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CONTENTS

AUGUST / SEPTEMBER 2004

PROJECTS

Cover photo by Ray Pilon, Ottawa ON

DEPARTMENTS

editorsletters

Linda Fulcher

Wood seems so solid that I sometimes forget how fibrous it is, and how much it can absorb. This fact was brought to my attention when I saw the word "wick" to describe how wood draws water.

In this issue, one woodworker cautions us to avoid "wicking" when it involves outdoor projects. The idea is not to have ground water wick up wood panels, because they would quickly rot. (How much wood would water wicking into wood rot wood, if water wicking into wood did rot wood?)

I don't know if "wick" is truly a woodworking word. However, a bit of quick research shows that crude lamps with fibrous wicks have been around at least as long as woodworking has.

I can imagine the action: the fibrous quality of the wood makes it a good comparison to the wick of a candle or a lamp. They both draw liquid. Woodworkers may have been using this word for thousands of years.

Wicking isn't necessarily a bad thing. It works to our advantage if we want something to wick into the wood, say a stain, or a water based preservative or finish. On the other hand, it is a wicked thing, if water is constantly being absorbed into an outdoor project and rotting it, especially after all the hard work that went into building it.

One outdoor builder pointed out to me that people take great care to protect the visible parts of outdoor projects, but that equal protection should be given to the underside and to the parts near the ground.

It puts wood in a new light, when we are aware of its capacity for wicking.

Fortunately, there are many things we can do to protect outdoor projects: design projects so that wood does not come in direct contact with the ground, ensure that air can reach and dry all sides, choose woods that have resistance to water, use wood preservatives or finishes to seal the wood and finally, protect the undersides. That way the water won't wick into the wood.

Paul Fulcher

When I first saw the upcoming woodshow schedule, I did a 'double-take': Sixteen woodworking shows in seventeen weeks! That's a lot of woodshows, offering a lot of valuable resources for woodworkers looking for ideas, information and supplies.

To give you an idea of how popular and helpful these shows are, check out our coming events listed on page 40.

For a complete listing, see our website's 'Canadian woodshows' - it lists every Canadian woodworking show and provides a link to their web site.

So, while you think of it, grab a magic marker, and mark the local woodshow date(s) on your calander. With that many woodshows coming up in the next four months, there's bound to be one in your 'neck of the woods'.

Then, once you've got it marked on your calander, start a list so you can take full advantage of these invaluable events. Start jotting down some of those questions you've been wondering about. List some of those hard-to-get woods that you've been wanting to pick up. Go through some of your supplies and see what you're getting low on. Look at some of your shop processes and ask yourself if there's a tool that could help you out. If so, a woodshow is a great place to 'shop-around' and compare features and benefits of virtually any woodworking tool.

Woodshows are also great places to take your family. Simply consider any admission you pay for other family members as an investment. Then, sometime during the show, when you're all together, do what I do: hold a desired item lovingly, look up with a unfocussed gaze, and ask your loved one(s) "How long until my birthday?" or "When's Christmas again?"

It's not subtle, but it is effective.

Oh yeah, while you're at the show look me up. I'll be the guy holding the newest tools and practicing my gaze.

Correction:
In our Apr/May 04 issue in the materials list for the Deacon's Bench (page 27) Item (B) Front Leg is shown as 4/4 Oak. It should be 8/4 Oak. Both front and rear legs are fashioned from 8/4 material.

deareditors

Via Email:
I received a phonecall from your offices offering me an extended subscription at the old price...
Mike C., Ottawa, ON

Via Email:
This is just to confirm your phone solicitation recently to extend my subscription... I thought afterwards, "Was that Canadian Woodworking?"
Dennis D., RPA, Halifax, NS

Editor's Note:
Canadian Woodworking Magazine does not phone people at their homes. I dislike being "phoned up and sold to" in my own home and therefore don't subject others to it. If you get a call from a telemarketer, please know that it is not Canadian Woodworking Magazine!

Via Email:
On the Woodnet Forum, during a discussion of making picture frames, someone from Canada suggested that I contact you about an article in your most recently published magazine on this topic. How could I obtain this article?
Richard A., Bowling Green, KY

Richard,
Wow! News travels quickly. You are asking about our June/July '04 issue in an email from Kentucky, dated May 28th. That issue isn't even on newsstands yet, so you must have heard from one of our subscribers (who

■ continued on page 21

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By Gary Dover

Felling and splitting axes, adze and froe

Part II

Grandpa's Tool Kit

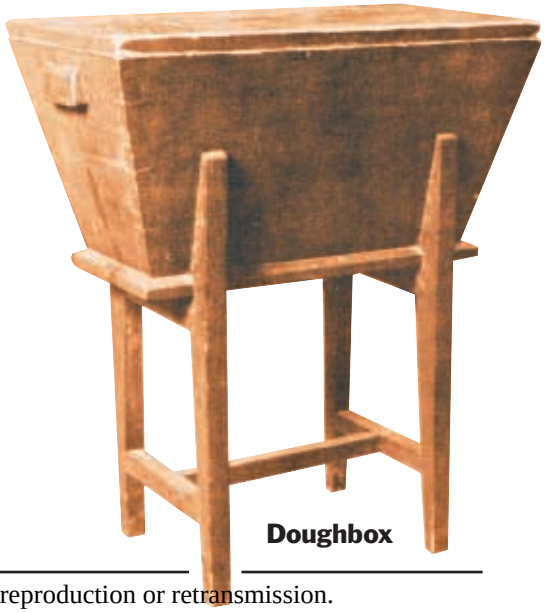
Old Ways of Securing and Preparing Woodstock

Rhythms of a 19th Century Woodworker

At the closing of the 19th century the rhythms of life on the Gaspé coast were not far removed from those of the preceding two centuries. The rural way of life, like the climate, was hard and only the strong and tenacious survived. Those able to adapt and overcome prospered. For Grandpa this meant hard days in the back woods cutting pine, spruce, cedar, and birch. This bounty of the forest was destined for firewood and board wood for furniture making.

Winter days were long and arduous. At 3:00 a.m. Grandpa would awaken to hitch up the horses and wood-hauling sled. First he would take a hearty breakfast, prepared by Granny who was also beginning an endless number of household chores. Then he would travel up over the snow along the Coteau road, to start work at 5:30 a.m. Grandpa was then a young man in his prime. However, after an exhausting day's work in the woods he would usually need a short nap behind the stove on his return from work to be able to carry on with his many evening chores.

Winter evenings provided Grandpa with enough spare time to make items of kitchen furniture for his fellow villagers. On one such evening in February, there was a horizontal rush of snow raging up from the Atlantic coast, and past Grandpa's workshop. Grandpa was safely inside selecting pine to make a dovetailed dough box. As he peered through the window, with a crackling wood stove behind, he was unable to see his house because of the blinding snow. Granny and the two babies were also snug and warm inside. She was busy in the kitchen with one baby in a rocking cradle and the other playing near the step-back cupboard. That evening with the pot-belly stove well fired up, she was baking bread, tourtières, and lemon meringue pies.



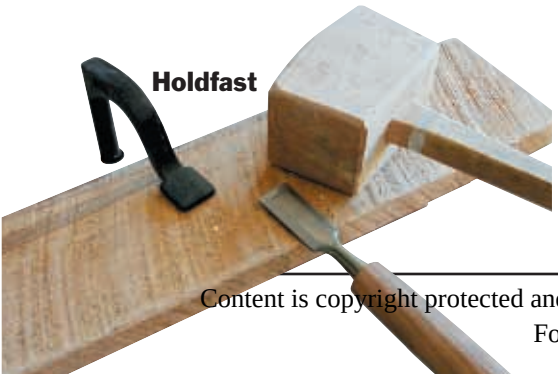
Doughbox

Grandpa did not have a dedicated wood shop; he had a large barn-like "store" which housed at least 25 cords of firewood for the winter, his long Conestoga wagon (in storage for the winter), assorted harnesses, plows, and other agricultural implements. Grandpa had built this timber-framed store with help from a few neighbours. The entire structure was based on a traditional English barn with mortise and tenon construction throughout, held together by trunnels ("tree nails" or wooden pegs). He had a small corner next to a window where he was able to situate a joiner's workbench with leg vise and his cherished tool chest. His workbench consisted of a single 3" thick maple board.

Joiner's bench with leg vice

This workbench had a long and impressive history. The very first woodworker's vise was invented by Jacques-André Roubo in the 18th century. The leg vise was a long beam of hardwood attached to the leg of a workbench by means of a wooden screw and garter. The Roubo bench was essentially a flush-with-the-work surface version of a blacksmith's vise, similar to today's machinist's vise.

Everything connected with Grandpa's workbench was made of wood. There were wooden bench hooks, bench dogs, bench slaves, clamps (or "cramps" as Grandpa called them), and saw horses. The only metal fixture he used was an equally old holdfast. This is a metal hockey-stick-shaped iron device, pounded with a wooden mallet into pre-drilled holes in the work bench surface. The holdfast was necessary to secure a work piece for planing, chiseling, sawing, or carving.



Holdfast

As Grandpa selected 4/4 pine to make the dough box he reflected on the wood cutting season. In late winter, he would haul the harvest of the forest back to his store: beams, firewood, boards, and hardwood billets. When the snow disappeared in early May, he would stack (or sticker) all of his boards in a covered shed behind the store. These stacks would dry throughout the warm, windy summer. Firewood and board wood would be brought inside towards the end of October for the next winter's fires and furniture making. The pine boards that Grandpa was about to use to make the dough box, came from Gaspé trees cut down the year before - and so the cycle was completed.

Selecting Trees

The men of Grandpa's generation spent a lot of time working in the woods and they knew instinctively how to read a tree. By simply looking at a living tree, a 19th century woodsman could tell what the board wood lying within would be like. For example, if the trunk was straight and of sufficient girth, then the heartwood would produce a certain volume of board footage consisting of wide, straight-grained boards. If the tree was growing on the side of a hill and exposed to the prevailing winds, then there was likely to be tension in the wood and this would make it difficult to split or saw. Often they would search out certain boughs and branch structures such as the crotch of a tree, which would produce an arched triangulation brace for a timber-framed barn. Additionally, these experienced woodsmen would often fell a selected tree on the dry sheltered side because they knew that on the exposed side the grain was tighter and more likely to dull the bit of their felling axe.

Though hardy woodsmen, like their ancestors, they had little or no formal schooling. As young boys they were needed to assist in running the farm and from the age of 10 onwards were given a full day of chores to do. And heaven help them if those jobs were not completed to the very highest of standards. In terms of life skills they all had a wealth of knowledge either passed on to them by their fathers or uncles or acquired through what we now refer to as on-the-job-training. None of these highly productive woodsmen had any scientific training but they could immediately tell you the exact species of any tree in the forest. They could also list the strengths, weaknesses, and workability of the wood, the other products from the tree (oak and elm bark for leather tanning, edible nuts from the butternut tree, medicines from the sassafras tree), the moisture content of the live tree, and the amount of time needed to dry out the boards. They also knew exactly where to place their mauls or wedges to cleanly split a tree to obtain dimensionally stable wood, which would be less prone to cupping or warping during the drying process.

Sharpening Tools

Sharpening was another key life skill possessed by our early Canadian woodsmen. The quality of 19th century carbon steel was not what it is today, but every cutting edge was razor sharp. Every woodsman had a few basic whetstones and mill files. Grandpa also had a grinding wheel rotated by boy-power (one of those boys being my uncle) This was one of uncle's many jobs around the farm. The men took their sharpening stones and files with them into the woods as it was necessary to sharpen axes and draw knives frequently throughout the workday.

At the end of the 19th century there very few water powered saw mills on the Gaspé coast. If boards were required, Grandpa and his team would manually saw each board from a squared log.

Sawing Lumber

Unquestionably, the saw, like the humble screw, was and still is a marvel of technology, and significantly outclasses the ancient axe. In addition to greater precision in cutting, the saw produces far less waste than the axe. For ripping and cross cutting logs Grandpa used a variety of saws. He had a framed pit saw (a thin narrow blade stretched on a rectangular

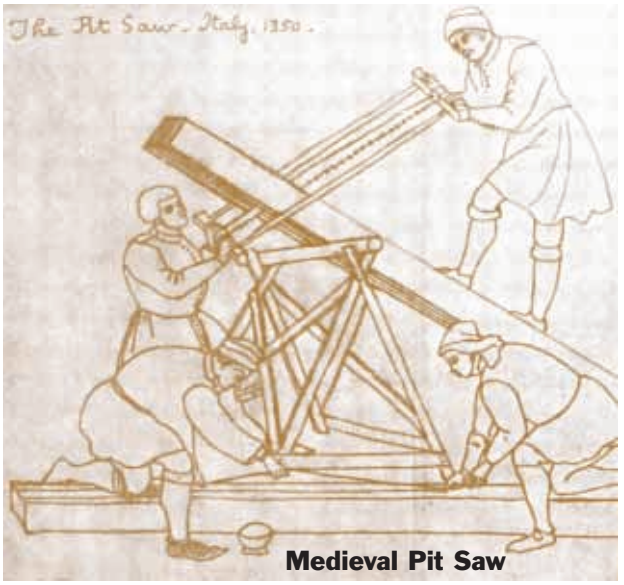
frame) used to rip boards from a squared log supported either on trestles or makeshift sawyer's props. Before the industrial revolution when harder steel was developed, saws without supporting frames, would require a set which would only cut on the pull stroke, because of the softness of the steel. The saws would almost always bind in the cut on the push stroke. Some improvement came with the framed saw, which allowed the soft blade to be stiffened. However, the wooden frame would often get in the way further into the cut.

Grandpa was at the receiving end of advances in steel technology at the end of the 19th century. His pride and joy was an open pit saw. This was a thick long tapering two man saw without a frame; with a handle at the top known as a tiller and a lower removable handle known as a box. The open pit saw was much like a larger version of today's carpenter's saw. In the middle of the 18th century, hand tempered steel was replaced by rolled steel. With the introduction of rolled steel, saws were now sufficiently hardened and robust enough to receive a push set that permitted the cutting of wood in both directions without binding. Today's saws are a good example of this revolutionary development in technology; but it is a relatively recent innovation.

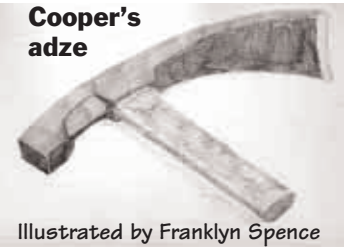
In the woods Grandpa was an expert at using and maintaining his open pit saw and, therefore, was always at the top of the log during cutting. He also had other useful saws: the cross cut or thwart saw, and it's smaller cousin the buck saw, (usually made with a bow made from a spruce bough). These saws were less wasteful alternatives to the felling axe and were used to either cross cut or buck logs into more manageable lengths for further processing.

In the back woods the cutting of boards using pit saws was an efficient but labour intensive method of obtaining rough-milled woodstock. In Europe, for centuries, this had been accomplished by digging a man-sized pit and laying the log over it. The master sawyer would climb up on top of the log and then guide the long two-man rip saw (often a wooden frame pit saw). The apprentice would crawl into the pit and provide the physical manpower for each cut, in addition to getting a face full of sawdust with each stroke. In the Canadian back woods the log would be supported on a makeshift sawyer's prop and would be cut in a similar fashion, after marking the line of each board with a snapped charcoal line. In those days a 1" board before planing was rough cut at 1 3/8". All of Grandpa's woodstock was cut this way until the beginning of WW II when gas powered saw mills arrived in Gaspé.

In the next article we will take a more detailed look at axes, adzes, draw knives, and froes; tools used for chopping, splitting, and hewing in the back woods.



Medieval Pit Saw


Cooper's adze

Illustrated by Franklyn Spence

GARY DOVER operates Merlin Wood School of Fine Woodworking, Hudson, PQ (450) 458-0813 www.merlinwood.com

shortcuts By Graham McCulloch

Sander Discs

Hook-and-Loop Sanding Discs

The hook-and-loop sanding disc has all but replaced the adhesive-backed sandpaper. The reason is simple. Hook-and-loop sanding discs can be used over and over again, whereas the adhesive-backed products get contaminated with sawdust quite quickly and the backing loses its stickiness.


Hook-and-loop sanding discs can be reused more readily than adhesive-backed discs.

Maintaining Sanding Discs and Belts

Most woodworkers use crepe rubber blocks to clean sanding belts and drums to extend their life. These same crepe rubber blocks can also be used on sanding discs. Apply the block to the moving sanding disc or belt to more than double the abrasive life.

Use only the above two shortcuts.

If we have space that we have to fill, we can use the tip below ñ I just donít want to use it unless we have to.

