 times faster! The DareDevil horns aren't just for show either – they're spurs and reamers that score the hole before drilling through, resulting in cleaner holes, perfect for plumbing and electrical work. The Bosch DSB5010 10 piece set includes all the 6" long bits needed to get started.

Why It's Hot: Faster drilling, requires less effort, and produces a cleaner hole. A great spade bit set for plumbers and electricians, or for the Do-it-yourself'er!

$29.99 MSRP
www.bethepro.com

Bosch **GLM 80 Laser Distance and Angle Measurer**

The New GLM 80 Laser Distance and Angle Measurer has a 360° angle measurement in 2 axis for added versatility and more accurate measurements. It is the only rangefinder in the market that transforms into a digital level. It has a built-in li-ion battery and is more compact with more measurements (up to 25K measurements per charge). It also has a tilt screen technology for easy viewing in all directions (smart phone technology).

Why it's hot: World's first and only Li-ion powered range finder, five times more measurements with one charge; never worry about batteries again!

Starting at $259.00.

Total control at your fingertips.

Now available, the New Bosch MRC23EVS Router Series.

Built to the rugged standards that Bosch is known for, the new MRC23EVS routers feature 36 innovative enhancements. Afterlock™ microfine depth control.

Highest motor rating in their class. Advanced above-table depth adjustment. Get your hands on the new Bosch series routers. When you're ready for precision, power and ease of use in a router, pull the trigger on Bosch.

Why It's Hot: The first modular router system with Trigger Control™ power switches in the base handles, giving you unprecedented control.

To see the video, go to:
boschtools.com/totalcontrol
Starting at $279.00

Bosch **9+2 All-purpose Reciprocating Blade Set**

From Bosch – the inventor of the jigsaw blade – comes the latest innovation in reciprocating saw blades. The Bosch RAP9EPK reciprocating blade set includes two of THE EDGE metal cutting blades: one clean cutting metal, one metal demolition. EDGE blades have increased heat resistance resulting in extended blade life in metal cutting. These blades start sharper, and stay sharper longer.

Why It's Hot: A high quality, enduring Swiss Made recip blade for every purpose, and a pouch to put them in – a great all-purpose general usage set for the pro or gift idea for the DIY'er!

Also included in this set are five standard 6" Metal cutting blades, two 6" and one 9" wood with nails blades, and an all-purpose 9" blade.

$29.99 MSRP
www.bethepro.com

Dremel **MM20 Multi-Max**

The Dremel Multi-Max MM20's 2.3 amp motor is more powerful than the Dremel's current oscillating tool, enhancing tool performance and allowing for faster, more precise cuts in a wide variety of materials. With a variable speed range of 10,000 – 21,000 oscillations per minute, the MM20 allows DIYers to power through their to-do lists with detail, precision and optimal performance. The tool has an extended length 7-foot rubber cord allow users to handle the tool while cutting, sanding, scraping, grinding and removing grout in their homes or workspaces. The MM20 also boasts a new line of cutting accessories. Available at $119
www.dremel.com

Dremel **MM40 Multi-Max**

The best-in-class Dremel Multi-Max MM40 boasts a 2.5 amp motor that delivers quick, efficient cuts. The tool includes the innovative Quick Lock™ accessory change system that quickly facilitates accessory changes without a wrench. The MM40 operates between 10,000 to 21,000 OPM and offers a soft-start as well as Electronic feedback and a extended length 7-foot rubber cord. The MM40 also boasts a new line of cutting accessories with expanded cutting width and depth, these enhanced blades make precise cuts through tough materials such as hard woods, framing lumber and 2x4s, making accessory changes twice as fast. Available at $149
www.dremel.com

Dremel **Saw-Max**

The Dremel Saw-Max is reinventing cutting as consumers know it. As a compact, handheld saw allows users to make precise, clean and straight cuts in a wide variety of materials. At one-third of the size and weight of a traditional circular power saw the tool enables easy one-handed operation for detailed work in tight spaces.

The Tool can make straight, plunge or flush cuts up to ¾ inch deep through wood, plastic, laminates and drywall, as well as sheet metal and wall and floor tiles. Perfect for applications such as installing baseboards and trim, replacing flooring or remodelling. Available at $149
www.dremel.com

Skil Flooring Saw **Model 3600-02**

The SKIL Flooring Saw allows do-it-yourselfers and installation professionals alike to leave their bench top tools in their workshops and upgrade to a multi-functioning saw that makes clean cuts that will impress even the most seasoned flooring installers.

Why It's Hot: Designed to cut through hardwood, laminate and engineered flooring up to 8 inches wide and ¾ inch thick, the SKIL Flooring Saw smoothly makes miter cuts between zero to 47 degrees and also quickly transitions to a table saw allowing rip cuts to width.

$199.99
www.skiltools.com

Skil Power Cutter **Model 2352-01**

Building off its cutting heritage, SKIL's lineup includes a 3.6V cordless Power Cutter that provides an easy way to make sharp, precise cuts through hundreds of materials. From craftsmen to carpenters to arts-and-crafts enthusiasts, the Power Cutter offers features and benefits that are certain to appeal to all users.

