

# The Turning Point

## INSIDE THIS ISSUE:

President's Report	2
Executive & Committees	3
January Meeting	7
Monthly Meeting Calendar	10
February Meeting	11
Catenary Arch	12
Big Ash Tuesday	15
Five Star Rated Finishes	19
How-To: Beeswax Finish	21
Shavings	23
Your Guild Executive	25

**Nova Woodturners'  
Annual Competition  
Jan. 30<sup>th</sup> – Feb. 11<sup>th</sup>  
with the  
Award Ceremony  
On February 11th**

**Deadline To Pickup  
Your Entry At  
Lee Valley  
February 18, 2010**

**NWG Annual  
Fun Turn  
Pieces Are Due  
March 19th**



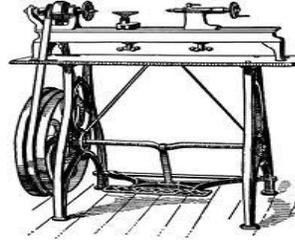
**The Next NWG Meeting is February 11th**

**The next meeting of the Nova Woodturners' Guild is  
February 11th at Lee Valley at 1:00pm  
Go to page 11 for more info on the meeting topic!**

*Happy  
Valentine's  
Day*

## From The President's Workshop

Don Moore



My article this month is a follow up to Lieutenant Dan's "Woodturning Safety". He never mentioned this aspect, so I will.

I decided to go over to my good friend Zalman's, as he has offered me the use of his shop anytime I need it. Upon arriving I grasped my tool pouch and my mind was occupied with the project. Here is where the weather conditions enter into "Safety". We had received freezing rain over night, not the gnarly type but that satin smooth type, plus a "sifted flour" type of snow lightly covering the ice. All of the above were neatly applied to some recently installed Granite steps heading "downhill" to the shop.

As I placed my first "sneaker clad" foot on the first step is when I became aware of seeing both of my feet being projectiled skyward. There was an immediate distress call to the brain from various parts of my body asking for confirmation that all was still in order, this is when the "ABORT" signal sounded. However we were surly passed this point, as my eyes now saw that my calves, knees and legs had joined this lift-off. My arms are now flailing helplessly in a futile attempt to fly I'm sure. My right hand securely grasped my Chisel Pouch, so as not to ruin the keen edge on them. At this point my torso does a 180 to the right and a blood-curdling cry escaped from my mouth begging my arms to come before my face and protect it from the assumed to arrive "crash-landing".

This is where I want to remind you about "the recently installed granite steps. No landscaping had yet been done, resulting in lots of rocks and stones, various pieces of now solidly frozen shards of sod. The stones and rocks would be hard enough at any given time of the year, however given that they now lay on a very unforgiving frozen base, they are now even of more concern to my eyes. My brain was queried again as to its state of mind and if there was any plan as to the eventual landing coming up. The brain sent out the signal "every body part for itself", now this is not very reassuring given the hostile landing area. My right knee stepped forward to absorb the major portion of the impact, followed immediately by my right elbow, forearm and hand, that was still tightly clasping my chisel pouch. Suddenly my brain was flooded with an overload of "pain signals" from very concerned body parts. The brain is screaming back to let it think and my ass said if you had of been thinking in the first place, none of the rest of us would be screaming at you now . . .

Turning was now out of the question, the question was "Hobble to the hospital or hobble home and pray to the "Pain Gods" to show mercy on this weary woodturner. Once I arrived home and got the bleeding stopped I stepped in a tub of hot water with a glass of liquid from the "Spirit Gods".

Please add this to your "safety list" and wear "Boots" in the winter. And by the way, as I'm sure what concerns most of you, yes, all of the chisels kept their keen edge...

Keep your bevel rubbing,  
Don

*"Please add this to  
your "safety list"  
and wear "Boots"  
in the winter!"*

## American Association of Woodturners News

Because of a heavy travel schedule there is no Vice-President's report this month. In light of our recent decision to become an AAW Chapter, in its place we'll present a copy of a recent email sent to all American Association of Woodturners (AWA) members from President Dale Larsen:

Last October, the AAW Board discovered that we needed to file new paperwork with the Internal Revenue Service in order to bring our organization into full compliance with our 501(c)(3) nonprofit status. Over the last three months, we have worked closely with our attorney to complete this process.