Perforating Sanding Discs

Perforated sanding discs are more expensive than the plain ones. You can do your own perforations. A template made from a scrap of plywood to indicate where the holes should be (for your sander) is all you need. Clamp the discs between the template and a piece of scrap, and drill with the appropriate drill bit.

GRAHAM McCULLOCH is author of Workshop Shortcuts for Woodworkers Sterling Publishing Co. Inc., NY (902) 479-0221 www.shortcuts.ns.ca graham@shortcuts.ns.ca


The crepe rubber block cleans this sanding belt and will more than double the life of abrasives on all types of sanders.

Mission

Armoire
Couresty Crestwood Design

The Mission style was developed by a number of influential designers in order to create a simpler, more craftsman, look. Their rustic designs were a reaction to the strong ornamentation flaunted in the Victorian style which preceded it.

The Mission style was influence by the traditional style of the American Southwest, which incorporated native American, Spanish, and Hispanic elements. The name 'Mission' reflects the resemblance to furniture crafted by American Indians for the Spanish missions in the late 1800s.

One company that helped define Mission style, was the L. & J.G. Stickley Company of upstate New York. Stickley designed solid, often massive, furniture with exaggerated joinery, including mortise and tenon, and pegs. This simple construction was meant to last for many generations and was very different from the Victorian construction that preceded it. The wood of choice was oak, which was often artificially aged and darkened to create a rustic, weather-beaten, look. This rugged, aged, look contrasts sharply with the refined, highly finished furniture of the Victorian period.

One of the more recognizable Mission designs is the Morris chair. It's design is attributed to William Morris, an English architect, artist, and social reformer. Morris shunned mass-production of inexpensive furniture and designed instead furniture that was to be efficiently produced by craftsman, using rectangular shapes and simple joinery.

Morris Chair
www.crestwooddesign.com

At that time, the mass-production of furniture was increasing, but the quality was low compared to hand-crafted furniture. The much simpler design of Mission furniture was meant to revitalize the prominence of the craftsman. However, with its simple design and straight-forward joinery, its style was readily adopted for mass-production, a trend which ensured that this furniture style would be available to more than just the wealthy.

MICHEL THERIAULT is a writer and woodworker living in Guelph, ON.
www.woodstoneproductions.com
mjtheriault@sympatico.ca

Style:
MISSION

Timeline:
1890 - 1920

Key Design Elements:
- Straight, clean lines
- Simple, functional designs
- Heavy and square, rectilinear forms
- Mortise and tenons, pegs and dowels, often oversized.

Typical Wood Types:
Weathered or fumed oak

By Danny Proulx

Storage Bench

If you're like me, you always have things lying around your backyard or deck. Cushions, barbeque equipment, and various other items seem to always clutter the deck or yard. Poolsides too are continuously cluttered with such things as balls, floats, swimming gear, and cleaning equipment.

This multi-use storage bench may be a partial solution to such storage problems. With its lift-up lid, this bench will store a lot of those items that need to be available, but don't need to be seen.

The lid on this project has a three-sided guardrail designed to help keep a cushion in place. If you add a couple of Velcro strips, the cushion will remain in place even when the top is lifted.

This particular design is adapted from the old style, built-in-place kitchen cabinets, which consisted of wood attached to a simple frame. I didn't want to spend a lot of money on this project because I knew it would be taking a great deal of abuse. However, I wanted a reasonably strong structure with wood that could withstand moisture. Cedar was my choice, but many other species would be just as suitable (i.e. painted pressure treated lumber).

The hardware I used was all exterior rated and the piano hinge I used was brass. I also decided on polyurethane exterior glue because of its water-resistant properties.

The project is simple to build with minimal wood joinery. A standard half lap joint was used to secure the upper and lower frame, but you could just as easily use butt joints with dowels.

This multi-use bench can be built in an afternoon. Then, with a couple of coats of exterior stain, it will be ready for use. The only thing left to do is to convince the young ones to put their equipment away!

Building the Outdoor Storage Bench

Build the upper and lower support frame.

The joinery is a half lap and requires a notch that's 3/4" deep by 1 1/2" long on both ends of the eight frame pieces.

The notches can be cut with a jig saw, router table, or on a table saw. If you are using a table saw with a dado blade, make a 3/4" deep cut across the face of each piece that's 1 1/2" long. You can also prepare 2 by 4's, and rip them to 1 1/2" wide after the dadoes are formed.

MATERIALS LIST

4 (A) 1 1/2" square x 18" L
Side Rails

4 (B) 1 1/2" square x 48" L
Front/Back Rails

28 (C) 3/4"T x 5 1/8"W x 18"H
Panels, Tongue & Groove

1 (D) 1/2"T x 18"D x 48"W
Exterior Plywood Sheeting

2 (E) 3/4"T x 1"W x 47"L
Base Strips

2 (F) 3/4"T x 1"W x 15"L
Base Strips

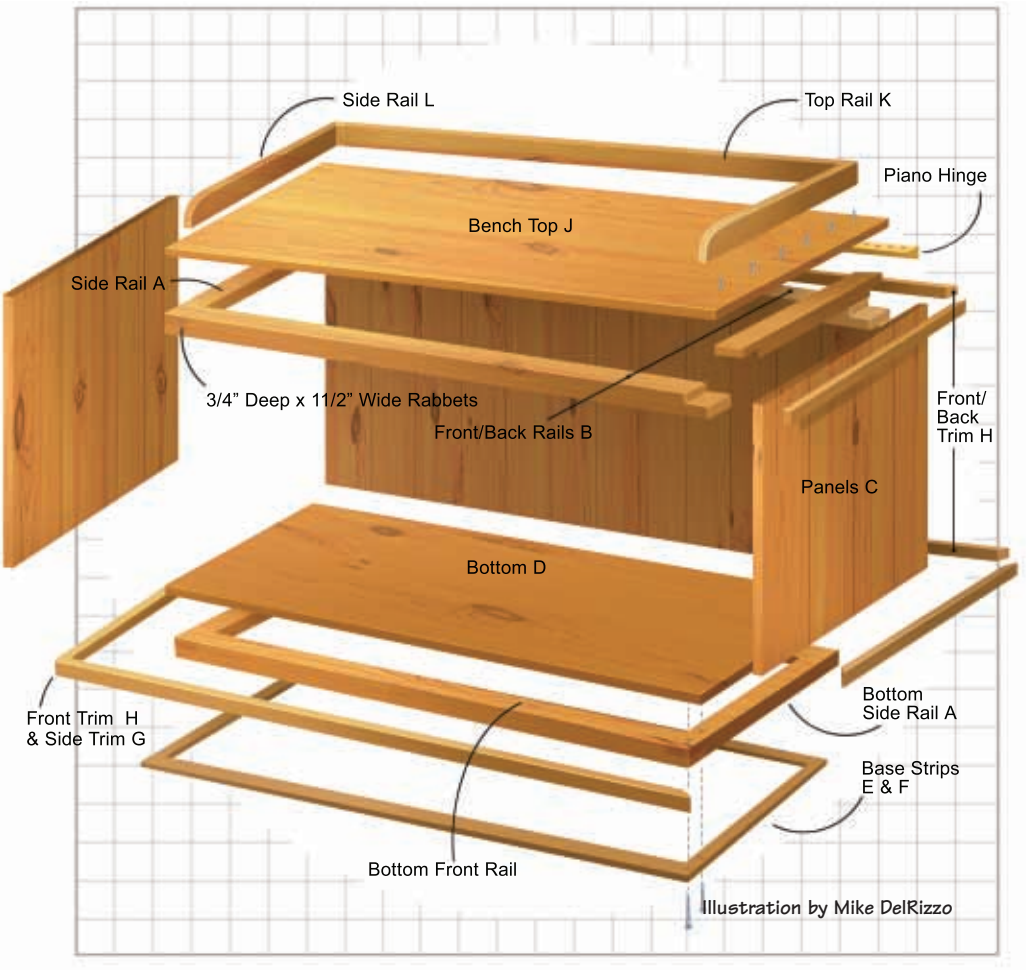
4 (G) 3/8"T x 3/4"H x 20 1/8"L
Side Trim

4 (H) 3/8"T x 3/4"H x 50 1/8"L
Front/Back Trim

1 (J) 3/4"T x 21"H x 52"W
Bench Top

1 (K) 3/4"T x 1 1/2"H x 48"L
Top Rail

2 (L) 3/4"T x 1 1/2"H x 20"L
Side Rail



Join the Rails

Use polyurethane glue and 1 1/4" finishing nails. Each frame should be 18" deep by 48" wide.

Tip

Be sure to read the instructions with any adhesive you purchase. The glue I used required that I dampen the wood with a rag before applying the glue.

Cut the Panels to Size

My 1 by 6 tongue and groove boards are cut to a finished "exposed" width of 5 1/8". Your supplier may dress to a different finished size, so the number of panels required may be slightly different.

Install Panels and Join Frame

Two of the panels are installed to join the upper and lower frame. They are attached at the end of the shorter frame edges. However, before attaching these first two side panels, cut the tongue off each board so they will both be flat facing the front. Use glue and 1 1/2" galvanized finishing nails to secure the boards. One frame is at the top edge and the other at the bottom of each panel.

Cut Tongue and Groove

The outside panels are tongue and groove stock lumberyard cedar. They will interlock as they are attached to the box frame. However, you don't want a tongue and groove at each corner so the tongue of one is cut off and the groove of another is cut. These two square edges (after the tongue is cut off one and the groove off the other) butt to form a square corner.

Start the first front panel by covering the side panel's edge. One becomes the first front panel and the other is the last front panel. Before gluing and nailing, dry fit all the front panels to verify the correct width. The two cut outside boards on the front should overlap the side board edges. If this isn't the case with your panels, trim each one equally until the fit is correct.

Attach Bottom Board

Before installing the remaining side and back panels cut and attach the bottom

Notch half lap joint on both ends of frame

Join upper and lower frames with side panels

First front panel covers side panel's edge

board. Use glue and 1 1/4" finishing nails. Install the remaining side and back panels.

Attach Strips

The box needs to be kept off the ground to minimize any chance of ground water wicking up the panels. If that were to happen the bench would quickly rot.

Cut the base strips and attach them to the bottom frame, flush with the back face of the panels. Use screws only so the strips can be replaced if necessary.

Attach Trim

Attach the trim on the upper and lower edges to add a little visual interest to the bench. Secure it with glue and finishing nails. All the corners are mitered at 45-degrees. The trim pieces are 3/8" thick by 3/4" high strips of wood that I ripped on the table saw and installed flush with the bottom and top edges of the panels.

Glue-up the Seat

The bench seat is made by gluing up four lengths of 1 by 6 stock. Make your panel a little oversized, and then trim to the finished size. Edge glue the boards with exterior adhesive and clamp until set.

Tip

Successful edge gluing can be achieved by ripping straight edges on each board with a well-tuned table saw. You don't need a jointer for this procedure if your table saw is equipped with a good blade and is correctly aligned.

Round over Edges

After the top is correctly sized, round over the two front corners with a belt sander to prevent injuries if someone bumps into the bench. Use a 1/4" round over bit in a router, or sand paper, to round over the top and bottom edges of the front and two sides. Leave the back edge square.

Attach Cushion Rails

The cushion rail boards should be cut and installed at this point. I've rounded the front edge of the two side rails to remove the sharp corners. Use glue and 1 1/2" screws from the underside to secure the rail. Start by centering the back rail making sure its back edge is flush with the back edge of the bench top.

Attach Hinge

The top can be hinged with any style of hardware. I've opted for a 48" long brass piano hinge.

Finish

Fill all nail head holes with waterproof filler, sand, and apply an exterior finish. I used Sikkens Cetol 1 #005 Natural Oak.

Construction Notes

There are many applications for this versatile project. It is an ideal outdoor storage bench, but it could just as easily be used inside your home. Do you need a firewood storage box in the basement? This would be the ideal solution. Do your children need a toy box or do you need a bench storage seat in the mudroom to sit and change clothes.

The dimensions can also be altered to suit your requirements. Make it wider or longer so that it will hold all the pool cleaning equipment or the children's outdoor toys.

If security is an issue, or if you want to safely store those pool or garden chemicals, add a lock and hasp. And, if you really want safe storage, bolt the box to your deck through the bottom board and install a lock latch.

Although I used construction grade cedar to build my storage bench, your selection of wood species is strictly a matter of budget and choice.

A fellow woodworker suggested that a lift out tray, supported by cleats inside the box, might be a handy addition. I hadn't thought of that, but if you have a lot of small items (such as garden hand tools, seed packets, or pool equipment), it might be a desirable feature.

To really finish off this project, add a seat cushion. It can be made with a couple of yards of material and a piece of foam. When the cushion is not being used, store it inside the box to protect it from the weather.

DANNY PROULX is a woodworking author and teacher.
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Cut and attach bottom board

Cut base strips and attach to bottom frame

Attach top and bottom trim flush with panel edges

Edge glue seat boards and clamp

Glue and screw cushion rail from underside

Attach brass piano hinge

By Graham Schram

Potato Bin

Illustration by Lee Gabel

Here is a handy bin for storing potatoes, onions and garlic. Unless otherwise stated, all stock is 3/4" thick. Don't use pressure treated lattice for the back and bottom, as it presents a health hazard. You'll have to construct your own lattice, but don't worry, it's quite easy.

The **sides** measure 8" by 22". Place a mark on the front of each side board at 19 3/4" from the bottom, and on the top of each side board, 1" in from back. Connect the two lines, and then cut a slope. The **front** measures 15" by 16". I glued mine from two 7 1/2" by 16" boards.

Make two **lattices,** one 14 1/2" by 18" for the back and the other 14 1/2" by 7 3/4" for the bottom. This will allow air to circulate and keep your veggies from spoiling. Use 1" by 2" stock for the frame, and 1/4" by 1 1/4" stock for the strips. Glue and screw the first strip from the top right corner of your frame to the bottom left corner. Use one of the strips as a spacer when installing the rest of the strips. Trim off any strips that extend over the sides of the frame. Now you can glue and screw the back and the bottom lattices to the sides. Remember to countersink before screwing. Cover the screws with wood-filler, or better yet, wood plugs.

The **drawer** has a front and back measuring 4" by 14" and sides 4" by 6 1/2". Rout a 1/2" by 3/8" rabbet on the bottom of these pieces. Then cut five bottom slats, each 1/2" by 13 3/4". Glue and screw the drawer together, and then glue and screw the bottom slats in place, about 3/4" apart.

Check that drawer fits snugly. Now cut a piece 4" by 16" for the **drawer facing.** Glue and screw drawer facing to the drawer from inside (so you don't see screws). Drill a hole for the knob and secure it with the bolt, flat washer, and nut.

Cut three pieces of **bottom molding,** two that are 2" by 9 1/2" and one 2" by 17 1/2". Mitre corners at 45°, then glue the molding on the front and sides of the bin.

Finally, you will need to glue up a top 10" by 18" and cut a 1" by 18" top rail. Screw the top rail to the top of the sides, and then attach the lid to the top rail with butt hinges. You'll have to bevel the back of the lid slightly to ensure a close fit.

Use your favourite finish on the outside of the bin, and either leave inside unfinished, or give it a few coats of shellac.

GRAHAM SCHRAM is a woodworker living in Brantford, ON

HARDWARE

2	Brass Hinges 2" butt, or fancy
6	Brass Screws
16-22	2" Ardox Finishing Nails
	Brad Nailer with 1" nails for lattice work
1	2 1/4" bolt, flat washer, and nut

MATERIALS LIST

1	**8″ x 42 1/2″ x 3/4″** Upright Sides, stock to be cut in half
2	**16″ x 7 1/2″** Boards, to make front 16" x 5" x 3/4"
1	**4″ x 6″** Drawer Front
1	**1 1/2″ x 8″ x 3/4″** Top Rail
1	**18 1/4″ x 4 1/2″ x 3/4″** Back Lattice
1	**16″ x 3/4″ x 3/4″** Front Brace, under drawer
2	**14″ x 4″ x 3/4″** Inside Drawer, front and back
2	**6 1/2″ x 4″ x 3/4″** Inside Drawer, sides
5	**13 3/4″ x 3/4″ x 1/2″** Drawer Bottom Vent Slats
1	**13 3/4″ x 3/4″ x 1/2″** Lattice, potato cavity bottom
1	Wood Knob
1	**2″ x 9 1/4″ x 3/4″** Bottom Mouldings
1	**2″ x 17 1/2″ x 3/4″** Bottom Front Moulding

By Graham McCulloch

Ships

Take a look at the reverse side of the Canadian ten-cent piece and you will be reminded of the shipbuilding capabilities of Nova Scotians. Take a look at the Marine Model Artists Co-op roster and you will soon realize that Nova Scotians are known to be skilled model shipbuilders as well.