Why It's Hot: The rotating blade easily powers through materials up to ¼" thick while the AutoSharp Blade System keeps the blade sharp for repetitive use. Use it to cut through materials such as clamshell, carpet, vinyl flooring and cardboard. The Power Cutter uses an integrated 3.6 volt lithium ion battery that can hold a charge up to 18 months, so it's always ready when needed.

$49.99
www.skiltools.com

Drill Doctor **750X – The Drill Bit Sharpener**

Top-of-the-line Drill Doctor keeps you working; don't get stopped in the middle of a project go to the store for a new one. Sharpen largest range and most popular sizes of drill bits including split point, carbide, cobalt masonry and coated bits. Join over 3 million customers and enjoy having sharp bits when you need them.

Why It's Hot: Many of you have a collection of dull and broken bits that just won't get the job done anymore, but you just can't seem to throw them out. Now you can sharpen them with the Drill Doctor - The drill bit sharpener.

www.DRILLDOCTOR.com

Work Sharp – **Knife & Tool Sharpener**

The first knife sharpener designed to sharpen every knife you own. Using flexible abrasive belts, it sharpens straight bladed knives, serrated knives and any other shape or type of blade. It has precision sharpening guides to create the proper angle every time. Now you can have the same technology in your home or shop that professional knife makers use.

Why It's Hot: Since its introduction less than a year ago, this innovative award winning sharpener has quickly become the new standard for knife and tool sharpening in the home or shop. Get yours today and learn how quick and easy sharpening can be.

MSRP $99.95

www.WORKSHARPTOOLS.com

FEIN **MultiMaster Cordless**

The FEIN MultiMaster oscillating tool is now also available in a cordless version AFMM 14. The cordless version with its premium quality 14.4V lithium-ion batteries exhibits the same rapid work progress and versatility as the well-known corded tool and weighs only 3.7 lbs. including battery. It features the tool-free FEIN QuickIN system. FEIN has developed MultiMaster accessories for well over 100 applications. Set contents: FEIN Cordless MultiMaster AFMM 14 Quick charger ALG 50, 2 battery packs, Sanding pad, 20-pieces assorted sandpaper, Universal E-CUT saw blade, Standard E-CUT saw blade, Carbide segment saw blade HSS segment saw blade, Rigid scraper blade, Carbide rasp

Suggested retail price $499.00 www.fein.com

Work Sharp – **The Wood Tool Sharpener**

The award-winning Work Sharp WS3000 is a precision wood tool sharpener that offers unmatched accuracy, ease of use, and repeatability. This innovative dry sharpening system produces predictable and accurate results every time on a multitude of chisels, plane irons, lathe tools, carving tools and more. Work Sharp reduces sharpening time dramatically, and eliminates the mess and hassle of sharpening.

Why It's Hot: Designed for both hobbyists and fine woodworking professionals, Work Sharp solves several common sharpening problems. Work Sharp lets you grind, sharpen and hone, all with one simple machine. Woodworkers can sharpen and get right back to work – without losing momentum.

MSRP $249.95

www.WORKSHARPTOOLS.com

Dura-Grit **Hi-Speed Carbide Burr Set**

A high speed drill should be in everyone's DIY toolbox, and its indispensable companion is the YEL-004 carbide tool set.

DuraGrit's carbide burrs and wheels are long lasting, high performance accessories that come in a variety of useful shapes and grit grades.

Why It's Hot: Whether you're looking to bore and enlarge a clearance hole in a ceramic wall tile to accept a water pipe, re-shape the edge of a wall tile to fit a contour in the corner of the backsplash, cut and fit laminate flooring or carve a duck decoy, there's a Dura-Grit carbide tool in the YEL-004 tool set to suit the job.

$40.75 USD

www.duragrit.com/cw

Dura-Grit **90º Carbide TruSander**

Not only is it a long-life sanding block that is the same grit grade each time you use it, it's a sander that can true a rough edge 90º to the work surface, easily round corners, or bevel edges.

The TruSander™ will not wear down or tear, so you won't have to change worn sandpaper in the middle of a job.

Why it's Hot: It sands hard and soft woods, MDF, PVC, laminates, composites, rubber and fibreglass. Its ergonomic handle and perforated sanding plate incorporate a dust collection system that clears the debris while you work. Every home and workshop should have one.

Available in 60, 80, 120 and 150 grit.

$19.98 ea. USD

www.duragrit.com/cw

Diablo **Demo Demon™ Carbide Reciprocating Blade**

The new Diablo Demo Demon™ Carbide Reciprocating Blades are the most innovative blades on the market, delivering break-through 10x performance than standard blades. The unique feature combination of carbide teeth, friction-reducing coating and high performance tooth design, provides users with never-seen-before performance and ease of use. At $6.99 (6" blade), you will spend over $20 on standard blades to get the same life.

