

Canadian

Woodworking

JUNE/JULY 2004
Vol.7, No. 3

Grandpa's Tool Kit

Early Canadian Woodworking

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Nesting Tables

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Solves Puzzle
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Cover photo by Ray Pilon, Ottawa ON



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LINDA FULCHER

A woodworker once said to me that one of the biggest advantages of woodworking is that you can adapt projects to suit your needs.

How many times have you gone out looking for a shelf or table to fit a particular space in your home or office and they are just a little too wide or a little too tall? What about when you find the perfect style of furniture to suit your décor, but it only comes in pine and you want oak or maple? No problem when you make your own!

Consider some of the woodworkers in this issue who have taken the skill of adapting to new heights. Greg Sterenberg designed some stacking tables so that his family would all be able to enjoy the same sized tables. Danny Proulx has added wheels to his shop table, to create a rolling shop cart for which he has found a variety of uses around the shop, home and garden. Artist Colette Theriault shows us how to customize framemaking and have more control over the design and appearance of picture frames.

Another wonderful example is Rodney Frost's adapting of something new to capture the nostalgia of days gone by. Rodney shares his method of using modern bike wheels to build the old style wooden wheels. His design maintains the rustic attraction of wooden wheels without compromising the advantages of the modern tire.

Woodworker, Tim Lee, has worked with his instructor to adapt the process of woodworking itself. Faced with the unique challenge of learning the craft with only one arm, Tim shows us that woodworkers can adapt to almost any circumstance. His story is truly an inspiration to push through the obstacles in your path.

Finally, what if you don't have the tools which are recommended to build a project? Adapt what you do have! Check out Gary Dover's delightful story about the tools he inherited from his grandfather. You will find that woodworkers throughout history, have honed this incredible skill of adapting.



PAUL FULCHER

Are you doing the level of woodworking that you want to be doing?

Are you taking on new challenges and overcoming obstacles in your woodworking?

Are you striving to be a better woodworker?

When I read Laura Morris' story (page 32) about a new woodworker pursuing his dreams of becoming a fine woodworker, I had to stop and ask myself about the obstacles in my own development. Obstacles like 'not enough time' or 'not enough space'. Obstacles like 'I don't know how' or 'I'll do it later.'

Obstacles show us that we have reached a limit, that we can go no further, without doing something different. Obstacles are not dead-ends or brick walls. They are steps to a higher level of achievement.

When we hit an obstacle we hit a step in our development, we have to make an effort to proceed up and over it. That's what takes our work to the next level.

Think about your own obstacles and how you can overcome them to become a better woodworker. Ever try a dovetail joint? Check out page 20 and try doing one now.

Ever add a carved accent to your cabinetry? See if you can incorporate the carving on page 22 into one of your current projects. Ever try to reproduce an era piece? Then check out the Colonial Furniture article on page 33 or the old-fashioned wooden wheel on page 30.

If you are hesitant to try these, or any new thing, remember - by taking the steps to overcome your obstacles you will take your woodworking to the next level.

No matter what your level of woodworking, there are obstacles in the way of becoming a better.

Obstacles don't have to define the limit of your ability. When approached head-on they can help you take your woodworking to the next level.

I wish you success in overcoming all of your obstacles.

dear editors

Hello:

We are in the process of selling a commercial property to someone with a dream of a woodworking shop. The machinery is all included and we are wondering, if your magazine has a classified section for advertising this great property. Also, would you have any suggestions on how we can find more exposure in the woodworking world for selling our property. This shop is located north of Peterborough.

Thank you for your time. Sincerely,
Evelynne, moondance@nexicom.net

Hello Evelynne,

I'd love to help. Please feel welcomed to post your property on our website's FREE

CLASSIFIEDS page. It is extremely busy and woodworkers report great success with it. I am sure if you post your property there, you will connect with someone. Good luck.

Paul

Hi:

I'm trying to find a woodworking shop that is for sale here in Winnipeg, Manitoba or in Nelson, BC. If you have any information please email me. Thanks

Nathan, MB, natbarr@hotmail.com

Nathan,

Wow, lots of action in buying and selling woodworking shops! In addition to the Classified page (mentioned above) be sure

to check out Hendrik's article (the second in his series) on starting your own woodworking business. Even if you are already in business, Hendrik's series has a lot to offer. Good luck in your move.

Paul

Dear Paul:

I enjoy your magazine and have seen some excellent carving articles by well known Canadian carvers, such as Mary-Ann Jack-Bleach and Phil Orchard.

I now see that you are running a series of carving articles by David Bruce-Johnson.

Congratulations!

Although David is not as well known as some Canadian carvers, he is definitely

■ continued on page 37



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Unique Nesting Tables

Nesting tables usually consist of various sized tables that fit or nest together. Typically, nesting tables are separated when extra table space is needed, and placed back together when it is not. One of the drawbacks of nesting tables is that, almost by definition, each of the tables is a different size and height than the others.



For my purposes, I wanted to have 3 tables, each with the same height and same size tops. The design that I came up with does just that. It consists of an end table with 2 matching tables. The matching tables slide on their sides underneath the main end table. For clarity, I refer to the end table as table 1, to the first to slide under as table 2, and to the last as table 3.

The tops may be left plain, or they can be decorated. I used a router (with template guide and inlay bushing) to inlay 1" dots of black walnut: one dot centred on the top of table 1, two dots on the top of table 2, and three dots on table 3. The overall effect is of a gigantic die. This added decoration also helps my young son figure out the order in which to take the tables apart and put them back together.

Build The Tops

The table top for each table is 18"x18". Glue up red oak in strips of about 3 inches wide to get this dimension. Flip every other strip to minimize cupping.

Rip the boards and joint the edges. Glue up tops in 2 halves approximately

9 1/2" wide. This will give you enough width to allow for surface planing.

Plane the 2 halves down to 3/4", then glue the halves together. Use blocks and clamps across the joint to align the 2 halves as closely as possible.

A bit of work with a scraper and a sanding block will give you slabs that are ready for cutting to their final sizes.

Cut The Legs

Cut and plane oak boards down to 3/4"x1 1/2" strips. Use this material to build 3 sets of rectangular legs. The vertical sections of all 3 sets are 18 1/4" long. That ensures that the tops of tables 2 and 3 will fit (on edge) under table 1, and that all three tables are the same height.

Cut the horizontal sections of the legs for table 1 to 16 1/2". These dimensions reflect the outside dimensions of the rectangles comprising the legs.

Make The Joints

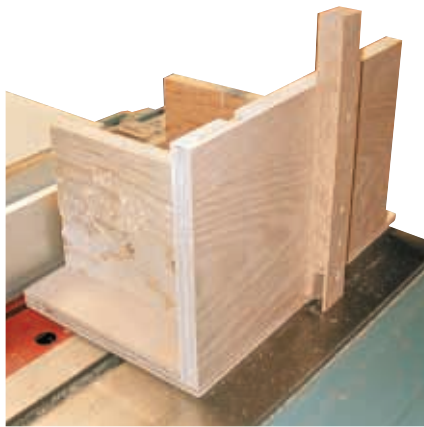
To make the joints as strong as possible, use finger joints with tenons and mortises cut through the legs. Cut the tenons on the horizontal pieces. Cut the mortises on the

vertical pieces using the same jig. The jig is made by screwing 2 pieces of plywood together at 90°. One piece constitutes the base; the other is the face that supports the work piece. I used 2 more square pieces of plywood as blocks, which were glued and screwed perpendicular to the inside angle to make sure that angle stays at 90°. A piece of 1"x2" stock attached vertically to the face keeps the work piece at 90° to the table saw. The work piece is then held to the jig by your preferred type of clamp.

Since they are open on the end and two sides this is a finger joint rather than a true mortise. I made a cut, just off-centre, and then simply turned the wood 180° to ensure that the mortise stays centred. Be careful doing this, since moving the fence causes the mortise to be widened by double the amount of that movement!

When cutting the tenon cheek with a shop-made jig, keep in mind that a strong joint needs a good fit, but it is nearly impossible to cut accurately enough with any jig. Instead, set up your cuts to make the joints too tight. Once all the ends are cut, use your table saw (on the cheek and shoulder of the tenon) to improve the fit. Cut tenon shoulders shallow, then clean with a chisel. Finally, use a scraper for fine adjustments.

By the time you get to the third set of legs, you'll be pretty good at this, and able to do it quickly and easily! If you have a micro-adjustable tenon jig your life would undoubtedly be easier, although perhaps less challenging.



Joint jig



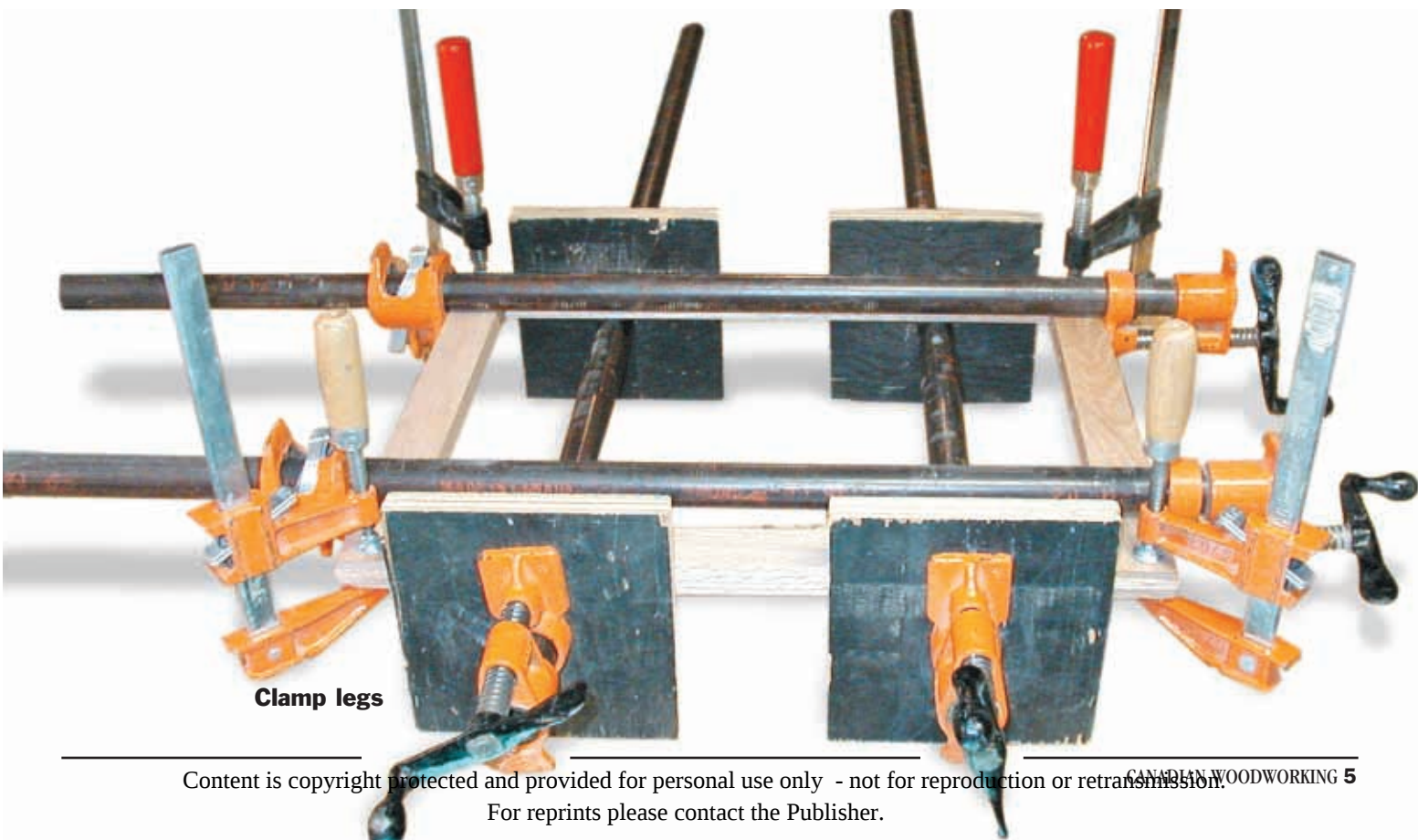
Cut tenon cheek with shop made jig



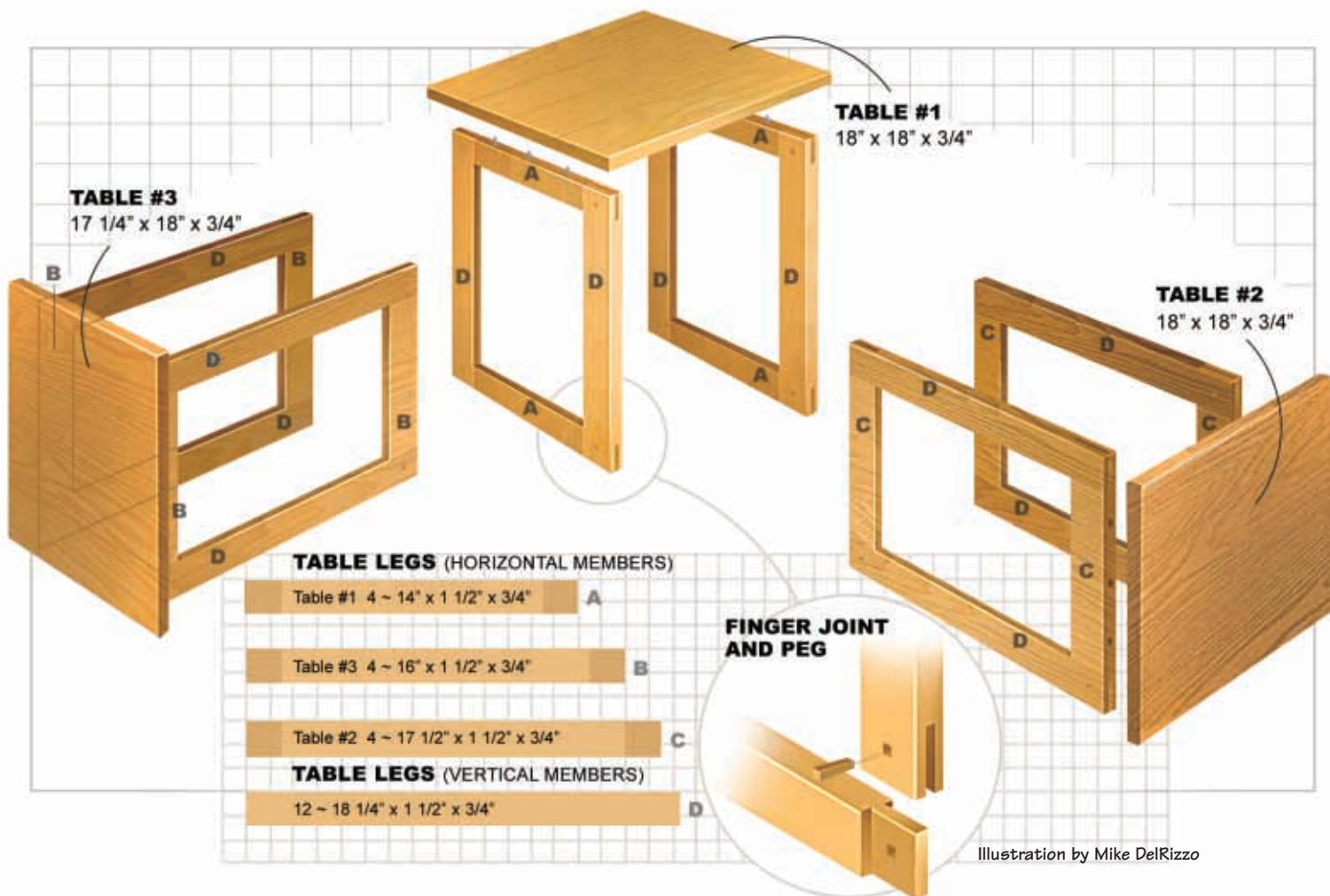
Cut tenon shoulders shallow



Drill and countersink screw holes before assembly



Clamp legs



CUT LIST

Table Tops

- 1 18" x 18" x 3/4"
Table #1
- 1 18" x 18" x 3/4"
Table #2
- 1 18" x 17 1/4" x 3/4"
Table #3

Table Legs

- 12 18 1/4" x 1 1/2" x 3/4"
Vertical Members
- 4 14" x 1 1/2" x 3/4"
Table #1
- 4 17 1/2" x 1 1/2" x 3/4"
Table #2
- 4 16 1/4" x 1 1/2" x 3/4"
Table #3

Before assembling the legs, pre-drill holes for screws. Countersink the holes so that the screws penetrate the underside of the top to a depth of 5/8".

