Canadian Quotes:
STEVEN KENNARD

Turn a
LIDDED BOX

Community:
CANADIAN BOXES

CANADIAN
Woodworking & HOME IMPROVEMENT
DEVELOP YOUR SKILLS • TOOL YOUR SHOP • BUILD YOUR DREAMS

OCTOBER/NOVEMBER 2014
ISSUE #92

The BOX ISSUE
All Shapes, Styles & Sizes

Inset Pierced Carving
p.26

Round, Square, Curvy and Rectangular: 4 Great Boxes

Box Making Production Style
p.20

$5.95 PUBLICATIONS MAIL REG NO. 40035186
11
0 55113 70028 6
CANADIANWOODWORKING.COM

Craft a CURVY BOX

TOP 10 CORNER JOINTS

SO QUIET

...you could hear a **pin** (or a **brad nail**) drop

The new Ultra-Quiet Oil-Free Air Compressors, at just 60 decibels, are 50% quieter than other oil-free compressors. And with non-rusting aluminum tanks that are 40% lighter, you will find these two units easy to carry and store.

Check out these other great features:

- Extra-long 3,000 hour pump life
- 2 HP (peak), 1,680 rpm, 7.6 amp motors, for easy start-up
- Up to 120 PSI maximum output.
- 3.8 cfm at 40 PSI and 2.35 cfm at 90 PSI
- Thermal overload protection
- Air pressure regulator and easy-to-read gauges.
- Single one-touch quick connect coupling on the K-1620A
- Dual one-touch quick connect couplings on the K-4620A

KC-4620A
weighs only 43 Lbs

KC-1620A
weighs only 34 Lbs.

KING CANADA

For complete product details visit

www.kingcanada.com

See your nearest King Canada dealer to pick one up - literally!

2 YEAR WARRANTY

Canadian Woodworking & Home Improvement
DEVELOP YOUR SKILLS • TOOL YOUR SHOP • BUILD YOUR DREAMS

CONTENTS

OCTOBER/NOVEMBER 2014

FEATURES

DEPARTMENTS

COVER STORY

Cover photo by Rob Brown

editor's letter

rbrown@canadianwoodworking.com

Boxes

I've been working on this issue for about a year now. It's incredible how long things can take. I guess that's one of the reasons why I enjoy building boxes – there's something very satisfying about spending a number of evenings or a few days working on and completing a project. In this issue, we're bringing you a wide assortment of box projects, a few box-technique-based articles, a gallery of Canadian-made boxes and a few other related articles.

Box-Making Event

As woodworkers, we tend to toil away in our workshops alone, rarely discussing design, work-in-progress or the final piece with anyone but our closest friends and family. To give folks a chance to discuss their projects, and support the current issue, we're hosting our first "Canadians Building Together" event. During the week of October 12th–19th Canadian woodworkers will join together and build a box of their choice. We will be using social media to share our stories and update each other on our progress throughout the week. Once the week is complete, judges will be awarding a host of prizes within a wide range of categories. You can check our website for details on categories, prizes, how to enter, and a whole lot more. Finally, someone to talk to while you're in the shop!

Our Website

You might notice that many of the articles in this issue are expanded slightly on our website, offering additional information such as photos and technique descriptions. While we offer you enough information in our print issue to complete each project, the website offers us space to include additional information to make your builds go even smoother. Check for "Go Online for More" at the end of articles to see if there's additional online information. And feel free to add a comment about the article online. We love hearing from you.

Rob Brown

CANADIAN Woodworking & HOME IMPROVEMENT
DEVELOP YOUR SKILLS • TOOL YOUR SHOP • BUILD YOUR DREAMS

Issue #93

PUBLISHERS
Paul Fulcher, Linda Fulcher

EDITOR
Rob Brown

ART DIRECTOR
Jonathan Cresswell-Jones

CONTRIBUTORS
Rick Campbell, Steven Kennard, Jeremy Pringle, Don Wilkinson

PREPRESS
Bonnie Wittek

PROOFREADER
James Morrison

SUBSCRIPTIONS/INQUIRIES
Jennifer Taylor 1-800-204-1773

ADVERTISING
(519)449-2444

CANADIAN WOODWORKING & HOME IMPROVEMENT
One-year subscription (6 issues) $27.95
Single-copy price: $5.95

H.S.T. Reg. #878257302 ISSN #1497-0023
Publications Mail Agreement No. 40035186
RETURN UNDELIVERABLE CANADIAN ADDRESSES TO CIRCULATION DEPT. CANADIAN WOODWORKING PO BOX 286 DARTMOUTH, NS B2Y 3Y3

E-mail: circdept@canadianwoodworking.com

TEL. (519)449-2444 FAX (519)449-2445
e-mail: letters@canadianwoodworking.com
website: www.CanadianWoodworking.com

We acknowledge the financial support of the Government of Canada through the Canada Periodical Fund (CPF) of the Department of Canadian Heritage toward our periodical.

Paul Fulcher
Publisher & Advertising Director
pfulcher
@canadianwoodworking.com

Jennifer Taylor
Circulation
circdept
@canadianwoodworking.com

Carl Duguay
Web Editor
cduguay
@canadianwoodworking.com

CANADA'S WOODWORKING & METALWORKING SPECIALISTS

54" Birch Workbench

new

- Table Top Dimensions (L x W x H): 54" x 21" x 36"
- Workbench Load Capacity: 500 kg

$399

B3224 - Reg $499

6" x 9" Belt Sander

- 3/4-HP, 120V, 60-Hz, 1 PH
- Work Table Size: 12" x 6"
- Work Table Tilt: 0 – 45 °
- Sanding Belt Tilt: 0 - 90°
- 2 Year Warranty

Special Buy

$325

CT174 - Reg $399

12" Disc Sander

- 1/2-HP, 120V
- Work Table Tilt: 0 – 45 °
- Disc Speed: 1750 RPM

new

3 YEAR WARRANTY

$179

CX506 - Reg $249

Heavy Duty Bench Top Lathe

3 YEAR WARRANTY

- 1/2-HP, 110V, 6 Amps
- Spindle: 1" x 8 TPI

$315

CX801 - Reg $399

8" Parallelogram Jointer

3 YEAR WARRANTY

- 3-HP, 220V, 1 PH, TEFC
- 4 H.S.S. Knife Cutterhead

$1175

CX08 - Reg $1349

2 HP Dust Collector w/Canister Filter

- 1700 CFM
- Static Pressure: 10"
- 12-3/4" Impeller

3 YEAR WARRANTY

$589

CX400 - Reg $649

14" x 43" Wood Lathe with Digital Read Out

- 3-HP, 120V, 1 PH
- Variable Speed w/DRO
- Spindle Taper: MT2
- Spindle Size: 1" x 8 TPI

3 YEAR WARRANTY

$699

CX803 - Reg $999

CNC Carving Machines

Easy to learn and easy to use, these machines allow you to use picture files and covert grayscale images to cutting depth allowing you to produce beautiful 2D & 3D images.

$2149

CNCCARVER - Reg $2349

$4499

CNCCARVER15 - Reg $4999

12" Cabinet Table Saw w/Riving Knife

- 3-HP, 220V, 1 PH
- Table size – 30" x 48" (with extension wings)
- Made in Taiwan

3 YEAR WARRANTY

$1899

CX206 - Reg $2199

SAVE 15% OFF

AUGUST 1ST - 31ST, 2014

ABRASIVES

* 15% OFF REGULAR PRICED ITEMS. VALID IN-STORE & ON-LINE

SAVE 15% OFF

SEPTEMBER 1ST - 30TH, 2014

REGULAR PRICED METALWORKING ACCESSORIES & TOOLING

* 15% OFF REGULAR PRICED ITEMS. VALID IN-STORE & ON-LINE

SAVE 15% OFF

OCTOBER 1ST - 31ST 2014

BLUE TORNADO

ROUTER BITS & SHAPER CUTTERS

* 15% OFF REGULAR PRICED ITEMS. VALID IN-STORE & ON-LINE

PRICES VALID UNTIL OCOTBER 11TH, 2014

Busy Bee Tools

busybeetools.com

1-800-461-BUSY (2879)

Errors & Omissions Excepted

New Westminster - Concord - Mississauga - Ottawa - London - Barrie - Pickering - Dartmouth N.S. - Calgary - Edmonton

readers' letters

Your Aug/Sept Issue

I've just finished reading through the Aug/Sept issue of Canadian Woodworking & Home Improvement. I've been reading your magazine for two years. I am consistently impressed by the high quality photos, drawings and instructions in your articles and photographic features. As a building technologist, nationally published freelance writer and high school wood shop teacher, I look at your publication with a critical eye. I read your magazine with a critical mind. You and your editorial team consistently deliver a very fine magazine. Keep up the great work! You mentioned in your editor's letter, "I enjoy my job" ... It shows!

From the Saskatchewan Woodworkers' Guild›s 2014 Show, gotta love Kevin Brehon's "That Moment". Students in my wood shop are very good at breaking things but nobody has thought to creatively showcase their disaster. Nice job Mr. Brehon!

Cheers,
G. Morrison
Panorama Secondary School

Subscription Draw Winners

Murray C.
Etobicoke, ON
has won a Drill/Driver and Bit Combo from King Canada.

Edward R.
Brampton, ON
has won a $250 gift card from **Lee Valley**.

Subscribe or renew now for your chance to win!

woodnews

East Coast Woodworking Show 2014

East Coast Woodworking Show

The East Coast Woodworking Show will be co-located with the Guy Show at Exhibition Park in Halifax, November 14 - 16, 2014. From tools to finely crafted furniture, this event is making a much anticipated return to Halifax. The show is geared towards woodworking hobbyists, professional woodworkers and those interested in shopping for anything and everything to do with wood. Visit **www.eastcoastwoodworkingshow.com** for more information.

Coming Events

Woodstock Woodshow
Oct 3-5, 2014
Woodstock Fairgrounds
Woodstock, ON
www.thewoodstockwoodshow.com

Everything to do with Wood Show
Oct 3-5, 2014
Exhibition Park
Halifax, NS
www.masterpromotions.ca

Golden Horseshoe Woodturners Guild Show & Sale
Oct 4-5, 2014
Dundas Lions
Memorial Community Center
Dundas, ON
www.ghwg.ca

East Coast Woodworking Show
Nov 14-16, 2014
Exhibition Park
Halifax, NS
www.eastcoastwoodworkingshow.com

For more woodworking events:
CanadianWoodworking.com
List your club and event FREE.

shopnews

from our supporting advertisers

New Products at Woodchuckers.com

Woodchuckers.com is pleased to announce that they now carry the Tokyo HCT 30 Automach dual-action rotary and reciprocating carving tool, and the Silky Oyakata 270 fine-tooth saw. The HCT 30 is lightweight, vibration-free, rugged, and reliable. It features an aluminum die-cast body and a powerful 80-watt, 10,000 RPM ball bearing motor that leaves a smooth-cut surface. The kit includes a 6' grounded cord, rear on/off switch, hanger, five blades, and two spanner wrenches.

The beautifully balanced Silky folding saw features a 10.6" blade with precision-ground, razor-sharp teeth that have four cutting angles along the length of the blade to provide a fast, clean, and smooth cutting action. It features exceptional design, balance and finish quality. See these and other fine woodworking tools at **woodchuckers.com**.

Grizzly Industrial®

PURVEYORS OF FINE MACHINERY®, SINCE 1983!

- OVER A MILLION SQUARE FEET PACKED TO THE RAFTERS WITH MACHINERY & TOOLS
- 2 OVERSEAS QUALITY CONTROL OFFICES STAFFED WITH QUALIFIED GRIZZLY ENGINEERS
- HUGE PARTS FACILITY WITH OVER 1 MILLION PARTS IN STOCK AT ALL TIMES
- TRAINED SERVICE TECHNICIANS AT ALL 3 LOCATIONS • MOST ORDERS SHIP THE SAME DAY

30TH ANNIVERSARY SPECIAL EDITION 14" DELUXE BANDSAW

- Motor: 1 HP, 110V/220V, single-phase, TEFC
- Precision-ground cast iron table size: 14" sq.
- Table tilt: 45° R, 10° L
- Cutting capacity/throat: 13½"
- Max. cutting height: 6"
- Blade size: 92½"–93½" L (⅛"–¾" W)
- Blade speeds: 1800 & 3100 FPM
- Approx. shipping weight: 247 lbs.

CAST IRON WHEELS

MADE IN TAIWAN

CSA C US 177335

G0555LANV ~~$545.00~~
SALE $525.00

$129 shipping

ULTIMATE 14" BANDSAW

MADE IN TAIWAN

CSA C US 252923

- Motor: 1 HP, 110V/220V, single-phase, TEFC
- Precision-ground cast iron table size: 14" sq.
- Table tilt: 45° R, 15° L
- Cutting capacity/throat: 13½"
- Max. cutting height: 6"
- Blade size: 92½"–93½" L (⅛"–¾" W)
- Blade speeds: 1500 & 3200 FPM
- Approx. shipping weight: 196 lbs.