Whether it's wet lumber, hardwood, nail or screw embedded situations, the Diablo Demo Demon™ will exceed your expectations and leave the others behind. The carbide tip will cut and stay sharp longer than a bimetal blade, making this the only blade you will want to own.

www.diablotools.com/recip-wood.html

Fuji Spray **Mini-Mite 3**

Comes with everything you need to produce a first-class finish with any type of coating. The MM3 features the new XPC Spray Gun with pattern control knob to adjust the size of the fan incrementally from small round to large fan. An air control valve is right at your fingertips, allowing you to lower the air pressure and reduce overspray dramatically. Street Price $599.00

Why It's Hot: System can be ordered with the XPC Spray Gun with standard 1 quart cup or with the G-XPC Gravity Gun. If you order this system before January 31st 2012 you will receive a free whip hose (value $34.99)!

www.fujispray.com

Silent Slam™ **Door Dampers**

Made in Germany, Silent Slam is designed for use in furniture and kitchen cabinets. It works by absorbing the closing forces of cabinet or furniture doors. It effectively silences the tendency of doors to slam closed. Patent pending design incorporates a silicone oil piston with an adjustment screw for varying the dampening action depending on the size of the door.

Why It's Hot: Silent Slam Door Dampers silence the slam!
Install with a single self-tapping screw in seconds.
Works in all cabinets with self closing hinges, regardless of make.
Adjustable. Affordable. Durable.
www.silentslam.com

Grizzly Industrial **G0555 14" Bandsaw**

Grizzly has redefined what a 14" Bandsaw should be like and has incorporated features into this saw that are normally either optional or unavailable on other bandsaws on the market. Check it out! There is absolutely no other company in the world that has a larger selection of bandsaws than Grizzly. They know bandsaws inside-out and their numerous years of selling bandsaws have culminated in this incredible 14" saw. You will not be disappointed!

Why It's Hot: This is the best selling 14" bandsaw in the USA, with industry magazine awards and reviews from end users. It features precision-ground cast iron table, quick-release blade tension lever, deluxe extruded rip-fence, mitre gauge and more!

Cost: $475 USD
www.grizzly.com
Phone: 800-523-4777

General **CNC model 40-913 i-Carver**

The new General CNC model 40-913 i-Carver 13" x 18" carving machine is designed to perform decorative 3D carving work, carve small signs as well as plaques and awards. The unit has a large user-friendly control panel with LCD display, keypad, a USB 2.0 port for easy file uploading, and is equipped with a powerful 150 watt brushless 110V DC motor.

Why It's Hot: No specialized training or programming skills are needed. With the 3D modeling capacity of the included i-Picture software the user can import virtually any image file, scale it to size and the software will automatically create the tool path needed to cut the work. CNC made easy!

Price: Special introductory price for the #40-913 i-Carver: $1999.99 (plus applicable taxes) until Feb 29th, 2012 (at participating General International retailers).

www.general.ca

Instantbond™ **Adhesive**

Instantbond™ is the fastest curing high performance cyanoacrylate adhesive superglue. When used together with the activator spray, bonding time is reduced to mere seconds, at an incredible 5000lb. psi bonding strength, which is nearly impossible to break.

Why It's Hot: What makes Instantbond so unique is its ability to achieve a cure in as little as three seconds, allowing you to use the fixed or repaired item immediately; no waiting for hours, clamping, taping or nails. It is not just simply a strong glue, it is an "instant weld" on demand; it's a whole new method of adhesion. Imagine the possibilities!

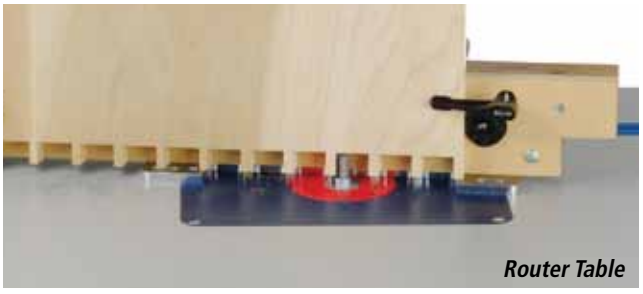
www.instantbond.com

King **12V Li-Ion Cordless Drill Kit**

This cordless drill comes equipped with charger, one battery, a 12 pc. set of drill/driver bits, a bit extension and a carrying case. It also features a variable speed trigger, a ⅜" chuck and a high-output LED light to increase visibility. Extra batteries are $27.99, but if you make a purchase before 2012 you get a $10 mail-in rebate. A similar 12V Li-Ion impact driver is also available.