Model shipbuilding is a growing hobby that has captured the interest and imagination of many woodworking hobbyists in Canada and the US.

In fact, Haligonian John Green, a model shipbuilder for close to 25 years, and Dr. Sid Segal of California, founded the Marine Model Artists Co-op. This co-op is made up of 20 or so model shipbuilders, with about a dozen hailing from Nova Scotia. The Co-op was formed as an outlet for members of accredited ship modeling clubs to display their talents without charge or sales commissions. The entry criteria are extremely high and only a top-notch modeller can gain admittance.

John Green, like all modellers, does a lot of research before taking knife to wood. He searches out the original ships plans in archives and museums to ensure that his models will be authentic in every detail. A case in point is his model of the 'Flying Fish', a Grand Banks market schooner. Modellers take great care to replicate the original construction.

Franconia

Philip Eisnor is a retired marine engineering technician, and distinguished professional ship model builder. Philip reproduced the 'Three Sisters', a nineteenth century mercantile schooner, built at Mahone Bay, Nova Scotia, in 1876 by his own grandfather. The ship model was taken from the original builder's half-hull model and includes deck furniture common to the era. All of the components and fittings were hand-built by Philip. A close-up view of the Three Sisters shows the details that these model shipbuilders typically emphasize. For example, every deck plank in the Three Sisters was individually laid and dowel pegged.

Ron Phillips, another Nova Scotian, built an amazingly realistic model of the 'RMS Queen Mary'. It has an overall length of 63 1/2", full interior lighting and over 120 scale figures on the deck. The model of the 'RMS Queen Mary' was built with a basswood hull and is fully operational with four motor-driven propellers on two electronic speed controls.

Phillips beautiful model of the 'RMS Queen Mary' recently sold for US$40,000.

Robert Payne, another Maritimer, got a little sentimental with his model called 'Countess'. The 'Countess' is a steam launch built from both original plans and contemporary sources. The sentimentality comes to the fore when one remembers Humphrey Bogart and Katherine Hepburn (Charley and Rose) in the now famous movie, African Queen.

Robert specialises in live steam models and the 'Countess' is no exception. Just looking at this exceptionally detailed steam launch congers up thoughts of leech covered Charley hauling the 'African Queen' (and Rose) down the river to single-handedly attack a German warship.

Wally Moore is from Lower Sackville, Nova Scotia and is a professional model maker. Wally's precision work is evident in his Brandenburg Galleon 'Roter Lowe' (Red Lion), a Dutch warship armed with 22 guns. Historic sailing ships are Wally's personal specialty, which explains the incredible detail throughout his 29" model. Wally used walnut, mahogany, and cherry in the plank-on-bulkhead construction, and he handcrafted most of the fittings himself.


Queen Mary


Countess

The 'Franconia' was one of the Cunard lines finest steamships. She was a sister ship of the 'Queen Mary' and measured 693' 9" long with a beam of 73' 6".

The 'Franconia' was first launched in 1923 and sailed the Atlantic as a passenger liner, a cruise ship, and a troop carrier during world war ll.

This all-wood scale model of the 'Franconia' is 13' long with a beam of 16". The 'Franconia' model is being totally restored by volunteers at the Nova Scotia Museum of the Atlantic as an on-going exhibit.

Pictured here is Bill Moore, one of the museum's volunteers, and a highly skilled model builder himself. The 1:148 scale model of the 'Franconia' was given to the museum by Cunard in 1955. Although the 'Franconia' arrived at the museum in pretty rough condition, it is expected that the full restoration will be completed by late this year in conjunction with the arrival in Halifax of Cunard's recently built 'Queen Mary ll'.

Reference: www.shipmodelco-op.com

Photo: Franconia Rigged as a Passenger Liner.

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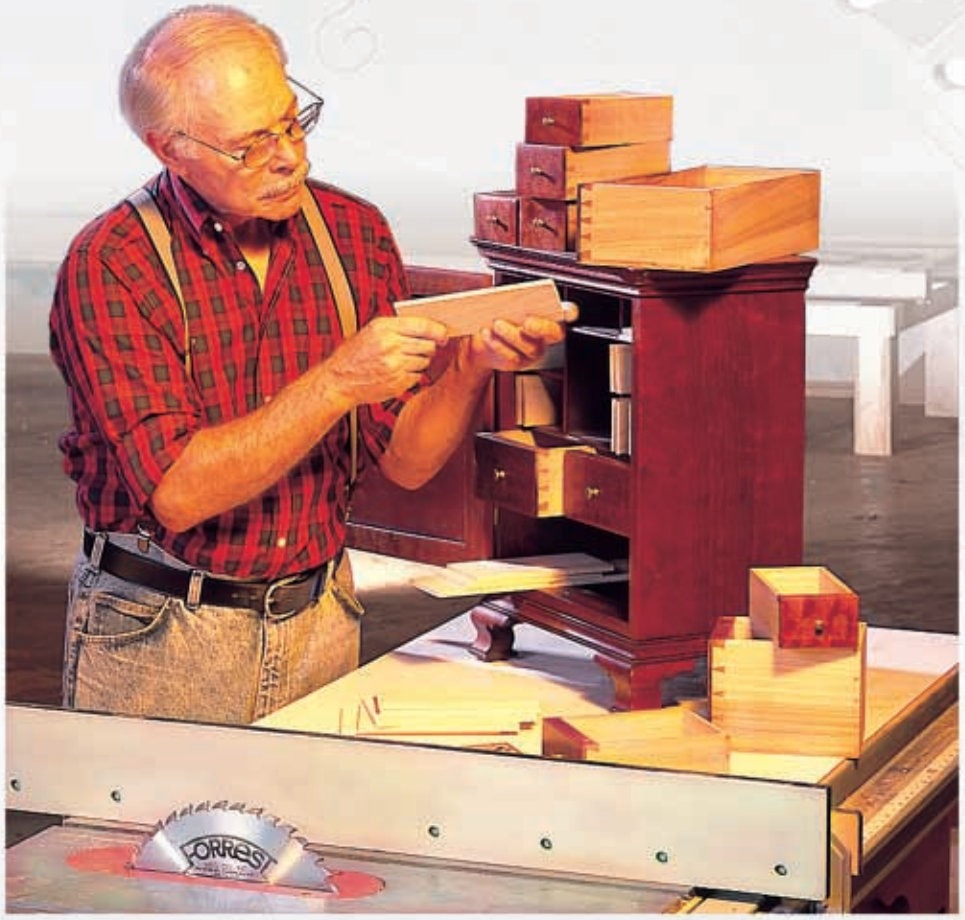

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Code CW

By Jim Borland

Coffee Table

The living room is often the hub of the house. As a result, the living room table gets cluttered up pretty fast with books, magazines, CDs, etc. It's stuff that you want easy access to, but that you don't always want to have lying out on the table.

In this coffee table, the storage drawers are especially helpful when I see a car pull into the drive with unexpected guests. All you need to do is open the drawer, sweep everything inside and 'voila', a tidy and clutterless table. Come to think of it, you may want one of these for every room in the house!

Cabinet Parts

Assemble 3 web frames with 1"x3"stock. Cut pieces to size and install eight #20 biscuits for each frame. Glue and clamp.

Assemble base frame with 1"X4" stock. Cut pieces to size and install eight #20 biscuits. Glue and clamp. Rout with 1/4" round-over bit on all outside edges.

Assemble the top. Cut pieces to size and install five #20 biscuits.

Glue and clamp. Rout all top edges with Roman Ogee bit.

Assemble Sides. Cut pieces to size and install three #20 biscuits to each side. Glue and clamp.

Cut 8 feet as shown.

Cabinet Assembly

Attach the 8 feet to bottom of base frame, using two #6 1 5/8" screws through base into each foot.

Drill twelve 3/8" countersink holes at 3/8" depth on each cabinet side, as per plan. Drill twelve 1/8" holes through the countersink.Attach each side to the 3 web frames with #6 1 1/4 " screws. Install 24 wooden plugs on outside of sides.

Place and centre cabinet on base frame. Attach with twelve #6 1 1/4" screws through lower web frame and into base frame.

Place and centre the top of the cabinet. Attach with twelve #6 1 1/4" screws through the upper web frame into the top.

Drawer Assembly

The upper drawer uses 1"x4" stock
(for cassette tapes)
The lower drawer uses 1"x6" stock
(for CDs)

Cut the fronts and backs. Cut 1/8" dadoes 1/4" up from bottom in all eight pieces. Cut 1/4" dadoes in front and back, spaced to accept 1/4" dividers: 4 1/2" spacing in upper drawer and 5 1/2" spacing in lower drawer.

Cut the 2 bottoms from 1/8" fibreboard. Assemble the drawers,

making sure the four corners are square. Fasten with two #6 1 1/4" screws in each corner joint.

Install the drawer slides with #6 1/2" flat head screws, so that they rest on the web frames and drawer bottoms.

Install the 2 drawers. The outside edge of the drawer frame should be flush with the outside edge of web frames and sides. Cut two sets of drawer fronts, one for the front and one for the false back. Rout with 1/4" round-over bit on all outside edges.

Clamp the front of the top drawer in place, so that outside edges are flush with outside edge of sides. Clamp the back of the drawer to the web frame so that drawer is held rigid.

Mark centres for the two knobs, 8" in from each end.

Attach front of drawers with a 2" screw through each centre mark.

Remove clamps and remove drawer.

Attach drawer to front with #6 1 1/4" screws, through the drawer and into the front. Remove 2" screws and drill 1/8" hole through each screw hole. Attach wooden knobs with two #8 1 1/2" screws. Screw through the 1/8" hole and into the front.

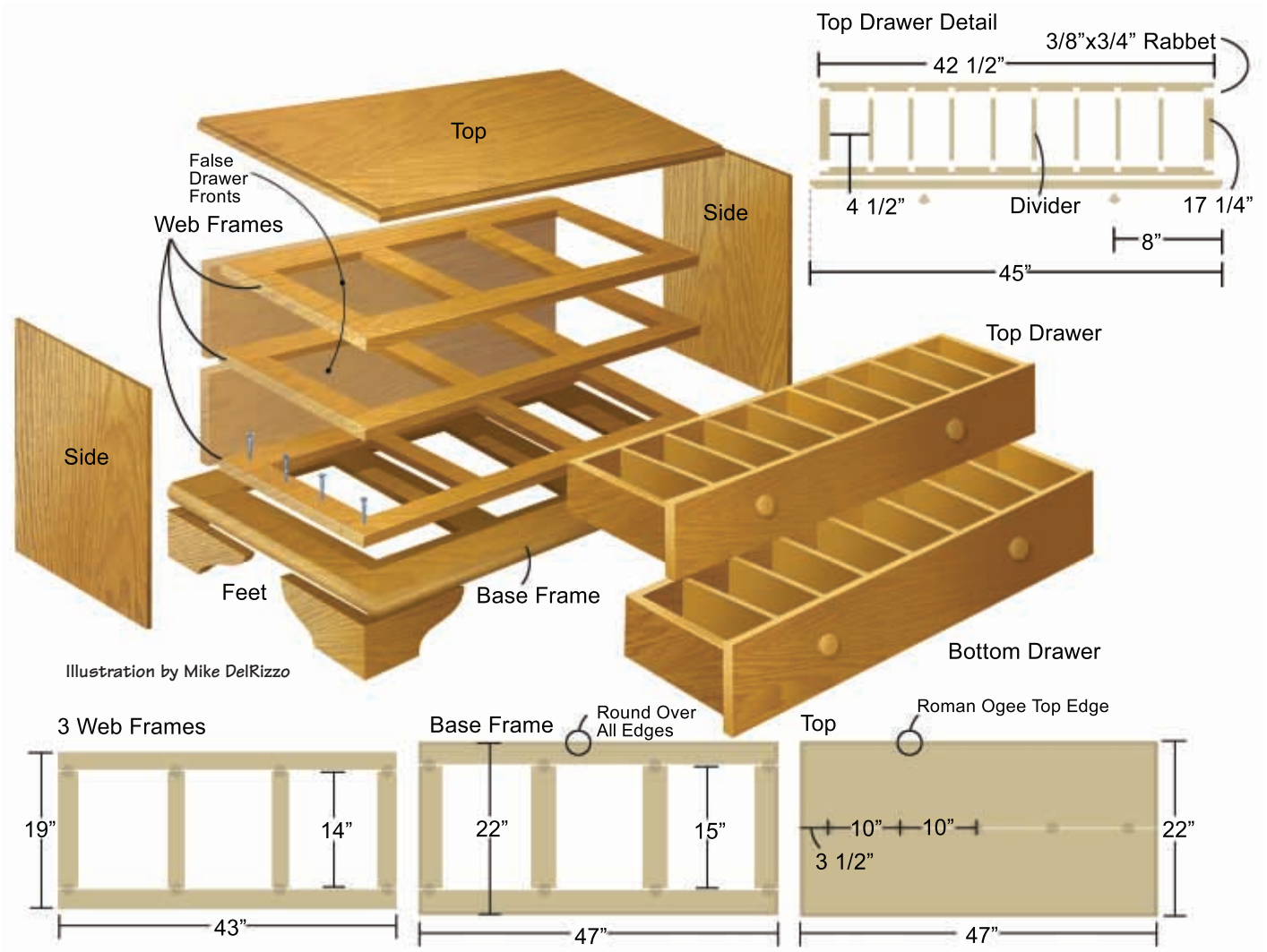
Attach the two false backs to web frames and two sides with 2" finishing nails.

Cut dividers 1/4"x3 1/8"x17" for top drawer.

Cut dividers 1/4"x5 1/8"x17" for bottom drawer. Insert dividers into the 1/4" dado slots.

Finish

I used Minwax Colonial Maple stain. Then, three coats of Minwax Antique Oil Finish, with a fine steel wool rub between each coat.



Cabinet Materials List

1	**22″ x 47′**	Top, 2 of 3/4" x 11" x 47"
2	**19″ x 13 3/4″**	Sides, 4 of 3/4" x 9 1/2" x 13 3/4"
3	**19″ x 43 1/2″**	Web Frames, 6 of 3/4" x 2 1/2" x 8'
1	**22″ x 47″**	Base Frame, 2 of 3/4" x 3 1/2" x 8'
8	**2 1/2″ x 6″**	Feet, 4' of 3/4" x 2 1/2"

Hardware

24	#6 Screws, 2"
24	#6 Screws, 1 1/4"
16	#6 Screws, 1 5/8"
43	#20 Biscuits
24	Wood Plugs, 3/8"
	Finishing Nails, 2"
1	Drawer Slide, set of 18"

Top Drawer Materials List

2	**3/4″ x 3 1/8″ x 42 1/2″**	Front and Back, 8' of 1" x 4"
2	**3/4″ x 3 1/2″ x 17 1/4″**	Sides, 3' of 1" x 4"
1	**3/4″ x 5″ x 45″**	Drawer Front, 4' of 1" x 6"
8	**1/4″ x 3 1/8″ x 17″**	Dividers, 2' x 4', 1/4" Plywood
1	**1/8″ x 17 1/4″ x 41 3/4″**	Bottom, 1/8" Fibreboard

Hardware

2	Birch knobs, 1 1/2" diameter
8	#6 Screws, 1 1/4"
4	#6 x 1/2" Flat Head Screws
1	Drawer Slide, set of 18"

3/4″ 1 and 2 common pine

8' of 1" x 12"
5' of 1" x 12"
52' of 1" x 3"
16' of 1" x 4"

Bottom Drawer Materials List

2	**3/4″ x 5 1/2″ x 42 1/2″**	Front and Back, 8' of 1" x 6"
2	**3/4″ x 5 1/2″ x 17 1/4″**	Sides, 3' of 1" x 6"
1	**3/4″ x 7 1/2″ x 45″**	Drawer Front, 4' of 1" x 8"
7	**1/4″ x 5 1/8″ x 17″**	Dividers, 2' x 4', 1/4" Plywood
1	**1/8″ x 17 1/4″ x 41 3/4″**	Bottom, 2' x 4', 1/8" Fibreboard

Hardware

2	Birch knobs, 1 1/2" diameter
8	#6 Screws, 1 1/4"
4	#6 x 1/2" Flat Head Screws
1	Drawer Slide, set of 18"

JIM BORLAND retired from civil service, converted his garage into a workshop, and that's where you'll find him. London, ON (519)685-1479

By Hendrik Varju

Part III What will I Build?

If you are considering the idea of starting your own woodworking business, the first question you have to ask yourself is: "What will I build?"