G0555P ONLY $545.00

$129 shipping

30TH ANNIVERSARY SPECIAL EDITION 17" BANDSAW

- Motor: 2 HP, 110V/220V, single-phase, TEFC
- Precision-ground cast iron table size: 17" sq.
- Table tilt: 45° R, 10° L
- Cutting capacity/throat: 16¼"
- Max. cutting height: 12⅛"
- Blade size: 131½" L (⅛"–1" W)
- Blade speeds: 1700 & 3500 FPM
- Quick release blade tension lever
- Approx. shipping weight: 342 lbs.

MADE IN TAIWAN

INCLUDES DELUXE EXTRUDED ALUMINUM FENCE, MITER GAUGE & ½" BLADE

G0513ANV ~~$895.00~~
SALE $825.00

$149 shipping

10" LEFT-TILTING CONTRACTOR-STYLE TABLE SAW *with Riving Knife*

- Motor: 1½ HP, 110V/220V, single-phase
- Precision-ground cast iron table with wings
- Table size: 25¼" x 40" • Arbor: ⅝"
- Arbor speed: 4000 RPM
- Capacity: 3⅛" @ 90°, 2¼" @ 45°
- Rip capacity: 30" R, 12" L
- Approx. shipping weight: 208 lbs.

MADE IN TAIWAN

FREE 10" CARBIDE-TIPPED BLADE

MADE IN ISO 9001 FACTORY!

CSA C US 175370

G0732 ~~$795.00~~ SALE $650.00

$149 shipping

10" HYBRID TABLE SAW

- Motor: 2 HP, 110V/220V, single-phase
- Precision-ground cast iron table with wings measures: 27" x 40"
- Arbor: ⅝" • Arbor speed: 3850 RPM
- Capacity: 3⅜" @ 90°, 2⅜" @ 45° • Rip capacity: 30" R, 12" L
- Quick change riving knife • Cast iron trunnions
- Approx. shipping weight: 404 lbs.

BEAUTIFUL WHITE COLOR!

INCLUDES BOTH REGULAR & DADO BLADE INSERTS

CSA C US 232857

G0715P ONLY $795.00

$149 shipping

3 HP DUST COLLECTOR

- Motor: 3HP, 240V, single-phase, 3450 RPM, 12A
- Air suction capacity: 2300 CFM
- Static pressure: 16.7"
- 7" inlet has removable "Y" fitting with three 4" openings
- Impeller: 12¾" cast aluminum
- Bag capacity: 11.4 cubic feet
- Standard bag filtration: 2.5 micron
- Portable base size: 21½" x 49½"
- Bag size (dia. x depth): 19½" x 33" (2)
- Lower bags: Plastic
- Powder coated paint
- Height with bags inflated: 78"
- Approximate shipping weight: 170 lbs.

MADE IN TAIWAN

CSA C US 247570

G1030Z2P ONLY $439.95

$129 shipping

12" BABY DRUM SANDER

- Sanding motor: 1½ HP, 115V, single-phase
- Conveyor motor: ⅛ HP, 115V, single-phase, variable speed 5-55 RPM
- Drum surface speed: 2127 FPM
- Maximum stock dimensions: 12" wide x 3½" thick
- Minimum stock length: 8"
- Sanding drum size: 4"
- Sanding belt size: 3" x 70" hook & loop
- Dust collection port: 2½"
- Feed rate: 2.5-17.3 FPM
- Approx. shipping weight: 166 lbs.

CSA C US 177335

$129 shipping

GRIZZLY GREEN
G0459 ~~$695.00~~
SALE $575.00

POLAR BEAR WHITE
G0459P ~~$695.00~~ SALE $575.00

8" JOINTERS

- Motor: 3 HP, 220V, single-phase, TEFC
- Precision-ground cast iron table size: 9" x 72½"
- Max. depth of cut: ⅛" • Max. rabbeting depth: ½"
- Cutterhead dia.: 3" • Cutterhead speed: 4800 RPM
- Cuts per minute: 20,000 (G0656P), 21,400 (G0656PX)
- Approx. shipping weight: 500 lbs.

FREE SAFETY PUSH BLOCKS

CHOOSE EITHER 4 HSS KNIVES OR SPIRAL CUTTERHEAD MODEL

BUILT-IN MOBILE BASE

4 KNIFE CUTTERHEAD
G0656P ONLY $825.00

SPIRAL CUTTERHEAD
G0656PX ONLY $1250.00

$189 shipping

15" PLANERS

- Motor: 3 HP, 220V, single-phase
- Precision-ground cast iron table size: 15" x 20"
- Min. stock thickness: 3/16"
- Min. stock length: 8"
- Max. cutting depth: ⅛"
- Feed rate: 16 & 30 FPM
- Cutterhead speed: 4800 RPM
- Approx. shipping weight: 666 lbs.

BUILT-IN MOBILE BASE

3 KNIFE CUTTERHEAD
G0453P ONLY $1125.00

SPIRAL CUTTERHEAD
G0453PX ONLY $1750.00

$189 shipping

1-800-523-4777 grizzly.com®

PRICING CODE 14CANWW
MENTION THIS CODE WHEN PLACING YOUR ORDER

15978R

VIEW VIDEOS AT grizzly.com

TECHNICAL SERVICE: 570-546-9663 • FAX: 800-438-5901

3 GREAT SHOWROOMS!

BELLINGHAM, WA • MUNCY, PA • SPRINGFIELD, MO

FREE BROKERAGE RATES ON MACHINERY ORDERS TO CANADA!
PLEASE VISIT GRIZZLY.COM® FOR DETAILS

FOLLOW US:

webshavings

Tool Reviews

Bosch GLM100C Laser Measure

Fein ASCM 18QX Cordless Drill/Driver

View these reviews and more at: canadianwoodworking.com/**reviews**

Stay Connected

Once a month we send out our informative **ShopNEWS** with the latest woodworking news, reviews, videos, and helpful tips and techniques. We also publish two occasional newsletters: **ShopTOOLS** (updates of new tools and shop accessories) and **ShopSPECIALS** (contests, promotions, and special events). Be sure to sign up for them all – they're a great way to stay in touch, and be the first to find out about woodworking related news and events in your area. Sign up now at: **canadianwoodworking.com/newsletter**

Best Build

Check out the **Woodworking** section of our forum for our latest "Best Build" thread – a jewelry case. This month's winner, Brad Hogg, receives a **dual marking gauge** from **Lee Valley**.

To find out more about this project, go to: **forum.canadianwoodworking.com** or simply go to **CanadianWoodworking.com** and click **FORUM**.

Woods to Know

Hickory (Carya ovata/tomentosa/glabra/laciniosa)

View these woods and more at: canadianwoodworking.com/**woods-know**

Free Plan

Arts and Crafts Style Mailbox:

Build this classic oak Arts and Crafts mailbox, and add copper arms to complete the look.

View this plan and more at: canadianwoodworking.com/**free-plans**

Video Links

www.canadianwoodworking.com/**videos**

FALX by FEIN – Curved Bimetal Plunge Blade

KREG FOREMAN – Professional Grade Pocket Hole Machine

Mark Lindquist – Sculptor and Woodturner

Canadian Quotes – Steven Kennard

Production Box Making Techniques – Rob Brown

THE

TS 55 REQ

FESTOOL®
Tools for the toughest demands

THE FIRST CUT IS THE FINISH CUT.

Achieve clean, splinter-free, glue-ready, straight, precise cuts every time. The TS 55 REQ track saw does the work of a circular saw, table saw, miter saw, panel saw and radial arm saw in one unbelievable, take-anywhere power tool. Learn more at festoolcanada.com.

Ryan Shervill – Chess Box

Sapele and ebonized walnut
16" x 16" x 6"
Photographer: Eddie DeJong/Vanderburgh Humidors

Canadian-Made Boxes

Boxes are fun to make and can be very functional. Here is a small collection of Canadian-made boxes to whet your appetite. Visit our website for a slideshow of over 50 boxes.

BY ROB BROWN

Terry Golbeck – Walnut Box

Black walnut
4 7/8" Diameter x 4 ½" High
Inspiration: Siberian yurt
Photo by Terry Golbeck

Merv Krivoshein – Global Warming

Elm, birch
10" x 16" x 9"
Inspiration: The documentary "Chasing Ice" by James Balog
Photographer: Traci Munday

David Atkinson – Salamander Box

Satinwood, bloodwood, imbuya, sapele, European beech

13.75" x 8" x 3.5"

Photo: Dean Palmer Photography

Trent Watts – Choose your Gender Lidded Box

Species: Mountain ash, acrylic paint

7" x 3 ½"

Inspiration: Made for a show on erotic art

Photographer: Trent Watts

Michael Hosaluk – Contain

Maple

6" x 3" x 3"

Inspiration: Natural forms in nature

Photographer: Trent Watts

Adrian Ferrazzutti – Mosaic #2

Walnut burl, satin wood, ebony and holly

4" x 8" x 8"

Inspiration: Reading about Antoni Gaudi and seeing the wonderful mosaic rooftops on his buildings

Photographer: Dean Palmer

Go Online for More

SLIDESHOW: View a slideshow of over 50 Canadian-made boxes on our website.

ROB BROWN
rbrown@
canadianwoodworking.com

Steven Kennard

on the creative process, his barn shop and our "throw-away" society

BY ROB BROWN

"The Box Came First" – Kennard donated this piece to the Professional Outreach Program auction at the American Association of Woodturner's 2014 Symposium. Made of African blackwood, thuya burl, 24k gold gilding and egg shell, the piece is 6" high and represents the fragility of life.

www.stevenkennard.com
Location & size of studio:
Canning, NS, 2,000 sq.ft.
Education: Educated in England. Self-taught in woodworking.

How long have you been building furniture?
About 45 years.

What sort of furniture do you specialize in?
Custom. But mainly turned work, which are mostly boxes.

Tell us a couple of interesting things about your personal life.
I was born and brought up in England and started my working life as a musician and performance photographer. I have lived in the UK, France and now call Nova Scotia my home.

If you were not a furniture maker, what would you be?
A musician or photographer. But I am also a photographer.

In order, what are the three most important items in your shop apron?
A razor-sharp low-angle block plane, my QR Glaser woodturning tools and an antique bevel-edged chisel.

Do you prefer hand tools or power tools?
Hand, but each has its place.

Solid wood or veneer?
Solid wood mostly.

Figured wood or straight grain?
Depending on the application, I love nicely figured wood, but not where it competes with the form of what I'm making.

Inherited Vintage Stanley Sweetheart or fresh-out-of-the-box Veritas?
Both.

Flowing curves or geometric shapes?
I'm fascinated by both.

Photos by Steven Kennard

quotes

My studio is situated in an old barn. The bottom floor is my workshop. The second floor is a photographic studio.

My workday seems often to begin with having to deal with correspondence and paperwork, which I don't particularly enjoy. It seems to dampen the day's creativity. When I am working on a project I will often continue into the evening, even up until bedtime. I easily lose track of time.

My hand tools are my favourite tools, and especially those inherited or given to me by talented craftspeople. I think of each of them every time I pick those tools up. I also love using tools that I bought and worked with when I was a boy.

My inspiration comes from every single thing I look at. Often I will record patterns, or things that appeal to me in my photography, and then find these taking form in my turned work.

I am obsessive about detail and finish.

My box, "Lost Orchard" was influenced by the destruction of a local apple orchard that I had enjoyed photographing. If I wasn't influenced by the places I lived in, then I wouldn't be paying attention to my environment.

During the design process the designs are seen in my head in three dimensions, with occasional sketches to refine details.

Form is paramount. For my boxes I often integrate some thuya burl, where the exterior of my boxes is nearly always black.

If you are experimenting constantly, it's only natural that not everything turns out the way you imagined it would. Some things will always be better than others.

I don't like big-box store furniture, which is meant to be thrown away in a year or two. I abhor the throw-away society we live in.

I am often asked where I get the designs for the boxes I make. It seems to be beyond many people's comprehension that I might come up with ideas on my own rather than going out and buying pattern books. I wonder who they think make up the pattern books.

We can start educating the Canadian public by bringing back woodworking classes in schools. Try to change the concept that furniture should be thrown out every couple of years. We are pretty deeply entrenched in that throw-away society.

Some of my favourite wood turners are Hans Weissflog, Hayley Smith, Bill Hunter, Malcolm Zander and Michael Hosaluk. There are too many to mention. I love their innovation and originality.

"Hat in a Box" – Kennard made this piece for a travelling exhibition, which toured America for 2 ½ years. It's made of snakewood, African blackwood and stainless steel.