Let me explain why we are doing this by starting with a little history. AAW was originally incorporated in Texas. The Texas AAW corporation applied for and received 501(c)(3) nonprofit status from the IRS. In 1990, the AAW moved to Minnesota and incorporated there. In October of 2011, we learned that the IRS designation didn't automatically transfer from Texas to the new Minnesota corporation in 1990. IRS rules do not allow the current AAW to go back now and transfer our original tax-exempt designation to the current AAW.

I am happy to report that the AAW has been granted new 501(c)(3) status as a new corporation in the state of Minnesota. The IRS expedited our request and on January 13, 2012, approved the new corporation's 501(c)(3) nonprofit status dating from November 14, 2011.

Now we need your help. Minnesota requires that our membership vote to approve a merger of the existing AAW into the new AAW corporation. In order to complete this process, we will be asking all AAW members to vote in favor of this action no later than February 23rd, 2012.

The Board is asking for your yes vote because Minnesota requires that at least at least 10 percent of our membership vote and that a majority of those voters vote to approve for the merger to go forward. Our 501(c)(3) status allows us to receive tax-deductible donations from individuals, as well as certain corporation, foundation and government funding, and to qualify for exemptions from some taxes and fees that AAW would otherwise have to pay. Please take the time to vote yes.

You can view the merger plan here -  
<http://www.woodturner.org/info/PlanOfMerger/PlanOfMerger.pdf>

A link to vote will be sent to each member via email. The voting period will be 30 days starting January 25th, 2012. We have sent out paper ballots to our members who do not have e-mail addresses.

If anyone has further questions about this issue, please feel free to contact me or another member of the Board.

Thank you for your continued support of AAW as we make this transition.

Sincerely,

*Dale Larson*  
President  
American Association of Woodturners

If you are an AWA member and you have not voted yet, please do. This is an important issue.

## The Secretary's Quill

Ted Monk

An email that I sent out to the Guild membership recently gave me cause for alarm. It was supposed to include an attachment but it didn't. While, on one hand, I was happy to only receive a half dozen replies reminding me of this oversight, on the other hand, I was concerned that a large portion of the membership did not receive this email, or worse, did not read it. (I'm hoping that those that didn't reply simply assumed that I would realize this faux pas and would quickly resend the attachment.)

*"Please check to ensure that you are receiving emails from me!"*

I also receive a lot of emails asking me questions that were already answered in a previous email notice, update or newsletter.

So just to be on the safe side I want to ensure that everyone receives these Guild updates and notices.

Please check to see that you have my email address, [tedmonk@gmail.com](mailto:tedmonk@gmail.com), in your allowed email address list and that you are receiving these emails from me.

It is important that you receive and read these emails because they contain information about changes, updates, new items, reminders, etc. to Guild matters and events.

Likewise, it is important that you keep me updated on any changes to your email address.

Keep yourself in the loop! 😊

## The Editor's Desk

Ted Monk

Well, I believe we pulled it off! With the February meeting a week early, Events Committee duties and the Michael Hosaluk demos it was questionable at times what the newsletter would look like. However, at 25 pages it's not too shabby. ;) Thanks to everyone for your early submissions, it really helped.

This month we have the Executive and Committee reports and updates, the minutes for the January meeting, a treatise on the catenary arch by Alan Hunt, an article on scoring a large Ash tree, info on a slew of finishes, a how-to on making your own beeswax finish and a whole lot more!

As we have mentioned before we're always on the lookout for how-to articles. Please take some photos and jot down a few notes of your next project and send them in. Even in their simplicity there's always something that be gleaned by such articles.

For a new section we mentioned last month, we would also like to see photos of your finished projects. Send along a photo or two with some info about the piece; wood type, size, finish used, etc. and we'll start a section to complement our meeting Show & Tell.

As always, we would appreciate your articles in as soon as possible, the earlier the better. It really helps on the setup and layout.