Define "Woodworker"

When someone says that they work as a "woodworker", it can mean any number of things. A woodworker can be anyone from a person who fires brads into planks to make wooden pallets, to someone who builds fine reproduction furniture. A woodworker can be a person who builds on-site commercial display cases, or someone who builds docks on a seasonal basis. In all of these areas, woodworkers face different opportunities and challenges as they seek to turn their hobby into a rewarding and fulfilling business.

In the end, it doesn't matter which of these, or other areas of woodworking you choose to work in, as long as it allows you to make a living. Otherwise, your business will soon turn back into a hobby.

Popular Options For Woodworking Businesses

- One-of-a-kind fine custom furniture
- Kitchen cabinets and other built-ins
- Fireplace mantels and other "on-site" carpentry
- Mass produced items for wholesale buyers
- Mass produced items for retail buyers.

Not all of these choices will appeal to you. Some might appear interesting, challenging and rewarding, while others would not inspire you in the least. Before deciding which one(s) to base your business on, you may want to answer the following questions.

Contact with Public

Are you good at dealing with the public? If not, then providing mass produced items for wholesale buyers might appeal to you. You could work away in your workshop, day after day, never having to deal with more than a dozen or so buyers. After working for two weeks or so, you would deliver a large shipment and get paid. Then you would move on to the next batch.

Another option, if dealing with the public doesn't interest you, then you may like the idea of building or installing kitchen cabinetry for large builders. By doing that, it would be the builder who would take orders from the home buyers. You would be free to build the cabinets in your own workshop and install on-site, without having to deal with the end user.

Selling to Public

Are you a good salesperson? If so, you might enjoy selling mass produced items to retail buyers. You might even want to consider producing hundreds (or thousands) of small crafts and selling them at craft shows throughout the province/country. You may even get more pleasure from the direct sales than you do from producing the actual products in your workshop!

Details, Details!

Are you a detail-oriented person? If so, creating one-of-a-kind fine custom furniture might be more your style. But keep in mind that you also need good "people skills" if you're going to meet with clients and help them design a fine piece of furniture.

If you're not a detail-oriented person, and prefer the "serves the purpose" method, you might want to focus on "rougher" outdoor projects, where being off by 1/16" is called "charm" instead of error!

Some Considerations

On-site woodwork and architectural millwork are specialized areas and are quite different from building specific "products" that you sell.

If you have your heart set on building products that you will either sell directly to the public, or wholesale to various stores/galleries, there are only two main ways to make a living at it. Interestingly, these two ways are totally opposite approaches.

One way is to build products that are finer work, and take a long time to build. For these, seek out the clientele that can afford them. Remember, you have to get paid for your work at a high enough hourly

Illustrations by Mike Pellitz

rate to make a living at it. I will explain more about setting your shop rate in my next article.

The other way is to build simple things quickly and efficiently, and sell them to those who can't afford finer work.

Think about the product(s) you want to make, and the clientele that you want to deal with, and decide carefully. Certain products will not command a high price, no matter how much the buyer can afford. For example, you would have difficulty finding buyers for a super expensive paper towel holder made of rare exotic woods. No matter how beautiful and how many hours it may have taken you to build it, not a lot of people value a paper towel holder enough to pay a lot of money for it.

On the other hand, an expensive humidor for a person who already buys very expensive cigars is in a whole other class. Also, items that are presented and sold as gifts for special occasions, such as weddings and anniversaries, command a higher price for sentimental reasons.

Supply and Demand

Another factor to consider is how much competition you will have in your chosen market. For example, if there are already a lot of kitchen cabinet builders in your area, and they all have large production shops with the latest technology, then building one kitchen at a time out of your basement workshop may not be your way to success.

On the other hand, you may be able to discover a niche market that isn't currently being served. Perhaps you could build custom kitchens for people with various disabilities. The companies that are mass producing kitchen cabinets are unable to respond to such niche markets in a way that you could.

When considering the competition, be careful. When there is no competition for a specific idea or product you might have, it may be because there is no demand! Test the market slowly and carefully before you turn a niche concept into the main basis of your business.

Don't Be (Too) Stubborn

Usually, the people who survive the first few tough years of a new business are people who never give up. However, there's a fine line between being tenacious in a positive way and being downright pig-headed when your plans don't yield results.

One of the best pieces of advice that I can give you is this: remain flexible about the kind of work you do.

New opportunities come up all the time. If you ignore them because they don't quite fit into your business plan, you might be ignoring areas that could offer your business diversity and growth.

If you find yourself routinely turning down a particular type of work, you may want to reconsider. Instead of turning down work you don't currently offer, start offering the skills and projects that are being asked of you. While not part of my original business plan, I now take on all sorts of "other" work, including: repair, refinishing antiques, on-site finishing, teaching, tool testing, etc.

There may not be enough work in any one of these areas to base a business on, but by combining them all there may be enough work to keep you busy and profitable.

Pay attention to the type of work that people around you are looking for, and see if you are able to provide it.

Next issue Hendrik will look at the question of "How to price your work". He will cover what you need to consider when you are preparing your quotes. He will also help you to come up with your hourly "shop rate".

HENDRIK VARJU is a fine furniture designer/builder who provides woodworking instruction and seminars near Acton, ON. (519) 853-2027
www.passionforwood.com info@passionforwood.com

By Michael Kampen

Tea Box

I make a variety of different boxes, each with their own design and purpose. This box was designed to contain our collection of herbal teas. The style and dimensions were chosen to suit and fit our kitchen.

Choose the Wood

Your first task is to decide on the final look you wish to achieve. Do you want the grain and colour of the wood to carry the visual interest or do you want to stain the wood?

The boxes shown are made of hemlock. The natural ones are finished with a mix of wipe-on poly thinned with turpentine, applied over boiled linseed oil thinned with turpentine. I find this finish easy to apply and it gives a nice amber cast to the wood. The coloured boxes have an intermediate step involving some stain.

Parts for the Tea Box

All the stock is milled to 3/4". If you don't have access to a jointer and thickness planer you can buy your stock dressed to the correct dimensions. I begin making the top and bottom from three pieces measuring 3 3/8" x 16 1/2", glued into two panels measuring 10 1/8" x 16 1/2".

The front and back, measure 3 3/8" x 14 5/8", and the sides measure 3 3/8" x 8 5/8". Mark the outside faces and cut a 1/2" by 13/16" rabbet on the inside edge of the front and the back using a dado blade or a router.

Inside Finish and Centre Glue-up

Sand the inside faces through to 220 grit, being careful not to round the edges. Apply a few coats of mineral oil to the inside faces at this stage, which is an easily renewable food-safe finish. It also makes any glue squeeze-out easy to clean up. Now you can glue the centre part of the box together. I find a pair of band clamps works best for this. Check the diagonals to be sure your frame is square.

Finishing the Top and Bottom

Now trim both panels to the final dimensions of 10" x 15 5/8". Sand them through to 120 grit. Don't proceed to the finish sanding just yet. Select your best face on each panel and decide which will become the top. From here on, the top and bottom will get the same treatments, but as mirror images of each other.

Rout a profile on the inside faces of the top and the bottom using a 1/4" Roman Ogee bit with a bearing. Begin by doing the end grain first and finish with the long side. This will clean up any tear out you may have had on the end grain. Next, set up a 45˚ chamfer bit in the router table and in the same order as before, rout a 1/8"x1/8" chamfer on the outside faces of the top and bottom. A sandpaper-wrapped dowel makes it easier to finish sand the ogee profile.

Once the curved profile has been sanded, finish sanding the top and bottom to 220 grit. Be careful when sanding the profiles.

Cutting the Centre and Gluing on the Bottom

Remove the center from the clamps, and sand the outside to 220 grit. It is important not to round the corners, since that will affect the bead that is routed next. Before routing the beads, cut the center in half on the table saw. I use a tall auxiliary fence and raise the blade just a little higher than the wood is thick. I cut the ends first, then lower the blade just a hair so that it doesn't cut all the way through, leaving a paper-thin amount of wood behind. This will hold the box together as you make the two long cuts. Afterward, using a sharp utility knife, separate the two halves.

Optional Stain and Routing the Bead

If you wish, apply stain at this point. I used a Behr water based stain in a dark blue (Behr #641 cashel). Using 1/4" painter's tape, mask off the outside edges of the two rings, and apply the stain to the exposed wood. When the stain has dried, remove the tape, and using a 1/4" beading bit rout a bead on the outside edges. The purpose of the bead is twofold. The first is decorative, but the second is practical. By routing a bead on the outside edges of the ring, it visually softens the edge, and tricks the eye, making the accuracy of the joint less critical.

Assembling the Box

Once you have completed the two rings and the top and bottom, match them up and trace the outline of the ring on the

corresponding panel. You should now have an outline on the inside of the top and bottom. Using a glue/water mix used on the end grain, paint a light coat of glue between the two outlines. This prevents the finish from wicking along the grain and weakening the glue joint. Use heavy mineral oil to pre-finish the inside square. Finish the area outside the outline with whatever finish you have chosen. I used 2 coats of boiled linseed oil cut 1:1 with pure turpentine. I followed that with 3 coats of wipe-on poly that I cut with pure turpentine in the same manner. Once the finish has dried, apply some glue to the ring, center the two rings on the top and bottom and clamp them in place.

Adding Hardware

Once the glue has dried, remove the parts from the clamps, and give everything a quick rub with 0000 steel wool. All that is left to do is to mount the hinges and other hardware. I also add four silicone bumpers to the bottom corners to make it less likely to slide on a table. It also raises it off a potentially damp kitchen counter.

Now, the only thing left to do, is to gather up your stash of herbal tea, fill your new tea box, and sip on a cup of tea as you contemplate your next project.

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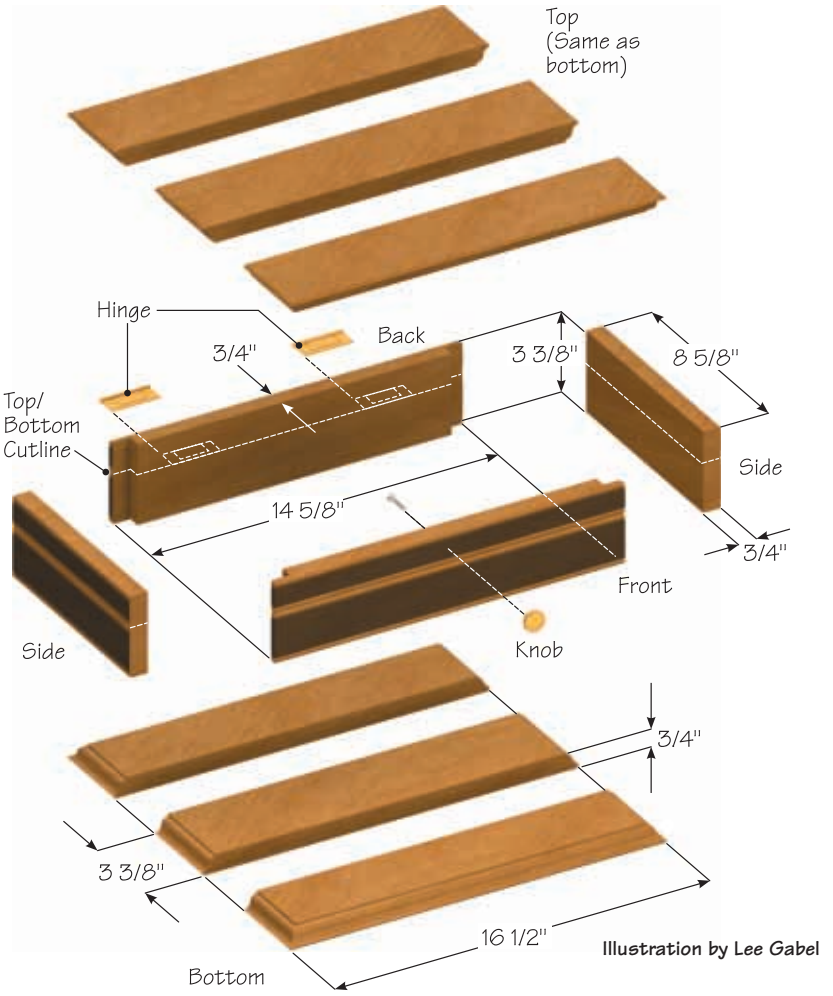

Illustration by Lee Gabel

Cutting the frame apart

Parts for the Tea Box

Centre Glue-Up

MATERIALS LIST

6(A) 3/4" x 3 3/8" x 16 1/2"
Top and Bottom Panels

2(B) 3/4" x 3 3/8" x 14 5/8"
Front and Back

2(C) 3/4" x 3 3/8" x 8 5/8"
Sides

Hardware List Blue Box

4	Bumper Pads (feet)
2	Stainless Steel Bar Handle, 200mm
1	Stainless Steel Knob, 14mmX21mm
2	No Mortise Hinge

Hardware List Natural Box

1	Cast Brass Button Knob, 17mm
2	No Mortise Hinge

Gluing the Centre to the Bottom

Chamfer the top

Mark top and bottom

Routing the bead

By Michel Theriault

Dowels

Dowels are one of the easiest joints to use and are especially useful when you don't want to use hardware, such as screws. Dowels are also an obvious choice if you don't have the time or the experience to make fancier joints, such as dovetail or mortise and tenon.

Although the use of dowel joints has diminished with the rising popularity of the biscuit joiner, dowels offer very sturdy joinery for a variety of projects. Besides, all you need to make a dowel joint is a drill.

There are two types of dowel joints: through and blind. The difference being that in the blind joint the dowels can't be seen, whereas in the through joint they are visible. Which you use will depend on what you are making and whether you want to hide the joints or not.

The key to a successful blind dowel joint is ensuring that the dowel holes line up perfectly in the two mating pieces.

There are a number of jigs available to make matching the mates easier. One type of jig clamps to the wood with a bushing that guides the drill bit. The one shown (fig 1) is a simple one that has three different sizes which have to be re-positioned for multiple holes.

The simplest way to match mates is to use a dowel centre or plug. First, the plug is inserted into the holes of the first piece. Then the piece to be joined is pressed against the point of the plug, marking the centre spot for drilling the matching dowel hole.

The through dowel joint is even easier to make, since you add the dowels after the pieces have been glued together. Through dowel joints also add visual interest to the joint, especially if you use dowels of contrasting wood.

To make a through joint, simply drill holes for the dowels in the previously glued mating pieces. Then insert the dowels and cut them flush.

The Miller dowel is a variation on the through dowel, and also replaces the traditional screwed joint and plug. With the Miller dowel, you simply drill the holes with a specially designed drill, insert the Miller dowels and cut them flush.

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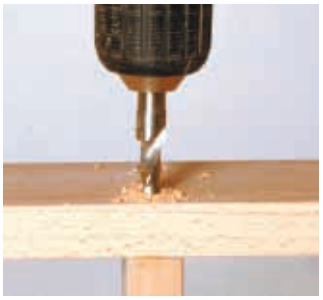
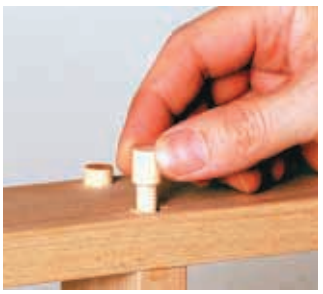
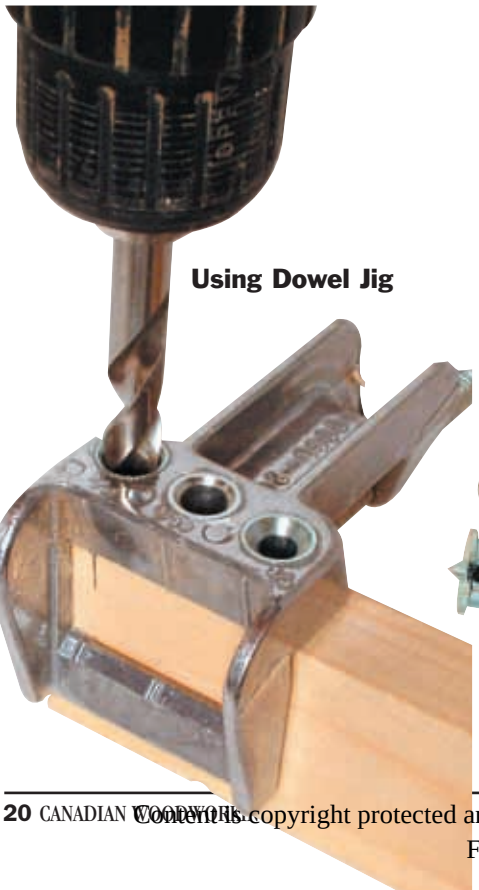


Drilling for Miller Dowel



Inserting Miller Dowel

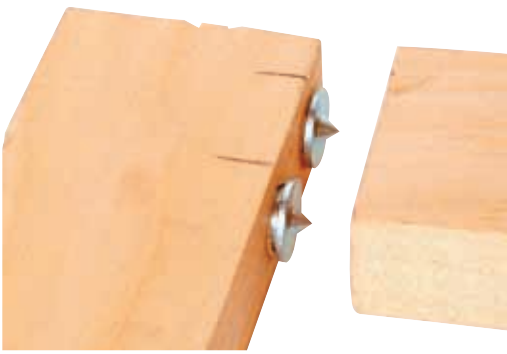
Hammering Miller Dowel



Using Dowel Jig

Dowel Centres

Dowels



Using Dowel Centres

■ continued from page 2
receive their copy before the newsstand). That issue, and all back issues, are available for sale on our website.
Paul

Hi:
I've been receiving your magazine for the past couple years... I'm a novice woodworker, with only a few small projects under my belt (shelves, stools, baby cradles, picture frames, etc.). I'm quite impressed with the content (projects, tips, jigs, tool tests, etc) and the clarity of the articles you offer. However, as a novice, I'm unfamiliar with suppliers of wood products for these types of projects. I've visited big box stores, but they have a very limited inventory to offer. I live in the London area, but would be willing to travel 1-2 hours, if necessary, to visit suppliers to get the proper materials. Would you know where I might find a list of suitable suppliers to contact?
Keep up the good work on the magazine.
Jack S, London, ON

Jack,
When you are looking for Canadian suppliers (of any description), start with our website, specifically our Woodworking Forum. I know from seeing that question asked before that one of our regular forum users has done a lot of work compiling a list of Canadian wood suppliers. You can see that list at:
http://members.rogers.com/wsguthrie/suppliers.htm

Dear Sirs:
Please check and see that my name is on the list to receive your free eNewsletter. If it's of the same quality as your magazine, it will be well worth reading. Thanks.
David H, Kamloops, B.C.