Why It's Hot: This easily manipulated drill is all you need for most of your drilling tasks; it's lightweight, comfortable and easy to handle. It also has more than enough power to tackle most of your drilling and driving jobs. www.kingcanada.com

LEIGH **R9 Plus Box Joint & Dovetail Joinery System**



Router Table

Bench Mounted

The R9 PLUS is a simple, fast and easy-to-use jig for routing Through Dovetails and Box Joints. The PLUS? The R9 makes three sizes of Box Joints, three sizes of Through Dovetails and two sizes of half-pitch Through Dovetails, all on boards of any width. There are no jig adjustments to make and perfect joint fit is guaranteed every time.

Why It's Hot: The R9 Plus works as a bench mounted jig with a hand held router or with any router table! And you can rout boards as wide as you need. Rout 1/2" dovetails and 3/8" box joints right out of the box.

Price: $169.00 (dealers may sell for less)
www.leighjigs.com

King **Wireless Inspection Camera w/ Recordable Monitor**

This wireless inspection camera is ideal for plumbing and also has many construction uses. It has a 39" probe, which can be extended to 78" with an additional probe (included in package) and the wireless, recordable monitor can be detached and viewed up to 32 ft. away. A LED light inside the camera probe illuminates dark spaces.

Why It's Hot: Whether you're chasing a wire, trying to find an obstruction behind a wall, or checking the dryer vent, this camera will allow you to see the light at the end of the tunnel. www.kingcanada.com

Combination **3D Square**

The combination-3D try square & marking gauge is specifically designed for the professional woodworker who needs precision and function, setting it apart from traditional combination squares where accuracy has been compromised either by function or economy. The Combination-3D squares major functions are as a 9" bladed try square, 9" x 2" saddle square, deep range measured marking gauge and bevel gauge.

Why It's Hot: It's the first 3D Square on the market.

Laser etched with Imperial & Metric markings.

Uncompromised accuracy and genuine functionality allows the C3D to save space, weight and time.

$49.99 www.m-powertools.com

iVAC **PRO**

A unique wireless, Automated Dust Control System for the workshop. Consists of iVAC Pro Tool, Switch, Remote & Contactor. Up to eight power tools can automatically control one dust collector and up to four dust collectors can be in one workshop. Any mix of tool and dust collector power requirements. The Contactor controls Dust collectors up to 7HP and the iVAC Pro Remote is for manual control.

Why It's Hot: An affordable and flexible dust control system that provides safety and convenience in the workshop. Wireless for ease of installation. Saves energy and extends the life of the dust collector. It also has a programmable Turn-Off Time.

www.mbrightgroup.com

NOVA **46000 Comet II Midi Lathe**

NOVA's Comet II Midi Lathe is the perfect solution for a wide range of woodworking projects. It is portable and space saving, yet delivers the capacity and rugged stability of larger lathes. The 46000 delivers plenty of power with its 3/4HP variable speed motor and increased capacity with its add-on bed extensions.

Why It's Hot: NOVA's unique Comet Versa Turn Adaptable Technology with available accessory attachments transforms the NOVA Comet II Midi Lathe into an all-in-one woodturning and woodworking system, and YES with proven NOVA quality and durability. $499.99 Visit: www.teknatool.com or www.nordis.ca for your closest dealer.

Stockroom Supply's **Round Ripper**

This is a circle-cutting jig that works on any bandsaw. It holds the wood at two points, both top and bottom. North American-made of heavy duty steel and aluminum, it will handle wood up to 16-1/2" diameter and 6" thick. This product includes a sliding track that also works with the Little Ripper.

Why It's Hot: It cuts perfect circles, keeps hands clear of the blade, is safe and accurate. Either side of wood doesn't even need to be flat. The design puts pressure solely on the front of the blade so blade lasts longer while not wearing on your bandsaw.

Reg. Price: $499
www.stockroomsupply.com

Stanley **Sweetheart Chisels**

Machined from high carbon steel, the new Sweetheart™ chisels sharpen easily and retain a razorsharp edge over long periods of use. Their side bevels are extra narrow for working in tight corners, reducing the chance of marring the material when making precise cuts. The hornbeam handles provide a comfortable feel that transfers energy effectively when struck by a mallet. Manufactured in Sheffield, England, the new Sweetheart™ chisels are available in the following sizes: 1/8", 1/4", 3/8", 1/2", 5/8", 3/4", 1", and 1 1/4". The Sweetheart™ chisels will retail for approximately $31.99 to $36.99 - also available is a four-piece set for approx. $129.99. www.stanleyhandtools.ca

Wolverine **Grinding Jig**

Producing razor sharp tools and finely finished bevels has moved from an art to a science. Any grinding job from skews, scrapers, bowl gouges or roughing gouges are all easy prey for this jig. The WOLVERINE will speed up your grinding, give you sharper tools and prolong the life of both tools and grinding wheels.

Why It's Hot: Makes sharpening skews and gouges a snap, which means less time grinding and your tools last longer.

Easy to set up. The best investment an amateur or occasional woodworker can make.

$87.95
www.oneway.ca

Stanley **Flexi Felt Floor Protection**

Stanley introduces a complete line of floor protection products that not only reduces noise and dust but also saves money associated with floor maintenance in homes, schools and offices buildings. The Stanley line of floor protection products features high-density plastic furniture glides, sliders, leg tips, bumpers, casters and a wide array of new Flexi-Felt 100% wool felt protectors, all constructed for performance and durability.