I don't think studio furniture making will change much in the next 50 years. It will always be up and down, like the art world.

Health and safety practices have been refined over the last 50 years to make our working environment safer and more comfortable.

The creative process is very fulfilling. And when you see that your work has touched someone so they are moved (sometimes to tears); that is incredibly rewarding.

The most frustrating part of building studio furniture is how poorly it pays.

We need to encourage more young people to become excited about working with wood. If we don't do this the craft will simply die with the older masters of our generation.

Go Online for More

RELATED ARTICLES: Making Turned Boxes *(Oct/Nov 2014)*.
SLIDESHOW: Visit the Videos section of our website for a slideshow on Steven Kennard's work.
MORE INFO: Read this article online for many more of Steven's quotes.

Top 10 Corner Joints for Boxes

Although not an exhaustive list of joints, you will find that the vast majority of wooden boxes employ one of these types to secure their corners.

BY ROB BROWN

1 Dovetail – A hallmark of craftsmanship and strength, the dovetail joint can be cut by hand, machine or a combination of both. There are a number of different types of dovetail corner joints, but the most common are through and half-blind.

2 Dowel/Butt – This simple, yet strong, joint can be created so the dowels are hidden or exposed. A basic butt joint can be strengthened with hidden fluted dowels, or a rabbet butt joint can be cut first, dowel holes can be drilled and contrasting solid dowels can be inserted and cut flush.

3 Box – Generally machine-cut, box joints are very strong due to the large amount of glue surface. They are also very strong visually and, if used tastefully, can accentuate a project.

4 Simple Mitre – Great for joints that don't require a lot of strength, mitres are easy to cut and can be assembled with masking tape. A basic mitre joint is a very simple looking, uncluttered joint.

5 Mitre with Spline – A spline adds a lot of strength to this otherwise very simple looking joint. A groove should be cut as close to the inside of the joint as possible, so the ends of the spline don't weaken the outer edge of the joint. If the joint is of solid wood, and is at all wide, the grain direction of the spline should be taken into account. Run its grain in the same direction as the box sides.

6 Mitre with Machined Keys – Once a basic mitre joint has been machined and assembled, you can add straight or dovetail shaped keys into its edge. Everything from a table saw to a router to a handsaw can create the recesses in which the keys can be glued. If the keys are made of contrasting material, the look can be quite powerful.

7 Mitre with Hand-Cut Keys – With the mitre joint assembled, use a handsaw to cut thin kerfs into the outer surface of the corners. You have lots of flexibility on what the joint will look like, as stopping at different depths, cutting at angles and using many different contrasting woods is an option. Once the kerfs are cut, glue and insert strips of veneer. Be sure to test the veneers you want to use with the saw you're using to cut the kerfs, as they must match up closely for a tight, strong joint.

8 Rabbet and Dado – This reasonably strong, and very simple, joint is usually made on a table saw. A groove, no bigger than one-third the depth and width of the thickness of the thinnest piece, is cut across one side, and a mating tenon is machined on the end of the other workpiece by cutting a dado at its end.

9 Post with Frame and Panel – A vertical leg can have a groove cut into it, then cross-rails can be fit to that groove. A panel can be cut for between the rails and legs, similar to a frame and panel door. This leaves a very formal look.

10 None – Many boxes are cut from a single, thick piece of wood, and therefore don't need special consideration given to their corners. Bandsaw boxes fall into this category, but there are other ways of creating a similar type of box; hollowing the cavity with drill bits and/or hand tools and using a scroll-saw are two examples of similar styles of boxes. Turned boxes also fit into this category.

What other corner joints have you used? Share your thoughts in the comments section of this article, on our website.

Photo by dreamstime.com

www.hammer-canada.ca

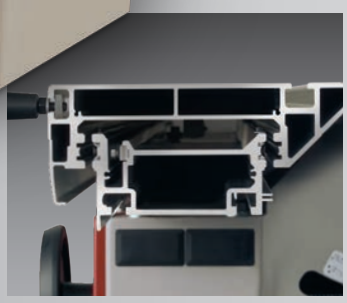
Hammer®

The precision sliding table saw for Canadian woodworkers

Hammer K3 - The reliable Austrian built sliding table saw

- Tilting saw unit with Poly-V-belt drive and ATB motor
- Anodized aluminium sliding table in 5 different sizes
- Heavy duty rip fence in 32 and 49 inches
- Massive cast components
- Dado capability and optional scoring
- Great value for your money, starting under $ 4,000.– ex tax

6 different model sizes to match your requirements!



Quality and precision made in **AUSTRIA**

FELDER-GROUP CANADA - Your dependable local partner for outstanding woodworking solutions!

Mississauga, Ontario
Felder Group ON
1-866-922-8879
info@felder-group.ca

Saskatoon, Saskatchewan
Great Western Saw Ltd.
1-866-652-6858
gwssales@shaw.ca

Edmonton, Alberta
Marson Equipment Ltd.
1-800-661-7912
sales@marsonequipment.com

Burnaby, British Columbia
Ultimate Tools Ltd.
1-604-291-Wood (9663)
dan@ultimatetools.ca

Winnipeg, Manitoba
Felder Machinery Imports Inc.
1-800-340-0233
info@feldercanada.com

Regina, Saskatchewan
Great Western Saw Ltd.
1-866-652-6858
gwssales@shaw.ca

Calgary, Alberta
Felder Machinery Imports AB
1-888-720-8330
sales@feldercanada.com

Nanaimo, British Columbia
Felder Machinery Imports BC
1-250-585-0550
sales@feldercanada.com

CANADA

INFO: DIFFICULTY – **2/5,** LENGTH/TIME – **2/5,** COST – **1/5,** SPECIAL TOOLS – **MISC. HAND TOOLS**

Make a Simple Box with Inlay Using Hand Tools

Many of the techniques used to make this box could be completed with machinery, but since this box was designed to teach people some basic hand tool skills, that will be the focus of this article.

BY JEREMY PRINGLE

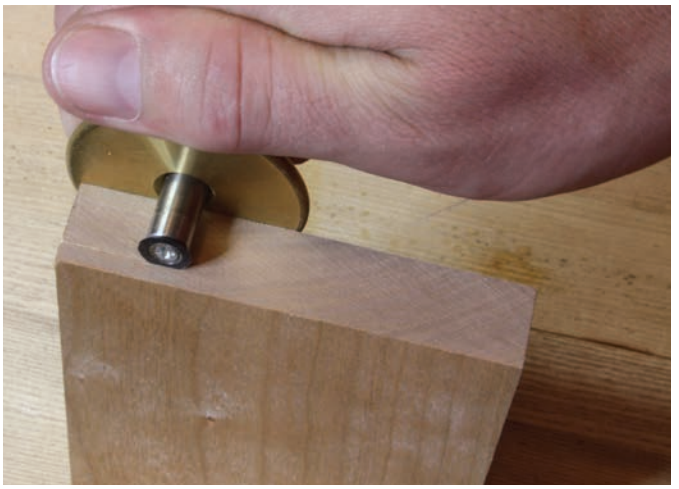
I use a table saw and thickness planer to get my stock to (almost) final dimension, but do not put the finish surface on anything. Use a smoothing plane to remove the mill marks from the material. It is important to be really careful; using a smoothing plane is very addicting and you can easily get carried away, and in no time at all, your stock is not the proper dimension anymore. Stop when you get a full shaving.

Cutting the joinery

The second step is to make rabbets in the front and back for the sides. Part of the fun with this project is you will not need a tape measure. Everything is referenced off something else. Use the sides to set the marking gauge and mark the width of the rabbet. I generally suggest leaving no less than 1/8" of material when marking the depth of the rabbet, or it will become too fragile. In this step it is crucial that all the marking be done from the inside of the front/back. If your material is not all exactly the same thickness (due to aggressive smoothing, perhaps), and you mark from the outside, your box will not be square on the inside.

Use a cross-cut saw and a bench hook to cut the rabbet. Leave about 1/16" to the line, so there is lots of wiggle room in case of a jumped saw. After the rabbets are cut to depth, use a chisel to chop away the majority of the waste using the rule of halves. This is a really fast way to remove material, but works the best with straight-grained material. If the gain is too unpredictable, then

Photos by Jeremy Pringle



Mark the Rabbets – Reference off the inside of the box sides, as the thickness of the four parts might not perfectly equal.

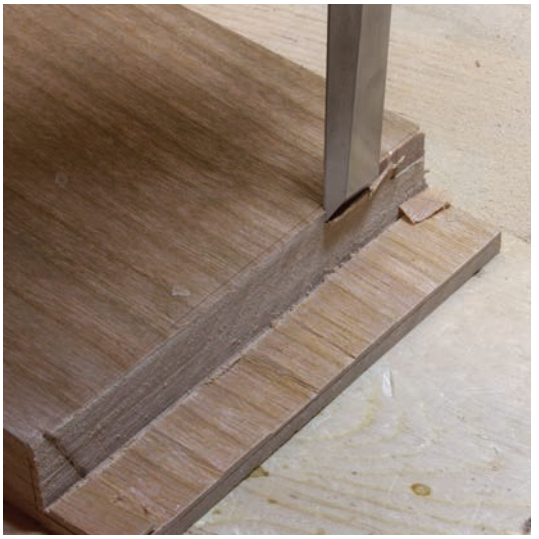
Cut the Rabbet – Make a cut about 1/16" inside the marked line with a cross-cut saw. A bench hook is helpful.

saw down as well. Once the majority of the waste has been removed, chop to the line on the shoulder of the rabbet with a chisel.

To clean up the rabbets, use a shoulder plane or a router plane. I suggest trying both if possible. The shoulder plane is faster, but it takes more practice to control. With the router plane, you need to take multiple light passes, so it is more time-consuming. But because of the depth stop, you can get very consistent results time and time again.

Once the sides have been test-fitted into the front and back, and all the rabbets are square as can be, use a plow plane with a 1/8" cutter to make the groove for the bottom. Using a plow plane can be tricky, and its technique is not obvious at first. Start the cut about an inch from the end. Take a cut and move about an inch or two back every pass until you are taking full passes. Make sure that the depth stop is set to about 3/16" and keep taking passes until it bottoms out.

Cut a piece of 1/8" birch plywood to size for the bottom. Test



Remove the Waste – Start removing the waste with a chisel and mallet. If the grain you're working is fairly straight, you can use the rule of halves, removing half the waste with each chisel strike.

Pare to the Line – Remove the last 1/16" of material with a razor-sharp chisel. Be sure to keep the chisel square to the face of the board.

fit to make sure all the rabbets are clean and the bottom fits. Apply glue and clamps and set the box aside until the glue is set. Once the glue has cured, use a plane to flush everything up. Use a smoothing plane to put the final surface on the all the surfaces of the box.

Making the fans

Use a piece of scrap MDF for the pattern. Using a straight edge and a protractor, draw two lines that intersect at 90°, exaggerating the lines past the point of intersection. Using the protractor, mark off and draw lines every 18°, this will make a five-segment fan.

I have found it easiest to cut the chosen veneer into rectangles, about 1" x ½". This will allow two segments from each with very little waste. Take a smoothing plane and set it up to take a very, very fine shaving. This plane will be used to joint the fan segments.

With your first rectangle, joint one edge on the plane. Take the rectangle and place it on the pattern, the jointed edge goes against the 90° line, and the bottom corner right on the point of intersection. Using a sharp pencil, mark the edge of rectangle on the place where the first 18° line is seen. Using a sharp plane blade (with the bevel pointed out), put the edge of the blade on the mark and corner of the rectangle that was at the point of intersection and push as straight down as possible. Take the segment and place it on the pattern and use some masking tape (blue, green or yellow work best, as they are easily removed) to tape it to the pattern.

If you do not have an extra plane blade, you can use a hobby knife and a straight edge, but because the knife blades have a double bevel, you will have to use the smoothing plane to joint that edge as well. When pushed straight down, a plane blade should create a perfectly straight and perpendicular cut, so jointing that edge is not necessary. When using a knife, take multiple light passes.

Taking the second colour rectangle, joint one edge. Place the jointed edge against the cut edge of the first segment. Mark and cut that segment, and tape it to the first. Continue alternating colours until you have five segments totalling 90°. Gently remove the fan from the pattern.

At this point, there are two routes that can be taken. And they will depend on your confidence and abilities. The side of the fan with the masking tape was the side of the fan that you were working with, so you know what your joints look like. If

Rabbet Plane – To cut the rabbet depth, use a router plane or a shoulder plane. The router plane is slower, but is more accurate. The shoulder plane is quicker, but requires more skill.