Hi!
Hi! I love your newsletter! It will go a long way towards keeping your readers from feeling lonely in between issues.
Natasha G, Miramichi N.B.

Editor's Note:
Our brand new eNewsletter is sent out every month to woodworkers across Canada and around the world. It's free, but it is only available by request. If you would like to receive it, please visit our website and sign up.

Hi!
I recently received the Vol.7 No.3 issue, but not the Vol.7 No.2. Can you help me? I don't want to miss out on having the full collection. Thank you very much.
Carlos Ramirez, Laredo Tx

Carlos,
I am sending that missed issue out to you today. You're wise to keep up on the entire collection while you still can. When I went to get that issue for you I noticed that we are down to a couple dozen copies of some issues. After that they'll only be available on eBay!

Paul and Linda
Recently, I placed an ad for a General lathe on the classified section of your website (on behalf of one of our members). Within a few days, a woodworker from Montreal sent a down payment and arranged to come and pick it up. Our club member just called me to let me know that the lathe is now on it's way to a new home on the back of a truck driven by a guy with a big smile. Thank-you for the excellent website and classifed section.
Mike Brazeau, President, Golden Horseshoe Woodturners Guild

By David Bruce Johnson

Tuning Your Knife

When you buy a new tool, it is reasonable to think you can use it right out of the package. Unfortunately, in many cases, modifications are needed to prepare the tool for the safest and most effective use. This necessity certainly applies to a carving knife.

It is probably safe to say that a knife is the most useful tool a carver can have. It is simply amazing how many times and in how many different ways a knife can be used when other tools prove impractical. To be most useful, a new knife requires "tuning". Just as a concert musician must have a well-tuned instrument, a good carver needs a well-tuned knife.

Here is a picture of a new knife fresh out of its package. This knife is probably a worst case example since all new knives do not have the three features, indicated by the arrows, that need to be altered:

(1) To make it fit your hand, it must be made the right length;

(2) To provide maximum useable blade length, the heel of the blade needs to be removed; and

(3) To prevent possible damage to your wood during the carving process, the handle needs to be reshaped.

The first step is to remove the extra metal from the heel of the blade.

I suppose the stop at the end of the blade would serve some useful purpose if you were a sword fighter. Being a carver, however, it is better to have as much blade as possible to work with. I use a one-inch belt sander with a 120 grit belt to remove the extra metal; however, any grinder can be used for this task.

It is important that the new cutting edge you are creating is in line with the manufactured edge. The excess metal is removed equally from both sides of the blade. As with the sharpening of any tool, this step demands a little patience and a slow, cautious approach.

While the coarse belt is on the sander, it is a good time to round and taper the blade-end of the handle. Round the bottom and sides but leave the wood on the top where your thumb is used as a pivot point. This reshaped handle has two main benefits. The sharp wood corners that could damage your carving-in-progress have been removed; also, the narrower shape will permit much greater access to parts of your future carvings that can be difficult to reach.

After the handle has been refined and is no longer an obstacle, the blade can be reshaped right to the base of the handle. You will notice that the length of the useable blade has been increased significantly. Now it is essential, for your own carving safety, to fit the knife to your hands. Usually this means shortening the blade. When you use a two-handed carving technique with one thumb acting as a pivot, the blade must fit comfortably between the pivot point and the base of your index finger, to prevent cuts. If the blade is left long, you must pay constant attention to the location of the blade tip. This distracts you from concentrating on your carving.

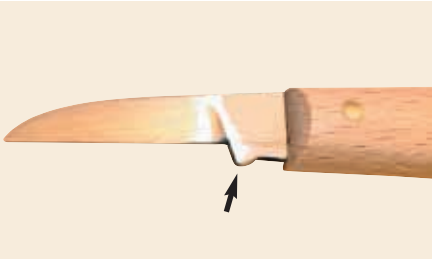
Again, a one-inch belt sander can be used to reshape the tip of the blade. To prevent ruining the temper of the blade, start grinding from the tip of the blade and roll the knife toward the back. This approach prevents overheating the very narrow cutting edge at the tip. Once you have finished shortening the blade, your "tuning" is essentially complete. Following your normal sharpening and honing, your fine new custom-fit tool will be ready for your personal use and enjoyment.

To test how well your new knife works, here is a small exercise. Using only your knife, carve a 2" cube into a 2" ball. This exercise is a great way to practice your two-hand knife carving technique. Hold the cube firmly in one hand while using the thumb of the same hand as the pivot for your knife. With practice, you will find that you can carve all day without tiring your hands. And, with a knife that is tuned for your personal use, it is highly unlikely that you will carve yourself.

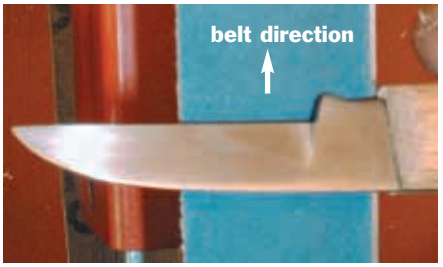
The next article in this series will present a more challenging knife carving project to further exploit the exceptional characteristics of your well-tuned carving knife.

DAVID BRUCE JOHNSON is a master carver living in Hawkestone, ON
www.magma.ca/~davidbj.

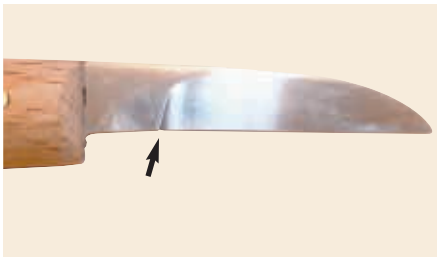
New knife needs tuning in three areas



Remove extra metal from heel of blade

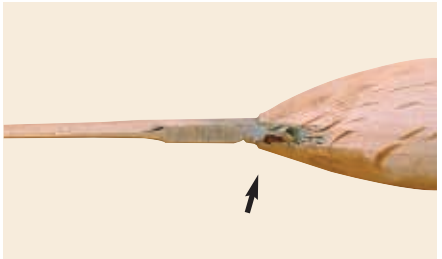


Use belt sander or grinder to remove extra metal

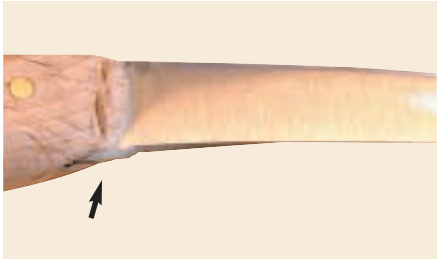


New cutting edge must be in line with the manufactured edge

Round and taper the blade-end of the handle



Round bottom and sides but leave wood on top



Reshape blade to base of handle

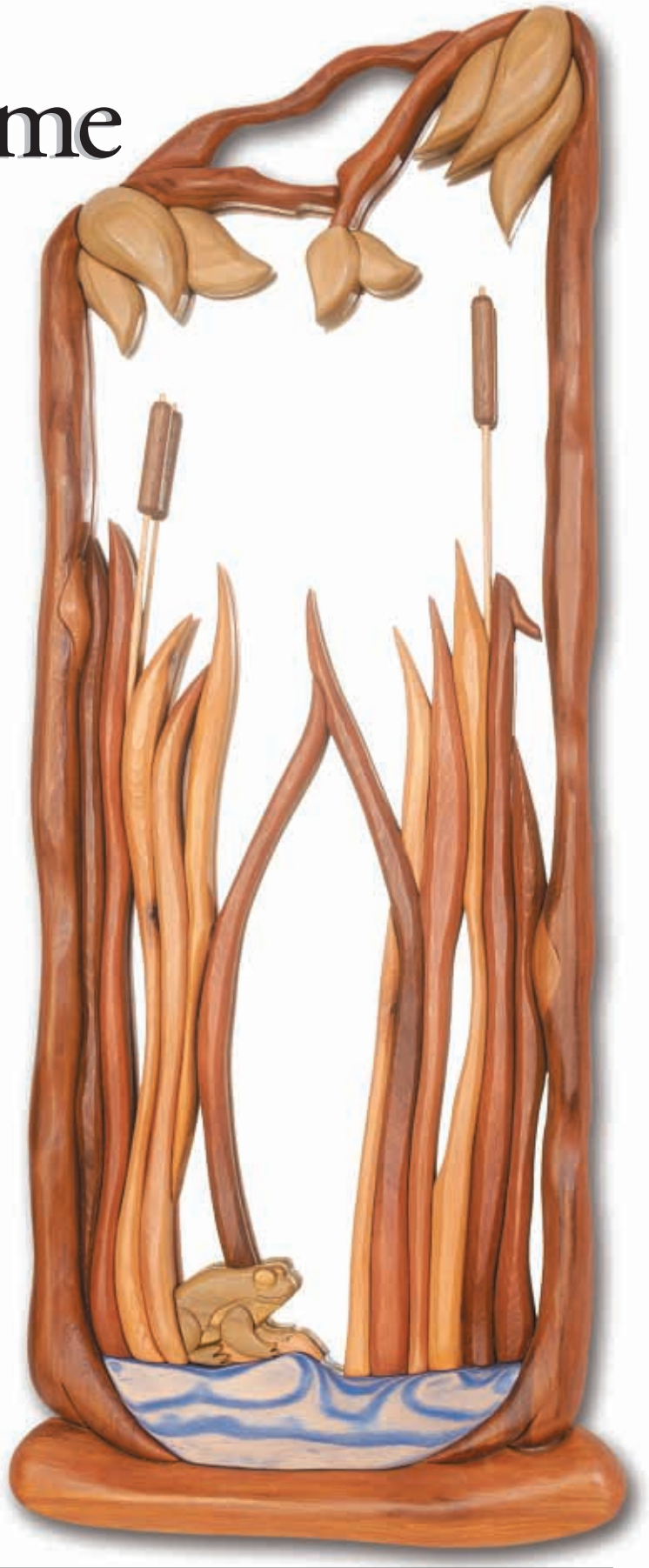
Blade must fit between pivot point and base of index finger

Grind from tip of blade and roll knife toward back.

Hold cube in one hand and use thumb of same hand as pivot for knife.

Fully tuned knife

Mirror Frame



All of the projects that I have done for you to date have been decorative, so I thought it about time to offer a functional piece that you could use either for your home, or as a gift for someone else's.

I'm not quite sure if I have cleverly disguised this frame to appear as an intarsia piece, or this intarsia piece to appear as a frame. I'll let you decide.

As an Intarsia project it is fairly straight forward. The challenge begins when you add the mirror.

Whenever a mirror is set in a complex wood frame, it can be a real pain to clean. My wife has explained this to me (in no uncertain terms), and has given me the coordinates of where I could hang any more complex framed mirrors if I ever made them. I'll spare you the same treatment in your home by providing instructions on how to make beautiful intarsia frames that are easily removed for cleaning.

Choose your woods carefully. The pattern provided makes suggestions, but feel free to use your imagination. Your choice of woods is what gives the look and feel of your project.

Transfer the pattern to the wood with one of the following methods: trace with carbon paper, make a template, photocopy the pattern and cut out the pieces and glue them on the wood with spray glue or a glue stick.

Make sure your blade is square to the table, then cut out the pieces. I like a #7P/S blade or a #5H/T. Take your time and cut carefully. Try for as good a fit as possible.

Assemble the pieces and check for fit. Spend some extra time on the fit. The more area that pieces touch each other, the more glue surface there will be. Try holding two pieces together and running a blade down between them.

Raise and lower any pieces as the pattern indicates or as your imagination suggests.

Shape the pieces with whichever tools you prefer. I like to use a small pneumatic sander and a Flex sander. Be aware of the wood dust and wear a good dust mask. I spent extra time on the piece of Pine I used for the water. I wanted to exaggerate the grain, so I sanded out the soft part of the grain with a small wire brush tool, and finished it with a star twister.

WOOD SELECTION

DK - Dark: Dark Western Red Cedar (WRC)
M - Medium: WRC
MD - Medium Dark: WRC
LT - Light: WRC
MLT - Medium Light: WRC
G - Green: Poplar or Sumac
P - Pine
O - Open

R - raise 1/8″
L - lower 1/8″
R1 - raise 1/4″
L1 - lower 1/4″
L2 - lower 3/8″

When the pieces are shaped, sand them with a flap sander or star twister. I don't sand past 220 grit. That way I cut down on the amount of dust created.

Start the glue-up. Set the project up on a very flat surface and glue it up as if it wasn't going to have a backing. Clamp the long side pieces in place so it will be easier to hold the rest in place. Use as much glue as you can on the side of the pieces. Make sure it doesn't come through to the surface of the pieces. Give the project at least an hour to dry. Then, turn it over and squeeze glue into any gaps between pieces. This will add strength. Make sure the glue doesn't squeeze through to the good side. Insert 1/8" dowels were indicated on the pattern for extra reinforcement.

Apply your choice of finish.

Use the dotted lines on the pattern as a guide for the size of mirror required. Cut, or have the mirror cut, to size. Use either ordinary 1/8" blade glass mirror or 1/8" mirrored acrylic.

With acrylic you can cut it yourself with a scroll saw. Then, drill some holes, and attach it with some small wood screws (#4s). Acrylic is a bit more expensive, but I think that it saves enough time to make it worth it.

Attach mirror to the frame with holders, making for easy removal and cleaning.

Use a hanger that can be glued onto the back of the mirror.

I sanded this project on a 6" belt sander to get it as flat as possible. You have to be very careful sanding the back. This project requires more caution with the glue-up. Handle it with care.

I stained a piece in this project but this is optional. I thought the water would look good stained blue with the rest of the project natural wood. It's a matter of taste, so do as you wish.

MATERIALS LIST

40 pieces. Overall size: 9" x 24"

DK	1 piece, 6" x 24"
M	1 piece, 2" x 16"
MD	1 piece, 2" x 12"
LT	1 piece, 2" x 12"
MLT	1 piece, 2" x 11"
G	1 piece, 6" x 6"
Mirror	1 piece, 9" x 24"

Cattails are 3/8".
Black walnut dowels, 1 1/2". or stain ordinary 3/8" dowel.
Different shades of woods are relative to each other.