Why It's Hot: Stanley Flexi-Felt heavy-duty adhesive pads are made of 100% pure wool industrial felt so they last longer and won't compress like polyester felt products. The full line of Stanley Floor Protection Products can be found at independent home improvement general retailers across Canada at retail prices ranging from $2.00 to $25.00. www.stanleyhardware.com

STEEL CITY **10" Cabinet Saws with Granite Table**

This NEW STEEL CITY cabinet saw has cabinet mounted cast iron trunions to ensure perfect blade alignment, increased stability and ease of adjustment. This saw is available in 1-3/4HP and 3HP motor configurations with 30" and 50" Industrial Fence systems. Also includes a new three-piece European style riving knife, magnetic table insert and miter gauge. **Why It's Hot:** Because of its newly designed motor mount and belt tensioning mechanism, there is minimal vibration. This,combined with its new "seamless" Granite surface design for unsurpassed flatness and precision, make this new cabinet saw one "Smooth Operator". Prices range from $1320.00 to $1540.00 Visit: www.steelcitytoolworks.com or www.nordis.ca for your closest dealer.

Trend **3" Diamond Mini Taper File**

The innovative Trend mini taper file has a 3-inch blade with flat top and convex back, fine 600 grit (25 micron) electroplated monocrystalline diamond and continuous diamond surface.

Why It's Hot: The file is ideal for carvers and turners that need to get into small areas such as small flutes in carving tools. It is especially useful for sharpening hard to get at places such as contours on shaper cutter insert knives. Price: $37.74. Available through www.robcosman.com.

William Wood Write **Project Kits**

New project kits! Check out the latest additions to our project kit selection: back scratcher and seam ripper kits. They're both easy to turn and put together and will make a great gift for anyone on your list. We also carry yoyos, darts, compact mirrors, purse hangers, ice cream and coffee scoops, key rings, letter openers and more. Visit www.penblanks.ca or call 1-877-585-0403 for more information or to place your order.

BlackJack **Straight Edge Tool Guide**

This easy to use power tool guide allows straight cuts and routes on panels up to 109" long. Two over-centre clamps and fully adjustable pressure pads provide parallel or diagonal clamping to material up to 1-3/4" thick. Each end is clamped independently with an over center toggle clamp. Wrench-free material thickness adjustment.

Why It's Hot: Easy one hand thickness adjustment and independent clamping allow full diagonal guiding on panels up to 4' x 8'. Disassembles to two 55" long sections for easier use on smaller panels and for transportation to the job site.

$119.95 CDN

http://www.workshopsupply.com

Triton **TRB001 Router**

Designed by Woodworkers for Woodworkers, the TRITON TRB001 2000W/3-1/4HP precision router boasts tons of key features, from a powerful soft start electronically controlled motor that automatically maintains speed under load, side mounted cooling vents, three-stage pre-set height adjustment system, auto-spindle lock and superior dust collection.

Why It's Hot: This router can switch from a conventional plunge router to a fixed based unit with rack and pinion adjustment at a simple turn of a dial. The multi-award winning TRB001 has been the benchmark in professional routers around the world since its release. $329.99 Visit: www.tritontools.com or www.nordis.ca for your closest dealer.

WoodRiver® **V3 Bench Planes**

Version 3 Bench Planes are based on the reliable Bedrock design and feature heavy stress-relieved ductile iron castings, fully machined adjustable frogs and A-2 blades. No. 3: smoothing smaller surfaces. No. 4: smoothing, light jobs, but can slice difficult grain. No. 5: stock removal, smoothing, jointing. No. 6: jointing edges, flattening and smoothing large surfaces. ($124.99-$184.99; $549.96/set of four)

Why It's Hot: Version 3 improvements: a reshaped rear tote for a more comfortable grip, a larger diameter blade adjustment wheel for easier blade advancement, a more robust lateral adjustment lever with a traditional style bearing for better blade control and improved castings.

www.woodcraft.com

Elmer's **Probond Max**

For over 60 years, Elmer's wood glue has been a familiar sight in workshops and homes. We have taken our wood glue and kicked it up a notch with new a formulation. Elmer's PROBOND Max is the only woodworking adhesive on the market that is both waterproof and stainable. This contractor's grade wood glue is the most advanced formula yet!