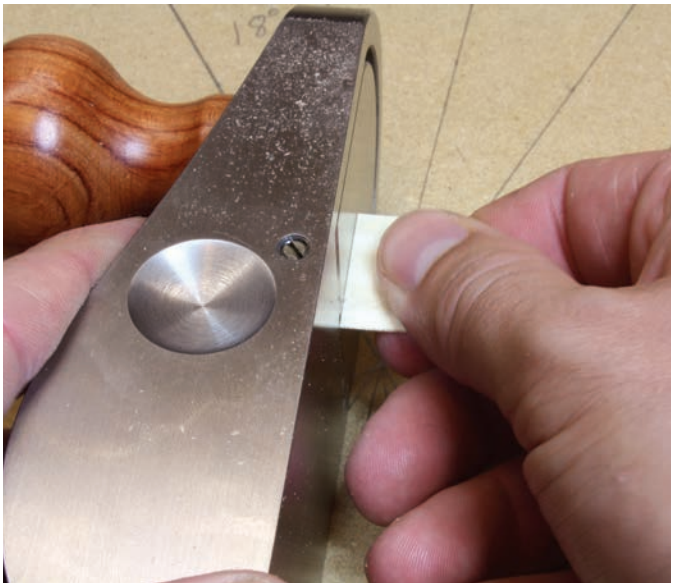
Plow Time – Plane a groove into the inner surface of the four sides to accept the bottom panel.

the joints were done properly, the back side should look exactly the same. If the jointing was done on a bevel, the top might be tight, but the backside will have small gaps.

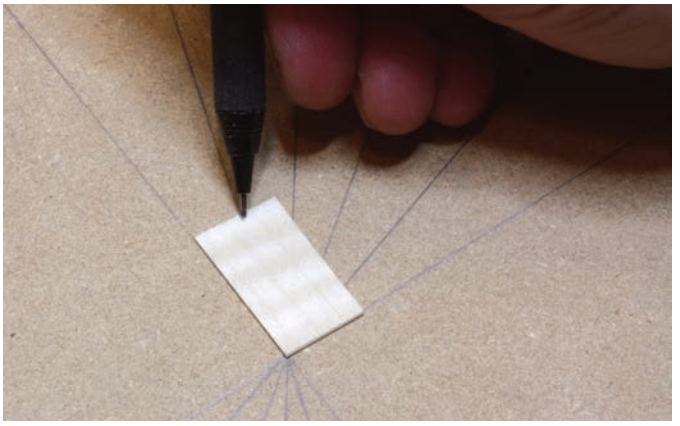
If there are small gaps and you want to use the face that you were working with, use a single piece of tape and place it on the back. Then carefully remove the small pieces of tape that were used to assemble the fan. If there are no gaps and the backside is usable, then no extra steps are needed.

Use some veneer tape and tape the side of the fan that does not have the masking tape. Veneer tape can be used to tape the fan together during assembly, but if something needs to be corrected after the fact, the masking tape is easier to remove.

While holding the fan down with one hand, position a compass point as close to the apex as you can, gently strike the arch on the veneer tape side. Using a chisel (I prefer a 3/8" wide chisel for this, but any will do) I use scrap material as a cutting surface, and anchor one corner of the chisel. Using a rocking chopping motion, feed the fan into the chisel and make really small cuts. Once all four fans are cut I label them 1 to 4.

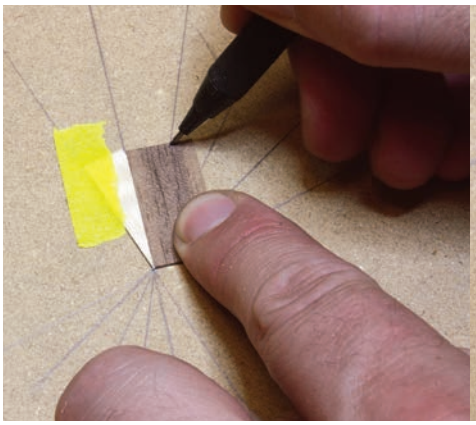


Straight Edge – Pringle uses a hand plane, set to take off a small amount of material, to ensure one edge of each rectangle is straight and square before cutting the triangles of the fan.

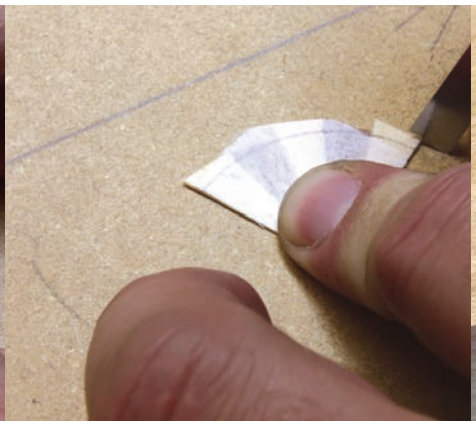


First Fan Piece – Accurately place the rectangle on the layout board and mark where 18° falls.

Straight and Square – A plane blade is a great tool to cut the fan pieces to size. As long as you hold the blade square to the work surface the resulting edge will be straight and square.



Alternating Species – With the first fan piece taped in place, locate and mark the second piece, and cut it to size.



Trim it Round – After he uses a compass to mark the arc on the fan, Pringle uses a sharp chisel to trim the fan to shape.

A Bit of Power – Though the cavity could be created with hand tools, Pringle encourages his students to use a router during classes. Once the majority of the waste has been removed, use hand tools to fine tune the fit of the fan.

Layout on the lid

Set a wheel marking gauge to about ½". Mark the top of the lid with the marking gauge. Take care to meet up in the corners without going past. (I like to use a heavy cut, and I don't plane off the lines, as I feel that the line the gauge leaves helps to draw the eye to the fans.) Mark each corner 1 to 4 and mark the top of each fan 1 to 4 as well.

Place a fan into place and hold it there with finger pressure. Use a hobby knife with a sharp new blade and trace the edge of the fan onto the lid. Only make one or two really light passes, just enough to score the wood so you can see the score lines.

At this point, I use the only power tool in the project, and that is only because of the amount of time it saves during the classes I teach. I use a small router with a $^{1}/_{8}$" bit set to the depth of the veneer, and rout out most of the waste. Make sure to stay at least $^{1}/_{16}$" away from your score marks. Once all four are done, use a router plane and a hobby knife to remove

Glue the Fan – Once a perfect fit is established, add a small amount of glue and use a caul to help spread the pressure across the area.

Hinge Mortise – Pringle marks the outer edges of the hinge mortise, then makes shallow saw cuts where the hinge will be placed. The saw cuts make the task of removing the bulk of the material with a router plane quite easy.

the rest of the material. Test fit the fans. If it does not fit, check to make sure the void is clean and all the edges are sharp with nothing obstructing the fan.

To glue the fan in place, put glue into the void and not on the fan, fit the fan and use tape or wax paper on top. Use a caul to help clamp it down. Once the glue has set, remove the clamps and tape. Use a card scraper to remove the veneer tape. Take care to scrape just the tape until all the tape is gone. When all the tape is gone, you can scrape the rest of the fan flush with the lid. Scrape away from the corner of the fans and try to scrape with the grain as much as possible.

Installing the hinges

Set the depth of the router plane to the thickness of the hinge. Use a knife to strike the lines of the hinges. Use a razor-saw to define the edges. Saw a bunch of relief cuts in between. These will help the router plane remove the material faster. Use the router plane and remove the material, going with the grain as much as possible. Mark the locations for the screws and use a jeweller's drill to make the pilot holes. Install the screws.

Finish

To finish off the box, apply a coat of boiled linseed oil and give it some quality time soaking in the UV rays. For a final top coat, apply some paste wax.

JEREMY PRINGLE
pringlewoodproducts@gmail.com

Jeremy is primarily a hand tool woodworker who is constantly looking for older and better ways of doing things.

Go Online for More

RELATED ARTICLES: Working Without Numbers *(Dec/Jan 2013)*, An Introduction to Stringing and Banding *(Dec/Jan 2012)*, Recipe Box *(Dec/Jan 2011)*.

Production for Box Making

Making one box is much different than making 100 boxes. In order for the process to be smooth and successful, a different approach needs to be used. Jigs need to be used to their full potential and a careful, long-term approach has to be taken.

BY ROB BROWN

Recently I got a job of making 105 pine boxes for a corporate client. I have made many boxes in the past, but generally the work I do is all one-of-a-kind, so this project needed a different approach. Jigs were employed in many ways, and I also made a number of simple stop blocks, templates and spacers in order to ensure the finished product looked and worked properly, and the batch of boxes went through my shop as efficiently as possible.

The prototype

After listening to what the client wanted, I set to work on a prototype. We worked out details like size, function, proportions, hardware and finish. A number of minor, as well as a couple of major, adjustments were made, and then a second prototype was built.

Set up only once

While breaking out the wood I made sure I had enough material to finish the job. I didn't want to have to backtrack, and do any set-ups and

Photos by Rob Brown

Good Jigs – The Baltic birch material Brown used for his jigs is flat and durable, leading to fewer inconsistencies down the road. Here he uses a notched jig to machine the 420 hinge mortises in the lid and main portion of the boxes. Notice the stop blocks positioning the workpiece and jig.

Simple Things, Big Rewards – Small things, like the spacer block the main portion of the box is resting on during hinge installation, pay off in huge ways when doing the same operation repeatedly. This spacer block positions the main portion of the box perpendicular to the work surface while the hinges are being installed.

operations again. This saved me a lot of time, even though I spent a fair bit of time checking my quantities. Doing more than one set-up would also add the potential for inconsistent dimensions, however slight. Parts that were not exactly the same would likely cause problems when working with jigs down the road.

How many extras?

Everyone has their own approach to making extra parts, but mine is about as strict as could be. I needed 105 boxes, so I made extra sides for one box. As I was breaking out material, I made sure each and every piece would be usable. Any parts with unacceptable knots, wane, checking, etc. were discarded right away.

Set-up

I used the same part for all of the set-up work. I knew I had only four extra parts so I was careful not to cut too

Consider Hardware – Before you start building, be sure to have enough hardware on hand for every piece you're building. It could turn into a nightmare if hardware dimensions change even slightly, and you have to start re-working anything.

much material away during set-up, and therefore didn't have much waste. Once each machine was set-up with any feather boards, clamps, stops, etc., I ran every piece through it. Having the prototype around made it easy to check dimensions and reduce mistakes. I ended up with three extra sides at the end of the job.

Take the time

When only making one item, you can stumble your way through a single operation a little bit and only waste a few minutes. But with over 100 boxes to make, I made sure to take the time to ensure my work areas were working with me as much as possible. Some operations took many days to complete, and the hour or so I took to prepare my jigs and work area paid off many times over, in terms of saved time. It also made it easier on my body, as repetitive operations can wreak havoc on joints and muscles, even over a short period of time.

How serious do you need to get?

Making 105 boxes demands a pretty sound approach, but if I was making boxes into the thousands, new machinery would have to be purchased and many other finer points would have to be considered. For instance, when drilling pilot holes for the latches I used ½" Baltic birch plywood for the locating jig. The hole I was drilling through would have enlarged if I used it many more times, causing the holes to vary slightly. Metal sleeves could have been used to ensure this would not happen.

Have you made multiples of the same piece before? Go to our website, and let us know how you dealth with the challenges by adding a comment at the end of this article.

ROB BROWN
rbrown@
canadianwoodworking.com

Go Online for More

VIDEOS: Visit the Videos section of our website to watch how these boxes were produced.

ROLAIR
SYSTEMS

NO SICK DAYS.
NO FAMILY EMERGENCIES.
NO VACATIONS.

FROM THE JOBSITE TO THE WORKSHOP, YOU CAN COUNT ON ROLAIR TO DELIVER.

If you depend on air power, you need a compressor that will deliver every single day — no excuses. That includes holidays. That includes every minute of every shift. As a third-generation manufacturer known for craftsmanship, Rolair Compressors will quickly become one of the most valued assets in your shop.

Rolair. Delivering the goods since 1959.

ROLAIR.COM | HUSTISFORD, WISCONSIN

Darin Langhorst
Canmore, Alberta

Marcel Rivard
Pain Court, Ontario

Peter Marcucci
Woodbridge, Ontario

King Contest Runners-Up

Thank you to all of the Canadian woodworkers who submitted a project to our King Canada "Building Together" contest. We received well over 300 submissions, and selecting the winner wasn't easy. To read about the winning entry, see page 18. Here is a selection of runners-up and their work.

BY CWM

Mitz Takahashi
Montreal, Quebec

Photos by makers

Roger Knapp
Rosedale, B.C.

Aaron Cyr
St. Andrews, Manitoba

Tim Zhao
Toronto, Ontario

Mike Turner
Ajax, Ontario

Inset Pierced Carving

Adding small, intricate details, like this Japanese wave motif insert, creates a unique piece that you will enjoy for years to come. And the design options are limitless, so you can add something that has meaning for you.

