



NEWSLETTER

www.emgw.org

January 2008

From the Editor

By Chris Kovacs

Inside This Issue

- 1 From the Editor
- 2 Furniture Group
- 3 Sharpening with Diamonds
- 4 Ripping Accident
- 5 Square, Slotted, Pozi, Philips and More
- 6 The Next Meeting

As you know, we are well into our 2007-2008 year of meetings and I hope everyone has had the opportunity to attend at least one of our fine meetings. We have had three great meetings and a fun day building toy blocks. For those of you who donated your Saturday to building blocks (thousands it seemed) thank you. A special thanks need to go out to Jack Murphy and John Nitzsche for spear heading the Box of Blocks projects. At the end of the day, twenty sets of toy block were made for the Clinton Early Childhood Resource Center to be distributed to children in the community. Thanks should also be extended to Maggie Wood for donating the maple for the blocks and to North Pacific Lumber



in Concord, NH for donating the Baltic birch plywood for the boxes. In the end, the cost to the Guild was very close to zero. The generous donations received means there is more money in the Guild's pocket that can be used to invite paid speakers to present their wisdom to the group. Thanks again to those who donated their time, materials and expertise helping to produce another successful Guild event. For more information and to see some pictures from Jack Murphy's shop and the recipients of the Boxes of Blocks, visit www.emgw.org. If you know of a

worthy organization that could benefit from our contributions, please let a member of the Executive Committee know.

As we continue through the winter months, we have several excellent meetings planned. In January we visited the Old Schwamb Mill and in February we have planned meeting with Phil Lowe whom many may know from his extensive writing for Fine Woodworking.



Furniture Group

By Frank Woolley

For those who are especially interested in furniture making, this special interest subgroup meets year-round on the third Tuesday evening of each month. We meet in members' shops or homes, in a small group setting in which every member both learns and teaches about furniture making. The group continues to expand – there are now about 20 who sometimes attend, with each meeting including about 8-12 members. Our regular agenda is an update on progress on our own projects, with questions and suggestions from the group. Sometimes one of us gives a short tutorial on some problem and its solution, but very often someone poses a woodworking problem, triggering a flood of suggestions and ideas. Please see the page on our website for more details on our meetings and schedule. If you wish to attend, please contact the host of the meeting so he will know how many to expect.

Sharpening with Diamonds

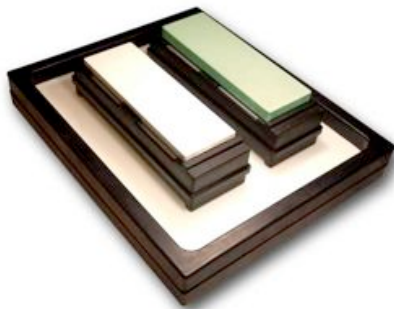
By Frank Woolley

Everyone has their own sharpening system, usually optimized over their woodworking career to provide just the edges they expect with as little time and money spent on it as possible. And every system I have heard about is different. I conclude that there are many ways to skin that cat, and many different approaches work well enough. But I would like to tell you about the abrupt change (for the better) that I have made in my own sharpening of plane irons and chisels, with the hope that it might be useful to you as well. (Sharpening carving and turning tools is another subject.)



Like many of you, I was taught to sharpen my chisels, plane irons, card scrapers and carving tools on oilstones. I had progressed from the two-sided silicon carbide stones suitable for garden tools to fine Arkansas bench stones, and thought I had found the perfect sharpening oils. I had prepared a variety of wood wedges and jigs to hold various tools at the best angle while grinding and honing. I was pretty proud of my razor-edged tools with their highly polished edges. But the oilstones did take an awfully long time to produce the edges I thought I needed.

Chris Kovacs' presentation on sharpening at the September 2004 EMGW meeting started me thinking about how much faster it might be to sharpen with the new Japanese waterstones, but the frequent need to flatten the stones and the inconvenience of having to soak the stones before use put me off.