Why It's Hot: The formula contains real wood fibers for superior staining, painting and sanding. This non-toxic interior and exterior wood glue resists heat, mould and mildew. The wood will break before the bond does. ANSI Type 1 waterproof and easy water clean-up.

www.elmers.com

Laguna **IQ PRO CNC Router**

The NEW Laguna IQ PRO CNC Router redefines the future of computer numerical control in woodworking. The Laguna IQ series is simply a smaller version of the popular Laguna SmartShop technology. A smaller footprint but with the same accuracy and cut quality of much larger machines. Plus, the Laguna IQ "Touch" controller (by B&R Automation) provides an operator experience second to none!

www.lagunatools.com

Laguna **LT14 SUV Bandsaw**

The LT14 SUV is an upgraded version of the LT14 3000 series bandsaw - in other words, we have taken something great and made it even greater! Full of powerful features and massive re-sawing capacity – fourteen inches – this European style bandsaw has an additional 1 HP Motor (to the LT14 3000 Series) to give you a strong 3HP Leeson motor for tough re-sawing. Plus we have added rack-and-pinion upper guide, a convenient foot brake with micro-switch and easy tilt system. If you are looking for the fully loaded bandsaw, look no further – you have reached woodworking utopia!

www.lagunatools.com

Dura-Grit **DuraDisc 5" Carbide Sanding Discs**

with Heavy Duty Hook & Loop Kit

Your random orbital sander or bench sander has never seen anything like the carbide DuraDisc™ from DuraGrit. With DuraGrit's Carbide Fusion Technology™, it will sand through your entire project. DuraGrit's testers sanded more than 10,000 feet of wood with a single disc, which looked barely used afterwards and still performed like new!

Why It's Hot: Sand hard and soft wood with your ROS. Shape and grind wood, plywood, fibreglass, laminates, wall tile, rubber, leather and many more materials on your bench sander. You'll have trouble running out of ways to use them!

Available in 46,60,80,120 & 150 grit – all five- & eight-hole compatible.

$24.98 ea. USD

www.duragrit.com/cw

Forrest **48-Tooth Woodworker II**

Forrest Manufacturing has taken its award-winning general-purpose saw blade to a superior level of performance. The new 1048 Woodworker II has more teeth, a higher bevel and sharper points than the original 40-tooth Woodworker II, making it exceptionally good for cross-cutting everything from soft woods to plywood. It cleanly slices through wood fibres and operates quietly with virtually no vibration.

Why it's Hot: Cross-cutting involves severing the fibres in the grain, often resulting in splintering or a fuzzy cut. The 48-tooth Woodworker II eliminates those problems. It also produces smooth rips without side scoring or splintering, making it a good all-purpose combination blade.

Price: $134.00

www.ForrestBlades.com

Flexcut **Whittlin' Jack™**

Flexcut's new Whittlin' Jack™ is a folding multi-knife for whittling and more. The hard carbon steel blades are hand sharpened to a razor finish and really hold their edge. The Roughing Knife is great for modeling surfaces, creating textures, patterns, plus carving caricatures and figurines. The Detail Knife quickly removes wood from convex surfaces and is perfect for fine detailing and delicate work.

Why It's Hot: Flexcut's Whittlin' Jack, though new, has already made a good name for itself among pro carvers and hobbyists as a well-engineered, 100% North America made, assembled and sourced tool that lets you carve better and longer. The handle is especially designed to fit your grip comfortably. It's tough but weighs only three ounces and is just over four inches long when closed, so if fits right in your pocket. That means you can whittle wherever you go and whenever you want. Great as a shop knife too!

SRP: $59.95

www.flexcut.com

Hand Tools are Simple and Safe

If I need to make straight or gently curving grooves that parallel an edge, I like to use a scratch stock. This low-tech tool is quiet, relaxing to use, and any mistakes you make tend to be minor – unlike with a router, where if something goes wrong, it goes very wrong. You can buy a scratch stock ready-made, you can convert an old marking gauge, or you can make one "from scratch" (excuse the pun). Ready-made scratch stocks are actually beading tools, designed to cut decorative beads or flutes. You might still find a Stanley No. 66 beader in a used-tool flea market, or you can purchase a reproduction now being made by Lie-Nielsen Toolworks. Veritas also makes a couple of versions of beading tools. Both of these hold steel cutters, which cut beads or flutes. Converting them into a tool to cut channels for string inlay is simply a matter of grinding the right profile into a steel cutter blank. It doesn't get much easier than that. You can either buy these blanks or you can cut up old scraper, bandsaw or hacksaw blades.

The cutter used for string inlay has one single tooth about $^{1}/_{16}$" wide and $^{3}/_{32}$" long. Its sides are bevelled slightly so that the groove it cuts is a bit narrower at the bottom than at the top. The wooden stringing will have this same slight bevel planed or scraped onto its sides so it fits into the groove like a wedge.

Regrind a Tooth– Remove the small fluting cutter from this Veritas beading tool, regrind its profile into a small tooth that will cut grooves for stringing, and you're ready to go.

A Slight Modification – You can make a scratch stock by replacing a marking gauge's original beam with a custom beam designed to hold a cutter. The function of the fence and thumbscrew remain the same.

Make Your Own – Your basic shop-made scratch stock: hard maple body, steel cutter and a half dozen machine screws and nuts from the hardware store.