BY ROB BROWN

I located and then drew the outer perimeter of the insert onto the lid. I set up my router with a straight bit and a template guide, and measured the difference between the outer edge of the bit and the outer edge of the template guide. In my case it was 3/16". I drew a rectangle onto a piece of MDF that was 3/8" larger in either direction, accounting for the additional 3/16" on each of the four sides. I then cut the rectangle out on my table saw.

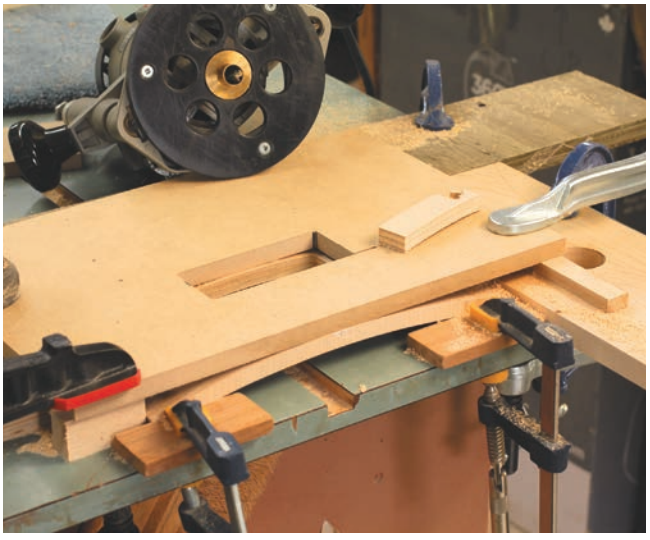
I then secured the MDF template on top of the lid. I clamped wood blocks to my work surface to keep the lid stationary, and added more blocks to locate and secure the MDF template. With clamps I fixed everything in place, being careful not to apply too much force, and flex the lid out of shape. I plunge-routed the rectangle in the center of the lid, then squared up the four inside corners.

The insert

I wanted to add a layer of mahogany and maple veneer between the lid and the inset, for visual contrast. I cut four oversize pieces of each veneer, then cut the inset to final width. When placed beside the four layers of veneer, the final width of the insert would be ever-so-slightly wider than the rectangle cut-out in the lid. Once assembled, the final fit would be sanded to perfection.

The thickness of the inset blank was sized so that when it was inserted into the lid both sides would protrude beyond the lid and could be sanded flush.

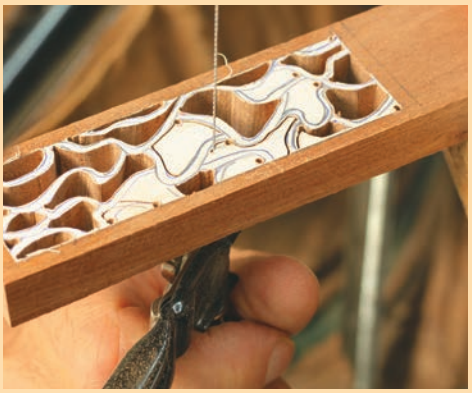
I only cut one end of the insert to fit the opening, as I wanted to have something to clamp to my work surface while I worked on it. I marked the other edge with a pencil, to give me a visual to work towards when cutting the wave pattern.



Rectangular Template – Once the template is cut to size, it is centered over the location of the cavity in the lid and fixed in place with spacer blocks and clamps. A plunge router, equipped with template guide and straight bit, will create the cavity in the lid.

Photos by Rob Brown

Small Tolerances – Here, the insert, with veneers in place for spacing, comes very close to fitting into the cavity, indicating a good fit. Once the veneers are attached to the insert, a sanding block can fine-tune the insert to fit.



Lots of Cavities – Once small holes have been drilled into the insert, the sawing starts. Brown carefully cuts out each piece with a fret-saw, being careful to cut perpendicular to the upper surface of the workpiece.

Low Pressure Clamping – Using small cauls to disperse clamping pressure, Brown applies contrasting veneer, first to the ends of the insert, then the sides. Not much clamping pressure is needed.

Piercing and cutting

I pasted a pattern I found and modified from the Internet to my insert, then bored holes in each of the cut-outs. Once the insert was clamped to my work surface I used my fret-saw to cut each section out. You could use a scroll-saw, but I found my saw a little too aggressive for this tiny task. Your patience may be tested at this stage, but it will be paid off with great results. I left a $^{3}/_{16}$" border for strength and aesthetics. At this point the insert can be cut to length. Best to check three times, and cut once.

Add contrasting veneers

Starting with the short, maple veneers, I glued them onto the outer edge of the insert. Once they were dry, I carefully trimmed them flush and proceeded with the next pair of veneers. Once all eight pieces were glued to the insert I fit it to the cavity and glued it in place. Some sanding left me with a good friction-fit. Remember, yellow and white glue will swell the wood fibres during assembly, so don't leave the fit too tight.

Flush the insert

Once dry, I used a variety of tools to remove most of the excess insert material. I only reached for my hard-backed sanding block after removing about 90 percent of the waste. It's best to be conservative here. The upper, convex surface is much easier to do than the under surface of the lid.

Add depth

With a pencil, mark the parts of the waves where some overlap will add to the visual effect. Use a sharp chisel to score the wood fibres perpendicular to the lid's surface, then to come in at a slight angle, adding some depth to the insert. A final sanding is all that's needed, before adding a finish.

ROB BROWN
rbrown@canadianwoodworking.com

Go Online for More

RELATED ARTICLES: Pierced Carving *(Feb/Mar 2012)*, Box of Many Curves *(Oct/Nov 2014)*.
IMAGES: For many more images of this inset pierced carving, read this article on our website.

Flush it Up – A rigid sanding block helps to level the insert. Masking tape, applied to the maple lid, protects the surface of the lid and gives you clues as to how close to the surface you are sanding.

Deep Waves – In order to give the insert some depth, Brown uses a chisel to remove some of the waves height. A little depth goes a long way.

INFO: DIFFICULTY – **2/5,** LENGTH/TIME – **2/5,** COST – **1/5,**
SPECIAL TOOLS – **COVE CUTTING, GLASS ETCHING**

TREASURES and TRINKETS

This sleek, modern design goes well just about anywhere, but the overall design can be easily adjusted by changing some details. A different style of lid, adding some texture to the curved sides or adjusting the proportions of the box will all work wonders when it comes time to customize your box.

BY RICK CAMPBELL

The curved sides of my box were created using a table saw technique called 'cove cutting'. This method involves running a board diagonally across a table saw blade to form a cove down the middle. By changing the angle of approach you can alter the width of the cove. If you're really adventurous, you can even modify the symmetry of the curve by tilting the blade. If you don't want to simply experiment with the setup geometry, and see what you end up with, the easiest way to work out the details is to use one of the many calculators found online. Search for 'cove cut calculator' to locate the online utility that works best for you. The calculator I downloaded determined that the angle of approach needed to be 20° to create the 5" wide by ¾" deep cove required for this project. This calculation is based on the assumption that a 10" diameter saw blade is being used to remove the material.

Get started by breaking out a 5 ½" wide by 24" long blank for the sides. After machining the cove, I will rip the workpiece in half, creating two narrower boards, which can then each be cut into two parts. For my project I chose a 1" thick piece of spalted maple. Your next task is to set up the table saw to complete the coved profile. After raising the blade to a height of ¾", use a framing square and a mitre gauge to lay out a path that intersects the leading edge of the saw blade, at the required 20° angle. Temporarily mark the path by laying down a strip of painter's tape along the edge of the square. After removing the mitre gauge and square, position your first guide board in front of the tape-line and clamp the ends securely in place. When you do this, leave a ¼" gap between the board and tape to allow for a lip on the edge of the workpiece that must remain flat to support the workpiece. Lower the blade below the surface of the table and use your blank as a spacer to position the rear guide board. After clamping this board in position, remove the tape.

The first pass is completed with the blade raised to a height of approximately 1/8". Switch on the saw and slowly guide the blank over the spinning blade with push sticks. After completing the first pass, rotate the board end for end and make another run, ensuring the cove is centered on the workpiece. Raise the blade in 1/16" to 1/8" increments and repeat the two-pass process until the cove reaches the completed ¾" depth. If the saw motor begins to labour at any point, slow your feed rate or raise the

Photos by Mark Spowart Illustration by Len Churchill

blade in smaller increments. Repeat the last pass a few times, without raising the blade and ensuring even pressure is applied to the workpiece, to make sure you have the smoothest surface possible.

After completing the last pass, remove the temporary guide boards and set your fence to rip a pair of 2 5/8" wide strips from each side of the blank. When you make these rip cuts, the cove needs to be facing up.

The bottom of the box will be seated in a ¼" deep slot located ¼" from the lower edge of the side panels. It's much easier to complete these slots before the sides are cut to length. I used the table saw to create my grooves, but a router table could also be used. Be sure to know what material you're using for your bottom panel now, so you can size the groove appropriately.

After forming the grooves for the bottom panel, you're ready to cut the sides to length. This task is completed with the saw blade tilted 45° to form mitred ends. Be sure to use a length stop to ensure opposing sides are exactly the same length.

Bottoms Up

I decided to go with a piece of 1/8" thick veneered maple plywood for the bottom panel because it's more stable than solid wood. This means problems associated with seasonal expansion and contraction won't be an issue. Cut the bottom panel to size and test the fit by dry-assembling the sides. If everything checks out, sand the inner surfaces of the sides and grab a glue bottle. If you're using a man-made panel for the bottom, gluing it in will add strength to the box, but be sure to not add to much glue, causing it to squeeze out and make a mess. Traditional clamps won't work to secure the corners of this project because of the curved sides. The easy solution here is to stretch strips of tape over the joints. The tension on the tape will be just enough to achieve a solid bond while the glue cures.

Etching Glass – Campbell adheres the stencil to the glass then gently applies the etching cream over it with a popsicle stick (top left). After leaving the cream on for about 10 minutes, it can be cleaned off, to reveal the final pattern (right).
(Top left photo by Rick Campbell)

Cove Cut Setup – With his mitre jig set 20° off of parallel from his saw blade, Campbell used his carpenters square to position some masking tape. The blade was able to cut part way through the tape when raised. The initial guide board will be positioned parallel with the tape, but about ¼" back from the furthest point the blade cuts when it's raised to the final height.

Making the Cut – Now that the two guide boards have been clamped in place, a series of cuts can be made to slowly create a cove.

Box Top

I have never been successful at cutting my own glass, so I avoided the aggravation by having a local supplier cut a piece for me. When buying glass I brought a piece of wood with a saw kerf with me, to check for thickness. Now it was time to etch a decorative design on the surface of the glass. All that's required to accomplish this procedure is a rub-on stencil mask, glass etching cream, and a popsicle stick. All of these materials are available at big chain craft stores. Begin by laying out some newspaper to protect the work surface from the caustic cream. Next, position the stencil on the glass and firmly rub it into place with the end of a popsicle stick. Peel back the protective overlay to reveal the pattern underneath. Use your popsicle stick to spread an even coat of etching cream on the stencil. Be careful not to touch the mask with the stick because it may cause the delicate film to tear or move. After about 10 minutes, head to the laundry tub and gently rinse off the cream and stencil film. When dry, your etched designed will be fully revealed.