**The deadline for submissions for the March issue is March 1st, 2012**

## Financial Report

Dan Graham

Financial Statement as of December 31 2011

As of December 31st the accounts of the NWG were as follows:

Cheqing: \$3777.32

Savings: \$2098.76

Total: \$5876.08.

In January the NWG is holding its Annual Competition and the Michael Hosuluk demonstration, both of which will have costs associated with them. However, we are in good shape and hopefully all members will participate in one or both of these events. See you at the competition!

NWG Treasury  
Dan Graham

## Events Committee Report

Robert Atkinson

As I write this there are only three more days before the deadline for submitting pieces for our Competition. The Ash burl that was going to be a wonderful piece for our Competition is now going to provide BTU's for the workshop. However, before going in the stove I did cut it in half to check out the continuity of the wall thickness and the quality of the glue joint to the scrap block. I'm not sure why these disastrous catches always come on that last cut when you want to make the piece the best it can be.

Our three judges for this year's competition are Steven Kennard, Stephen Zwerling and Lillian Yuen. While the first two names are quite familiar to the Guild, Lillian is a new one. She teaches jewelry making at NSCAD, has a background in working with metal and is excited to be involved in judging our entries. Dan Graham and I met with her last week and showed her samples of what she could expect as entries for the competition. We discussed different things she could look for with wood as a medium as opposed to metal and I look forward to her comments, especially in the area of design.

The Guild has a wonderful opportunity with our booth during the Competition to raise the profile of our Guild to the public. My last update from Gary Landry (Membership Committee) shows we still have a number of times that the booth isn't staffed. If you are able to help with this, please contact Gary at [landrys@eastlink.ca](mailto:landrys@eastlink.ca).

With regard to our demo with Michael Hosuluk on Sunday the 5th of February at Stephen Zwerlings, there are still spots available. If you are interested please contact Dan Graham at [djgraham@ns.sympatico.ca](mailto:djgraham@ns.sympatico.ca).

When the Events Committee carefully open the many boxes on Monday the 30th of January, there is an almost Christmas-like atmosphere as the many treasures are unveiled. I look forward to seeing all the entries at this year's Competition.

Robert Atkinson  
Events Committee Chairman

*"Our three judges for this year's competition are Steven Kennard, Stephen Zwerling and Lillian Yuen."*

## Library Report – Books &amp; Videos

Richard Ford

**Here is the list of books and videos due to be returned at the next meeting:**

DATE	NAME	ID #	DESCRIPTION
19. Apr. 2010	Alan Hunt	60VJ	Turning Wood with Richard Raffan
21. Nov. 2011	Don Campbell	3BU	Unique & Unusual Pens - Dick Sing
16. Jan. 2012	Doug McGuire	93BQ	Beneath The Bark 25 Years of Woodturning – Kip W. Christensen
16. Jan. 2012	Gary Landry	68VT	Turning Boxes with Chris Stott.
16. Jan. 2012	Gary Landry	78VF	The Basic Box -- Turned Boxes by Ray Key
16. Jan. 2012	Gary Landry	80VH	The Finial Box -- Turned Boxes by Ray Key
16. Jan. 2012	Gary Landry	86BH	Woodturning: Two Books in One - Phil Irons
16. Jan. 2012	Ian Scott	69BP	Turning Pens and Pencils - Kip Christensen & Rex Burningham
16. Jan. 2012	Peter Nicholl	30BX	Woodturning A Fresh Approach - Robert Chapman
16. Jan. 2012	Peter Nicholl	32BZ	American Woodturner's Techniques and Projects - (AAW 93-95)
16. Jan. 2012	Peter Nicholl	55BZ	Illustrated Woodturning Techniques - John Hunnex
16. Jan. 2012	Peter Nicholl	76BX	The Woodturners' Workbook - Ray Key
16. Jan. 2012	Peter Nicholl	77BY	Woodturning Forms and Materials - John Hunnex
16. Jan. 2012	Peter Nicholl	83BE	Woodturning A Source Book Of Shapes – John hunnex
17. Oct. 2011	Robert Atkinson	64BJ	Turned Boxes 50 designs - Chris Stott
21. Nov. 2011	Russell Parrott	44VQ	Bowl Turning - John Jordan
21. Nov. 2011	Russell Parrott	61BF	Small and Exciting Woodturning Projects – James A. Jacobson
21. Nov. 2011	Russell Parrott	77VE	Hollow Forms and Urns – A Workshop by Mike Mahoney