Clamp Legs

Bar clamp the assembled legs just inside the finger joints to guarantee that the pieces are tight against each other. Apply c-clamps to each corner.

Strengthen Joints And Add Detail

After the legs are glued up, you may want to add some detail. I chose to peg the corners with black walnut. To do this, measure in 3/4" from each side and drill a

1/4" hole. Square this off with a 1/4" chisel. Insert a square peg of black walnut, trim the excess with a flush cutting saw, and sand the area smooth with a random orbit sander.

Square Leg Tops Before Attaching

Be sure to check the squareness of the top of the legs before attaching them to the tops. If not perfectly square, the legs will exhibit an obvious lean. (When smoothing the ends of the tenons, I managed to get the tops of the legs out of square. However, a quick pass over the jointer, which was set to remove minimal material, put things right)



Black Walnut pegs strengthen joints and add detail.



Square leg tops before attaching



**Finger joint
and peg in place**

Put It All Together

The tops of the rectangular leg assemblies act as straps on the bottom of the table tops. This strapping helps to keep the tops flat. To maximize the benefit of the straps, install the legs across the grain, using both screws and glue. The table legs are glued and screwed to the undersides of the tops. The screws are countersunk so they penetrate the tops 5/8"

The legs on table 1 are set in 3/4" from both the end grain and from the sides. This setback allows the tops of tables 2 and 3 to fit flush, when slid into place.

The legs on table 2 are as wide as the top and set in 1/8" for appearance. These legs act as slides, so they must be wide enough that the table top is perpendicular to the floor (when placed on its side to slide under table 1). These legs are placed 1 3/4" from the ends so that they will fit between the legs of table 1.

The top of table 3 is slightly smaller than the other two, measuring 18"x17 1/4". The missing 3/4" allows for the thickness of the top of table 2 when the tables are nested. The legs for this table fit inside the legs of tables 2 and 3, so they are much narrower than the others. The legs are set in 2 1/2" from the end grain and 2" from the sides.

Final Touches

Sand before assembly. When sanding where two pieces are to be joined, take extra care to minimize any sanding marks on pieces sanded across the grain. Random orbital sanders are great for this. You can also make such marks all but invisible by sanding with progressively finer grits to 220.

For that perfect finish, you can do a final sand by hand. Use a block or a soft jawed clamp to stop the sanding block before it touches the cross grain.

I knew that my set of tables were going to get their share of pizza boxes placed on them, so I used a clear satin, rub-on polyurethane for an attractive and durable finish.

*GREG STERENBERG lives and works in Okotoks, Alberta.
steren@allstream.net*



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Rolling Shop Cart

This rolling shop cart has become a 'must have' in my workshop, and I'm sure that it will become one in yours as well.

It is an inexpensive device to build, but the help that it offers in your shop is invaluable.

The usefulness of these rolling shop carts is not restricted to the workshop either. In addition to moving cut panels and lumber around my shop, I use mine as

a tool tray when I work on my truck or trailer. I also use it as a mobile workbench for repairs around the house and as a handy worktable for garden potting and planting.

This one is made with low cost construction grade lumber. The top, middle, and bottom shelves are inexpensive particle-board. You may even want to make it out of cut-offs and left over panels from your wood rack. The only costly item in this project is the metal wheel casters.

Build this shop cart and see for yourself how helpful a sturdy, mobile cart can be in your home, garden or workshop. I'm sure that you will appreciate the variety of ways you can use it.

Cut a 3/4" wide x 3/4" deep rabbet on one end of each of the four legs with a dado blade. If you don't have a dado blade, use a standard blade and nibble out the waste materials with multiple passes.

Cut a rabbet 3/4" deep x 3 1/2" wide on both ends of each top rail.

Cut the same sized rabbet on the uncut ends of each leg.

The larger top rabbet is cut on the same face as the rabbet on the opposite end.

The larger rabbet cuts on the top rails and legs will form a half lap joint.

The half lap joint is secured with glue and 1 1/4" screws. Build two frames using two legs and one top rail for each assembly. Be sure to apply wood glue to all surfaces of the rabbet cuts before clamping and securing with screws.

The frames can now be connected to each other using the support rails. Two are at the top, flush with the top surface of the legs. The other two are attached with their top edges 16" above the lower leg ends.

Attach the rails to both frames with a simple butt joint and glue. Use two 3" screws, in pilot holes, to secure each joint. Corner blocks will strengthen these connections.

Position the leg frames so that the lower rabbet cuts on the legs face inwards (i.e. face each other).

Glue and nail the four corner blocks into the top corners. They should be set flush with the top edge of the cart frame.

The bottom board is a piece of 3/4" thick particleboard. Cut it to size and install it in the 3/4" rabbets at the bottom of each leg. Use glue and two 2" screws to secure this panel.

While the cart is upside down, attach the four wheel assemblies. I used a combination of 3/4" and 1 1/2" screws to secure the legs. The longer screws are positioned over the leg's end and are driven through the bottom board into the legs.

The middle board is attached using four 2" screws. I didn't use glue for this shelf, just in case it might need to be replaced in the future.

The top board is 2" wider and longer than the cart frame. That dimension will provide a 1" overhang on all edges. Attach the top with 2" screws through the corner blocks. Use a sander to round over the top board's corners.

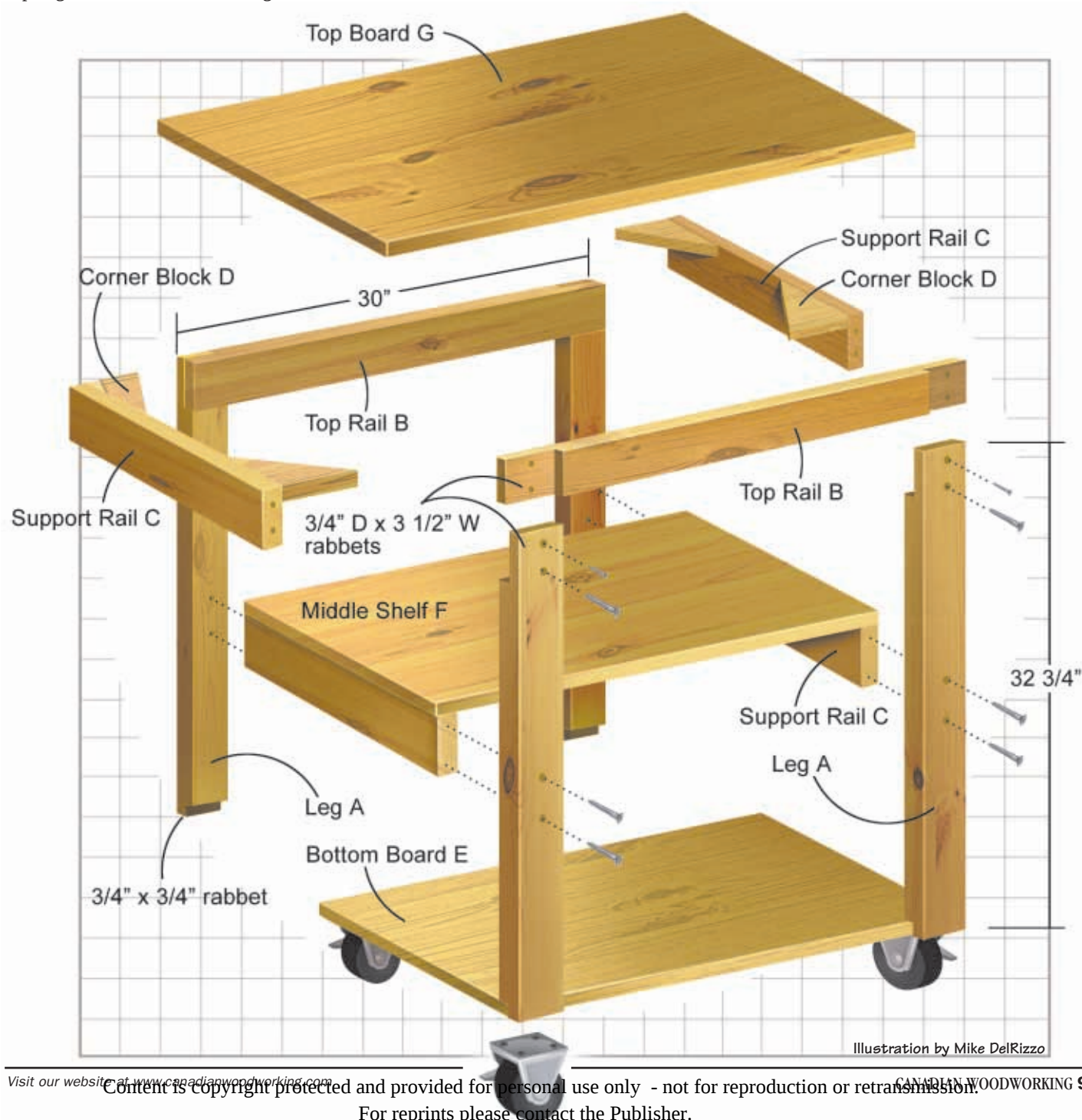


Illustration by Mike DelRizzo

MATERIALS LIST

- 4(A) 1 1/2" x 3 1/2" x 32 3/4"**
Legs, Pine
- 2(B) 1 1/2" x 3 1/2" x 30"**
Top Rails, Pine
- 4(C) 1 1/2" x 3 1/2" x 21"**
Support Rails, Pine
- 4(D) 3 1/2" x 3 1/2"**
Corner Blocks, Pine
Cut angle at 45°
- 1(E) 3/4" x 22 1/2" x 30"**
Bottom Board, Particleboard
- 1(F) 3/4" x 21" x 30"**
Middle Shelf, Particleboard
- 1(G) 3/4" x 26" x 32"**
Top Board, Particleboard

Construction Notes

This rolling cart is made using construction grade framing lumber. If you want something a little better looking, use hardwood for the legs and rails.

Be sure to counterbore the screw holes and fill them with wood plugs.

You can use mortise and tenon joints for the corner connections instead of the half lap joints.

The finished height and width of your rolling cart should be tailored to your needs. My workbench is 36" high so that

is the height of my cart. Make your cart's height match the height of your bench.

The cart width is fine for my shop but you may want something different. If so, cut the support rails shorter or longer.

My cart shelves are made of particleboard. For a stronger cart use plywood. The wheels can also be heavier duty models to accommodate heavy loads. My shop floor is reasonably smooth concrete, but if it were rough I'd use a larger diameter wheel.

My carts get a lot of use and suffer a lot of abuse. That is why I use low cost construction lumber and particleboard shelves. But, even with my constant use, they last me a good five or six years.

HARDWARE AND SUPPLIES

- 1 1/4" Screws
2" Screws
3" Screws
Glue
4 Wheel Assemblies

DANNY PROULX is a woodworking author and teacher.
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Rabbet legs with dado blade, or standard blade with multiple passes



Rabbet top rails and legs to form half lap joint



Secure half lap joint with glue and screws



Attach support rails to frames with butt joint and glue



Glue and nail corner blocks flush with top edge of cart frame



Glue and screw bottom board into leg rabbets



Screw wheel assemblies into legs



Attach middle board with screws



Round over the top board's edges



Coin Box

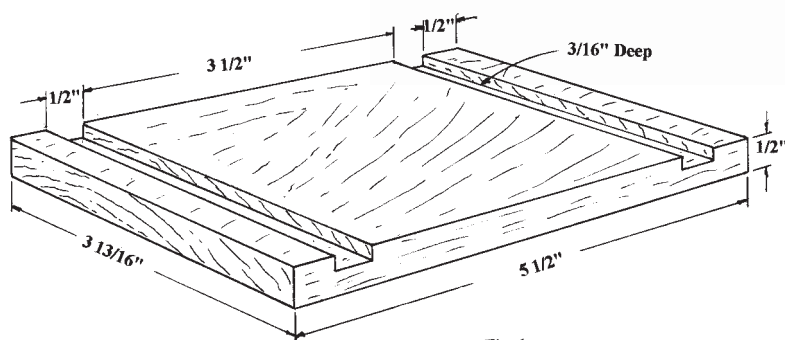
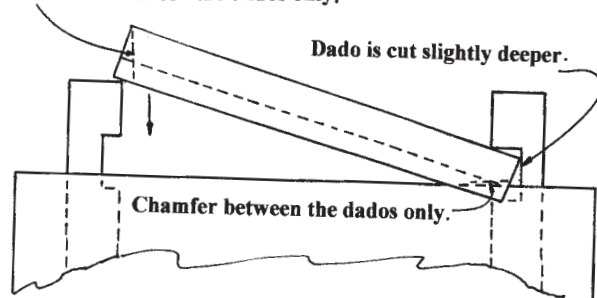


Fig. 1

Bevel is cut between the dados only.



This unusual coin box is made from six pieces of solid wood.

Unlike most puzzles in this series, we have to reveal the solution to you before you actually build the puzzle. That is because the solution to the puzzle is linked with its construction.