Materials List

Part	Ltr	Qty	T	W	L	Material
Sides	A	2	1	2 5/8	12	Spalted Maple
Ends	B	2	1	2 5/8	6	Spalted Maple
Bottom	C	1	1/8	To	Fit	Plywood
Side Lid Frame	D	2	3/8	3/4	To Fit	Bubinga
End Lid Frame	E	2	3/8	3/4	To Fit	Bubinga

Hardware List

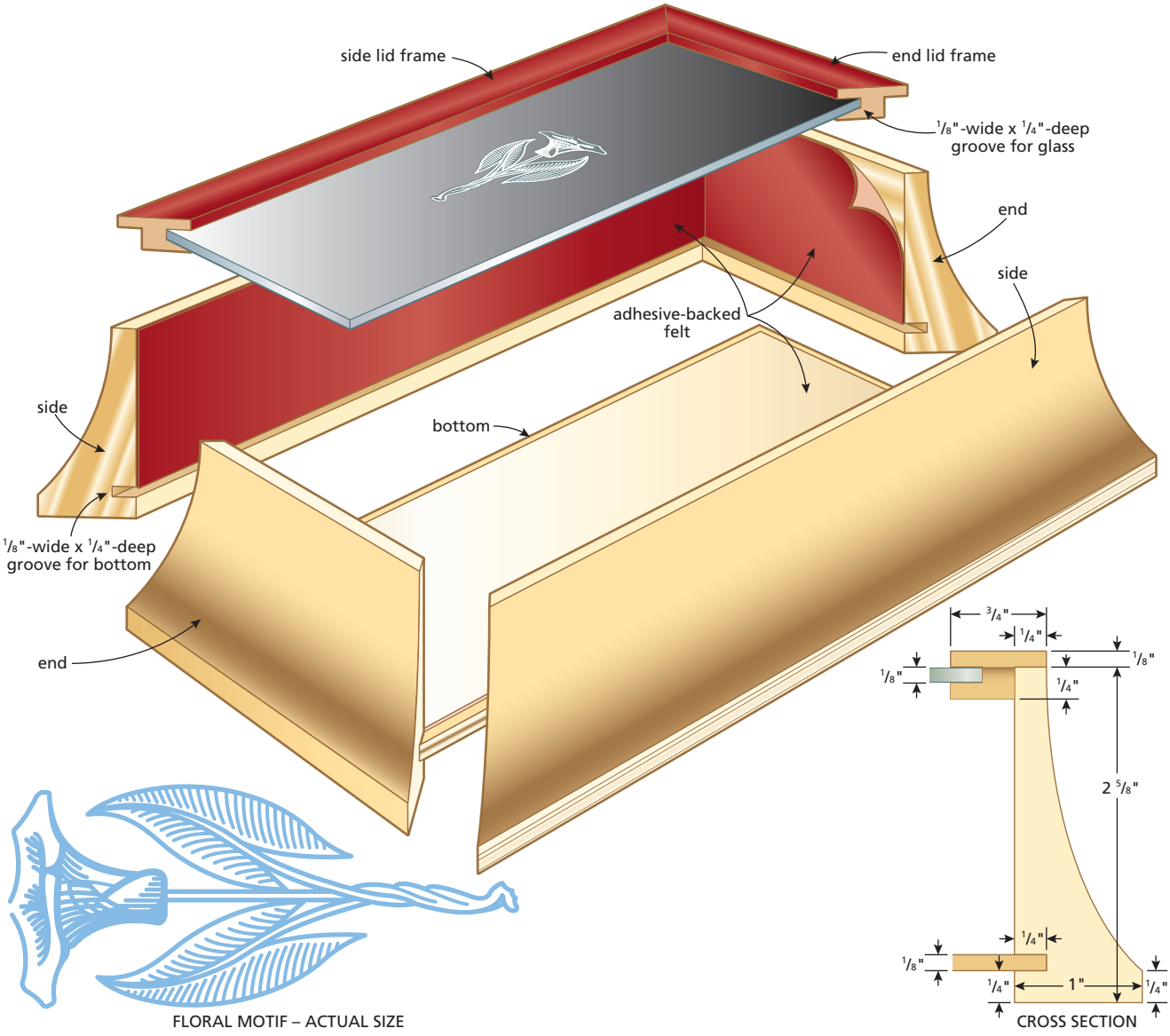
Name	Qty	Size	Details	Supplier
Glass	1	1/8" Thick	To Fit	Misc
Etching Cream	1			Craft Stores
Adhesive Backed Felt	1	To Fit		Lee Valley / Misc

Top Rabbets – Once the top has been assembled, use your table saw to cut rabbets in its underside. Leave 1/8" of material intact, above the rabbet.

Inner Thoughts – Campbell cut and applied adhesive-backed felt to the inner surface of his box, but you could also flock the interior. Either way, select a colour that blends nicely with the wood and style of your box.

I used a piece of bubinga for the frame, but any complementary wood will work. I started with a 3/8" thick blank that measured roughly 3" wide by 24" long. The first step is to run the blank on edge over the saw blade to form 1/4" deep slots on both sides of the blank. These slots will receive the glass insert. After this, cut the framing material to width by ripping 3/4" strips from the edges of the blank. After making any necessary adjustments, cut the strips to length with 45° mitres on the ends. Again, opposing sides must be equal to create square corners.

Apply glue to the corners and assemble the frame with the glass insert in place. Masking tape, applied to the outer edges of the frame, works wonders to secure the joints while the adhesive dries. Once dry, set up the table saw to cut a 1/4" deep rabbet on the outer edges of the completed frame. The width of these rabbets should be equal to the thickness of the side material at the top of the box plus a 1/32" allowance to compensate for the felt lining that will be added. The setup for this procedure is going to require a sacrificial board clamped to the saw fence so the blade can run directly against the fence without causing damage to the teeth. When you think you're ready to go, make a few test cuts on scrap before committing your lid to the saw blade. If everything looks good, mill rabbets on all four sides of



FLORAL MOTIF – ACTUAL SIZE

the lid. Now for the moment of truth – place the lid on the box to check the fit. Remember, your goal is a slightly loose fit with just enough play to accommodate the adhesive backed felt that will be installed after the finish is applied.

Reaching For the Finish Line

When you sand the rough curved side surfaces, start with 60 grit paper, then work your way through the usual progression of finer grits. If the saw marks are really rough, you can use a curved cabinet scraper. After sanding, tape off the edges of the glass on both sides to protect the surfaces from the finish. I applied a few coats of wipe-on polyurethane to protect the surfaces, and enhance the grain. When working with polyurethane, the secret to a smooth finish is a light sanding with fine-grit sandpaper between applications.

Interior Design

Once the finish is dry, cut some pieces of adhesive backed felt to line the interior and press it into place. Another option is to flock the interior. Flocking is a two-step process that involves the application of an adhesive paint, directly followed by a dusting of felt-like fibres delivered by a flocking canister.

RICK CAMPBELL
finrtc@gmail.com

Over the past 30 years Rick has designed and built hundreds of projects in his London, Ontario workshop. He still has a 'wish list' that will keep him busy for decades.

Go Online for More

RELATED ARTICLES: Tea Box *(Aug/Sept 2004)*, Recipe Box *(Dec/Jan 2011)*.

INFO: DIFFICULTY – **2/5,** LENGTH/TIME – **2/5,** COST – **1/5,**

Making Turned Boxes

The great thing about box making is that it can be a good way of using up a small piece of wood, even an offcut, that might otherwise end up being discarded. It can be transformed into a thing of beauty, using your imagination, originality and skill.

Required Tools:

Smooth dovetail jaws in a scroll chuck
1/16" parting tool
¼" gouge for hollowing
Small skew chisel (½" or smaller)
Small round-nosed scraper
Vinyl electrical tape
Vernier callipers
Method of holding

BY STEVEN KENNARD

Most species of wood can be used to make a box, although a fine-grained hardwood or an exotic are best suited for the purpose. It's essential that the wood should be dry and well seasoned. For this article I have used an offcut of cherry. It measures 3" x 3" x 4.5" long, which will make a finished box about 3" high. I suggest you use a piece this size, if possible, but don't feel restricted if your offcut is smaller. I've made boxes out of wood half this size.

Another thing to bear in mind is although this article demonstrates the making of a very simple turned box, the principles and methods can be applied to the making of all turned boxes, including those that are more ornate. You will be working to much finer tolerances than is common in other types of woodturning, so be sure to work slowly and carefully to get the best result.

It's vital to use smooth dovetail jaws on your chuck in all turned box making. Dovetail jaws are far more accurate than jaws with serrations and allow the piece of wood to be removed from the chuck and replaced. Serrated jaws, by their nature, compress the fibres of wood when tightened and make it impossible to remove and replace pieces you are working on with the degree of accuracy required.

Begin by mounting your wood between centers and, with a roughing gouge, turn your piece of wood to a cylinder, making sure the diameter is consistent along its length. At each end cut a dovetail, which will be used to mount the wood on the chuck. After it has been turned, mount the wood in the jaws of the chuck.

Marking out and lid separation

Put a pencil mark on the cylinder of wood to establish the bottom and the very top of the box, evenly spaced on the block. Make a third pencil mark to

Photos by Steven Kennard

Turn a Dovetail – Once you have the dovetail turned, you can add pencil lines to mark the top, bottom and separation between the two halves.

Continuous Grain – Kennard uses a thin parting tool to separate the two halves. This is the best way to keep the grain looking continuous.

establish the separation point between top and bottom. There are, of course, no hard and fast rules as to where you might do this, but proportions in this situation really look best at two-thirds and one-third, with the lid being approximately 1" and the bottom being about 2" high. Use a 1/16" parting tool to make a cut on the bottom and on the top line, to a depth of about ½".This will mark the finished top and bottom of your box. Any parting tool could be used, but I use a parting tool of this size in order to remove as little wood as possible, so the grain will flow as closely as possible from top to bottom. Use the same parting tool to completely remove the top part of the box from the bottom. Set the top aside.

Preparing the lip in the base

With the parting tool 3/16" from the freshly cut edge, cut the rabbet which will form the lip for the lid, to a depth of about 1/8". These light finishing cuts are the final cuts. I use a sharp skew chisel sitting flat on my tool-rest as a scraper to make these.

Two Options for Hollowing – One method of removing the waste in the lower portion is with a bit chucked in the tailstock (left). Another option is to use a gouge (right). Both are acceptable, so use whichever method you feel most comfortable with.

Hollowing the base

The wood from the interior of the box can be removed entirely with a gouge or a large proportion of it can be removed with a Forstner or sawtooth bit in a chuck in the tailstock and finish with a gouge and scraper. If you use a bit, don't bore the hole to the full depth or you will have the spur point hole left in the bottom when you finish. Hollow to a depth to leave approximately ¼" as the box base. I make the final cuts of the bottom and inside corner of my box with a small round-nosed scraper, so as to leave a radius in the corner, which makes it easier to remove the contents from the finished box. The interior of the box is now ready to be sanded and finished. Starting from 180 grit, proceed through 320, 600, 800 and 1000 grit. You should be able to

Slow Sanding – Reduce the speed of your lathe in order to sand the inner surfaces. A slower speed will reduce heat, and many potential problems.

make a silky smooth surface, ready to take your chosen polish. A good friction polish such as Shellawax will give a hard, durable surface and can be left glossy or dulled to a satin with #0000 steel wool and some paste wax.

It's important to keep any heat generated from the hollowing and sanding to a minimum. When using the Forstner bit and while sanding use a very slow speed. This will enable the grits on your sandpaper to cut more efficiently and at the same time, any friction heat will be minimal. Excessive heat can cause unwanted movement and checking.

Now is the time to remove the bottom of your box from the chuck to make way for the lid.

Working on the Lid

Attach the top section of the box to the chuck. You will be preparing the lid to fit the lip you cut earlier.

Start by taking a measurement of the lip you created on the bottom half of the box, with Vernier callipers. Use a sharp pencil to transfer this dimension to the face of the mounted top.

Using the skew chisel flat on the tool-rest as described before, make a cut by pushing the point of the skew into the wood just inside the pencil mark and then with a gouge remove about ¼" of the wood from the interior of the lid. Then, once again using the skew chisel, form the bottom of the rabbet, cut to a depth of approximately $^{3}/_{16}$". You can now finish cutting the sides of the rabbet to accept the lip on the bottom of the box. Very carefully, so as to create a comfortable fit, offer the bottom of the

Exact Measurement – Measure the diameter of the lip (left) and transfer it to the underside of the top with a sharp pencil (right). Now you have something to guide you while mating the top to the base.

box up to the rabbet to check for fit. Try it frequently, taking off a small amount of wood each time until the lid fits without any resistance. I like a lid to fit without any tightness so when the box is opened the two halves separate with ease. This allows for one-handed opening and eliminates the risk of the bottom dropping off the top when picked up, which it might if too tight. You don't want it so loose that it rattles, though.

Use the sharp edge of the skew once again as you would a scraper to finish the inside top lid and sides as you did the bottom. Repeat the sanding and finishing procedure that you previously used.

The final stages

Remove the finished top from the chuck and replace it with the bottom. Once you're sure the bottom is running true, attach the lid. It's now possible to sand the exterior to the final finish and apply the polish. Ideally, you should leave it for an hour or two for the polish to harden.

Stretch vinyl electrical tape tightly across the joint of the lid and the bottom, winding it around three or four times. Make sure it's always under tension so it firmly holds the two parts together.

Perfect Fit – Make sure to shape the lip on the lid carefully. A friction fit, one that is not too tight, and not too loose, is what you're aiming for.

Sticky Situation – Kennard stretches electrical tape across the joint of the lid and the bottom. This allows him to lightly work the upper portion of the box.

Finishing the Top – With the tailstock in place, Kennard removes as much material as possible (left). To complete the final shaping of the top, Kennard removes the tailstock and carefully finishes shaping the top (right).

Using a gouge, remove as much of the remaining wood as possible before removing the tailstock. Remember, this is only being held together with electrical tape at this point and although quite strong, there is no point in putting more stresses on the joint than necessary.

Finish the top with gentle cuts, then sand and finish as before. When you're satisfied, remove the electrical tape and set aside the finished lid. You can now use the parting tool to remove the bottom of the box from the dovetail mount.