The February meeting of the Nova Woodturners' Guild is on

**February 11<sup>th</sup> at Lee Valley at 1:00pm**

And not on the usual 3<sup>rd</sup> Monday of the month. Mark your calendar now! ☺

**The NWG Annual Fun Turn  
Pieces Are Due Next Month  
At The March 19<sup>th</sup> Meeting!**

For more info on the Fun Turn go to Page 16 of the February 2011 issue!

## The January 2012 Meeting – Shop Safety / Pens 102

Tonight's meeting was another one of those "two, two mints in one" type of meetings. First, we had Dan Graham educating us with some great tips on safety in the woodturner's workshop and then we had Ian Scott filling our heads with all kinds of ideas on how to make alternative pen designs. In addition, we had a short Show & Tell and a great Raffle drawing and the Business Session was highlighted by a call for a Special Meeting to put becoming a Chapter of the American Association of Woodturners to a vote.

Dan started his presentation with a bit of humour but then quickly made us aware of the seriousness of the subject of woodturning safety by reminding us of Joan Kelly, a woodturner who recently was killed by a piece of wood that shattered while turning.

With the attentiveness that this sombre note brought to the membership Dan began to give an extensive overview of the proper clothing, footwear and safety equipment to wear in the shop, the danger that long hair length, dangling jewelry, etc. pose, the necessity of proper eye protection, the evils of wood dust and its toxicity, shop noise levels, our physical fitness, the use, lack of use, of guards, proper turning speeds, checking the work piece for cracks, etc. before beginning to turn, the proper adjustment of the tool rest, polishing issues, dig ins and catches, the use of correct tools, other shop machinery, clear floor space and fire.

He then continued with a review of various pieces of safety equipment available including faceshields, hearing protection, air-filtered systems, gloves, chainsaw pants, steel-toed boots and more.

Safety, anywhere but especially in the shop, is a very serious matter and one that is often overlooked. Dan's question, "What approach do we use in our shops, is it merely lip service or do we make safety a priority?" demands to be answered by each of us, and often.

Thanks, Dan, for reminding us that safety in the shop is something that we must always think about, seriously.

Ian's presentation was a follow up to his up his 'Introduction To Pen Turning' demonstration that he did in May of last year. He focused on a wide variety of alternative styles that one can do with the Slimline pen kit.

Using a great array of samples Ian showed us how making your own center bands changes the look dramatically and adds a lot to the look of the pen. He showed how just a simple thing such as a few wire-burned rings near the pen nib can not only add a lot to the pen's appearance but doubles as a great finger grip. He also showed how the traditional shape of the Slimline can easily be changed by adding beads and turning the barrels larger.

Thanks, Ian, for showing us that with just this one style of pen kit the variety of pens that can be made is virtually limited only by our imagination. Great job!

Guild Vice-President opened the meeting, welcoming everyone to tonight's meeting. She was followed by Events Committee Chairman, Robert Atkinson, who spoke on our upcoming Annual Competition.

Robert reviewed the Competition rules and gave an explanation of the required forms. He reminded us of the need to package our pieces properly to minimize any damage. He also emphasized that those who plan to do turning at the Lee Valley booth must wear a faceshield.

It was noted that Guild President Don Moore will donate a sharpening jig for the grinder. It was also mentioned that there are membership signup sheets for staffing the booth at Lee Valley available.

## The January 2012 Meeting

*...continued*

Past-president and sole member of our prize acquisition team, Bill Luther, spoke on the status of prizes for the Competition, assuring us that there has been a good response this year. He was quick to remind us once again that support the businesses that support us (see Page 6 of the March 2011 issue of The Turning Point for more on supporting our sponsors).