Once the project is complete and assembled, the object of this puzzle is to open the bank to get to your money.

Cut out six pieces of solid wood as shown.

At the ends of each piece, cut 1/2"x3/16" dados.

In the middle of one of the pieces, cut a coin slot 1/8"x2".

The construction secrets that others won't know are these: One of the six pieces has a bevel cut between the dados (on each end); its mating piece has a deeper dado at one end.

Now that you know the secret, try building one yourself. When you have completed your puzzle bank, give it to a friend. Then watch just how easy it is for them to save money!

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

Cane Seating



There are two types of caning found on chair seats: hand-caning, and sheet caning.

This article leads you through the process of replacing a prewoven sheet of cane in a Bentwood rocker, which is a chair with a routed groove. Once the old seat is removed from the chair and the groove cleaned out, installing a new piece of sheet caning is similar to replacing a patio door screen.

First, remove the old spline and cane from the groove. Loosen the spline, bit by bit, with an awl, being careful not to scratch the wood surface of the chair. A little diluted vinegar can help soften the old glue. Clean the groove to get it ready for the replacement seat. If you have used vinegar let it dry before putting in the new seat - otherwise the vinegar will work against the glue you apply.

The piece of replacement sheet caning needs to be 2" larger (on all four sides) than the area to be caned. The extra material becomes the selvedge that sits in the groove. Before using, soak the piece of sheet caning in hot water for an hour. The water softens it slightly and makes it easier to wedge into the groove.

Notice that the sheet caning has a shiny side and a dull side. The shiny side is the side you want to be right-side-up on your chair. Lay the sheet over the groove and align the pattern with the chair so that it is symmetrical.

Gently pound a wedge into the middle of the groove on all four sides. Begin with the back rail, then do the front, and finish by doing the two sides. Then, in turn, take each wedge and tap the cane in, widening the area you are compressing.

Eventually the entire groove will be filled in. Go around once more, tapping the cane into the groove with the wedge to make sure it is in place. The cane may not seem to be very tight, but it will tighten more as it dries.

Cut off the excess sheet caning with an 'X-acto' type knife. Cut just below the top inside edge of the groove, and cut towards the outside edge of the chair.

Apply a bead of wood glue in the groove.

This is a good time to put the spline into some water. It only needs to soak for 5 minutes for our purpose. Don't leave it soaking for too long, because over-soaking it will cause it to swell.

Damaged cane seat

The final step is to pound the spline into the groove. Start at the middle back of the chair. The spline is wedge shaped, so make sure that the thin side of the wedge goes into the groove. Do not pound directly on the spline with the hammer. Instead, use your wedge laid on its side. That will buffer the pounding so that the spline is not marked by the hammer. If your chair is curved, bend the spline to help it fit the curve. If your seat is more square shaped, then you may need to pre-cut the spline with 45° angles.

Let the cane dry overnight. Don't worry if the seat is not stretched tight as it will tighten as it dries.

The cane does not need a finish because it already has a natural protective gloss. However, for effect, you could apply wood stain to darken the cane and spline.

Tools Needed

Awl, hammer, wood glue, 4 wedges, X-acto knife, sheet caning, and spline.

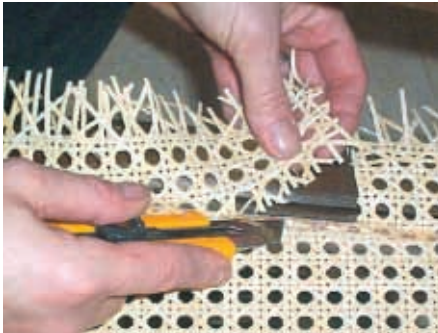
*GINA PEERS offers workshops and supplies from her studio in Peterborough ON.
www.peerscaning.com (705) 743-4583*



Remove the old spline



Pound wedges into groove



Cut below top inside edge of groove



Apply a bead of wood glue



Buffer pounding in spline with wedge



Clean the groove

Photos by: Bob Thompson



Repaired Bentwood Rocker

Dragon



Dragons, for all their fierceness, have worked their way into our hearts and remain ever popular in our pop culture.

Seeing them in movies recently (i.e. 'Lord of the Rings' and 'Harry Potter') rekindled in me a life-long interest in the Rings and the creatures therein.

This dragon (fierce as it is) is a project that any self respecting Hobbit woodworker would enjoy making and displaying.

If this project catches your eye, retire to

your warren hole and chip away at a piece of timber. Bring forth a Dragon from where there was only wood.

This basic intarsia project has one small twist. The dragon's tail curves up and over the body. For the small effort it takes to accomplish the technique, the curved tail gives a remarkable depth to the piece.

Choose Your Wood

Use the pattern and my suggested woods as a guide. Look for interesting woods. The wood that you choose makes a huge difference in the look of your final project.

Transfer The Pattern

Transfer the pattern to the wood, with whichever method you prefer: trace from the pattern onto the wood, make a template of the pattern and trace onto the wood, photocopy and cut and paste.

Cut The Pieces

Cut as carefully as you can and the pieces will fit much better. If you use the

template method and you have good cutting skills, try to cut just inside the line. Otherwise cut on the line. It's better to have a piece a bit too large than a bit too small.

Assemble

Fit the cut out pieces together and check for fit. You may have to sand down some spots to improve the fit. As long as the fit is within a saw kerf, it won't be noticeable.

Raise And Lower

Raise and lower as the pattern, or your own imagination suggests. Raise and lower in increments of 1/8". Use scrap plywood glued to the bottom to raise. Lower by resawing or sanding the pieces thinner.

Shape

Use whatever sanding tool or method you prefer. Always wear a dust mask, and have all of your tools hooked up to a dust

MATERIALS LIST

Red	1 piece, 6" x 15"
Light	1 piece, 3" x 8"
White	1 piece, 2" x 5"
Yellow	1 piece, 2" x 4"
BK	1 piece, 1/2" x 1"
1/4" Baltic Birch plywood for backing	6" x 17"

collector. Try to achieve a smooth transition from one level to the next. The more you shape it the better it will look. This project is especially easy to make look good. All you have to do is sand away every thing that doesn't look like a dragon.

Sand

Sand the pieces with a flap sander, or by hand. I don't sand past 220, mainly for health reasons. I have found that if I track wood dust into the house it isn't good for my health.

Prepare Backing

When you are determining the thickness of your backing, there is a general rule: for projects under 1 square foot, use 1/8". Up to 3 square feet, use 1/4". And up to 6 square feet, use 3/8". Baltic birch is best, but ordinary plywood will work, as will 1/8" or 1/4" MDF.

This project is on the borderline so I went with 1/4".

Assemble the project onto the backing board.

Trace around the project, remove the pieces, and cut out. Reassemble the project on top of the cut out backing, and start the glue-up. Glue on one piece at a time using ordinary carpenter's glue.

Finish

Apply the finish of your choice. I most often go with a satin or matte finish. Apply three coats on the front and one on the back. Sand between the 1st and 2nd with 120 grit, and between the 2nd and 3rd with 220 grit.

Attach a hanger and you're done.

You now have a fierce dragon to lord over. Use your powers wisely! Oh yeah, it makes nice gifts for kids, too.

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



With your preferred sanding tools, carve and shape the dragon's tail to curve up and over the body.



WOOD SELECTION

29 pieces. Overall size: 6" x 17"

DK - Dark: Dark Western Red Cedar (WRC)

LT - Light: WRC

W - White: Aspen

BK - Black: Black Walnut

Y - Yellow: Pau Amarillo

O - Open

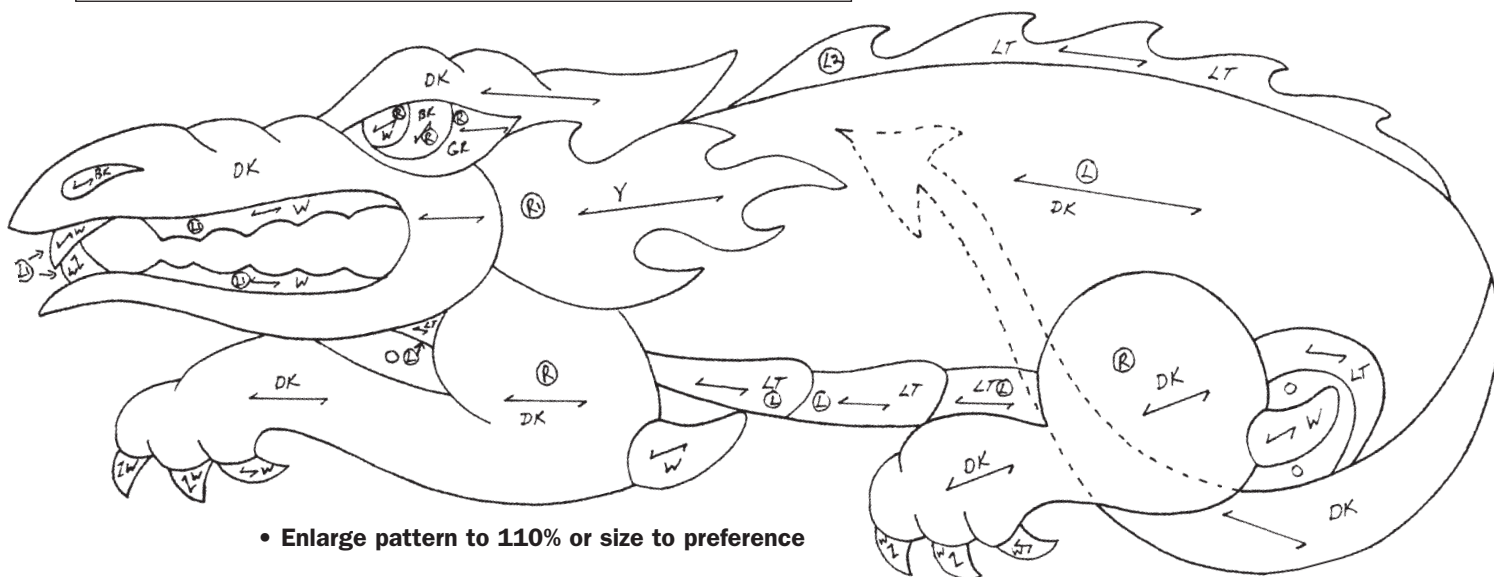
R - raise 1/8"

L - lower 1/8"

R1 - raise 1/4"

L1 - lower 1/4"

L2 - lower 3/8"



• Enlarge pattern to 110% or size to preference

Part II • Business Basics

Before you can hang out your shingle, you will need to decide on the form of legal entity that you want your business to be.

Business Form

Most small woodworking businesses (especially home-based ones) operate as a sole proprietorship or as a partnership.

If you decide to operate as 'John Smith', then you don't need to register the business at all, since a sole proprietorship isn't considered a separate legal entity from the individual who owns it. But be careful: if you want to operate as 'John Smith Woodworking', then you will need to register.

Talk to a business lawyer about the reasons for incorporating. The greatest advantage is limited liability. Disadvantages include more government regulation, higher expenses to organize the business structure, and more record keeping (usually requiring an accountant and sometimes even a lawyer).

Sole proprietorship/partnership

Advantages:

- 1) Easy start-up with low costs
- 2) Most freedom from regulation
- 3) Minimal start-up and operating capital
- 4) Easiest bookkeeping/accounting and taxation paperwork, often within the ability of the business owner.

Disadvantage:

Unlimited liability - Get insurance coverage, which is your second best way to protect your assets.

Home/Business Insurance

You will need a commercial policy to cover general liability (i.e. property damage, bodily injury caused by you or your products). It is also a good idea to get additional insurance for your business property (i.e. tools and equipment, materials, work in progress, etc.). Hire an insurance broker to shop around for the best price for the coverage you need. Here is some important insurance information that you need to consider. (Those of you who already run a home based business, pay special attention). Be aware that home insurance policies state that the policy is 'null and void' if you are operating a business that hasn't been disclosed to the insurer.

Be aware that home insurance policies state that the policy is "null and void" if you're operating a business that hasn't been disclosed to the insurer. So a choice to simply remain uninsured for your business might also mean that your home is uninsured. While your insurer likely won't demand a much higher premium for some businesses such as bookkeeping or other office work, most insurers consider woodworking to be "manufacturing." You will likely have to switch insurers to get both the business and home insurance you need.

Auto Insurance

A situation similar to the business/home insurance arises with auto insurance. Standard auto insurance does not cover commercial use. Your insurer can deny coverage if you have an accident while using the vehicle for business purposes. It is definitely better to disclose the business use of the vehicle and pay the extra premium than to void your coverage. Talk to your insurer. Some insurance companies offer a special rate which allows partial or occasional commercial use, if the vehicle is not used a lot for business purposes.

Zoning

You definitely need to determine the zoning in your area. Most urban areas are zoned for residential use, which excludes woodworking. Don't just assume that because there are hairdressers, seamstresses, or photographers running home based businesses in your area that you can do the same. Woodworking is a distinct type of business, and you will need to determine how it is treated in your area.

Running a business out of your home tends to be more easily done in rural areas. Keep in mind though that zones such as 'Agricultural' or 'Commercial' each have a specific set of uses that they will allow.

Check with your local zoning office before launching your business.

Even when business use is allowed, there are still going to be a lot of restrictions that are better to know about early (i.e. the size of your sign, maximum size of your workshop, etc.).

Retail Sales Tax (RST)

In Ontario, businesses that sell taxable goods (or provide a taxable service) must obtain a vendor permit. You must collect the 8% rst and remit it to the provincial government. The rst applies to the products you sell, including the cost of labour and materials. You must levy the tax on taxable services, even if virtually no materials were involved (e.g. a minor furniture repair).

Rst is not chargeable on projects that become part of 'real estate' (e.g. the sale and installation of kitchen cabinets). However, your final price will include (without showing it on your invoice) the rst on the 'manufactured cost of taxable goods produced for real property contracts'. Get yourself a Retail Sales Tax Guide if you are going to be doing 'built-in' style work.

Ask at your local rst office about Purchase Exemption Certificates. Purchase Exemption Certificates allow you to purchase your materials without rst. For those projects that are not attached to real property, you bill your customers for rst on the entire project price (which includes labour, materials, overhead, etc.). The provincial government receives the rst for the materials when you bill for them, not when you buy them.

You should also ask about the Manufacturer's Exemption. If you qualify for an exemption you can purchase your machinery and tools without paying any rst on them. You may even be able to buy processing materials or consumables, such as solvents, buffing compounds, tape, etc., without paying rst.

Goods And Services Tax (GST)

You have to register for gst if you provide taxable goods and/or services in Canada and you are not a small supplier. You are a small supplier if your total taxable revenues (before expenses) are \$30,000 or less (in the last four consecutive calendar quarters or in a single calendar quarter).