GARNET HALL is an intarsia artist living in Stoughton, SK www.sawbird.com

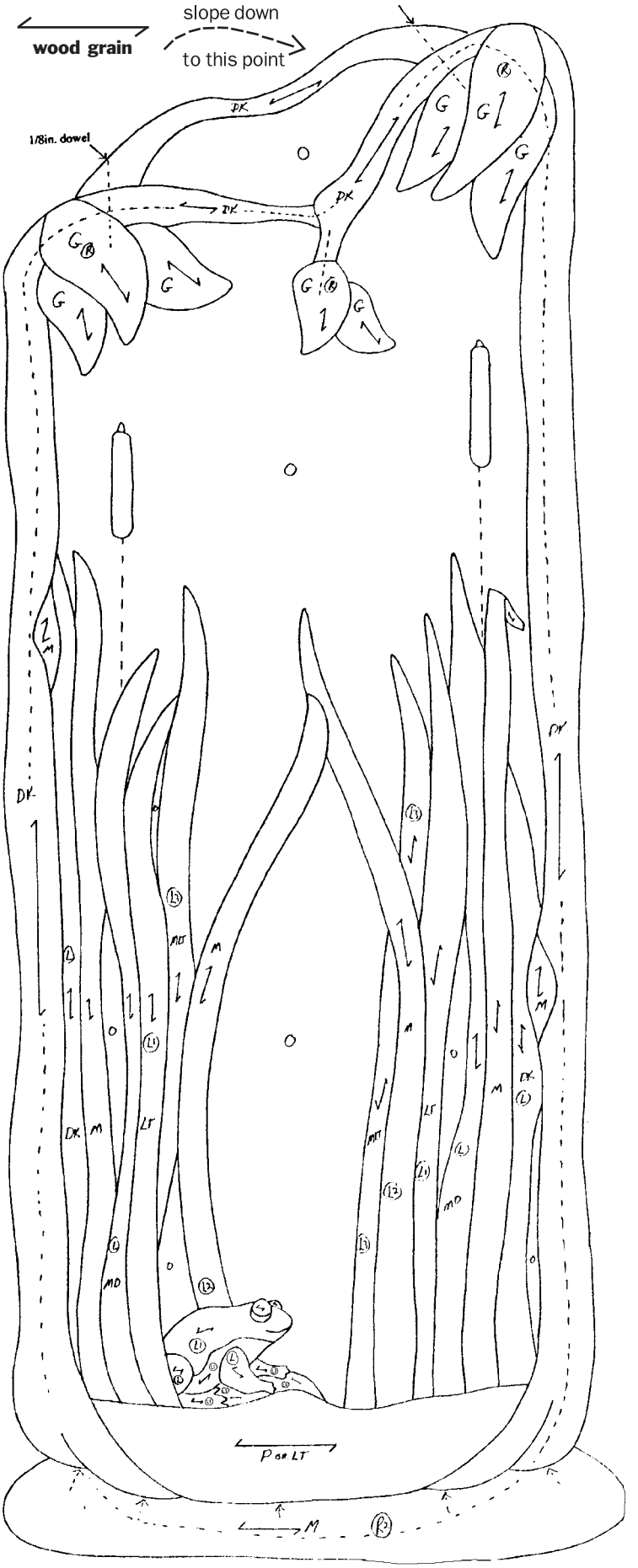
Flap sander

Flex all

Sandstorm

Small wire brush

Attach holders for easy mirror removal and cleaning



• Enlarge pattern to 110% or size to preference

By Hikmet Chico Sakman

Veritas Sharpening System

The Mk.II Sharpening Kit

The **Veritas Mk.II Power Sharpening System** offers a new approach to sharpening. The system is ready to go, only requiring you to attach the abrasive discs onto the platters. Attaching them isn't difficult, just don't rush the job. The beauty of the **Mk.II** is that you never need to worry about gouged or uneven stone surfaces. You can always have a fresh and sharp grinding and honing surface. At $3.75 per abrasive disc, you're ahead of the game; I've sharpened over 40 plane blades and chisels with the original abrasives that came with the tool, and there is still more sharpening to be had before I change the abrasives.

"Easy and efficient" are bywords for the **Mk.II**; it took me about an hour of practice to feel comfortable with how the tool operates. Once you get the hang of it, changing platters is surprisingly fast.

The tool holder and blade projection gauges are as superbly crafted as the rest of the system. They are precise and easy to use. The tool holder can handle blades up to 2 11/13" wide, which covers most of the blades in my shop. I had a minor problem when sharpening Japanese chisels, as the top face of the chisels aren't entirely flat, making it difficult to clamp them on the tool holder. To get around that, I used a thin strip of softwood as a cushion that conformed to the uneven shape of the blade.

To use the **Mk.II**, you begin by putting your tool in the holder, under the clamp that has two knurled brass nuts, and placing the holder in the blade projection (setting) gauge. When everything is in position, tighten the brass nuts to clamp your tool.

Adjust the height of the bar that the tool holder rests and glides on. This height adjustment determines the sharpening angle. The bar moves up and down in 5º increments within the range of 15-45º. Alternately you can adjust the height by eyeballing the blade bevel as it contacts the disc.

When sharpening, follow the instruction about disc rotation and where the tool holder should be placed on the bar. I lightly sanded and waxed the bar that the tool holder slides on to make it slide smoother. This system is the fastest and easiest way to put an incredible bevel to any cutting edge. I was able to go through four grits in less than three minutes with a 1" chisel. The **Veritas Mk.II** made quick work of even badly nicked chisels. For chisels and plane blades that are not nicked badly, this system delivers a razor sharp edge within 90 seconds or less!

You can also lap blade backs on the abrasive discs. This operation requires a little more practice and finesse. Thankfully, flattening tool backs needs to be done only once for every new chisel and plane blade.

The disc rotates at 650rpm; I would have liked a motor with a high/low rpm selection, or even variable speed.

As usual, Lee Valley Tools has put out another innovative tool that makes the woodworker's life easier. It's a very well designed and well built machine; easy to use and highly effective. The $399 price tag may seem steep, but the product delivers. Additional abrasive discs in 120, 220, and 500 grits, other accessories are available.

Contact Lee Valley Tools,
www.leevalley.com or 800-267-8767.

HIKMET CHICO SAKMAN builds contemporary fine furniture in the Arts and Crafts style in Victoria BC.
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Tool holder with plane blade

Tool holder height adjustment bar

Tool holder mounted with plane blade

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By Bob Ireland

Candlestand Table

This well proportioned, small, early 18th century candlestand table presents an interesting and easily made turning project.

Stock Selection

Although this table is made of walnut, other hardwoods such as cherry, mahogany, beech, maple, etc., would be quite satisfactory.

Softwood is not recommended for this project.

Construction is straight forward. The legs and stretcher are simple turnings, the feet are shaped with a band saw or scroll saw, table top edges are routed and assembled using glue, drywall screws, and #20 biscuits.

Getting Started

Lay out the 3/4" thick boards to form the table top. Joint the gluing edges for a good fit. Glue and clamp up the top using #20 biscuits for a strong joint and good alignment. Scrape off excess glue and allow to dry overnight.

Glue up sufficient stock to make the remaining parts as per the materials list. When planing to the finished thickness, run all pieces through at the same time to maintain accuracy.

Turnings

The only turning tools you need are a 1/2" gouge, a 1/2" skew chisel and a 1/8" parting tool.

Leave the 1 1/2" blanks for the legs and stretcher about 2" longer than the finished dimensions in order to have extra stock for lathe mounting. They can be cut to finished length after turning. Use the long point down of the 1/2" skew when cutting the shoulders of the square sections.

Make the Feet and Table Top Support Blocks

Layout 1" gridwork on a piece of Bristol board, and follow the lines shown to make the feet and table top support blocks (parts D & E). Use half of the design for layout and then turn it over for the other half. This will ensure an exact mirror image.

Before cutting the table top support blocks to shape, drill the 3/8" holes for the drywall screws first while the blanks are still flat and square. This will allow the plugs to fit perfectly. Once the holes are drilled to the depth shown on the grid diagram, cut the bottom curves to shape.

When drilling the 3/4" dowel holes in the feet and table top support blocks use a Forstner bit which will cut clean holes with flat bottoms.

Cut the notches on the feet and tabletop support blocks by multiple passes on the tablesaw with the blade raised to the heights shown on the drawings.

Assembly

Attach the feet to the legs using glue and a 1 5/8" drywall screw at the bottom. Do this assembly on a perfectly flat surface (for example, your table saw top) to maintain absolute squareness and flatness.

Now attach the table top support blocks

MATERIALS LIST

1 (A) 12″ x 24″ x 3/4″
Table Top

2 (B) 21″ x 1 1/2″ square
Legs

1 (C) 11″ x 1 1/2″ square
Stretcher

2 (D) 12″ x 1 1/2″ x 1 3/4
Feet

2 (E) 9 1/2″ x 2 1/2″ x 1 1/2″
Table Top Support

to the legs, again using the flat surface. Glue the 3/4" dowel and clamp until dry. Be sure to keep this assembly flat and square, clamping also to the table surface if necessary.

Attach the Stretcher to Legs

To keep it straight and true, cut two scrap pieces 9 1/4" long. Stand the legs and rest the stretcher on the scrap pieces. This centres the stretcher on the leg squares and they can then be glued, screwed, and clamped. Be sure legs are exactly square to the stretcher. Use 1 5/8" drywall screws in pre-drilled holes in the legs and cover the holes with 1/2" button plugs.

Finish the Table Top

Cut to the finished 12"x24" size and cut 45º angles at the corners, measuring back 1 1/2" for this angle cut. Rout the edges with your choice of bit. A Roman Ogee or French Table bit adds that professional finishing touch.

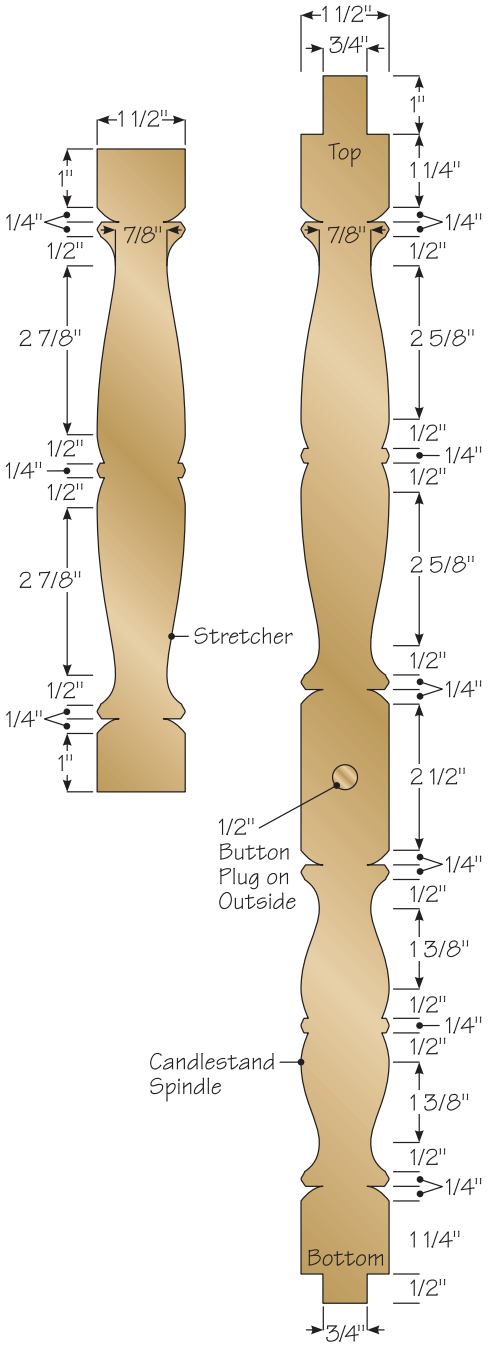
Attach the Table Top

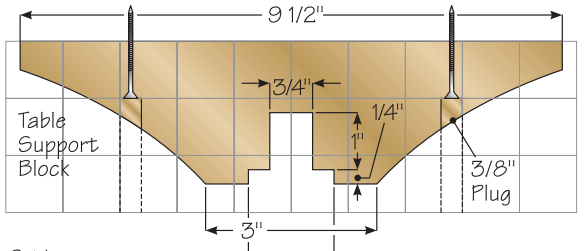
Centre the finished top on the support blocks (E) and mark accordingly. Attach with 1 5/8" drywall screws and glue. Be sure the screws don't come through the top. Clamp until dry. Plug the screws and finish sand.

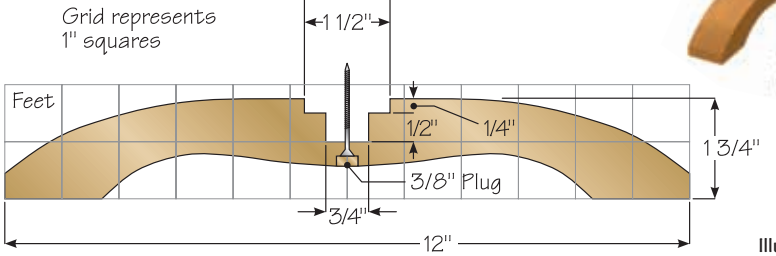
Finishing

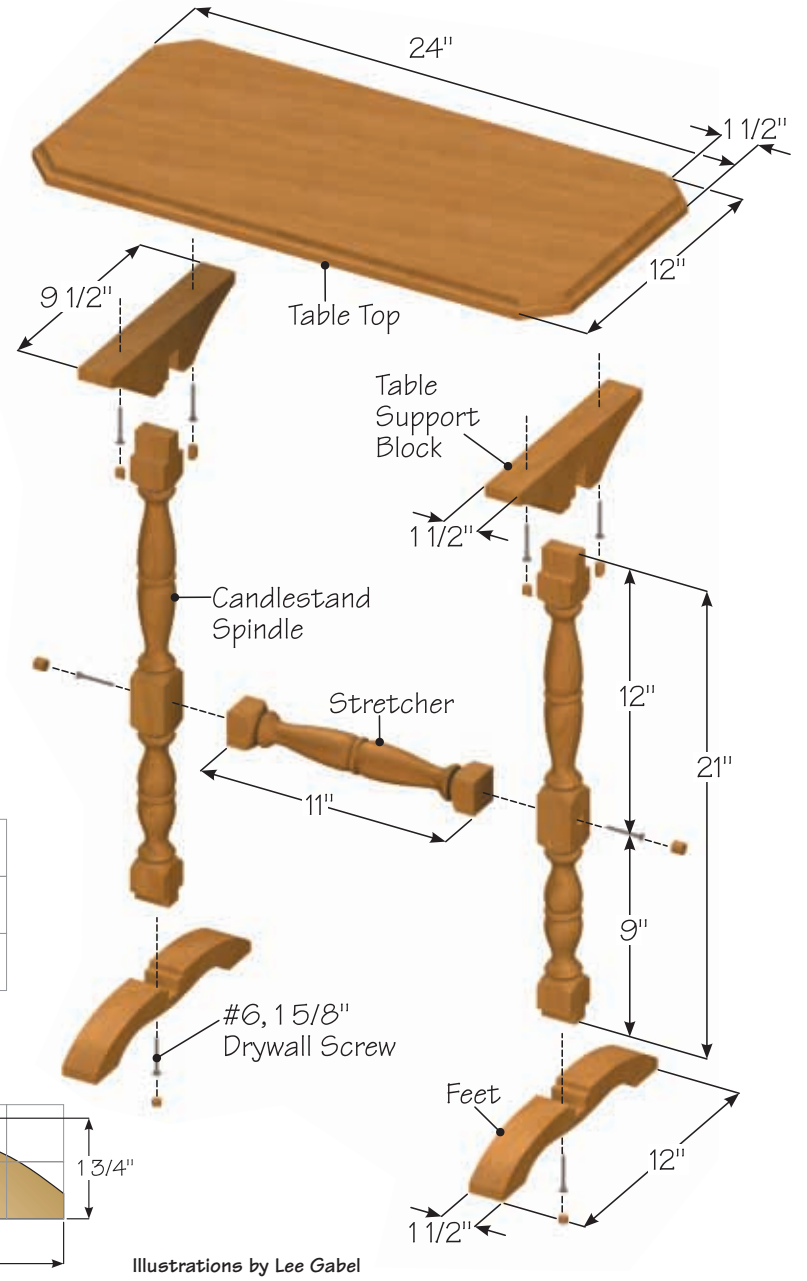
Give the table a final sanding with 220 grit sandpaper. Remove all dust and finish with three coats of clear satin polyurathane varnish, sanding lightly between coats for a smooth hard finish.

BOB IRELAND specializes in making ships wheels and antique replica tables. He lives in Corunna, ON 519-481--590









Illustrations by Lee Gabel

Delta Thickness Sander

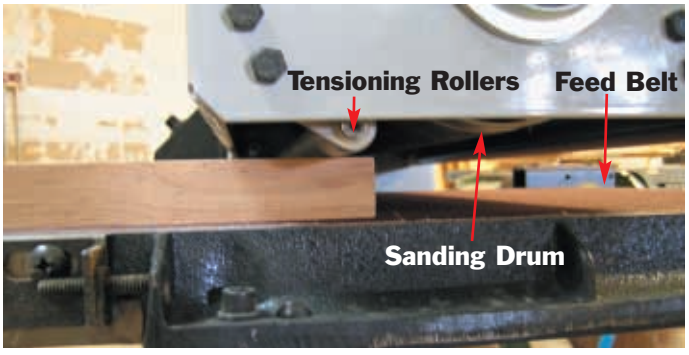
Open-end (or cantilevered) drum sanders offer a whole new world of wood surface finishing. You'll find them in cabinet and furniture shops as well as in home shops. Small wonder, considering the benefits they offer.