The highlight of the business portion of the meeting was the call for a Special Meeting regarding the Guild becoming a chapter of the American Association of Woodturners. Dianne Looker gave an in-depth overview of the benefits, the pros and the cons of such before calling for a vote. The result of which was 29 members voted for becoming a Chapter of the AAW and 2 members abstained. The motion passed. Bill Luther moved to adjourn special meeting.

The Show and Tell section had four members bringing in items to share. Gordon Marshall brought in a Pitch Pine bowl and a Purpleheart bowl, Ron Hazlett brought in a large Maple bowl with texturing, Dianne Looker brought in several pieces that she made during her Norway trip that included a salad bowl she made with help from Jimmy Clewes, a bowl that is still under construction that she began with the help of Richard Raffin, a bowl with texturing that she made with the help of Mark Baker, a small bowl with chatter work. She also brought in and gave out pieces of laminate for burning rings in projects and Richard Ford shared photos of a huge bowl that was made out of a Spruce burl.

Another tip for woodburning was brought forth which was to use potter's wire, the kind they use to cut their clay.

Raffle Master Norm Jolivet hosted another great raffle session with Bill Fisher winning a Lacewood block, Edmund Benoit winning a Sapele block, Lowell Jenkins winning a pen kit with pen blank and Richard Ford also winning a pen kit with pen blank.

There were 31 members in attendance with a new member, Ralph Kennedy, joining tonight.

### Here are some photos from tonight's meeting:



*Dan Graham*



*Safety Gear*

The January 2012 Meeting

...continued



Ian Scott



Fine Examples of Ian's Pens



Gordon Marshall



Ron Hazlett



Dianne Looker



Richard Ford

## NWG Meeting Calendar 2011-2012

Date	Subject	Location/Time
September 19, 2011	Multi-Axis Eccentric Turning - Don Moore Shape Challenge III Introduction - Dianne Looker Show & Tell	Kent Dartmouth 6:30-8:30
October 17, 2011	Bandsaw Epoxy Technique - Dianne Looker Show & Tell Fun Turn Wood Pickup	Kent Dartmouth 6:30-8:30
November 21, 2011	Stuart Taylor - Hollow Turning Show & Tell	Kent Dartmouth 6:30-8:30
December 12, 2011	Christmas Social Shape Challenge III Show & Tell Show & Tell	HFX Specialty Hardwoods 6:30-8:30
January 16, 2012	Woodturning Safety - Dan Graham Pen Turning 102 - Ian Scott Show & Tell	Kent Dartmouth 6:30-8:30
February 11, 2012	Annual Nova Woodturning Guild Competition	Lee Valley 1:00-5:00
March 19, 2012	The Annual NWG Fun Turn Competition Entries Show & Tell Show & Tell	Kent Dartmouth 6:30-8:30
April 16, 2012	Woodturning Techniques - Don Moore Shape Challenge IV Introduction - Dianne Looker Show & Tell	Kent Dartmouth 6:30-8:30
May 21, 2012	Texturing - Doug McGuire Show & Tell	Kent Dartmouth 6:30-8:30
June 18, 2012	Annual General Meeting Shape Challenge IV Show & Tell Show & Tell	Kent Dartmouth 6:30-8:30

More information on each meeting will be in the preceding month's newsletter.

### Important Dates

- February 11<sup>th</sup> – NWG Annual Competition Awards Ceremony
- March 19<sup>th</sup> – Annual Fun Turn Pieces are due
- June 8<sup>th</sup>-10<sup>th</sup> – American Association of Woodturners Annual Symposium in San Jose
- June 18<sup>th</sup> – Annual General Meeting

The February 2012 Meeting – February 11th

## The Nova Woodturners' Guild Annual Competition Awards

The Nova Woodturners' Guild Annual Competition Awards is the most popular meeting of the year. You don't want to miss this one!

The winners of the 2012 Annual Competition will be announced and trophies awarded. There will also be a prize draw for all of the 2012 Annual Competition participants!

Get there early to get a good seat!