You can voluntarily register for gst even if it isn't required. This might not seem like a good idea, since it involves more paperwork and you will have to charge your customers more. On the other hand, if you're building a high-end product you might have more sophisticated customers who know that you're a low income-earning business if you're not charging the gst. This can put you in an awkward bargaining position when negotiating a contract.

When you register, you'll be assigned a BN (business number) and you'll be required to file gst returns. When you file your remittances you're entitled to claim ITCs (input tax credits) for qualifying expenses. ITCs can be claimed for various things, such as materials purchased to manufacture your products, operating expenses such as commercial rent and utilities, meal and entertainment expenses, etc.

Bookkeeping

As a small woodworking business, bookkeeping is a relatively straightforward process. Even if you have to hire an accountant to prepare financial statements and tax returns, bookkeeping is just about recording the day-to-day transactions of your business. Learn to keep a Disbursements Journal and a Receipts Journal using a columnar book you can buy at any office supply store.

Don't underestimate the tax benefits that are available to you if you're a home-based business, such as being able to write off a portion of your mortgage interest, property taxes, and other home expenses. Also, learn how to record your "use of vehicle expenses" if you use your vehicle both for personal and business use. You'll need to set up a log book where you record your mileage for all business trips.

Get It Right The First Time

While all of the nuts and bolts of starting a new business will feel overwhelming at first, spend the time getting everything set up properly at the start. Once you get busy giving quotes and building in your workshop, you won't have time to set up the proper framework to keep your business running smoothly on the financial side. You need to make the paperwork side of the business a routine chore so you can devote your hardest thinking to the items you build in your workshop.

In Hendrik's next article, he will look at the question of "What will I build?". Hendrik will review various choices such as mass producing small items, and building one-of-a-kind fine furniture.

*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*

Canadian summers are too short to waste even one minute.

We at **Circa 1850** know just how very short Canadian summers are. So, we've designed these products to get those summer projects done even quicker. Of course we'd never sacrifice quality just for speed. In fact, both of these products are prime examples of some of our best innovations to date. So get out there — enjoy a guilt-free weekend because we've got all your chores covered!

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Circa 1850 Exterior Varnish

- Clear, long-lasting finish
- Polymerized Tung Oil provides a breathable, water repellent, surface
- Screens out UV
- Superior fungicide and mildewcide
- Marine grade



Circa 1850 Fast Dry Polyurethane

- Fast drying - recoat in as little as 2 hours
- Non-yellowing, clear finish
- Low odour
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- Available in both GLOSS and SATIN finishes



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The Coper



When laying baseboard moulding, you eventually work your way into a corner. If you're installing square edged baseboard, getting perfectly fitting inside corners isn't much of a challenge: Square cut the ends and butt them together.

Not so with profiled baseboard. For profiled baseboards you need to cope the joints. To cope the joints, you shape the end of one piece of baseboard so that it conforms to the face profile of the baseboard that it will butt against.

You could cut a mitred joint, but you would risk the joint opening with humidity changes. Such seasonal movement is much less noticeable in a coped joint.

A coped joint is also easy to fit, as it is back-cut and only needs to meet at the front face to look good.

By now, you are probably thinking that there must be a downside to coping, and there is. Cutting coped joints is time intensive. If you have dozens of corners to cope, you could be looking at several hours of work. That is, if you are not using **The Coper**.

The Coper is a novel product, out of Lethbridge, AB, that makes cutting perfectly fitting corners easy and fast, very fast. With it you can make coped joints on wood or composite baseboards up to 1" thick by 6" wide. To use **The Coper** simply make a template of the profiled baseboard you will be installing. Then, use the template as a guide to rout the cope joints. Rout one joint or rout a hundred joints. No more fiddling with a coping saw, rasp, sandpaper, and countless trial fittings.

The Coper consists of a thermoplastic base, a moulding tray, two bottles of **Por-A-Kast** (a two part polyurethane rubber curing kit), a router bit, and an array of bits and pieces.

You start by making a template of the baseboard with the **Por-A-Kast**. Simply cut-off a piece of the baseboard, place it in the moulding tray and pour in the appropriate mix of **Por-A-Kast** liquid.

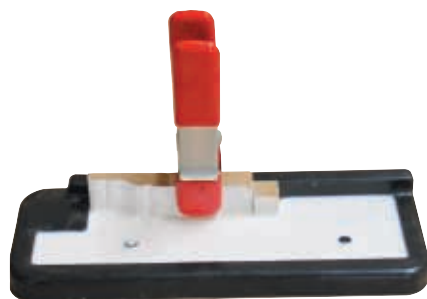
In about 15 minutes you get a perfect template of your baseboard. It's a good idea to let the cast harden overnight. It is also a good idea, if you have a lot of baseboard to install, to make a spare template in case one gets chewed up. Each set of **Por-A-Kast** makes about four to five templates.

To use the template just screw it into the base of **The Coper**, insert the supplied bit into your router (or laminate trimmer), clamp a length of baseboard onto the base of **The Coper**, and rout away.

I used **The Coper** on several types of woods and got perfect results, right from the first time that I tried it.

The Coper is a product with obvious value. It not only works very well, but significantly reduces the amount of time required to do the job. **The Coper** costs \$150. Extra **Por-A-Kast** is \$15. Extra router bits are \$18. Available at Windsor Plywood or House of Tools. For more information go to www.thecoper.com.

CARL DUGUAY is a writer and woodworker from Sidney, British Columbia (250) 888-5067
carl@finewoodworking.ca www.finewoodworking.ca



To make template, place cut-off in moulding tray and pour in Por-A-Kast



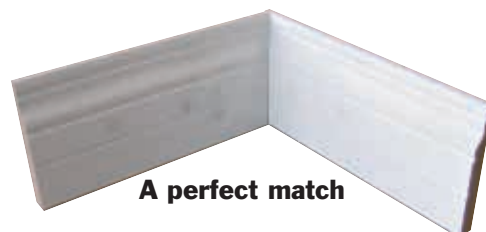
A perfect baseboard template in only 15 minutes



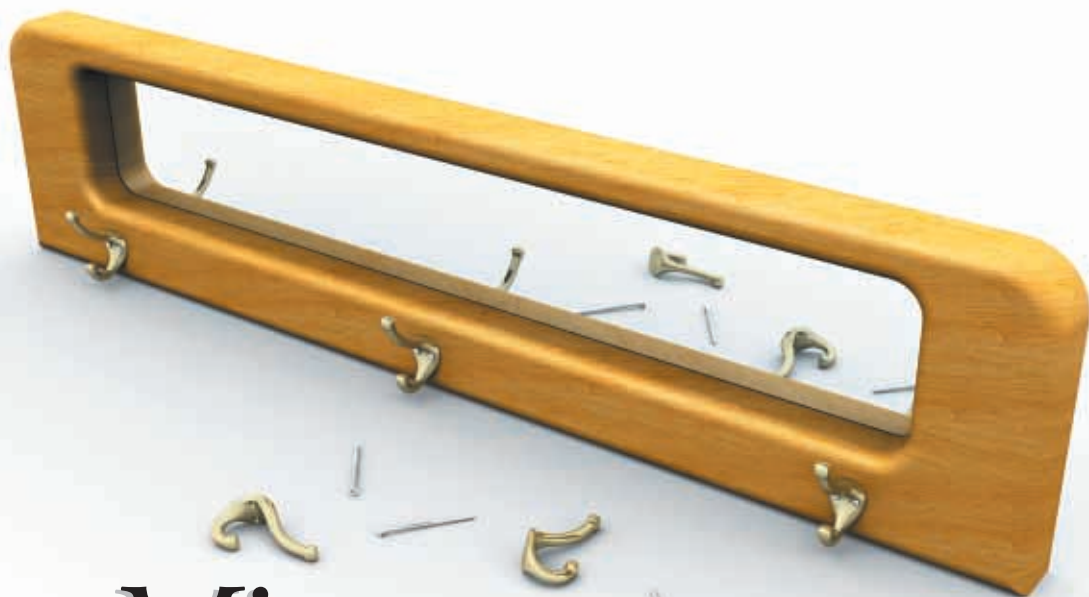
Screw template into base of Coper



Clamp baseboard onto base of Coper and rout along template.



A perfect match



Coat Hanger Mirror

If you have ever rushed out of the house without a quick look in the mirror, and later been caught with 'bed head' or 'bad hair', you already know how helpful a hallway mirror can be.

Add to that the fact that this little hallway mirror has hooks for coats and hats, and you've got an easy and practical project that is sure to be appreciated.

Rout out a rabbet 1/2" x 3/8" deep (with a 1" radius on the corners) in the back of the mirror opening. Chisel out the corners to square up. Use a 1/2" round over bit for the outside edges of the front.

Stain/clearcoat the wood and smooth with fine steel wool when dry.

Measure out centre, and mark for the coat hook. Then measure and mark 16" on both sides of that centre to determine the location of the mounting holes.

Drill 1/8" mounting holes through the two outside marks. The mounting holes must be in position to be hidden by the hooks.

Secure the cast iron coat hooks directly over the mounting holes.

Mount the mirror last to ensure that it doesn't get broken during the drilling and mounting of the hooks.

Apply a piece of heavy card or thin plywood over the back of the mirror and secure with 1/2" finishing or brads nails.

The rack should be mounted with 3" screws through the two mounting holes (each 16" from the centre). The mounting holes are behind the two outside hooks. Make sure that they line up with your wall studs.

MATERIALS LIST

3/4" stock

Enough board to glue up 10" X 43"

1 Mirror approx. 36" X 5 1/2"

3 Cast Iron Coat Hooks

6 Mounting Screws

3 3" Wood Screws

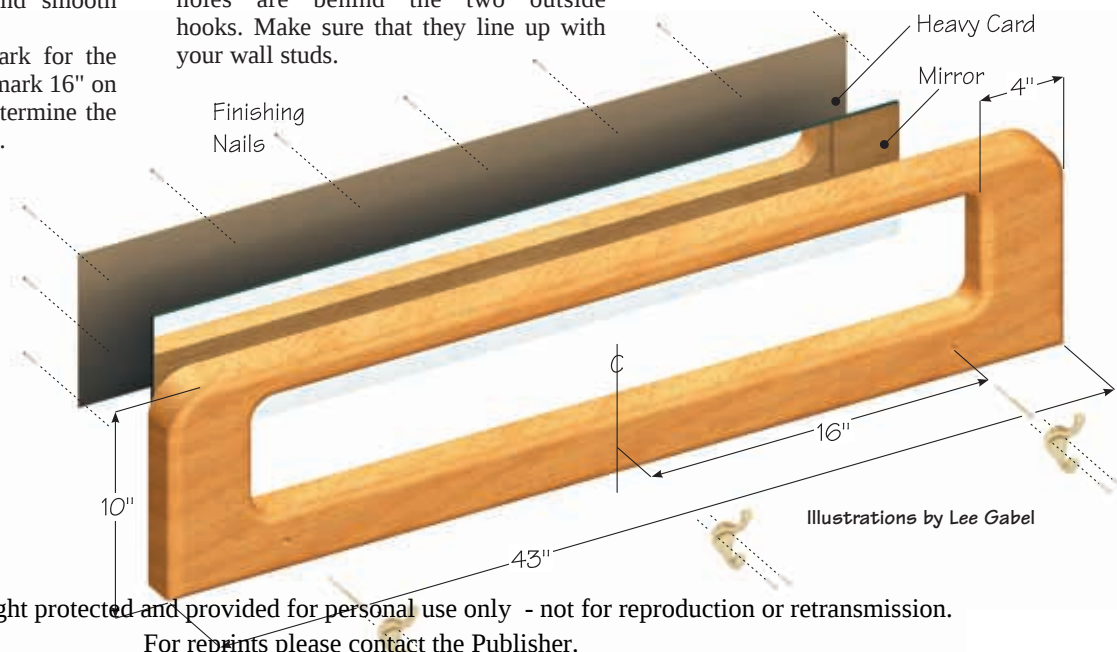
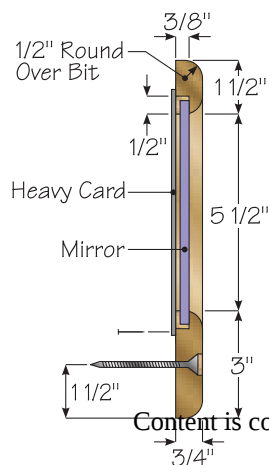
Stain / Clear Coat

Steel Wool, Fine

Sandpaper, Fine

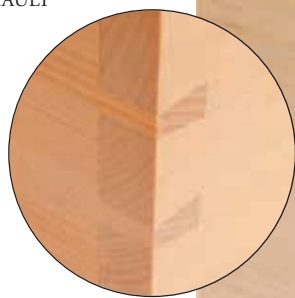
Paste Wax

GRAHAM SCHRAM is a woodworker living in Brantford, ON



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Dovetail joints consist of tails and pins that fit together



Dovetails

While dovetail joints are most often praised for their aesthetic appeal, their real claim to fame is the mechanical strength that they offer when two boards are joined at a corner.

Take a closer look. Dovetail joints feature interlocking fingers with increased glue surface. That is more than enough reason to consider using dovetails for more than their attractive appearance.

Dovetail joints are made from two matching pieces, fitted together. The 'tails' are cut into one board. The matching 'pins' are cut into the other.

The pins lock the tails in place when stress is applied to the board with tails. That is why dovetails are commonly used in drawers. It is also why tails are always cut into the sidepieces. Keep this relationship of pins and tails in mind when you are incorporating dovetails into your projects, especially when there will be more stress applied in one particular direction.

There are two basic types of dovetails: through, and blind. The 'through' dovetail allows the joint to be seen from both faces of the joint. The 'blind' dovetail hides one face of the joint.

With time and patience, dovetails are relatively easy to make. They can be made by hand or with the help of a dovetail jig. When cutting dovetails by hand, be sure to

practice on scrap wood first. If you are going to use a jig, consider your choices. Typically, dovetail jigs are designed to make either through dovetails or blind dovetails. Give some thought to what type of dovetails you want to make before buying your jig.

The Katie Jig is just one of many jigs that make through dovetail joints. By setting the jigs spacers you are able to cut a variety of different sizes and styles of dovetails. Once set, simply clamp the boards with the ends to be joined on each side of the jig. Then rout the pins with a straight bit and the tails with a dovetail bit.

If you prefer to make dovetails by hand, you can use a bandsaw to reduce the time it takes. Start by marking the tails on one



Tails are cut in one board



Matching pins are cut into the other board

board. Next, use your bandsaw to cut the waste out from between the tails. Clean up the joints with a chisel.

Now position the tails on the end of the matching board and mark the pins. Set your bandsaw table to match the angle of the pins and cut out the waste. Clean up the joints with a chisel.

Whether you choose to make your joints with a commercial jig or by hand, dovetails communicate quality and craftsmanship. Take the time to learn this attractive and practical joint. Try incorporating dovetails into an upcoming project - one that needs a strong corner joint, or one that needs to withstand stress in one direction. It will serve you well for both of these

purposes, and look great at the same time.