Then two events changed my whole approach to sharpening. In early April 2005, I had the opportunity to visit Bill Thomas in his shop in Rindge, NH. Bill graduated from the North Bennet Street School furniture program in 1979, became a professional furniture maker, and is now a member of the NH Furniture Masters Association. He was sharpening with waterstones, but had found that he needed to go no finer than 800 grit to produce a satisfactory edge. He pointed out that the condition of the edge just after sharpening is not as important as its condition just before you sharpen it again. After all, Murphy's Law says that the work you do with your blade at its dullest is likely to become the most noticeable part of the piece. Bill had decided that

the time he saved by not polishing the edge on finer stones could be better used to re-sharpen more often. He thought that the ease of re-sharpening was at least as important as the actual sharpness of the edge produced. The easier it is to re-sharpen, the sooner he would decide to interrupt his work to get a better edge.

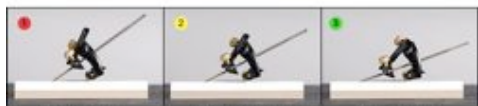
The second event occurred just two days later, when EMGW toured the Diamond Machining Technology (DMT) factory in Marlborough. There I learned from DMT's founder and its technical director that the life of monocrystalline diamond stones treated with some care should be very long, and the stones stay flat. With a thin plastic sheet on the stone to protect the roller, they can be used with a roller-type honing guide to hold a consistent angle. Their finest stone uses 9 micrometer diamonds, about twice as fine as the



grit in an 800 mesh Japanese water stone. I came away convinced that this was a technology worth trying.

So I bought some DMT diamond stones from Lee Valley, along with the Veritas honing guide that holds the blade at a precise and repeatable angle. They have an eccentric roller adjustment that also allows precise micro bevel angles. I started using them in May 2005 and have never gone back to my oilstones. Their original honing guide was a little tricky to set to the correct angle, but their more recent Mk. II guide has solved that problem nicely.

My present system for plane irons and chisels has three steps: 1) First I use a dry grinder to remove excess metal behind the edge at a slightly lower angle than the angle I have chosen for the primary bevel. A grinding jig holds the blade at a



blade was obviously in bad need of re-sharpening. This system has met those goals. The time saved is partly from the inherent low maintenance of diamond stones, partly from elimination of time wasted trying to relocate the correct honing angle, and partly from accepting the fact that an unpolished edge can cut as well as a mirror-like edge.

After honing on the extra-fine diamond, the micro bevel can be polished on an Arkansas oil stone or a hard ceramic stone, but I have not seen enough difference in performance to justify the extra time for chisels and plane irons. I suspect that a polished edge would stay sharp longer, but I believe the time saved in less frequent sharpening would be less than the time required to polish.

For carving tools I still use a variety of wood wedges as angle guides while honing on diamond stones, and I polish on wet-dry papers up to 2000 mesh. I am still looking for better ways to be able to reset the honing angle for carving tools, and would appreciate your suggestions.



Ripping Accident

By John Nitzsche

Charly DiAntonion had an accident while cutting a strip of oak on his Makita model 2703 contractors table saw. He suffered severe flesh wounds on his right hand; fortunately, his doctors have assured him of a full recovery.

This strip of oak being cut had been dadoed to form it into a piece with the cross-section resembling the capital letter H. The H was lying on its side, and was being cut through the center of the crossbeam of the H. On its side, the piece was three quarters of an inch high; the distance between the blade and the fence was one inch. The part that was being cut off was about a quarter of an inch, and, since it was hollowed out with the dado, it had very little structural integrity.

The saw fence was modified with the addition of a five-inch high auxiliary wooden fence. As can be seen in the figure, the push stick was only slightly higher than this auxiliary fence. This situation resulted in the hand holding the push stick and the fence simultaneously. The hand slid along the fence during cutting.