To finish the underside of the box, reverse-chuck it either the way I do, by attaching it to a scroll chuck with rubber stoppers replacing the jaws, or by winding vinyl tape around the top opening of the box for protection and gently tightening it into the jaws of the chuck. The vinyl tape should prevent damage to the sides. Gently finish the bottom of the box, making it slightly concave to prevent it rocking on a flat surface. Sand and polish as before. Don't forget to sign and date it.

Stable Base – The bottom of the box should be slightly concave to ensure it doesn't rock while in use.

STEVEN KENNARD

Steven Kennard is a woodturner and sculptor from Nova Scotia. He creates one-of-a-kind and limited-edition turned, carved and textured pieces. Wood turning is more often than not just where the process begins.

Go Online for More

RELATED ARTICLES: Ball Box *(Aug/Sept 2005)*.
SLIDESHOW: Canadian Quotes – Steven Kennard *(Oct/Nov 2014)*.

CANADIAN WOODWORKING & HOME IMPROVEMENT

MARKETPLACE

www.canadianwoodworkingmarketplace.com

Your New Online Source for

• Tools • Equipment • Machinery
• Shop Supplies • Books & DVDs
• Finished Products
• Specialty Items
and so much MORE!

BUY ITEMS NOW

BID IN AUCTIONS

SELL YOUR ITEMS

Register for a FREE Canadian Woodworking Marketplace Account

AND YOUR CHANCE TO

WIN

The Pro-Cut 50 is the next generation table saw!

- Material is fully guided on both sides, eliminating feed errors and kick-back.
- Saw moves along precision guide rails, with adjustable height up to 3-1/2".
- Built-in roller table moves material through the saw with ease.
- Fence is exactly 90° to the saw, eliminating any side fence error.
- Tilt the saw to make precise cuts at any angle.
- Rip cut narrow boards or full 4' x 8' panels.
- Includes a premium Hitachi PCC7BMR saw.
- A $988.00 value.

View the Pro-Cut 50 in action at **TorontoTool.com**

REGISTER TODAY!

PRO-CUT 50 PROFESSIONAL
The Next Generation Table Saw

CANADIAN MADE, PROFESSIONAL GRADE

Register before October 31, 2014 for your chance to win!

Canadian Woodworking & Home Improvement MARKETPLACE

www.CanadianWoodworkingMarketPlace.com

INFO: DIFFICULTY – **3/5,** LENGTH/TIME – **3/5,** COST – **2/5,**
SPECIAL TECHNIQUES – **CURVED PANELS/PARTS**

Box of Many Curves

Curves make this box stand out. They also will allow you to work on some new techniques on a small scale. Though curves can add difficulty to a project, as long as you patiently follow these steps, the results will speak for themselves.

BY ROB BROWN

I usually start a project with some sketching and a mock-up, and this was no exception. The small scale of the project allowed me to go right to a full-size version made of 2x4 material. After a few quick trials, in which I realized the curves in my initial design were far too dramatic, the main details were sorted. I had some African mahogany handy, as well as some lightly figured maple veneer for the lid and bottom panel, for contrast. The mahogany was 1 1/8" thick, and I needed all of it to obtain the sides.

The lid

It's easier to shape the front and back to match the curve of the lid than vice versa, so I started by making a form for my vacuum press. I broke out the ribs of the form, routed 22" diameter arcs into their sides and assembled them with cross-members and a bottom to create a strong form. Using a pin-nailer and my vacuum bag, I attached a piece of flexply over the top, then covered it with newsprint so any glue squeeze-out wouldn't cause problems. I prepped the 5/16" flexply core and bottom three layers of veneer then glued everything together. Once dry, I added the top three layers of veneer. I wasn't sure I could get all seven layers glued and together in the press in time, so I didn't chance it. Once it was dry I trimmed it square but left it oversize.

Curved Sides

I broke out the side blank to 3 ¼" wide x 19" long x 1 1/8" thick and traced

Photos by Rob Brown Illustration by Len Churchill

the profile of the mock-up on one end of the blank, to give me something to work towards. My first shaping rip cut was at 12°, to establish the outer/lower face of the sides. I then increased the angle of the blade and made a few passes, adjusting the angle each pass, to help roughly establish the inner/upper curve. The final set of passes was with the outer surface of the sides facing downward, as I nibbled away more material, keeping a close eye on the hand-drawn profile on the end grain. I was careful to leave enough material to allow the outer face of the sides to be supported during the cuts.

I removed the excess waste, either by hand or with some simple hand tools, then used my round bottom hand plane to shape the outer surface of the sides. With the profile shaped, I reached for my round scraper to remove all of the machine marks and unevenness. A block plane took care of the inner/upper curve, followed by an assortment of hand and machine sanding to smooth all the surfaces.

Front and back

Break out the parts, cut them to final length and locate the dowel locations in their ends. You could use a jig, or set up

Rough-Shaping Cuts – In order to accurately remove most of the material, a number of passes can be made on the table saw. Start with the 12° cut to form the outer/lower surface of the sides, then make a series of angled cuts to form the basic shape of the inner curved surface (left). At this point the inner curve can be rough-shaped. Brown leaves enough material on the blank so it will still support itself during the cut (right).

your drill press to bore the holes, but I opted for a quicker, riskier method to drill the dowel holes. I have used dowels for a long time, and have become comfortable with drilling dowel holes, and in some cases drill them freehand. A sharp, brad-point bit is crucial, as is a steady hand. Before drilling, I made sure to mark where the curved upper edge of the parts would fall, so I could ensure the holes would end up inside the finished part. The curved edge meets the sides at the point where the flat inner/lower face meets the inner/upper curved section. I drilled two ¼" holes in either ends of the front and back, boring a bit deeper than was absolutely necessary.

Mark an arc on the front and back by using the lid as a guide. The lid will sit just over 1/16" below this curved surface when the box is complete. When cutting, leave a little extra material to smooth and fair with hand tools.

Back to the sides

The sides could now be split in two, and cut to final length. I marked a line 5/16" in from both ends, on the sides inner surface, then started to shape the small curve on their ends with hand tools. I stopped just before removing the pencil lines. The varying thickness of the sides, moving from top to bottom, makes it tricky to shape a fair curve; a few practice pieces of softwood will help you get a hang of the operation.

Materials List

Part	Ltr	Qty	T	W	L	Material
Sides	A	2	1 1/8	3 1/8	8 ½	Mahogany
Front / Back	B	2	9/16	2 5/8	11	Mahogany
Bottom Panel	C	1	¼	To	Fit	Plywood
Lid Core	D	1	5/16	To	Fit	Flex-Ply
Lid Veneer	E	6	1/32	To	Fit	Maple
Lid Edging	F	4	1/32	To	Fit	Maple
Solid Insert	G	1	9/16	1 ½	4	Mahogany
Insert Veneer	H	8	1/32	To	Fit	Mahogany / Maple

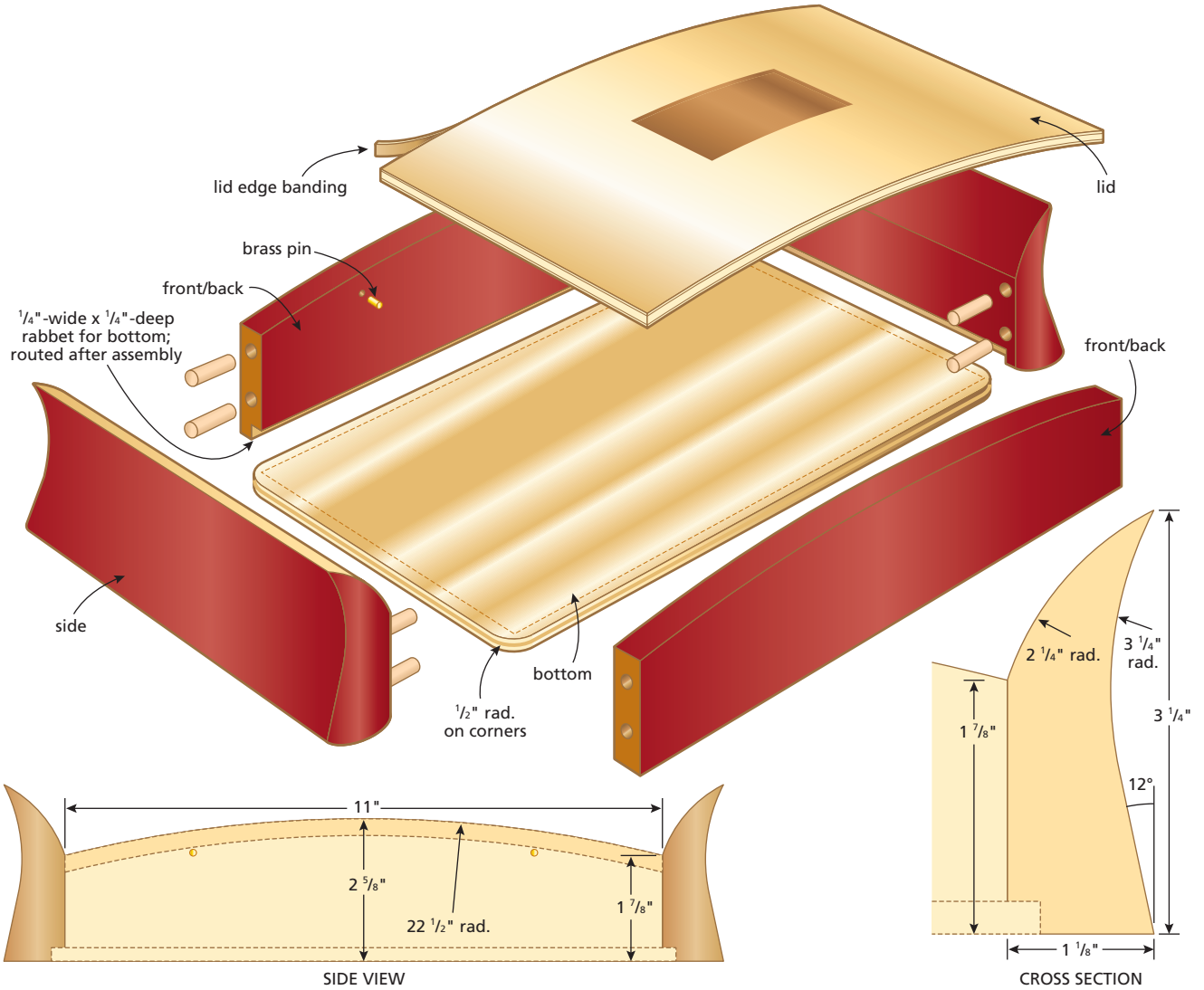
Hardware List

Name	Qty	Size	Details	Supplier
Press-In Bumpers	4	5mm	00S21.04	Lee Valley
Brass Pins	4	7/16 x 1/8" dia.		Misc

Dowel centers

Insert two dowel centers into the end of the front or back. Using a hard, flat surface to rest the two mating parts on, align the parts, then bring the parts together, leaving two small marks in the side. It is now that you'll want to mark mating parts. Make sure to align the parts so the outer face of the front or back finishes ever so slightly inside the edge between the curved end/inner face of the side. Repeat for the other three corner joints. Using my drill press, and some scrap parts to level the sides, I drilled the eight holes. Be exceptionally careful not to drill through the visible face of the sides. The deeper the hole is, the stronger the joint will be ... but don't play with fire here.

Fair the Curve – Fair the curved surfaces with a block plane, working right up to the line on the end of the blank.



Brass lid stops

With the final thickness of the lid in mind, and the lid's location relative to the front and back, I marked the center point of the 1/8" diameter lid stops. I then drilled the holes about two-thirds of the way through the parts using my drill press. I cut the brass stops to length, filed their ends smooth, then chucked them into my cordless drill. With the trigger on, I used varying grits of sandpaper, then steel wool to smooth the stops and pillow their ends. The final touch was to drill four shallow holes in a piece of scrap, insert the stops and spray on a finish to stop the parts from tarnishing.

Advanced Dowelling – Although many makers would use a drill press, or dowel jig, to drill holes in end grain, Brown uses a keen eye and sharp bit to assist him. During the early stage of drilling a hole, he watches the outer circle the drill bit makes. If it's a complete circle, the hole is being bored perpendicular to the surface. If the circle isn't complete, the angle must be adjusted.

Round the End Grain – An even-looking round-over can be rough-shaped with more aggressive hand tools, like this rasp, then refined with smoother files and sandpaper.

Mating Dowel Holes – With the mating front and side resting on his table saw's surface, Brown lines up the two parts and presses them together, leaving two small indentations. On his drill press, he uses a few simple shims to level the side, then drills the dowel holes, being careful not to drill through the other side.