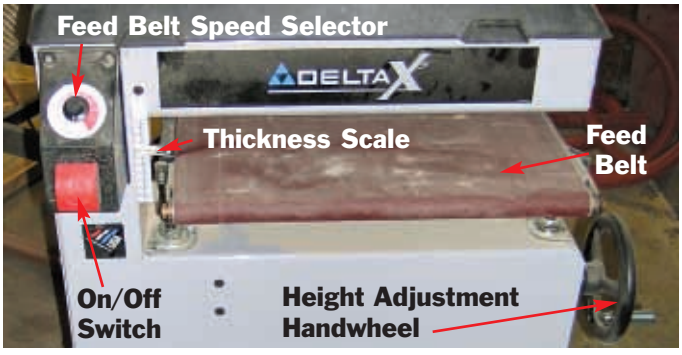
Advantages

Drum sanders offer a number of advantages over planers. 1) Unlike the planer, a drum sander won't tear out grain on highly figured or 'difficult' wood, such as burl, pommele, mottled, and crotch wood. You'll get a level, smooth surface every time. 2) You can safely reduce stock to thinner thicknesses. This makes it especially useful when resawing boards to make your own veneer. Re-saw veneer to 1/8", then run it through the drum sander a couple of times for a 'ready to glue' surface. 3) You can safely sand stock as short as 7", so no more tossing out those short pieces of exotic wood. 4) You can run glued up rail-and-stile doors and panels through a drum sander to clean up uneven joints. 5) Drum sanders will handle much wider stock than most planers; up to 36" wide with the Delta 31-255X.

A Tool with a Difference

What is most striking about drum sanders is that they are much slower at removing material than a planer or jointer. For one thing, they have slower feed rates (12 feet per minute for a drum sander versus 24 FPM for a typical planer). While you can remove up to 1/8" in a single pass with most planers, you'll be removing between 1/64" and 1/32" with a drum sander. In all fairness though, drum sanders are designed for finish sanding and not for heavy duty stock removal. Keep in mind that a drum sander requires a dust collection system with at least





400-600 CFM capacity and a separate 20 amp circuit.

Mechanically, this isn't an overly complicated machine. The sander feeds stock via a conveyor (or feed) belt under a spinning sanding drum to dimension the stock. Wrapped around the sanding drum is a length of sanding paper. A set of tensioning rollers on either side of the sanding drum maintain constant, equal pressure on the stock as it moves under the drum. One motor runs the sanding drum while another smaller motor runs the feed belt. The tensioning rollers are not motor driven.

Plan on about 2 hours to unpack and assemble the 31-255X. Nothing complicated here, and the instructions are clear and amply illustrated. However, it's a good idea to have a helper; the feed table is awkward to manhandle due to its size and weight.

The 31-255X is solidly constructed, with a welded steel frame and cast iron feed table. Controls are simple and well laid out: large metal height adjustment hand wheel to the right, the on/off and feed belt switches together on the left. A 1 1/2 HP thermally protected induction motor drives the sanding drum, and a 1/30 HP magnetic motor runs the feed belt. The default speed for the sanding drum is 2,210 FPM, although you can switch to 3,300 FPM if you consistently use finer belt grits. To switch feed rates you remove a couple of hex bolts and relocate the drive belt on both the motor and drum pulley. I found the default feed rate to be fine for all my sanding.

The feed belt is an aluminium oxide resin bond cloth material that holds stock well, and is preferable to a soft rubber belt, as it requires less roller pressure to hold stock because it moves under the drum.

The sanding drum is stationary, while the conveyor table moves up and down. This arrangement contributes to reduced drum flex. After assembling the 31-255X, check for table-to-drum parallelism, or else one side of your stock will be sanded more than the other. Aligning for parallelism is quick and easy. To sand a board wider than the feed table width set the open side of the drum sander a few thousandths of an inch higher. This creates an imperceptible crown on the board.

It's very easy to wrap the sanding belt on the drum; you don't have to apply a lot of tension on the belt, just enough to keep the edges reasonably close together - takes me about three to four minutes. I first use the 80 grit belt, switching to the 120 for my final pass, occasionally going to 180 grit. I still do my final finish sanding by hand.

Adjusting for depth of material removal takes a tender hand. My experience is that a 1/4 turn of the hand wheel removes 1/32" of material, any more than that, the drum sander has a tendency to bog down. I got better results keeping the feed rate down to about 4 or 5 FPM.

To set the feed table position, lower the table so that the opening is 1/8" wider than your stock, turn the feed rate to 1 FPM, and then turn the sanding drum on. Feed the stock in, and gently turn the hand wheel until the drum kisses the stock. Now you're ready to get to work!

The in-feed pressure roller is pretty stiff; you may have to exert a bit of force to start your stock moving under it. Long boards will require in-feed and out-feed support. If the board tilts up, even a little, it makes contact with the sanding drum and will dig in and overload the sanding motor.

The sanding belts can clog up pretty quickly; I'm in the habit now of running my crepe block across the drum every 2nd or 3rd pass, which helps prolong belt life. Once the belt starts to look a bit dull you can extend its life by reversing it on the drum.

In the Final Analysis

Bearing in mind that the 31-255X is a finish sander; I'd say it does what it's designed to do admirably. I've sanded about 150 linear feet of stock, including fir, oak, cherry, and bubinga, and it all came out super smooth and flat. No complaints here.

The 31-255X is easy to use and maintain, well built, economical to use, and best of all, it produces a consistently great finish. I estimate a 25% time savings sanding large panels or table tops with the drum sander as opposed to using my random orbital sander alone; a significant savings over the course of a year.

The 31-255X is not expensive to operate. You can purchase pre-cut sanding belts in packages of 4 rolls, at a cost of about $32, or $8 per wrap around the drum. These are ideal for the person doing a limited amount of sanding. For the 'power user' it's more economical to purchase the belts in 50 meter rolls and cut to length; they retail for around $85, and you can get 14 wraps per roll, or $6 per wrap. I've been pretty impressed at how long the sanding strips last.

For the home handyman then, the 31-255X is a pretty sweet deal. For the professional woodworker with limited floor space, or where not a lot of panel sanding is done, the 31-255X is definitely worth considering. Affordable, reliable, and efficient are the keywords here.

An extra bonus with the 31-255X is that you can mount an outboard shaft for a 3" by 9" or 4" by 9" pneumatic drum for contour sanding. Other accessories include: pre-cut sanding strips from 36 to 220 grit (items 31-822 to 828), a sanding arbor (31-281) for mounting the pneumatic drum, sanding drum sleeves in 80 to 120 grit (31-274 to 276), and in-feed and out-feed support tables (50-281 and 389).

The suggested retail price on the 31-255X is $1,399. Just about every tool retailer seems to carry Delta equipment, so getting your hands on one will be a piece of cake; using it will be the icing!

CARL DUGUAY is a writer and woodworker from Sidney, British Columbia (250) 888-5067
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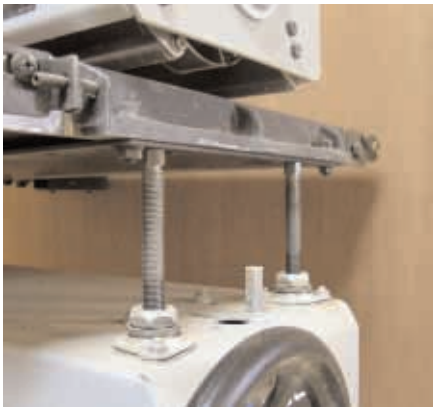

Sanding drum is stationary, conveyor table moves up and down.

Sanding belt wraps around drum

Bubinga strips resawn to 3/16"
Top strip: no sanding
Bottom strip: run through sander

Varnish

Unfinished Mahogany | 1 Coat of Varnish | 2 Coats of Varnish (Circa 1850 Polyurethane)

For many, varnish is the king of finishes. It produces a clear finish with a lot of depth; has superior water, abrasion, solvent, and heat resistance; is relatively easy to apply; and has good rubbing and polishing qualities. On the down side, some varnishes yellow with age; they are notorious for becoming embedded with dust (because they cure slowly); and they are difficult to repair. Nonetheless, the benefits of varnish far outweigh its drawbacks.

The Long and Short Of It

Varnish is made by cooking oil with a resin. The oil can be linseed, tung, soya, safflower, or the like. The resins can be natural (made from pine tree sap or gum turpentine), or synthetic (made with phenolic, alkyd, or polyurethane resins. Metallic dryers are also added.

Varnish that has a lot of oil added to it is called long oil varnish, and sold as spar, marine or outdoor varnish. More oil makes the varnish more flexible. Short oil varnish has less oil added, which makes it harder. Short oil varnish is the typical varnish you use on furniture and interior trim work.

Varnishes are 'reactive' film finishes. As the thinner (i.e. mineral spirits or naphtha) in varnish evaporates, the resin molecules react with oxygen to bond together in a process called polymerization. Because varnish reacts with oxygen in the air, it cures from the top down, so you want to keep each layer thin, and you want to ensure that the previous coat is fully cured before you apply a new coat. Because the layers of varnish don't fuse together once they've cured, you need to lightly sand between coats. How many coats? Generally three or four are all you need.

Choices, Choices

There are lots of different brands of varnish for you to choose from. Most of what you'll find at your hardware store is polyurethane, which comes in a gloss, semi-gloss, and satin sheen, and is available in pint, quart, and gallon quantities. Although most varnishes can be either brushed or wiped on, some are brush only. You can also buy varnish in aerosol cans, which is particularly handy for finishing small pieces or for touch up work. It's a good idea to buy varnish in a quantity that you can use in a short period of time, as varnish will begin to skim over after a while. Once you've found a brand that you like, it's good practice to stick with that brand.

The brand that I have been using for the past six months is Circa 1850, made by a Canadian company, Swing Paints. The Fast Dry Polyurethane is my favourite

Circa 1850 Paste Varnish

Circa 1850 Polyurethane

Circa 1850 Marine Varnish

finish. It has an amber color, is quite thin (which seems to help it flow on easily), and dries in about 3 hours. It produces a very durable finish, which rubs out nicely.

If you're looking for a hand rubbed finish with much better protection than you can get from Tung or Danish oils, then try Circa 1850 Paste Varnish. This is a gelled polyurethane varnish that you rub on with a cloth. It dries in four hours, and you can lay four or five coats for a decent level of protection. An excellent product for furniture that won't see a lot of day-to-day use.

For outdoor furniture you can't go wrong with Circa 1850 Marine Varnish. It contains UV filters as well as a fungicide and mildewcide.

Applying

To get a really great varnish finish you need the right environment and the right tools. Without getting too fanatical, it's best to work in a dust-free room that isn't too cold or damp (both slow down curing time). Make sure you've raised the grain and wiped all the dust off your work piece and work table. You might want to do your finishing at the end of the work day, so you won't be introducing new dust into the air, or later in the evening after the dust has settled.

If you're new at varnishing, you'll find it a lot easier to wipe it on. You can buy a wiping varnish, or you can make your own, by adding two to three parts naphtha (camping fuel), or mineral spirits to one part varnish. Naphtha will evaporate more quickly than mineral spirits (i.e. the finish will dry faster). Use a clean lint free rag to wipe the varnish on. Don't worry if you miss a spot, you'll cover it with the next application. Be sure that you don't wipe over a wet area, or you'll muck up the finish. After four or five hours you can wipe on another coat. If you dilute the varnish with a lot of thinner you'll need to apply

more coats (eight, nine, even ten) in order to build up a protective finish, as each layer you apply is micro thin. When wiping on varnish you don't have to worry much about dust, as the thin coats will dry pretty quickly. If you notice any dust very gently sand with 320 or 400 grit paper.

The secret to brushing varnish on is getting a good brush, learning how to use it, and keeping it clean after each use. For the past six months I've been using a Lily Varnish Omega brush. This is a natural bristle brush, slightly tapered with fine flagged ends. Extremely well made, and available in seven widths, from 20 to 100 mm. It holds varnish well, and hasn't dropped a single hair since I've been using it. To maximize the life of your brush make sure you clean it after each use, and properly store it. Wash it well in mineral spirits, then rinse it out with lacquer thinner, followed by a wash in soap and water. Dry it out with a paper towel, rub a couple of drops of mineral oil on the bristles, comb out the hairs, and finally wrap it in absorbent paper. Don't use your varnish brush for applying other types of finish!

The best way to learn how to brush varnish is to practice brushing it on scrap plywood. Use long steady brush strokes with the brush held close to vertical, working in the direction of the grain. If you notice bubbles you can "tip-off" your brush strokes by holding the brush vertical and drawing the tip lightly across the surface. But only do this if you notice the bubbles right away. Varnish starts to skin over quickly, and you'll only muck up the finish if you brush over it once skimming starts. Don't rush your brushing. Take things slowly, make sure you've got good lighting, and allow each coat to dry thoroughly before applying the next coat. It's a good idea to thin the first coat with naphtha (half and half), which will act as a sanding sealer. Alternatively, you can use dewaxed shellac as the sealer. After you've applied a couple of coats you can very lightly sand out any dust nibs with 220 grit paper. In general, three or four coats of varnish are all you need. To obtain a finish with maximum sheen and gloss, you have to rub out the finish. I will cover rubbing out the finish in a future article.

For large items, such as cabinets, consider varnishing in several stages. Try positioning your project so that you're only brushing horizontal surfaces. It takes longer, but you'll avoid the problem of sagging varnish. You can also finish parts of a project, such as panels, bottoms, and backs before final glue-up. Carefully applied masking tape will prevent the finish from covering those parts to be glued.

Sources: Varnish: www.swingpaints.com or 514.932.2157
Omega brushes: 800-332-1556
www.finepaintsofeurope.com

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Free Literature: Bandsaw Blade Selection Guide

BC Saw and Tool has compiled an informational brochure to help woodworkers determine which bandsaw blade best suites their application. This guide takes the reader through every step of choosing their blade, including: blade length, width and thickness, TPI, tooth set and style, speed and material. Helpful tips are provided regarding specialty blades, blade terminology and troubleshooting. This guide is a must-have for anyone considering ordering a bandsaw blade in the near future.

To request a free copy,call toll-free: 888-251-2236 or visit our website: www.bcsaw.com

By Paul Ross

Kitchen Scoop

Scoops were used many years ago for all sorts of condiments such as salt, sugar, coffee, and even loose tea. Although they have been replaced in today's modern kitchen, they can be used to accent your décor. They are a great project for practicing your skew work.

Make sure you pick a suitable wood. It is especially important when doing skew that you choose even grained wood, particularly not a soft wood. This gives a false sense of the skew when cutting. Also if you use soft wood the detail would not be crisp enough. You don't have to choose an extremely hard wood, just something that has a bit of body to it. I chose cherry, in that it is fairly even in the grain, as well as attractive.

Start with a blank of about 2"x2"x4". This allows enough at the end to be used later for a jam chuck when turning the pip on the end. Mark the centre on each end to obtain maximum diameter when it is roughed into a cylinder. When using a roughing out gouge there are a couple of ways that it can be presented to the wood. However, when roughing down a square it is important to note that there is a lot of resistance from the wood. For this purpose you should present very little metal from the gouge. Keep the flute in an upward position.

Once the corners are off you can turn the gouge on its side to present more metal to the wood. This produces a smoother cut.

Now, with a parting tool, square each end. With the piece in a chuck and using the tailstock to line up the centre, true the wood with a skew. Make a planing cut with the heel leading (the short end). Note that the tool rest is well above the spindle, and the skew is not held flat on the rest. Its one edge is held slightly off the rest. It is held "askew" to the wood.

The exposed end must also be cut clean, and this is done with the skew. Using the toe (the long point), simply lift it into the wood.

It can be a little challenging to remove or hollow out the scoop. Ensure that all the grain is going end to end. This is what is commonly known as end grain and if not properly handled it can be a nightmare. On the other hand, when the end grain is handled properly it's a dream. Remember the key to cutting all grain, especially end grain, is to go with the grain. Pulling the gouge from the centre to the outside does this. Use a small 3/8" spindle gouge for this, starting in the centre and pivot the gouge out to the edge.

Once the shaping of the "bowl" is done with the gouge, we then clean it up using a modified round nose scraper. Check the depth of the "bowl" to ensure where you are on the outside and start cutting the handle of the scoop.