The close-up image shows that the blade cut into the push stick. This presumably happened because the top of the push stick was inadvertently pushed into and over the auxiliary fence resulting in the bottom of the stick sliding away from the fence. This caused the push stick to be thrown across the room. Simultaneously, the cut off piece of oak was shattered by the blade, and some of its pieces severely cut Charley's hand. The rim of the blade is calculated to have been traveling at a speed of two hundred feet per second, so it's easy to understand why this was described as an explosive event.

This event shows that cutting small pieces can be as dangerous as large pieces. The use of push sticks requires full access and control over them. This was not the case here. Many fences have an alternate position that presents a short fence to the work piece, providing complete access and visibility.

Another problem in this case was the fragility of the cutoff. It is not clear whether perfect use of the push stick and/or featherboards would have prevented the cutoff from shattering if there had been severe internal stresses in the oak, causing it to pinch the blade.

Square, Slotted, Pozi, Philips and More

By Chris Kovacs

From the title I hope you have deduced that this is an essay on the simple yet extremely important screw. How many different kinds have you collected over the years? Square, Slotted, Pozi, Philips? Which do you prefer? Black oxide, zinc or stainless? To wax or not to wax? What size pilot hole? What is the best screw? These are all many questions that you face on a daily basis when trying to decide which screw to use in which application. The answer depends on quite a few variables and no one screw or type of screw is the answer to all of your screw requirements. We all, I am sure have more screws lying around in various containers than we'd like to think about. Depending on the work you do in your workshop or around your house, you will need a vast array of screws. Take my shop for instance. I build custom cabinets, kitchens, offices, bathrooms, interior and exterior millwork and much more. I keep on hand more than 100 different screws in quantities of 100 to



3000 depending on the use. These are the screws I use on a regular basis, not the countless and rarely used screws that seem to pile up in coffee cans and baby food jars. I carry this kind of inventory because it is never fun to stare at a wall of screw bins and see an empty bin and know that it used to hold the screw I need. My collection of screws range from the workhorse screws (#8 flat head square drive) to the more dedicated screw that is only used to attach Blum locking clips to the under side of drawer boxes (#6 X 1/2" combo pan head course thread screw).



So what type of screws should be in your shop? I highly recommend McFeeley's square drive screws. These are excellent screws and in all of the years I have been using square drive screws I cannot recall ever stripping the head on one. The only Philips head screws in my shop are #6 X 5/8 auger point (self-drilling) zinc plated screws for attaching drawer glides and other hardware. The #8 flat head screw is the equivalent to your standard black drywall screw that you find everywhere. However, McFeeley's #8 has a thicker shank than a drywall screw and you will be hard pressed to snap the head off and the square drive will make it easy to drive the screw. I buy various lengths of the #8 screw in 1000 count boxes.

I also use a wide variety of specialty screws for constructing cabinets. I use pocket screws all the time for joining plywood parts. I prefer the washer head, square drive screw for pocket screw applications, as they are less likely to drive too deep into the pocket. When I have to work with particleboard core material, I use Confirmat screws. These are long dowel like screws that have deep threads and require a special pilot bit that removes precise amounts of material so the

Confirmat screw will not split the fragile particleboard core. Since I work with a lot of European manufactured hardware, I have to keep a selection of European screws on hand (top screw shown on the previous page). These all have Pozi drive heads that are similar to Philips although they grab better. Be sure to have Pozi drive bits and screwdrivers, as Philips drive bits do not hold well in Pozi drive screws.

High-end furniture often has solid brass hinges and screws. The traditional screw in this application is a flat head, slotted screw. These screws notoriously strip easily and it is also not uncommon to snap the head off of a solid brass screw. When you need to use these screws special care must be taken. The key to success when installing brass screws into hinge leaves is to start with a proper sized pilot hole drilled with a **self-centering** bit. Next, drive a steel screw with the same thread pattern and length as the brass screw. I usually put wax on this screw to lubricate the thread. When you drive the brass screw, dip the threads in wax and use a hand held screwdriver or a cordless screw gun with the clutch set to the lowest setting. Be sure to clean any wax that gets onto the unfinished wood using mineral spirits. Remember to not over tighten these screws as the heads can snap easily.