A quick sanding

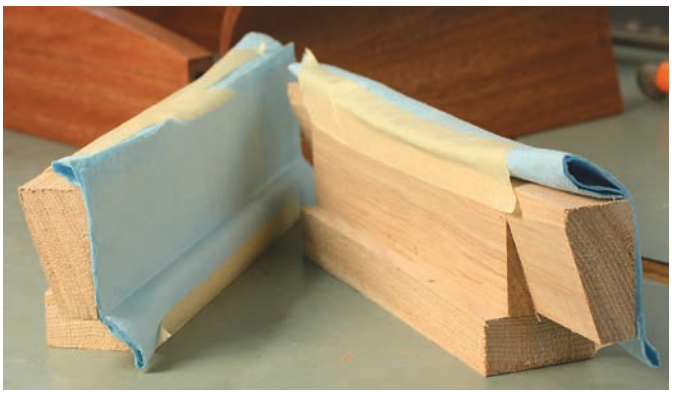
Yet another benefit of building small projects is that the sanding goes quickly. Sand all surfaces, paying special attention to the curved end grain of the sides. I stopped at 180 for everything except the end grain, which was hit with 220. When sanding the end grain of the sides, do your best to ensure the edges mate at exactly the same point. I assembled each joint many times during sanding, just to make sure the final result was what I wanted. What this box lacks in surface area to sand it makes up for in being finicky.

Shellac

Jump to assembly now and you will only pay for it down the road. These parts are easy, even enjoyable, to sand on their own. I mixed up a shellac solution and applied it to the parts. I apply a number of quick coats to all surfaces, then let the parts dry, before a fine sanding, and more coats. Shellac dries very quickly. The four sides of this box were all finished in an afternoon, with very minimal working time. Once the parts dried overnight, I hit them with some #0000 steel wool and wax, followed by a quick buff.

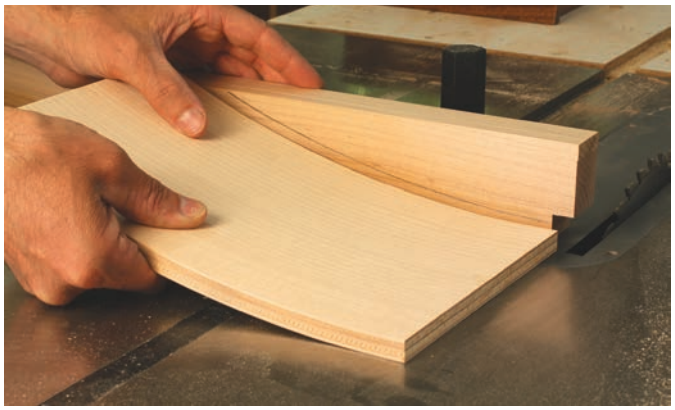
Assembly

Because the outer faces of the sides are curved I had to make dedicated, but simple, cauls. I cut four pieces to about



Dedicated Cauls – Because the four box parts have been finished, Brown made this pair of clamping cauls, covered with thick paper towel, to assist him with assembling the box. After the two similar parts were machined, they were attached to each other, forming a "T". The outer face of each caul was cut with a handsaw, so the clamping heads would apply force perpendicular to the glue line.

Rabbet the Bottom – After a shallow pass to determine where the rabbet would be located, Brown added masking tape to protect the finished surface from the spinning bearing, and made a full-depth pass to establish the rabbet, which will accept the bottom.



Trim the Lid – In order to trim the lid to length, at an angle, Brown traces a line on his mitre gauge and visually lines up the lid. The resulting angle may not be perfect, but will be close and consistent. He uses small shims if angled cuts are required. Patience is important for an even-fitting lid.

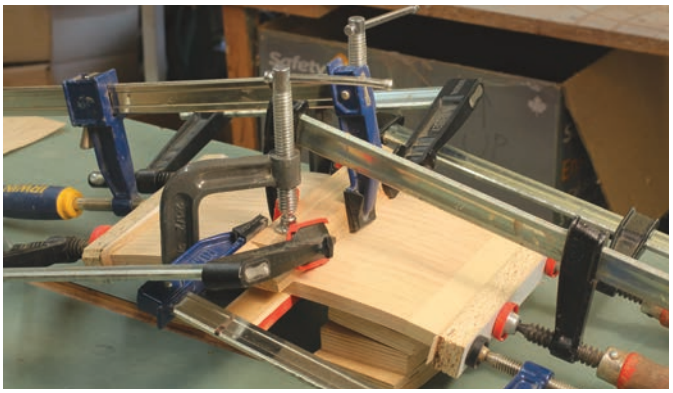
1 ½" x ¾" x 8" and screwed them together to form a long "T". With a handsaw I cut a 12° notch in both ends of the vertical portion of each "T". This was so a clamp head could be positioned on it, and when tightened, would apply force perpendicular to the joint. I also taped some thick paper towels to the inner surface of the cauls, to keep them from marring the shellac finish.

I applied glue to only two of the joints, and assembled the box, as I wasn't confident I had enough time to do any more. An hour later I glued and assembled the other two joints. Both times I ensured the box was square.

Bottom Panel

Although you could simply use a pre-veneered panel for the bottom, I wanted to use some of the figured maple I used for the lid. I pressed the panel in my vacuum press and trimmed it square, leaving it oversize. I prepared my router table with a rabbet bit, set to cut a ¼" deep cut, and the same height as my bottom panel.

I positioned the assembled box over the rabbet bit, and made a shallow pass, keeping the bearing from touching the inner wall of the box. A few strips of tape were added to the inner



Angled Clamping – In order to keep clamping pressure perpendicular to the glue line, Brown starts by clamping a block, with slightly angled edges, to the outside of the lid. Future clamps can apply force to this block while applying the edge veneer.

Finish the Finish – Once the shellac is fully cured, rub the surfaces out with wax and #0000 steel wool. The resulting surface will be smooth, with an even sheen.

surface to protect the finished surface and I ran the rabbet around the perimeter of the box.

I then cut the bottom panel to size, sneaking up on a friction fit, then marked and cut its four corners with a radius matching the rabbet bit I used. A bit of hand sanding for the final fit ensured a clean joint if the box was ever turned upside down. I sanded and finished the upper surface of the bottom panel and installed it.

The lid and underside

I ripped the lid to width on my table saw, then used my mitre gauge to cross-cut the first end. I traced a curved line on the wood fence of my mitre gauge so I could repeat the same angle. Once the brass pins were inserted, a quick check against the box let me know how the fit was. I used a folded paper shim to fine-tune the angle, until a perfect fit was achieved. I snuck up on the fourth edge, as I didn't want to be left short.

To cover the edges of the lid I applied veneer, first to the shorter ends. Because the lid edges are angled I needed to come up with a way of transferring pressure, once again perpendicular to the glue line. I unscrewed the clamping caul I used to assemble the box, planed a gentle bevel to both its sides and clamped it to the upper surface of the lid.

I proceeded to glue veneer to both ends. Once dry, I carefully trimmed the veneer and applied veneer to the front and back edge. When dry, I trimmed the veneer and tested the fit. A small, even gap all around, and the lid was done. That is, unless you want to get fancy, and add a decorative Japanese wave motif to the middle of the lid (for details, see page 26 of this issue). The lid can now be finished on all sides.

Flush and sand the underside of the box, then drill four holes near the corners to accept small rubber bumpers. Apply a finish, install the rubber feet and put the box to use.

ROB BROWN
rbrown@
canadianwoodworking.com

Go Online for More

RELATED ARTICLES: Inset Pierced Carving *(Oct/Nov 2014)*, Curved Panel Veneering *(Dec/Jan 2009)*, Drawing Curves *(Apr/May 2006)*, Dowel Joinery *(Feb/Mar 2014)*.
IMAGES: For many more images of this box being built, read this article on our website.

Boxes

BY DON WILKINSON

You have probably noticed by now that this issue is dedicated to boxes. For the purpose of this article you may assume that I am referring to wooden boxes because this is a woodworking magazine, in case you weren't aware. The many articles about woodworking, and regarding wooden boxes, should have been a clue of sorts, as should the prominent title emblazoned across the cover. If by some means you hadn't noticed any of these things then perhaps woodworking isn't the sport for you. Maybe you should take up something safer, something that doesn't require much skill or concentration. This isn't like embroidery or skydiving, you know, where: "If at first you don't succeed … etc., etc." After all, we're dealing with razor-sharp toys here and if you don't pay attention, they will bite you. Trust me on this.

So … back to boxes. As many of you might have realized, boxes are much like people; they come in many different shapes and sizes ranging from the short, fat and unappealing ones like Rob Ford, to the tall skinny ones like Cate Blanchett. But with smaller cheekbones. And just like people, boxes may serve many different purposes, some more useful than others.

In a weird sort of segue, my wife has a set of matryoshka dolls (which, now that I mention it, are also shaped somewhat like Rob Ford). Now most people wouldn't regard matryoshka dolls as being a box, but in fact that is exactly what they are. They are simply little boxes, the main purpose of which is to house a smaller box, which holds another box and then another. The secondary purpose of these little boxes is to keep my grandchildren amused whenever I'm left to baby sit them, so I don't have to deal with the little meatloaves.

Like the matryoshka, many boxes are designed for a specific purpose. Some of the most beautiful and expensive boxes you can buy were created simply to house dead people and then dropped into a deep hole to rot away. That, to me, has always seemed such a waste of a perfectly good box and the tragedy is that hardly anyone gets to really enjoy the thing. I always thought that everyone should buy or build one of these boxes long before they're needed and set them on little legs in front of the living room or rec-room couch where they could serve as magazine storage until they were needed elsewhere. I thought they could be marketed as … wait for it … *coffin tables*. Get it? Like a coffee table but *coffin* table because of their shape and other purpose. Yes? No? Well, I like the idea even if everyone else thinks it's gross.

As you sit and ponder upon these matters, stop and look around at what your house contains. I'll bet its chock full of boxes of one sort or another that you hadn't even noticed. All the cabinets in the kitchen and bathroom are just little boxes. Probably cheap particleboard boxes from Ikea or Home Depot, but boxes none the less.

The shelving unit containing your vast and highly cherished collection of *Canadian Woodworking Magazines* is just another stack of boxes. The cabinet housing your 48-inch TV that you watch instead of honing your woodworking skills is also just another box.

Yes, if you really look around and pay attention for once, you will notice that boxes are everywhere. Sitting up on a shelf may be a box you purchased on some long-forgotten holiday. You likely paid far too much for it because, let's face it, you are Canadian after all and were much too polite or scared to bargain adequately for it. The holiday may be long over and the stomach parasites dealt with, but still you cherish that box because of the memories it contains, as well as the photos and little mementoes that you also cherish for some dopey reason.

Although your home (which in itself is just another box much like every other little box in your town) may harbour some great boxes, somewhere within its walls will be some plain, utilitarian boxes designed to do one thing and one thing alone, and because a box is a box no matter how humble, they do it well, whatever that may be.

Unfortunately, there are probably some boxes still around simply because they've always been around. You have no idea where they came from, or even what they're good for. They may have absolutely no use whatsoever but still you keep them around.

Once again, much like Rob Ford.

DON WILKINSON
YukonWilk@gmail.com

Illustration by Mike Del Rizzo

The facts are hard to ignore.

Titebond® III outperforms polyurethane glues.

As the leader in wood glues, we want you to know the truth about polyurethane glue and woodworking. A straightforward comparison between Titebond® III Ultimate Wood Glue and polyurethane glue tells the story.

Titebond® III is THE ultimate choice for bonding wood to wood. Period.

www.titebond.com/TBIIIvsPolyurethane

Made in the USA

50 years of expert advice

In 1964, a small group of 122 independent hardware dealers from Ontario (and two from Quebec), joined forces in an ambitious move. Motivated by the challenges of a rapidly shifting retail landscape, the dealers were guided by the wisdom and foresight of Walter Hachborn who, with Henry Sittler and Art Zilliax, owned Hollinger Hardware, a small hardware wholesaler in southern Ontario. Collectively, this group was reborn as Home Hardware Stores Limited. The new company was built on the co-operative principles of shared resources and equal access, making it possible for its Dealer-Members to remain local hardware stores in their small to mid-sized communities yet finally possess the clout to compete with the large "box" stores that were posing such a threat.

Fifty years later the company has grown to span every province and territory of our vast country, with over a thousand stores and more than five billion dollars in annual collective retail sales. Its sophisticated systems and services have allowed it to compete, prosper and prevail.

Of its many achievements, one of the most remarkable is that, in the process of becoming a truly national retailer at the corporate level, every Home Hardware store, regardless of its banner, size or location, still embodies the values and qualities of the traditional, local hardware store, with a unique personality perfectly suited to its community.

We are so very proud, and honoured, that you allowed us to be a part our your Home.

CELEBRATING • CÉLÉBRONS 50 1964 2014

Thank You!