To modify an old marking gauge (or a cheap new one), remove the pin and then cut a slot lengthwise down the gauge's beam with a bandsaw or fine backsaw. Drill and counterbore a couple of holes crossways through the beam for small bolts and nuts that will secure the cutter. Use the marking gauge's fence to set your distance from an edge, just as you would do if using the gauge to scribe a line. If you prefer not to modify your marking gauge permanently, remove the beam that holds the pin and replace it with a new beam that is kerfed and drilled to hold a cutter. Also, by making a new, longer beam to hold the cutter, you can cut grooves for stringing as far as several inches from the edge of a workpiece.

A Wooden Stop – A scrap wood block clamped to this leg ensures that the grooves cut along each edge will stop at exactly the same height.

To make your own scratch stock, start with a piece of hardwood about six inches long, two or three inches wide and an inch thick. Cut this into an L-shape, then round over the inside face of the shorter leg of the L. This face forms the fence that rides against the edge of the workpiece. Next, saw a vertical kerf down the long leg of the L, stopping just before the face that you rounded over. This kerf will hold the cutter. Drill holes through the long leg to receive bolts and nuts to secure the cutter, just as with the modified marking gauge.

Before you start work, decide whether one cutter will be able to cut the grooves for all the stringing you have to make before it becomes too dull. If not, you'll need to shape several cutters so if one dulls you can replace it with a new, identical one. To make a batch of cutters, bundle a few blanks together and secure them with tape. Then shape them using a grinder and small files to achieve the profile you need.

To use your scratch stock, secure the cutter in position, hold the fence firmly against the edge of the workpiece, then roll the tool forward slightly and make light, scraping passes with the grain. Gradually roll the tool back more towards the vertical as you continue to scrape, deepening the groove made by the cutter. The action is much like one you would use with a cabinet scraper. Soon you will be able to make light cuts in both directions. Keep the cutter's tooth free of shavings as you work. As the groove approaches its full depth, the beam will rub against the surface of your work, limiting the depth of cut.

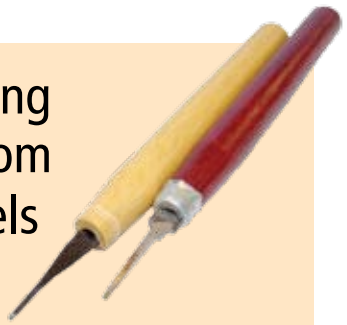
A good sharp cutter in the scratch stock will allow you to make very clean cuts, even when working cross-grain, so long as you keep the cuts light and work patiently. You can also reduce chipping and splintering by first scoring across the grain very carefully with a scalpel, craft knife, wide chisel or plane blade. Don't rush this fine work. Your attention to detail now will make all the difference to the final result.

When two grooves meet at a corner, cut carefully into the corner for a nice crisp edge using a chisel or plane blade guided by a straightedge or wooden fence. Then place a piece of the stringing against the fence and use it as a shim to reposition the blade. Carefully chop down to cut the other side of the groove. Do the same to cut the corner of the intersecting groove, then use a tiny shop-made chisel to clean out the waste.

Cutting Curved Grooves

Curved grooves can be made in a couple of ways. To make an arc you can use a divider with the tip of one leg ground and honed to the same profile as the scratch stock blade. By carefully positioning the tool you can cut arcs with ease. You may find that the pivot point

Making Custom Chisels



You'll quickly discover when inlaying stringing that your standard bench chisels are too large for the job. You'll search long and hard just to find a ⅛" chisel these days, while for stringing you'll want one only half that size or less.

The solution is to make one. It takes only a few minutes. That's right, minutes. Start with an old junked chisel, screwdriver, carving tool or other tool with a blade. Use a grinder or belt sander to grind the blade down to the size you need. Have some water handy and quench the blade often so you don't draw the temper out of the steel. But even if you do blue the steel, little chisels like this do such delicate work that you needn't worry overly about it dulling too fast. If it concerns you, however, or if you're using a softer steel to begin with, heat the blade with a propane torch until it glows straw yellow, then quench it in the water. This will leave the steel hard but brittle. To make it tough, temper it by putting the blade into a 375–400°F oven for an hour. (Okay, so I lied about the "few minutes" part.) Hone the blade as you would any other chisel – flattening the back and honing a smooth, bright bevel.

Tiny Edge – This 1/16" shop-made chisel cleans out waste in a groove being cut for stringing.

Curved Grooves – Dividers can be used to cut a curved groove. One leg is ground to match the profile of the scratch stock cutter being used for straight stringing. The other leg is located on a piece of scrap clamped to the workpiece, allowing it to pivot and cut the right diameter arc.

Solid Base – The Stewart-MacDonald precision router base equipped with the roller edge guide. A solid carbide micro spiral router bit does the work.

Air Removes the Dust – Here, the blower is being used with the Stewart-MacDonald router base to keep the work area clear of sawdust. A hardboard shop-made edge guide is being used to rout a groove that is beyond the reach of the roller guide.

of the other leg of the divider needs to be located outside of the workpiece in order to scribe the arc. In that case, you can clamp or hot-glue a block of wood to your workpiece and locate the leg on that. Once again patience is a virtue here. Many light cuts yield a far neater result than just a few heavy ones, especially when working cross-grain.