Next issue, Michel covers butt joints. Following issues look at mortise and tenon joints, mitre joints, finger joints, lap joints, and edge joints.

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Start by marking tails on one board



With bandsaw cut waste from between tails



Position tails on the end of the matching board and mark pins



Set bandsaw table to match angle of pins and cut out waste



The Katie Jig. One of many jigs that make dovetails



Rout pins with straight bit and tails with dovetail bit

circsaw BY CARL DUGUAY

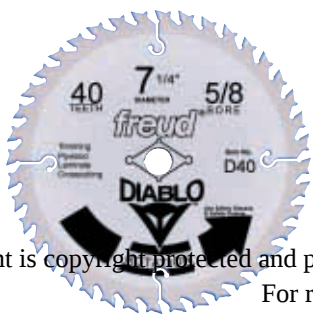
Looking to purchase your first circular saw? If so, here are a few things to consider.

For occasional home repair work, an inexpensive model without any bells and whistles is probably all you'll ever need. You'll be looking for a unit with a 7 1/4" blade and a retractable guard. Expect to pay under \$100. For trim carpentry or making furniture and cabinetry, consider a saw that is comfortable to use, has easy adjustment features (for setting cutting depth and bevel angle), a rigid and flat

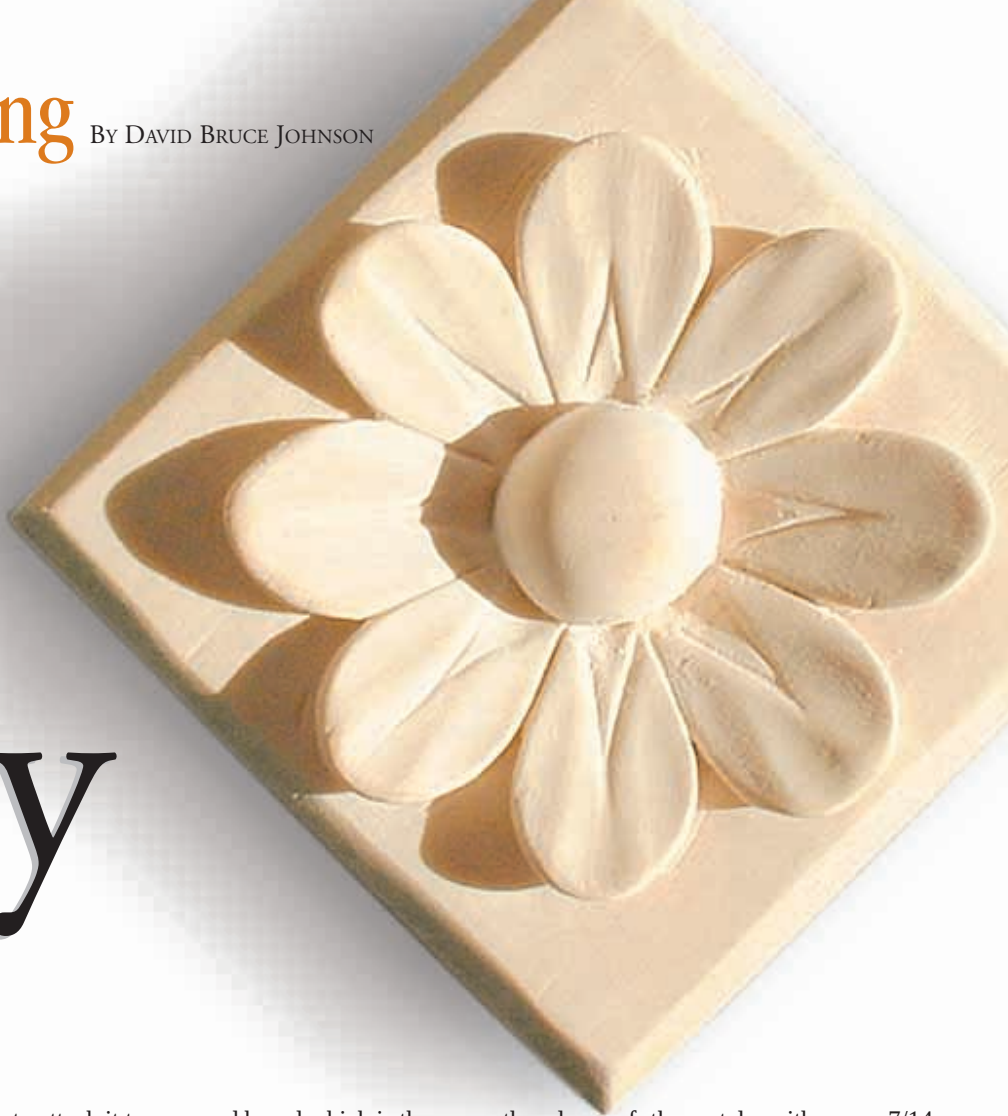
base, electric blade brake, soft start, pliable power cord, and good dust collection capability. Saws in this category cost about \$250. A cordless model is worth considering, but expect to pay a hefty premium. Most blades that come with circular saws are mediocre at best, so ante up for a high quality, triple chip blade. Coupled with a shop-made or store bought edge guide you'll be making highly accurate chip free cuts in plywood in no time. For framing or rough carpentry look for a lightweight saw with a durable

rigid body, high torque, and trade specific features, such as an integrated saw hook for hanging the saw on rafters or trusses, and a low blade guard. Consider an 8 1/4" or larger unit, and if you're left handed, get one with a right side blade. And remember, always use your hearing protectors and eye guards.

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Daisy

With a handful of tools and your imagination, you can do more than you might think.

Here is a simple, decorative carving you can make from a square of basswood 1/2" or thicker.

Simply enlarge the pattern provided and you are ready to practice the two-handed control/power carving technique that we covered in "How to Handle Your Tools" (Feb/Mar '04).

Be sure to secure the wood in a suitable holding device. For a flat piece of wood like this, use double-faced tape or hot glue

to attach it to a second board which is then clamped to your work surface.

Establish Petals

Don't rush. Remember, each stroke is practice. Make a template for the petals because your pattern will be carved away.

Go around the center circle with your (12/6) parting tool keeping the inside edge vertical. Control the cutting edge of your gouge with the fingers of one hand.

Use your 7/14 gouge to make the surface of the petals by carving toward the center.

Repeatedly, go around the center with your parting tool. Then gradually deepen

the slope of the petals with your 7/14 gouge. Aim at reaching approximately 3/8" deep at the inner circle by the time you have reached the tip of the petals.

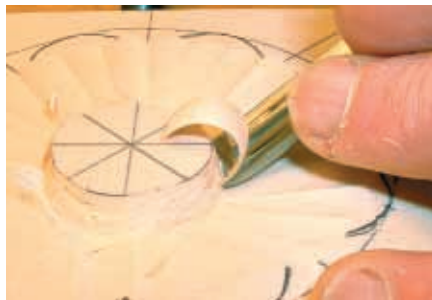
Make a Button

You will have to watch the grain in the wood to avoid chipping off a large piece.

Identify the end grain. Then use your 5/12 gouge to gradually round the button. Work across the grain in four quarters. Your gouge should be held face down against the wood. Using the gouge face down also leaves the wood surface fairly smooth and mark free.



Carve around the center button with a parting tool



Make surface of petals by carving toward center



As tip of petals reached, inner circle depth to be 3/8"

Carve The Petals

After redrawing the petals, mark a line around the block approximately the same depth as the button. That will be the maximum depth you will carve.

Use your parting tool to outline all the petals. Being right-handed, I found it easiest to start where the petals join and carve continuously counter-clockwise around the tip of the petal. Concentrate on controlling your cuts. Do not push with too much power.

You will need to go around the petals a number of times. Each time, outline the petals, then use your 2/12 gouge to remove the wood around the edge.

When your parting tool can't reach into the point where the petals meet, use your



Round the button working across grain



Smooth the button using your gouge face down



Where parting tool can't reach, use gouge vertically



Cut groove down petal center to leave wood curl at button base

2/12 gouge vertically to continue deepening the cut.

Eventually, you will create a new surface from the edge to the petals. To complete a very flat surface and to remove the wood in the acute corners, use the tip of your knife with the blade lying flat on its side.

Rather than continue to make this surface deeper, use a 2/12 gouge to carve a 45° bevel around the block.

This is a good time to sand the carving.

Finish The Petals

To give some character to the petals, use your 9/10 gouge to cut a groove down the center of each petal. Start your cut near the tip of the 'v' and do your best to keep the cutting edge on both lines at the same time. To do this, your gouge will need to go progressively deeper into the wood. A curl of wood will be left standing at the base of the button.

Remove the curl using your knife. Slightly undercut the button, then slice the piece out following the shape of the gouge cut.

Use your parting tool to outline the sides of the grooves you made with your 9/12 gouge, and to remove the line between each pair of petals.



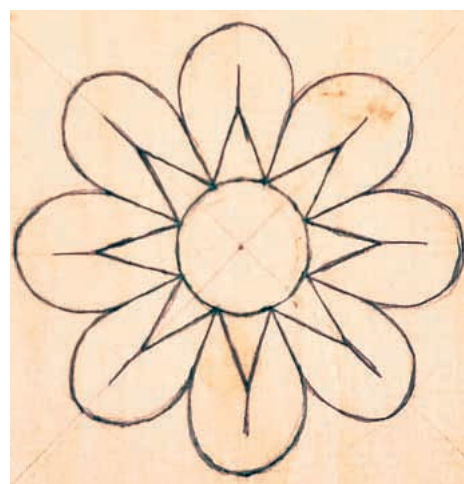
Outline petals with parting tool



With knife's tip lying flat, remove wood from acute corners



Remove curls with knife. Undercut button then slice along gouge cut



Finally, use your knife to further separate the petals.

There you have it. Now you have a beautiful decorative wall hanging. Make two, and use them as corners in your door frame mouldings. Or get right into it, and carve three more. They would make decorative sides for a beautiful wooden box.

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



Remove the border of wood with a 2/12 gouge



Use 2/12 gouge to carve 45° bevel around block



Use your knife to further separate the petals

• Enlarge Pattern 200% or size to preference

Grandpa's Tool Kit



Nineteenth Century Rural Canada Woodworking Tools

What a voyage of discovery this family story would become!

Four old butter boxes containing many old and very dusty woodworking tools belonging to my Grandpa and stored in an attic for over 40 years, would provide a surprisingly accurate picture of wood-working in 19th century rural Canada,

with many convoluted historical strands stretching back to the Roman era.

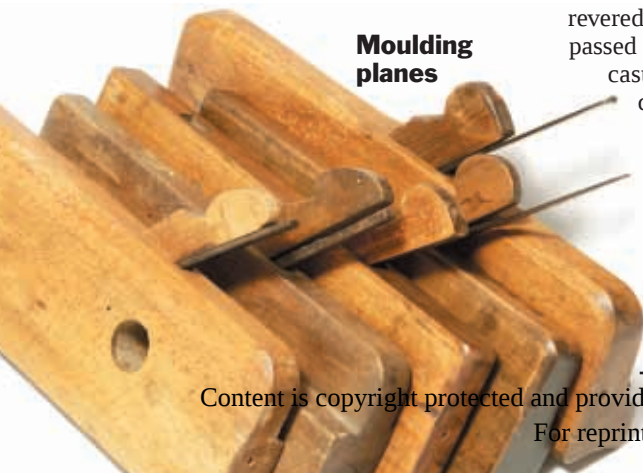
Just before my Grandpa died in 1962, he placed all of his cherished woodworking tools in four wooden butter boxes and stored them upstairs in the attic of my Mother's family home in the historic fishing village of Barachois on the Gaspé coast of Atlantic Québec. Grandpa was not a professional carpenter/joiner; he was a fisherman by trade. However, highly revered woodworking skills and tools, passed on from father to son, were not casual options for 19th/early 20th century Canadians living in isolated, rural locations. Working with wood in a country rich in this natural resource was fundamental to a reasonable level of living above basic subsistence.

Grandpa had a wooden house, barn, and assorted out-buildings; a wooden fishing boat,

a wooden "truck" (a long, 4-wheeled, open wagon powered by one or two horses), and assorted agricultural implements and tools. All of these crucial possessions had to be maintained on a regular basis. If the handle of a felling axe was broken, or a wooden wheel was missing a spoke from its hub, or even if a split rail enclosure for the sheep pen was destroyed by bad weather, Grandpa had to fix the problem. With fourteen mouths to feed Grandpa needed strong life skills to survive. The ability to work with wood was key to survival.

Like many early Canadians of his generation, Grandpa had more than one job to make ends meet. He was a fisherman from spring to autumn (cod, haddock, and lobster). He was also a farmer with livestock (cattle, sheep, pigs, and chickens) and seven acres of hay, blackberries, and a substantial vegetable patch. During the winter, in his younger years, he would work in the woods by

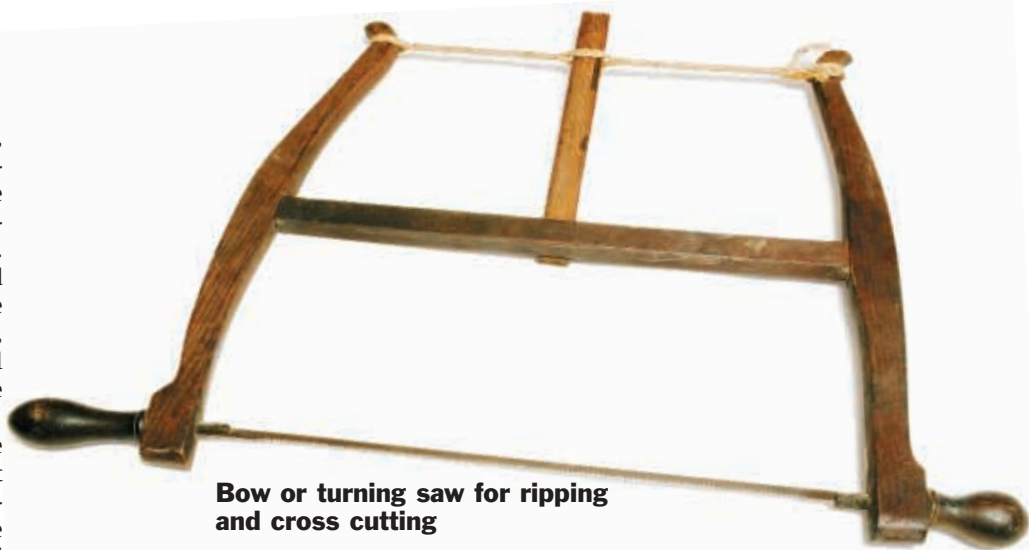
Moulding planes



cutting and hauling spruce, pine, cedar, and birch. He was back at home infrequently, but clearly often enough to have produced 14 children. He was also the village veterinarian and furniture maker. Grandpa could not read nor write. He had no formal education to speak of, but he had an abundance of raw intelligence, much ingenuity, and many very special skills. Most importantly, the fates were kind to Grandpa and his family.