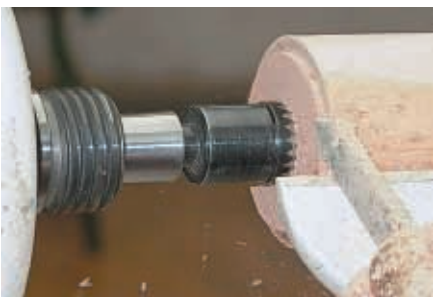
Rough out the curve of the goblet with a spindle gouge and then take a couple of light cuts using a 1/2" skew. Be sure to have the rest above centre, and always go downhill.

Now shape the handle using the skew, always cutting with the grain and cutting downhill.

When shaping is complete, sand. The better your skew work is, the finer grit you can start with, when sanding.

Keep flute in the upward position

Turn the gouge on its side



Square each end

Make a planing cut

Lift the toe into the wood

Pull gouge from centre to outside

Clean up with scraper

All that is needed to do now is part the piece off. Use the toe of the skew and carefully, one cut at a time, slice the piece off. Make a jam chuck, to finish the little pip on the end of the handle. This is done by cutting the remaining piece held in the chuck to the inside diameter of the scoop. Once you are at the proper diameter, a slight push onto the jam chuck ensures a snug hold. Now clean the pip with the toe of the skew as seen in picture.

Finish the project by cutting the scoop on the band saw. Make a bunch of these scoops and you'll have lots of fun while fine-tuning your skew skill.6. Pull gouge from centre to outside

PAUL ROSS owns and operates Chalet Woodcraft and teaches woodturning in Boston, ON.
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Check the depth

With rest above centre, move skew downhill

Shape the handle

Slice piece off, one cut at a time

Clean pip with toe of skew

Cut the scoop on your band saw

mediarelease

Mark Eaton Joins Freud Canada

Tony Meznaric, president of Freud Canada Inc. is pleased to announce the appointment of Mark Eaton to the position of Product Application Specialist for Canada.

Mark's knowledge of power tools, sales and tradeshows, promise to bring a new and innovative approach to Freud dealers' events and demonstrations across Canada.

Mark's background includes representing the Oak Park line of products and being the head instructor at the National Router Academy. At the NRA he taught routing and woodworking courses to more the 1,000 woodworkers from across Canada and the United States. In addition, he has coordinated and participated in over 600 tradeshow booths, seminars and special events since 1994.

Mark would like to thank all of his past customers and students, and looks forward to serving them and many new ones in the future.

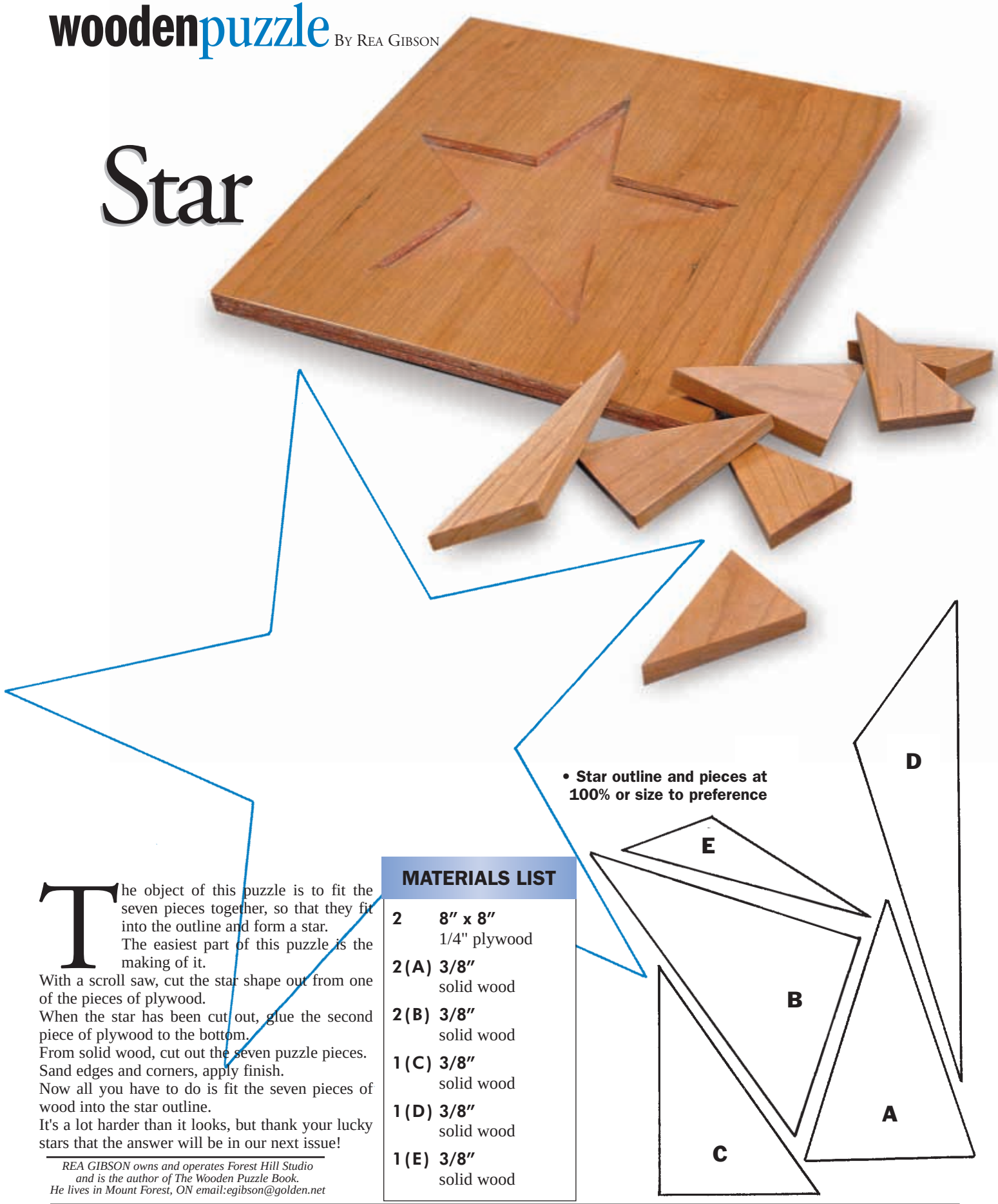
Watch for Mark at all of the woodworking shows, and many dealer events, across Canada with the new Freud Canada Demo Truck.

Mark can be reached in Mississauga at 1-800-263-7016 or by e-mail nra@cogeco.ca.

woodenpuzzle

By Rea Gibson

Star



• Star outline and pieces at 100% or size to preference

The object of this puzzle is to fit the seven pieces together, so that they fit into the outline and form a star.

The easiest part of this puzzle is the making of it.

With a scroll saw, cut the star shape out from one of the pieces of plywood.

When the star has been cut out, glue the second piece of plywood to the bottom.

From solid wood, cut out the seven puzzle pieces.

Sand edges and corners, apply finish.

Now all you have to do is fit the seven pieces of wood into the star outline.

It's a lot harder than it looks, but thank your lucky stars that the answer will be in our next issue!

REA GIBSON owns and operates Forest Hill Studio and is the author of The Wooden Puzzle Book. He lives in Mount Forest, ON email:egibson@golden.net

MATERIALS LIST

2	8″ x 8″	1/4" plywood
2 (A)	3/8″	solid wood
2 (B)	3/8″	solid wood
1 (C)	3/8″	solid wood
1 (D)	3/8″	solid wood
1 (E)	3/8″	solid wood

Rotozip by Bosch

The Rotozip has been a standard power tool in woodworker's tool cabinets for over 25 years. It was circa 1979 when the first spiral saw appeared on the market and, as they say, the rest is history.

In December of 2003, Bosch acquired Rotozip and the tool is now known as RotoZip by Bosch. A number of improvements and new innovations can be seen in the new tools.

There are now four RotoZip Spiral Saw models with various features to choose from. I tested the RZ20-2100. This unit has integrated LED work lights, a variable speed control, a metal bezel, a quick-release handle, a sealed switch, an adjustable foot, a three-jaw chuck, and a newly deigned body. The RZ20 also boasts a 5.5 amp motor.

The Bosch RotoZip (known generically as a spiral saw or spiral hole saw) arrived in a soft-sided kit bag that also included a bit case, a circle guide, and three cutting wheels (one for masonry, one for metal, and a diamond wheel for ceramics and concrete).

I used the RotoZip RZ20 to cut into gyproc when I had to cut out a large hole in my shop ceiling to gain access to a frozen pipe.. No surprises here. The RotoZip performed perfectly, as expected. It did kick up a lot of dust, but a vacuum accessory pack is readily available.

For those who think the RotoZip is only a contractor's tool, check out the RotoZip web site (http://www.rotozip.com). I recently used mine to cut a small shaped hole in a cabinet back. I have also seen some really neat grillwork cut into cabinet doors. The spiral cutting bits do a fine job with little tear-out and the adjustable shoe provides ample visibility for following patterns.

I especially liked the LED lighting. Even through the cloud of sawdust the light kept the cut line visible. In addition, I found the power switch in the handle to be convenient and I liked that when the handle is removed the power reverts to the bump-off switch.

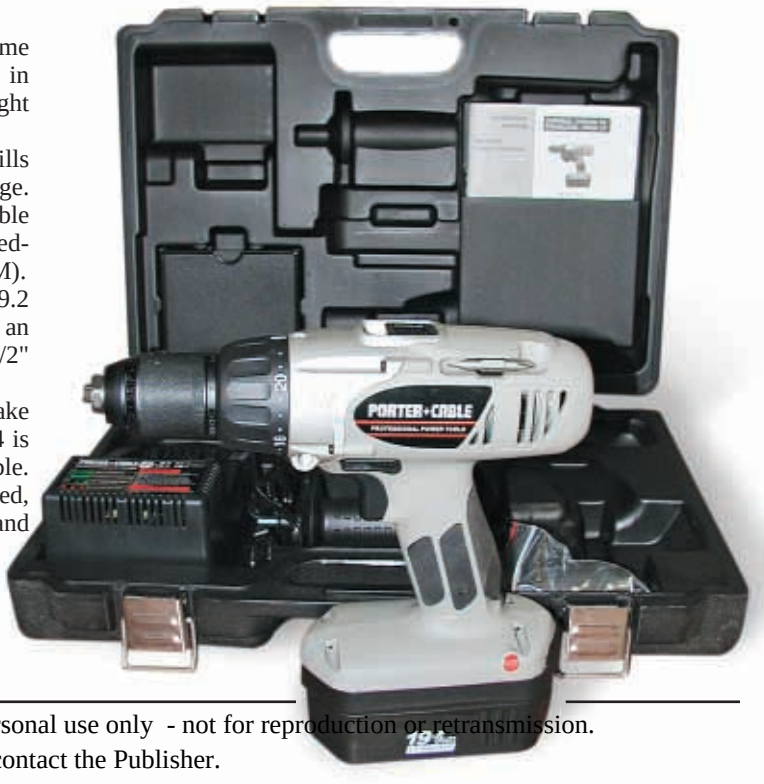
Porter Cable Cordless Drill

Over the last 10 years or so quite a few cordless drills have come and gone. The initial cordless drill was a very crude innovation in comparison to the tools of today. Back then, a four hour charge might get you about an hour (on and off) of usage.

Times have changed, and the newest generation of cordless drills now provide many hours of service after just a one-hour of charge. New battery packs are much more efficient and the new Porter-Cable model 984 is no exception. The Porter Cable 984 is a two-speed-range drill with variable speeds in both (0 - 500 and 0 - 1500 RPM).

The 984 kit comes in a blown-plastic case and includes two, 19.2 volt, 2.4 amp-hour battery packs, a one-hour diagnostic charger, an ambidextrous side handle, extra T-handle grips, and a 1/16" - 1/2" keyless chuck with 22 torque positions.

At first sight I thought that the 19.2 volt battery pack would make for an overly heavy cordless drill. I was wrong. Although the 984 is hefty, it is well balanced and therefore the weight is not as noticeable. The rubber over-mould grips add to the comfort, and as mentioned, Porter Cable kicks in a spare set that are sized as small, medium and large for even more comfort.



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Mitre Saw

Extreme Make-over Part II

Blade entering throat plate

In our last article we worked on channeling the sawdust (created above your work piece) into a modified port, situated on the saws arm.

Now we will work on collecting the dust that is ejected below your work piece, as the blade cuts through your material and travels below the table.

First off, notice the gap between the bottom of the saw frame and the work bench. That gap hinders dust collection, so it is one of the areas we will need to work on to make our dust collection more efficient.

Now remove the throat plate (kerf plate). Notice the opening in the casting, just above the pivot point of the saw table. This opening is another hinderance to effectively collecting the dust being expelled below your workpiece.

Once the throat plate has been removed, you will also notice that the under-side of the table is partitioned by support ribs, but is mostly open. This is the third area that we will have to address in our make-over. By closing some of this area in, we will be able to streamline the air and dust flow more effectively.

To really achieve efficient dust collection, we will need to address all three of these problem areas.

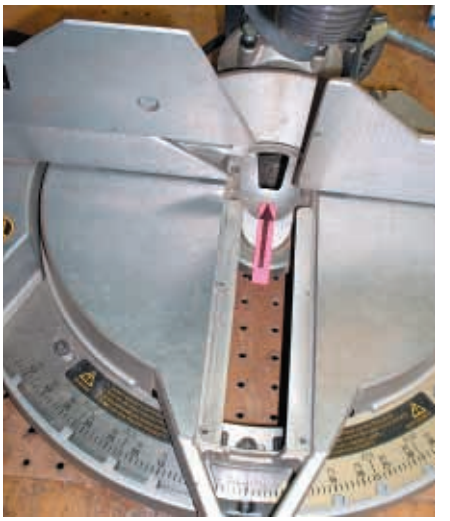
So roll up your sleeves. This extreme make-over involves taking your saw apart, and putting an end to all that dust that you have come expect from your mitre saw.

While you have the saw apart for this makeover, you may as well clean the unde-side, inspect and lubricate the pivot point and inspect and clean the table wear plates. So in a sense, this is not only a make-over but a tune up.

Notice the relationship between the saw throat plate opening (as you rotate the table) and the main ribs in the lower half of the table. Add a couple of brush seals at the throat plate to make dust collection more efficient.

Make a template for the cover plates using light cardboard. Once you've got a fit that encloses the bottom of the saw table, you will be able to replace the cardboard with metal cover plates.

It is very important that the covers do not interfere with the rotation of the saw table. Use the same bolts that hold the saw table



Opening beneath throat plate hinders air/dust flow

Gap between saw frame and work bench

Under-side of saw frame

Cardboard template for cover plates

Area surrounding dust port to be sealed

Base with skirt attached and In place

wear plates in place to fasten the cover plates.

Size, fit, and fasten the seal brushes in place and then remove. Install the cover plates and reinstall the brushes. Next, cover the opening in the pivot point casting with a small piece of rubber.

It is a good idea to put the saw back together after each adjustment, to make sure that it still rotates freely.

Now let's look at the saw's base frame and it's relation to the workbench.

By closing in the area of the base frame that surrounds the workbench dust port, air and dust flow will be better chanelled to the port.

To close in that area, I added a rubber skirt around the inside edge of the opening formed by the cast support struts and the inside edge of the pivot support.

Next, measure the gap between the bottom of the saw frame and the bench top. Then cut an old inner tube (or similar) and make a rubber skirt to adhere to the frame and rest tightly against the bench top. Contact cement works well to fasten the skirt in place.

You will notice that the dust port in my bench top is only 3" in diameter and positioned under the pivot point. To improve that situation I remade the dust port opening in the bench top. I also had to change the shape of it to ensure that it was totally under the skirted-in area of the saw base.

Bottom of saw table closed in, seal brushes in place

Saw in place over new opening. Hole in pivot point casting covered

In addition, I enlarged the hole to a triangular shape and inserted a 4"-3" HVAC piping reducer into the opening, fastening it in place with 3 #6 screws.

Now the opening is more effective and is totally inside the skirted-in area.

Reassemble the saw, test it for freedom of movement, and fasten it in place on the bench.

The saw now has 2 three-inch dust ports and will be hooked up to your dust system using a 3-3-5 tapered "Y", in conjunction with one 5" blast gate.

For those of you doing the math, a 3" diameter pipe has a 7.07 square inch area, a 4" diameter pipe has a 12.57 square inch area. I could use a 3-3-4 "Y", but to get the best flow I chose the 5" diameter, with a 19.63 square inch area.

Keep in mind that there is still going to be a slight restriction created by the blast-gate.

CHESTER VAN NESS is a Dust Removal Consultant in Scotland, ON (519) 484-2284

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WOOD SHOW NORTH
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www.gvwg.ca/Symposium2004.htm

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