Here are some other tricks I use when driving screws: If you are screwing two pieces of very hard wood (maple for instance) together be sure your pilot hole is sized properly and completely passes through your first piece and into the second piece. Ideally, the pilot hole in the first piece should be same diameter as the shank of the screw. I will then drill a small counter sink on the bottom side of the first piece. This creates a small relief area between the two pieces of wood. When the screw is driven in, any wood fibers that are forced up by the screw passing into the second piece will not push the two boards apart. Another way to keep the pieces of wood from being driven apart by the threads is to use screws that have no threads on the upper part of the shank. McFeeley's sells this type of screw in varying lengths and sizes.

For driving screws, I have recently discovered the small, palm sized screwdrivers with lithium ion batteries are great tools. They are small, light weight, comfortable to hold and have a lot of torque for a small sized tool. Unlike regular batteries that slowly loose power the lithium ion batteries last a long time and give full power right up to the moment they need recharging. When I need to drive a lot of screws, I use air driven screw guns. Another very nice tool for driving screws is a cordless impact driver. These high torque drivers can easily drive a four-inch screw with no pilot hole. They are fast, powerful and can easily snap the head off of any screw so care should be taken when using them.

When I have to position a screw precisely, but do not need a pilot hole, I often use an automatic self-centering punch (Starrett tools) to leave a small depression to keep the screw from wandering. I find using the punch particular useful when driving small #6 X 5/8 screws for drawer slides or other hardware.

To store your vast collection of screws, I like to use tip out bins. They are clear and easily accessible and keep your screws well organized. They come in various sizes and the sets can be stacked on top of each other or mounted to the wall. The bins can be removed to bring your screws to your work. I use a set of nine small bins for storing all the different kind of drive bits needed for the different screws I stock. Finally, remember that screws are like mini clamps and just like clamps, you can never have too many.



The Next Meeting

**Saturday February 9, 2008 Furniture Institute of Massachusetts
116 Water Street, Beverly, MA 01915**

Phil Lowe, founder of the Furniture Institute of Massachusetts will explain and demonstrate some of the fundamentals of hand woodworking for fine furniture. He will cover topics including precise layout, use of reference surfaces, fitting miters by hand and the mortise and tenon joint.

Directions and map can be found at the link on www.emgw.org.



Joe Aeillo and one of his many ingenious devices; a coping machine for cope and stick doors



Another satisfied customer.

Membership

If you would like further information about the Eastern Massachusetts Guild of Woodworkers, please email Phyllis Jaffee at pgjaffee@29designs.com. Yearly dues are \$40 and payable each September.

Officers and Board Members

President:	Frank Woolley	frankwoolley@hotmail.com
Vice President	John Nitzsche	jknitz@comcast.net
Secretary	Jack Murphy	Jack.Murphy@Monotypemaging.com
Treasurer	Peter Wilcox	snowmole@yahoo.com
Board	Chris Kovacs	cdkovacs@charter.net
	Phyllis Jaffee	pgjaffee@29designs.com
	Tom Fama	engsols@comcast.net
	Pat Everett	
	Bill Karp	karpwoodworks@verizon.net
Webmaster:	John Nitzsche	jknitz@comcast.net
Newsletter editor	Chris Kovacs	cdkovacs@charter.net



Schedule

What:

Hand tools and fine
woodworking

Coloring wood

Design elements

Veneering and vacuum
bagging

Guild Picnic (rain free
hopefully)

Where:

Phil Lowe, Beverly MA

Bob Judd, Dedham, MA

Jonathan Marks

Frank Woolley and
others

Tom Fama

When:

February 9,
2008

March 8

April 12

May 10

June 14

FEBRUARY 2008

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	

MARCH 2008

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

APRIL 2008

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

MAY 2008

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31