Woodworking was in his blood. M $\ddot{o}$ ise Lemieux, my Grandpa, was the direct descendant of one of Canada's first professional woodworkers. In 1640 Pierre DeMeux (later mispronounced and changed to Lemieux) of Rouen, Normandy, in France, and his brother Gabriel came to the newly established garrison town of Quebec in New France to make and repair barrels for the flourishing fur trade. Barrels in the 17th century were the equivalent of today's containers and were easily rolled on and off ships. Pierre was a highly valued tradesman in the fledgling settlement and he soon prospered. His house on rue du Petit Champlain in the lower old quarter of Quebec City (la maison Lemieux) stands to this very day. Later Pierre went on to establish Quebec's very first tavern, probably as a direct result of his highly skilled trade. He was probably one of the first to cement the very special Canadian relationship of woodworking with beer.

Woodworking also ran through Pierre's veins. He was a Norman (Norseman), and only a few centuries earlier (in the 9th century) his ancestors from the Jutland region of western Denmark were marauding their way throughout most of Europe. Those industrious, charming folk were able to conquer and subjugate vast tracts of continental Europe and North Atlantic as far as L'Anse aux Meadows in Newfoundland. Their success was primarily because of their advanced skills at wooden boat building (in particular overlapping clinker construction with hewn, adzed, logs using rivets) and their 3-in-one tool/weapon (adze, axe, and agricultural pick).



Bow or turning saw for ripping and cross cutting

Essentially, because of their understanding of wood, advanced tool making, and highly developed woodworking skills, these irrepressible Norsemen were able to travel considerable distances in their long boats. With their ingenious 3-in-one weapon, they were able to repair their war boats, prepare campsites and, in the heat of battle, hack off the heads of their opponents.

Woodworking was also part of their genetic make-up. It was their ancestors, who survived the cold, inhospitable oak forests of North Western Europe by developing iron tools (first introduced by the Hittites in eastern Turkey, circa BC 2000) to cut wood, and therefore to tame fire. And so it went!

Many rich European cultures, were largely defined by wood and tools.

Grandpa was at the receiving end of this fertile ancestral heritage and it was therefore no surprise that he had a great reverence for wood and woodworking tools. However, Grandpa's tool kit was not meant for me. In 1962, upon Grandpa's death, it was to be handed on to one of my uncles. All of his sons, however, were determined to leave their village of birth and search out work in other, more urban, parts of Canada. They simply were not interested in a whole lot of old-fashioned junk.

So the four butter boxes remained in the attic until 2003 when they were passed on to me by my Aunt Irene, who had returned to her birth place to prepare for her own final journey.

It was an extraordinarily emotional day when I transported the tool kit back to my wood shop in Montreal. All wooden tools and their steel cutting irons were in perfect order, thanks to Grandpa, and the entire tool kit was complete. He had gone to great lengths to coat all wooden parts with linseed oil and paste wax, and all metal cutting implements were covered with packing grease.

I laid out all of the tools on a long bench and surveyed this valuable inheritance. The kit included axes of all description (felling, splitting, broad, double bitted, hewing hatchets); a froe and club; mauls, wedges and a beetle or iron hooped mallet; laying-out and measuring tools; a carpenter's adze, a draw knife, scorp, and spokeshave; a fine set of wooden planes (trying, scrub, jack, and coffin) and several specialized rebate and molding planes; assorted rasps, files and scrapers; many finely sharpened and properly set saws (rip, cross-cut, buck, bow, tenon, dovetail, keyhole, and coping); many chisels (mortise, firmer, and gouges); braces, hand drills and many types of bits; mallets and hammers; whetstones; and a variety of wrenches and screw drivers. Grandpa also had a maple 19th century joiner's bench with leg vice and wooden screw. It was passed on to one of my uncles, who in turn passed it on to me when he died in 1995.

So for the first time in 41 years this comprehensive tool kit, together with workbench, came together in my shop. The marvelous thing about this particular tool kit, aside from the more obvious family connection, was that it was a full set of finely tuned woodworking tools, ready for immediate use. These were not



Bevel-edged chisels with boxwood handles



**Spoke shave
for shaping**



**Dado plane to cut
dados across grain**

museum pieces to be admired from afar. With the right skills these tools were capable of fine work right away without the necessity for electricity. Additionally, the entire tool kit was a time capsule of woodworking through the ages. Grandpa's beechwood jack plane was almost identical to a Roman bench plane. His carpenter's adze was identical to a medieval one. His broad axe was very similar to the handy-dandy 3-in-1 Viking tool. His wooden bow saw, which can still cut through 2"inch maple with relative ease, was almost identical to an English bow saw brought to the New World by the Pilgrims on the Mayflower. His hewing hatchet was very similar to the famous trade axe traded by the early French settlers with local aboriginals, and which eventually developed into the feared tomahawk.

Grandpa's tool kit also contained a mystery, which eventually took me some time to solve. In the fourth butter box there were three mystery tools, all wrapped up with great reverence in stiff paper and twine.

The first was essentially a gouge-like mini adze, very roughly forged without it's original handle. The second was a very primitive, heavily pitted drawknife without handles. The third was a form of specialized semi-circular wooden plane, which at one time was subjected to wet rot and insect infestation. The plane iron was also roughly forged and had not been used in some time. For some unexplained reason, Grandpa cherished these tools but did not use them.

As a woodworker, Grandpa specialized in making blanket chests, or coffers, as he called them, bread troughs, kitchen harvest tables, and the occasional kitchen dresser or step-back hutch with glazed doors. These were pieces of furniture much in need by the growing families of the village but which could not be purchased at the local general store of Robin, Jones and Whitman. Several of Grandpa's pieces of furniture are still in my mother's home in the Gaspé.

**Coffin plane for final
smoothing of a board**

I am therefore extremely fortunate to be able to re-construct Grandpa's woodworking skills and methods of work using his very own tools. This will be the theme of this series of articles and will provide a fascinating snapshot of how our Canadian ancestors worked wood before the arrival of electricity and the mass exodus to the cities. The next article will be a review of old woodworking tools used in the preparation of stock, including a re-construction of a rural nineteenth century woodshop and a discussion of felling, splitting, and chopping tools.

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

Grandpa's Toolkit is a 6 part series. Future issues include:

Woodworking Tools Used
in the Preparation of Stock

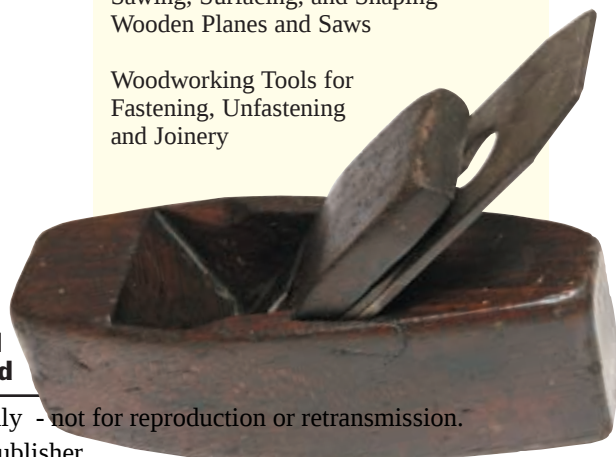
The Nineteenth Century Woodshop
Felling, Splitting and Chopping Tools

The Nineteenth Century Work Bench
and Devices Used for Holding
and Gripping Stock

Woodworking Tools Used
for Measuring and Laying-out

Woodworking Tools Used for
Sawing, Surfacing, and Shaping
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Frames

Most people buy frames for their paintings or photos because they don't think that they have the equipment required to make professional looking frames with custom profiles.

However, with the right 'know-how', you can achieve surprisingly good results with common tools found in most woodworker's shops.

This article leads you through the process of making picture frames using only a table saw and a router (with a combination of router bits).

Begin by measuring the size of the piece you are making the frame for and then take your matting into account. When I was making a frame from black ash, the drawing measured 25 1/4" high by 31 1/4" long, so I made the frame larger so that I could use double matting to complement the picture. Consequently, the outside frame dimensions are 29" high by 35" long. I chose a width of 2 1/4" because the larger the frame, the wider the frame pieces should be.

From 3/4" stock of solid wood cut one piece 5"x38" and another piece 5" x 32". For my frame, I allowed 3 extra inches along the length of each piece to compensate for final adjustments. Once you have decided on the dimensions of your frame, make sure to add a few extra inches to the length, for the same reason.



Painting by Colette Thériault

Also, once you have chosen the width of the frame pieces, double that measurement and add 1/2". For example, for my frame I chose a width of 2 1/4". I then multiplied that by 2 to get 4 1/2". To compensate for trimming, I added an extra 1/2" to get the final cut measurement of 5".

Select Router Bits

Once you have cut the pieces for the frame's height and length, select the router bits that will give you the desired profile. There are many different profiles to choose from, and each will give a different look and feel to your frame. The profile bits shown are, from left to right; rabbet bit, face molding bit, and roman ogee bit.

Make Frame Profile

To make the face profile (i.e. the frame's front), rout both sides of each wood strip with the face moulding bit.

Make Rabbet Profile

Flip the pieces over, to work on the back of frame. To make the rabbet profile, rout on both sides of each piece. This rabbet is where the glass will sit on the inside of the frame. I recommend a 3/8" rabbet.

Rip Pieces

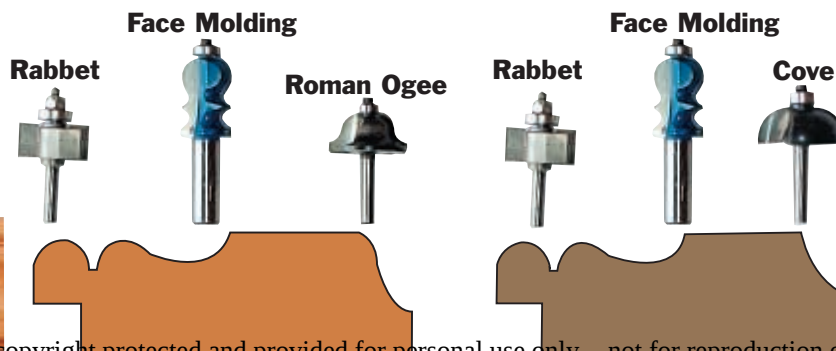
Rip each piece to the desired width (i.e. 2 1/4" in this case). That gives you the four pieces required for your frame.

Rout Cove Edge

The cove edge is on the outside edge of the frame pieces. This is the final pass required to complete the frame profile.

Cut The Frame

When you have profiled all of the pieces, proceed to cutting the frame by first testing your mitre cuts on scrap pieces of wood until you get a good fitting joint. Cut the 45° using a laser-guided or



regular mitre saw, or a table saw, using your mitre guide. Then, mark the exact location on your guide, as it may not be exactly 45°.

Use your reference mark, and cut a 45° angle at one end of each piece. Then make another 45° angle cut at the opposite end of each piece so that the frame is cut to the proper dimensions. Start with one piece that makes up the frame length and make repetitive mitre cuts in order to achieve the desired length (measure the length desired inside the rabbet cut). Once the desired length is reached for one piece, use a stop block to measure for the second piece. Now, make the second 45° cut for the two pieces that make up the height of the frame.

Glue And Clamp Frame

Apply glue to the joints and clamp the frame together. Clamp with a picture frame clamp, mitre clamp, or similar device. Let the glue dry for 24 hours. Unclamp the frame before reinforcing the joints.

There are a number of techniques for fastening mitre joints. Mechanical fasteners like corrugated nails, chevrons or tack plates are probably the simplest way, but such fasteners are only recommended for softwood. When driven into hardwoods they tend to distort and cause the wood or joint to split. Other methods of fastening are open splines, and biscuits. However, depending on the profile of your frame, you may not be able to use these because the profile would be ruined. The method I used was wood plugs. I chose wood plugs because they make strong and stable joints, and are very easy to make.

Reinforce Joints With Dowel Plugs

To reinforce the mitre joint, drill a 1" diameter hole, 1/4" deep in each corner of the frame, on the back side. Those holes will be filled with plugs made from 1" dowels. If possible, make the plugs with the same material as the frame. Apply glue in the holes and fill holes with the wood plugs. Clamps are not necessary since the mitre joints are already glued together.

Wipe Off Excess Glue

Wipe the excess glue with a clean, humid cloth. Wait 24 hours for the glue to dry completely.

Sand

Remove any residual glue and sand with a fine grit sand paper (150-180 grit). Make sure the wood is sanded smooth and remove all traces of dust with a tack cloth.

Apply Finish And Seal Wood

Depending on the 'look' that you want for your frame, you can keep the wood natural, stain it, or even paint it. For the natural look, with the black ash, I used Flecto Diamond Elite polyurethane. It is low odour, water clean-up, and doesn't yellow. If you prefer the natural wood look, it is the perfect finish. However, sanding is a must between coats because water-based finishes lift the grain in some wood species. Apply the finish as per instructions on the can label. This ensures a smooth finish for subsequent applications. If applying a stain, you must seal the wood after the stain is dry. For the dark stain, with the red oak, I used Minwax Wood Finish (stain) Ebony #2718 (sealed with Flecto water-based polyurethane).



Ripped in half



Four parts all routed

COLETTE THÉRIAULT is a wildlife artist and furniture designer who owns and operates Knotty Plans.
www.knottyplans.com, ctheriault@knottyplans.com.



Make frame profile



Make rabbet profile



Route cove edge



Cut the frame



Glue and clamp frame



Reinforce mitre joints



Wooden Wheel

People love the look of old-style wooden wheels, but being able to make them is another thing.

The challenge is that we no longer use the same methods or materials that they used back when they first made wooden wheels. So, how do you make old-style wooden wheels using readily available materials and familiar processes?

That was the challenge that I faced when I needed wheels for the old-fashioned cart I use to transport and display my wares when exhibiting at craft shows.

First off, there is no need to spend any more money than necessary, so start by picking up some old bicycle rims. You can always find old, broken down bikes at garage sales, flea markets, junk yards and even garbage bins. There are many shapes of rim, but the flattest ones are the easiest to use. (See cross section)

You will need some 1/2" plywood and some 2" or 3" pine. Don't worry about finding or buying clear pine (i.e. without knots), as you will use the parts of the plank between the knots. I used 5/4" pine

for my wheels, but 1" would work just as well.

You will need to work with the size of the rim you are using and work the exact dimensions for your project out to the suit the size of your rim.

As your rims may have seen some rough bumps along the way, they may not be perfectly round. Therefore measure and note the average inside diameter of your rims. This will give you the main measurement for the total diameter of your wooden spokes A & B.