More complex curves can be cut using a template and a shop-made two-bladed knife. The knife consists of a couple of X-Acto #11 knife blades fastened together with a spacer the width of the stringing between them, held in a hobby knife handle. The blades are quite flexible but can be made more rigid by fastening them and the spacer together with epoxy. Use the double blade with a pattern of the curve cut from thin hardwood or masonite. Clamp the pattern firmly in place and then score all around it with the knife. Clean out the waste with your shop-made chisel. You'll probably have to scribe and then chisel out the waste two or three times to get to the right depth. Take your time. Also, you may have to make up more than one double blade so you can replace them as they dull.

And Now for the Power Tool Version.

In my opinion, routers – even small laminate trimmers – are overkill for such delicate work. Fortunately, the folks at Stewart-MacDonald – suppliers of tools and materials for stringed instrument makers – provide an alternative. They make a precision router base with an edge guide that fits a Dremel rotary tool. Used with micro spiral router bits, it allows you to route the tiny, precise channels you need for stringing. Stewart-MacDonald also makes an edge guide that fits the router base: use it wherever you have a straight or gently curved section of stringing that parallels an edge.

For tighter curves, it's better to use a template made of thin plywood or hardboard. Clamp or temporarily glue it to your workpiece and rout around it with the shaft of the router bit rubbing against it like a bearing. Although this may be power-tool work, it doesn't mean you can speed through it. These tiny router bits are delicate. If you force the cut, you'll get chatter, resulting in an uneven groove, and eventually a broken bit. So take your time; this needs to be your best work.

BILL PERRY
wmperry.ca

Since completing his English degrees, Bill has been a photographer, designer, drug rehab director, darkroom tech, corporate news editor, retail clerk and online website editor. Woodworking was his last resort.

Renovations

BY DON WILKINSON

Renovate /rénna vayt/ vt 1 To destroy part or all of one's home in an attempt (usually failed) to improve said dwelling. 2 A bad idea usually perpetrated and/or instigated by one's spouse.

Over the years, I have come to one inescapable conclusion: it is virtually impossible for the North American family to move into a new home without immediately discovering that it doesn't meet the exacting criteria of the other spouse. This is in spite of the fact that they had just spent countless days, weeks and months searching through thousands of possibilities until finally discovering the most perfect little dream house they have ever seen or even imagined.

Over the years of my somewhat varied career, I have built homes to live in and I have purchased homes to live in. I've rented houses and I've rented apartments, both above ground and below. I once lived in a lovely apartment just a five-minute walk from the castle above Prague.

I even purchased a wall tent in which my wife, infant daughter and two dogs lived beside a frozen mountain stream one Yukon winter. The one thing they all had in common though — well, other than a toilet, the wall tent even had one of those; after all, roughing it only goes so far — was that not one of my dwellings ever escaped renovations of some sort, whether they were really necessary or not. More frequently not.

As I have mentioned in previous columns, my wife and I recently moved to B.C.'s sunny Okanagan Valley. We rented a motel room for a few months as we searched through towns and villages, viewed house after house after house and explored more than a few of the wineries dotting the countryside. (Tip: do not make any major house purchasing decisions following a visit to a winery. Or two. Or three) But eventually we bought a house. It was a pleasant little place that we felt we could make our very own without actually having to do anything to it except sign over our firstborn (which we were perfectly willing to do.) A house that was large enough for the children to come visit but small enough that they couldn't stay. A house with a spare bedroom that I could use as a study so we wouldn't have a spare bedroom for above-mentioned children and a garage to set up my tools in, for much the same reason. A house that was absolutely perfect for our every need, in which we could simply pull our stuff (oh so much stuff) out of storage and move into immediately, then wander on down to the beach or go visit another winery. In short, a house that needed absolutely no renovations whatsoever.

Three months and counting and we are still renovating.

As the weeks passed and we hung pictures on walls that we suddenly realized badly needed painting and squeezed furniture into rooms that had mysteriously shrunk by half, we realized our perfect little house wasn't quite so perfect after all. Renovations would be needed. Major renovations, in fact. Renovations that entailed walling up doorways, smashing very large holes in other walls to make new doorways, plumbing that had to be disconnected away from 220-volt dryer hook-ups. And dry-walling. So very much dry walling! I really hate dry walling!

Plus the house was pink. How'd we miss that? Oh yeah: wineries.

The first renovation project my loving wife came up with was to replace the hideous pink carpet in the master/mistress bedroom with laminate flooring. Luckily, the August/September issue of *Canadian Woodworking & Home Improvement* has an excellent article about installing a floating laminate floor.

I received my copy just in time to read about all the mistakes I had made installing my floor two days prior.

To Be Continued (probably for years)

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Illustration by: Mike Del Rizzo

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