Mark out parts A&B on a clear part of your material.

As you adjust the diameter for different sized rims than mine, the key is to line up the face of the hub and the outermost edge of the wooden spoke, on the front.

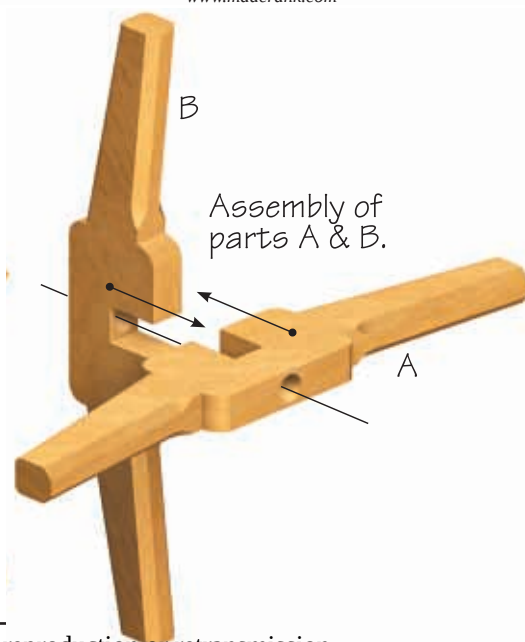
A&B are similar, but different. They both have housings for a halving joint, but they are on different sides.

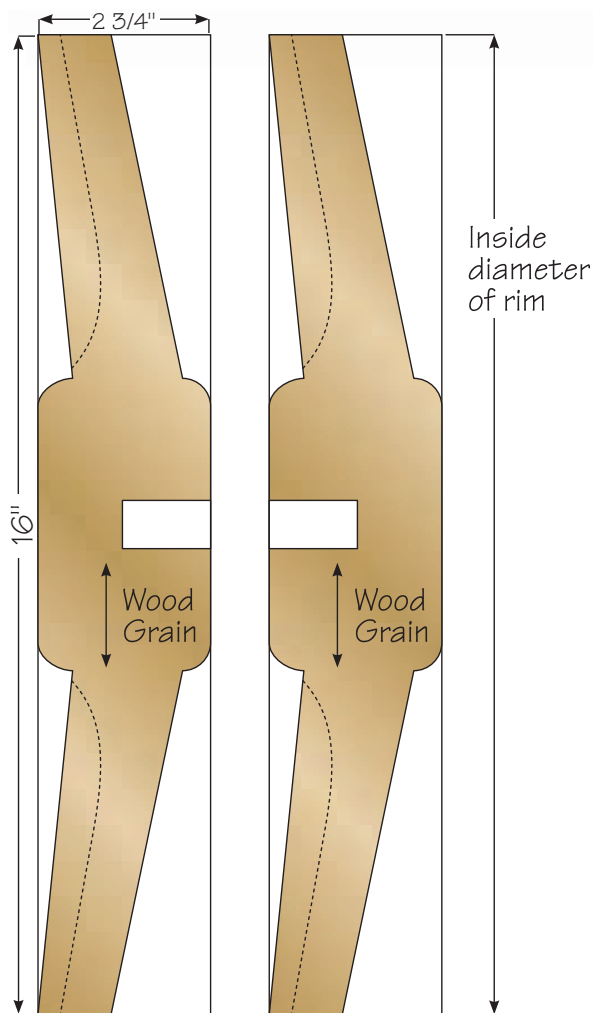
Part C is a little less than half of the A&B parts. That is important to consider when you calculate for the thickness of wood that you use.

Notice that the inside edge of C is angled to fit between A&B.

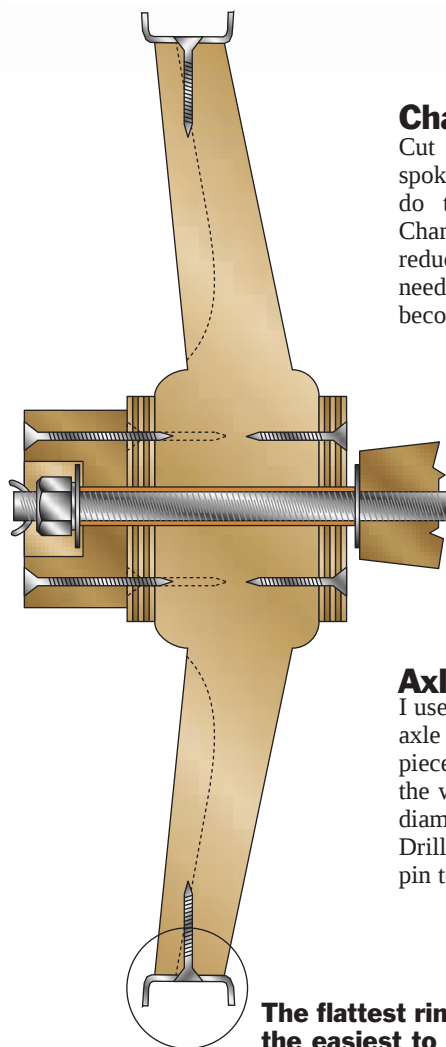
Glue parts D. Trim the centre of the wheel so that it is rounded.

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Adjust these measurements to suit the size of your rims.



Chamfering

Cut a good chamfer on the face of the spokes and round the back. It is easier to do this chamfering before assembly. Chamfering is not just for decoration. It reduces the weight where strength is not needed and removes wood that would become damaged anyway.

Axle Notes

I use a 1/2" threaded rod for an axle. The axle runs in an axle box or thimble (i.e. a piece of copper pipe). Make the hole in the wood just a little larger than the pipe diameter. The pipe is retained by washers. Drill the outside end of the axle and use a pin to keep the nut on.

The flattest rims are the easiest to use.

Construction Notes

Drill a hole for the axle.

Mitre the inside end of C to 90°. Note that part C is a little shorter than half of A or B. Work out the exact dimensions to suit the size of your rim and the thickness of your wood.

Glue it in place with a D part on each side.

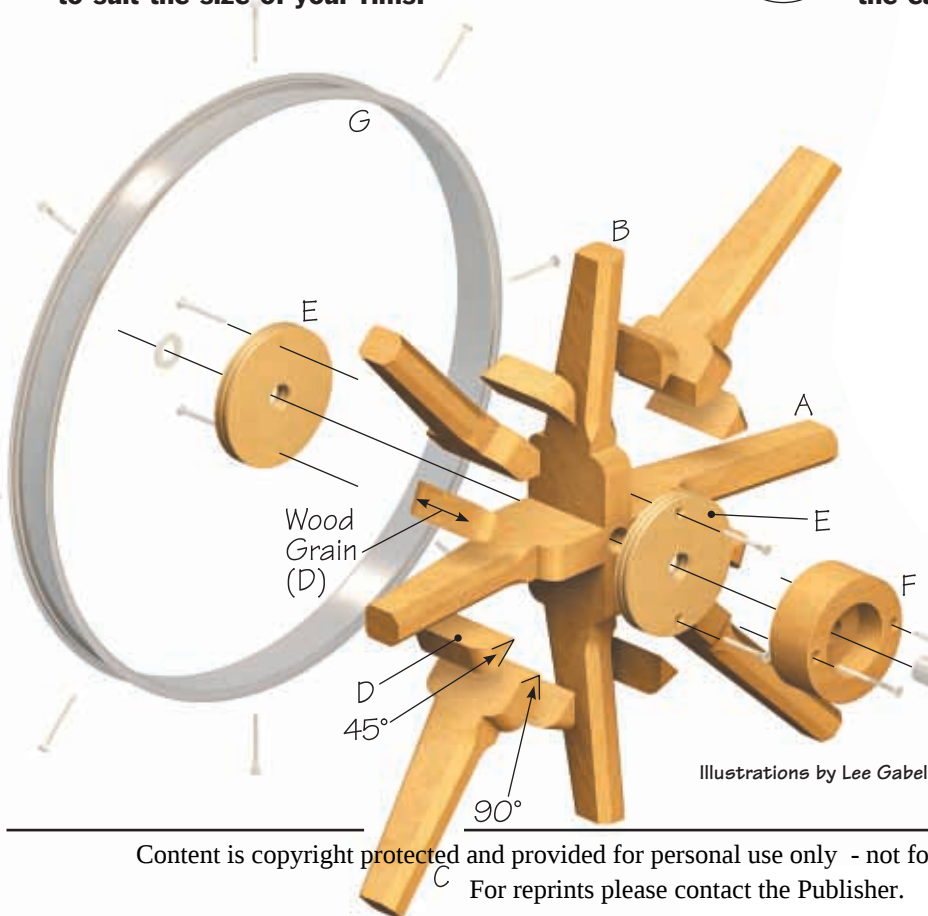
Cut two discs E from 1/2" plywood. Drill centres for axle. Screw and glue.

Make a disc F from a piece of 2" material. Drill for axle nut and axle.

Screw and glue.

Fit assembly into rim G. Screw through the rim. If the rim is an old one, it will have holes from the bike spokes. Use these if convenient (generally they are not).

Put on tire and tube. Inflate.



Tim Lee Cuts Through Obstacles

When people enter Tim Lee's townhouse in Milton, Ontario, they immediately notice a beautiful cherry-wood table displayed in the family room. It's carefully polished and clearly stands out as the showpiece of the home. Lee is proud to show the table to his guests, because it's a piece that he made himself. The 37-year-old husband and father of three says, "When I finished it, I was really amazed. I still look at it sometimes and think, 'wow, what an accomplishment.'" Lee never imagined that he would be able to make such a stunning piece of furniture. Before starting, he knew fine woodworking would be a difficult challenge, and even more of a challenge for him. Lee has had to learn the craft of woodworking with only one arm.

It sounds like mission impossible, but this Milton tow truck driver has lived with a disability his whole life. Challenges come with the territory. Lee says, "You don't know what you can do until you try it." Equipped with this stellar attitude, Lee has taken on the many challenges of woodworking as they've come along.

He took his first crack at woodworking after many visits to his father-in-law's home. "He's always working with a piece of wood," says Lee.

"One day I said 'give me a piece of that and let me try something.'" After making a few picture frames and such, he wanted to take a step further and build a wall unit.

Once Lee discovered that he enjoyed working with wood, he immediately wanted to learn the proper skills to make furniture. His first challenge was to find an instructor that would take him on. Once people learned of his disability, they came up with reasons why they couldn't instruct him. "It's not that people are being rude," says Lee. The attitude is more like 'Gosh... I'd like to help you, but I can't.'

Fortunately, someone was willing to help Lee turn his interest in wood into a full-fledged hobby. His name is Hendrik Varju, owner of Passion For Wood in Acton, ON (and contributing editor to Canadian Woodworking Magazine). When he heard Lee's story, he agreed to take on the eager student.

Still, working with a prosthetic, rather than a hand, was no easy task. Varju and Lee had to come up with techniques for working with the machines. For instance, when running the lumber through the jointer, the proper technique is to push the

lumber through and over the cutterhead, keeping the lumber moving with your hand. Instead, Lee holds a push pad with the prosthetic to move the lumber through. Another challenge was using the hand-plane, which is technically a two-handed procedure. Lee says, "I have to hold it with my right hand and apply pressure with my prosthetic."

Varju says fine woodworking can be intimidating for any beginner. Even if people have worked with wood in the past, there is a definite learning curve. The willingness to learn is the most essential tool. Varju says, "Lee doesn't come to the table assuming he knows everything. He's open to learning. That's how every student should start."

Now, only two years since he started woodworking, Lee has already built his own workshop in his garage. He has equipped it with a table saw, drill press, jointer, planer, router, router table, and all kinds of other tools. He is currently working on a cherry wood TV stand and has a lot more projects planned. Since he has started to pursue his interest in woodworking, he has let nothing get in his way of becoming a better woodworker.

LAURA MORRIS is a Toronto-based, freelance writer.
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Colonial

Defining furniture styles can be very difficult. Defining 'American Colonial' is a good example of just how difficult it can be.

For example, Colonial refers to a 'period' rather than a single 'style'. During that period, a number of specific styles introduced themselves as influences on new furniture designs. These various styles included Queen Anne, Chippendale, Hepplewhite, and Sheraton. To make it more difficult, what is referred to as 'American Colonial' is predated by a period referred to as 'Early Colonial' or 'Early American'.

The American Colonial period is from about AD 1720 to 1790, with its style varying considerably throughout that

sixty-year period. Overall the styles were mostly an adaptation of English furniture styles, as most of the settlers had originated there. The greatest variation in this style is based on geography. At that time there was little communication or travel between settlements. Therefore, variations in style were defined by individual craftsmen living in isolated communities, with access only to specific trees in their surrounding area.

During the colonial period, furniture ranged from utilitarian to sophisticated.

It was utilitarian because the new immigrant craftsmen had to build furniture for themselves when they arrived. They didn't bring their own furniture, but they brought the skills that they had learned furnishing wealthy homes.

It was sophisticated because, once their needs were met, the craftsmen could turn their attention to the ever increasing demand for furniture by the social class.

This social class demanded more intricate and less utilitarian furniture. They were colonials and as such were increasingly style conscious.

Ornamentation varied from simple to complicated. Essentially ornamentation was based on wealth, and the workmanship that it could buy.

The joinery used in colonial style furniture was primarily mortise and tenon, and dovetails (including blind mitred dovetails and sliding dovetails). Other common joints were used to a lesser degree, including lap joints, post and hole (for chairs), mitres, splines, tongue and groove, rabbets, and dados.

For reprints please contact the Publisher.



Drop-Leaf Table
1730-1750
Photo courtesy
Joseph Frost, Eliot ME
and the Maine State Museum



High Chest
1750-1770,
likely made in
York, Maine by
joiner Samuel Sewall.
Photo courtesy of the Maine
State Museum

Style: AMERICAN COLONIAL

Timeline:
AD 1720 - 1790

Key Design Elements:

- Influenced by the characteristics of Queen Anne, Chippendale, Hepplewhite, and Sheraton styles
- Turnings; spiral turnings, and simple cabriole legs
- Beds with short posts, the Windsor chair, ladder-back chairs, rocking chairs, and writing chairs
- Curved lines
- Decorative carving such as the scallop shell
- Inset panels

Typical Wood Types:
Pine, Maple, Walnut,
Oak, Apple, and Cherry

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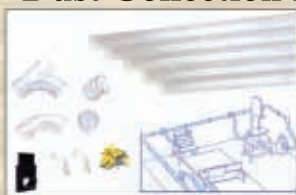


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Napkin Rings and Stand



These napkin rings and stand make an attractive table piece. They also fit nicely together for easy storage when not in use.

Depending on the look you want, you can do the entire set out of one type of wood, or use two contrasting woods. I chose to use walnut for the rings and stem, and boxwood (from France) for the stem's cap.

This is a relatively easy project requiring mostly spindle work, with some faceplate work for the base.

The set is comprised of a turned base and three turned cylinders. One cylinder is used for the stem. The other two are divided to form the four rings. The rings are done two at a time to reduce overhang.

If four rings were turned from one piece

of wood, there would be too great a distance without support when the tailstock is removed.

Turn the three cylinders starting with wood 2" square by 6" long. The extra material gives you enough to turn a spigot on one end to grab the piece.

Mount between centres and rough down the cylinders with an 11/4" roughing out gouge. Then square the ends with a 1/4" parting tool.

Next, plane cut to dimension with a skew. Doing so gives an extremely smooth cut that only needs 220 grit sandpaper to finish it off. Pay special attention to the position of the skew as you use it. The skew leads with it's heel (the short end of the skew) and travels towards the headstock.

Hold the skew up on one side so that it is not held flat on the rest. Also make sure the rest is well above the centre of lathe.

Make a spigot on one end of each cylinder with a 3/8" beading parting tool. Make the spigots at least an inch long and about 1 1/2" diameter for a good hold. On the cylinder that will become the stem, make the spigot about 3/8". That will be used to hold the piece. It will also be used for mounting the stem in the base.

Stem

Place the stem in the chuck. To glue the boxwood cap onto this stem you will need a square clean surface. Get that surface by cutting the end of the stem with the toe of your skew.



Mount between centres and rough down cylinder



Skew leads with heel and travels toward headstock



Use beading parting tool to make spigot



With stem in chuck, cut end with toe of skew



Use dividers to ensure all rings are same length



Use hand to support and hold ring as it falls off



Shape base with bowl gouge



Drill out middle of rings with saw tooth bit in Jacobs chuck



Cut bead with fluted parting tool, while holding end of ring for support



Fasten boxwood to stem, mount in chuck and shape end with spindle gouge



Drill tenon hole with brad point bit held with vise grips

Napkin Holders

In turn, place each of the two cylinders that will become the rings into the chuck. Drill the middle of each with a 1 1/2" saw-tooth bit held in a Jacobs chuck in the tailstock.

To get the rings all the same length use a pair of dividers. To give the rings some character cut little beads in the middle. Use a small fluted parting tool to create an effect you like. Be sure to use your hand to hold the end of the ring for support.

Sand the ring to conclusion. Then, use your hand for support as you separate the two pieces.

Attach the piece of boxwood to the walnut stem. Mount it in the chuck and shape the end with a 1/2" spindle gouge. Sand the stem complete.

Base

Glue a waste block onto the piece and put in the chuck. Shape the base with a 3/8" bowl gouge. Then use a 3/8" brad point bit and drill a hole for the tenon of the stem. Hold onto the bit with a pair of vise grips.

Finish

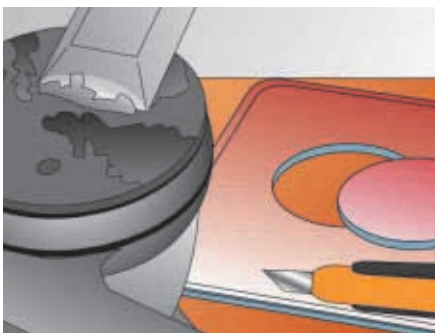
Sand and assemble all pieces. To finish, try using a finishing oil by Liberon. It is an easy to use finish with a tung oil with a dryer added.

Make a few of these napkin holders and use various combination of woods. They make great gifts for people who love to have dinner parties. Let your friends know that you take these wonderful gifts to dinner parties that you are invited to. Then sit back and let the phone ring.

PAUL ROSS owns and operates Chalet Woodcraft and teaches woodturning in Boston, ON.
(519) 443-5369 www.chaletwoodcraft.com

shortcuts

BY GRAHAM McCULLOCH



A mouse pad makes a good sander pad.

Sander Pads

The pads on some sanders that accept sticky-back sanding sheets can eventually get gummed up and will no longer accept the sandpaper. Rather than going to the repair shop, go to a computer store and pick up a mouse pad. Cut it to fit your sander and glue it on with rubber cement.

Replacing Sander Pads

The hook portion of the Velcro pad on sanders often wears out and becomes ineffective. Replacement pads are available that simply stick on.



Replacement pads are available for hook-and-loop sanders.

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Workshop Shortcuts for Woodworkers
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graham@shortcuts.us.ca

Oneway's Precision Balancing System

You've got to admit it; Canadian companies make some of the most useful woodworking products. Oneway (the folks who make the world's best wood-turning lathe) have just introduced a clever new accessory, the "Precision Balancing System".

When you first buy a grinder, you find out quickly that the accompanying grinding wheels are too coarse and hard for grinding your plane blades, hand chisels and turning tools. So, what to do? You buy replacement soft bond aluminium oxide wheels. They cut much better without a lot of heat build up. But there is a problem: they aren't balanced and therefore vibrate, particularly at high speeds. The reason for the vibration is that virtually all grinding wheels are only roughly balanced.

That is where the Oneway Precision Balancing System comes in. This accessory is easy to use, and once you balance your stones, they're balanced for life.

You may be wondering "Is it really worth balancing my wheels?". If you're doing a lot of sharpening, having your grinding wheels balanced will help your grinder last longer (less stress and wear on bearing and bearing housings); it will reduce noise; and you'll get a better finish on your tools with less effort.

With a price tag of \$66.50 you don't have to do a lot of sharpening to get your money's worth. The Precision Balancing System is suitable for wheels with 1" or 1 1/4" arbor holes and grinders with 1/2", 5/8" or 3/4" shafts. The system comes with everything that you need to balance two wheels.



For more information visit:
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*CARL DUGUAY is a writer and woodworker from Sidney, British Columbia (250) 888-5067
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bookshelf

Danny Proulx Wins Golden Hammer Award

Vaughan & Bushnell in conjunction with the National Association of Home and Workshop Writers (NAHWW) recently announced the 2003 Annual Golden Hammer Writing Awards winners.

Danny Proulx was named as the first place winner in the Woodworking Book photography category for his publication "Build Your Own Kitchen Cabinets".

Active members of the NAHWW, who are book and magazine authors, choose the

writing awards. The Vaughan Golden Hammer Awards are given to the first, second and third place winners in three categories: Articles/Features, Books, and Photography.

Danny Proulx has fourteen books to his credit and is a contributing editor to Canadian Woodworking magazine. He operates a custom cabinetmaking business in Russell, ON.

For more information on "Build Your Own Kitchen Cabinets" 1-613-445-3722, www.cabinetmaking.com.

dear editors

CONTINUED FROM PAGE 2

changing that. He has created just about every kind of wood carving: from wildlife to human figures; painted works to stylized forms. And, he has won top awards at international events in all of those categories.

The level of knowledge and talent that he brings to your magazine is invaluable.

Keep up the good work, and please renew my subscription.

Neil Cox

Neil

Thanks so much for saying that. Knowing your reputation as a carver makes your comments even more gratifying. Until now, I was excited just knowing that you were a subscriber. You can't imagine how much your note means to me. Thanks for making my day!

Paul

Paul and Linda:

I can always tell when your magazine has reached its subscribers, because our

phone lines start lighting up with orders and catalogue requests.

We do a great deal of advertising nation-wide, with various media and publications, but when I crunch the numbers I see that we always get the best results from the ads in your magazine and website.

I hesitated to tell you (just in case you printed it), but Sonya said I owed it to you. Thanks for a job well done.

Bob Dearlove
www.tufftooth.com

Mitre Saw Extreme Make-over

The mitre saw is very difficult to collect dust from.

Because of the difficulties with collecting dust from such saws, I narrowed the focus of this article to include only the simple compound miter saw. I also spread the article over two consecutive issues, so that you have enough details to improve the dust collection from your mitre saw.

In this first installment, I will help you to improve the existing dust collection on your saw. In the next issue I will cover additional improvements that you can make to better collect dust from your mitre saw.

Most older model mitre saws came equipped with a single dust port fitted with a bag. The location of the port and bag on the mitre saw was probably based on the location of ports on radial arm saws.



Contoured hood guides dust in but flow is restricted with reduced diameter

Unfortunately, such placement of dust collection ports on mitre saws provides less than adequate dust collection. That inadequacy is compounded by a rather small dust collection bag.

If you choose not to use the small collection bag, most ports are able to attach to vacuum cleaners. If you use a vacuum cleaner, always be sure that it is equipped with a fine, pleated filter and that you wear hearing protection.

The original dust port has a contoured shaped hood to guide the dust into it. That is how it should be. Closer examination however, reveals a restriction inside the diameter of the port itself. That is not how it should be.

Although the restricted diameter allows for the attachment of a deflector hood, such a hood is not worth the lost efficiency that results from restricting air flow.

To rectify this problem I enlarged the port opening and added a new port.

That helped, but I noticed that all of the dust wasn't getting to the port opening. To solve that situation I added flexible sides to the saw arm.

Unplug Your Saw

Remove the saw blade to get a better view of how the dust port is held in place. Because you are going to enlarge the port opening, be sure to check that the casting is robust enough to do so. I could enlarge my opening, but the opening had to be oval. Also, look for sturdy attachment



Typical bag port with bag



Exhaust pipe adapters make great dust ports

points for the new port. The attachment has to withstand the movements of your saw while attached to 3" flex hose.

I like to use inexpensive, easy to get, materials when I work in my shop, so when I needed to fabricate this dust port I headed down to the local auto parts store. There, I picked up two exhaust pipe adapters: one 2 1/4"OD-2 1/2"ID; the other 2 1/2" ID-3"OD.

To make sure that the new port position didn't interfere with the operation of the blade guard-operating arm, I made the shape of the fitting slightly oval.

Position the fitting on the arm. Then trace inside the fitting to mark out the new size for the hole.

After shortening the fittings, I used a wire feed welder to tack them together and secure them to the port with hold down tabs.

I then drilled the tabs and marked their location on the cast arm. Next, I drilled and tapped the arm so that I could use a couple of 10/24 bolts to hold the new port in place.

Inside Top Cast Arm

To streamline the airflow I removed the steel guide from the leading edge of the blade and fashioned a steel panel to cover the web openings behind the guide.

The new steel panel is held in place by the guide fastening bolts and acts as a guide for the sawdust.

Sides Of Arm

The sides of the arm is where the sawdust starts its trip to the dust port. To maximize the air flow in this area I needed to close it in to better contain the airflow.

To close that area in, I needed a flexible material from which to form side flaps. I figured that I could do what was needed with an old inner tube so I headed out to my local garage.

Before cutting the rubber, I used construction paper to make a pattern for each side. Using the paper pattern allowed me to move the saw through it's various positions as I confirmed unobstructed clearance. I then transferred the patterns to the inner tube, cut them out and pasted them to the saw arm.

With these adaptations, your mitre saw will have a larger more efficient dust port connected to a 3" hose. (From past articles you know that 3" is the minimum diameter of hose that you can use to collect dust effectively.) This make-over also provides better deflectors to efficiently guide the dust into the dust ports.

When using my particular saw, the saw blade travels through the table and becomes exposed below the table (i.e. it is not 'captive', as some models are).

Even after completing this make-over, the rear dust port is only effective while the blade is still above the tabletop. Once the saw blade travels through the material being cut and goes below the tabletop, the sawdust is blown around under the table.

To collect dust effectively from this saw I will have to explore the underside of the saw to determine how best to contain and capture that dust.

The second part of this article will take this make-over to the next level and address fugitive dust below the table.

The next time that you purchase or upgrade a mitre saw, be sure that you consider it's dust collection. Such a consideration should rank right up at the top along with accuracy, capacity, and special features, such as a laser guide.

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



Arm pivot point is area to be modified



New port fastened in place



New panel, held by guide fastening bolts guides sawdust to port



Inner tube forms side flap on both sides of arm



Flaps contain airflow and sawdust

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Delta

To respond to the increasing demand of woodworkers for dust-free shops, **Delta** has just released their **bench-top Down-Draft Table**. This is a really neat unit that takes very little space on your bench-top when hooked up to your dust collection system. Use the **AP075** as a sanding or routing table and watch the dust disappear. The textured top helps keep your work pieces steady while you are working on them. The **AP075** has a 4" dust-port for compatibility with most dust collection systems.

Ridgid

Ridgid has redesigned some of their older model standard tools. One of those redesigns is the **EB4424 Oscillating Spindle/Belt Sander bench-top tool**. The **EB4424** is really two tools in one. It offers the advantages of both an oscillating spindle sander and an oscillating edge-belt sander. It makes for a perfect combination.

The **EB4424's** ball bearing construction results in a quiet performance. It has a tool-less conversion from spindle to belt, and has a tilting table (0 to 48°, with detents at 15, 22.5, 30, and 45°). The base of the **EB4424** is recessed, so you can sit it on a sawhorse.

An oscillating spindle sander removes material aggressively, stays cool as it runs, and is less likely to produce sander burn.

The **Ridgid EB4424** is a versatile woodworking tool that should be a

standard tool for any workshop. It comes complete with 1/2", 3/4", 1", 1 1/2" and 2" sanding sleeves, a set of matching sanding drums, and a 4"x24" sanding belt. Drum washers and throat plates are also included in the package.

The **EB4424** also features secure and convenient on-board storage for all of its accessories. That means they are always there when you need them.

Add to all of the above: soft-touch knobs, a dust collection hose adapter, a sawdust collection port, a three year full warranty, and a 90-day return policy.

The **Ridgid oscillating spindle and edge-belt sander** offers excellent value.



GRAHAM McCULLOCH is a woodworker and writer living in Halifax, NS
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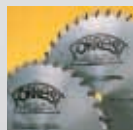
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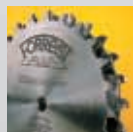
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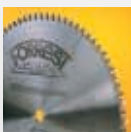
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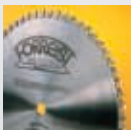
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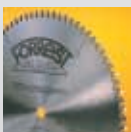
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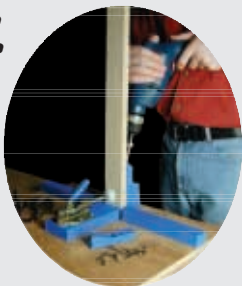


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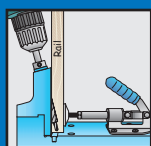
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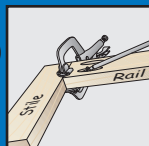


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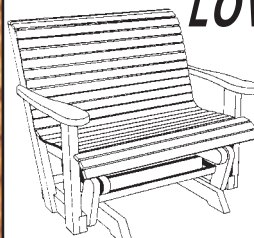
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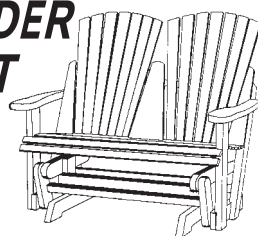


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