***It's a fun time for all!***

**The February 11th, 2012 Guild meeting is at Lee Valley at 1:00pm**

Lee Valley is located at 100 Susie Lake Crescent in Bayers Lake Park  
A map is located here - <http://goo.gl/maps/qZRo>

**Please note that this is our February meeting. There is NO meeting on February 20th**

***It's going to be another great one. See you all there!***

# Catenary Arch

Alan Hunt

In my previous two articles I almost exhausted curve theory, with one exception. The Romans were great builders and took the arch to new heights (pun intended). In doing so they perfected the catenary arch, the strongest most stable arch needed to span any given distance and incidentally a good looking curve too!

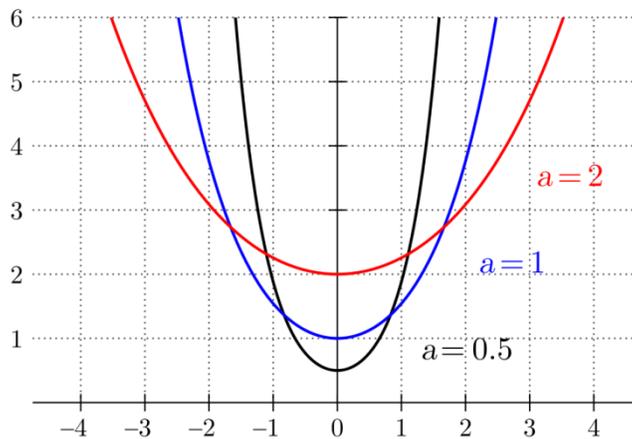
Catenary Curves/Arches (note St. Louis Gateway Arch opposite Figure 1)

Physically making a catenary arch is simple, hang a heavy chain or rope from two horizontal points and the shape of the rope/chain falls into will define a catenary arch, or curve. There are an infinite number of these curves existing between any two points and this fact explains why we as turners can just turn a bowl and have its shape come out OK. We managed to hit or come close enough to one of those many catenary arches. Strangely there are as many non-catenary arches or curves between those two horizontal points as there are catenary arches/curves – so our chances of blindly hitting a “right” curve are 50/50 – flip that penny, heads it’s a great one tails it’s a dud. Give yourself a few years of experience and I am guessing you hit a cat-arch almost every time?



Figure 2 shows three catenary arches each with its own unique two horizontal points and unique “a” parameter.

Figure 2 -- Three Catenary Arches



The equation used to describe ALL catenary arches in Cartesian space is;

$$y = a \cosh\left(\frac{x}{a}\right) = \frac{a}{2} \left( e^{x/a} + e^{-x/a} \right)$$

## Catenary Arch

...continued

where  $\cosh^1$  is the hyperbolic cosine function and it can be resolved by natural log functions in terms of  $e^1$ . In these equations "a" = is a parameter that describes how quickly the catenary arch opens up or in other words it describes how shallow or deep your bowl should be – the larger "a" is, the shallower is your bowl.

In the following worksheet I have 'programmed' the catenary function into Excel and used it to generate a bowl shape. By varying the parameter "a" I can make the bowl deeper or shallower, while maintaining its opening size and hyperbolic shape. You will note in the example below that I can determine the 'depth' of the bowl, by subtracting the height of the bowl "y<sup>1</sup>" at its greatest diameter (in this case a diameter of 16 inches – radius 8 x 2 – diameter 16). In this case for x=8, y<sup>1</sup> = 14.152. The actual height is determined by subtracting the height of y<sup>2</sup> at x=0, the bowls base and in this case it is y<sup>2</sup> = 4.3. The actual height of the bowl is (14.152 – 4.3) 9.85 inches.

The above is interesting math, but as far as turning goes it warrants a big yawn. I already confessed that with a bit of practice I could probably eyeball it and 'hit' a catenary curve. Why bother with all this, as a student once called it, "mumbo-jumbo"? This type of "math" thinking/planning appears most applicable for segmented turning, where all aspects of the finished work are planned and reflected in the initial cut list and individual pieces needed to glue up the blank.

What I can now do and what I couldn't do before -- is take a bowl of any desired diameter and calculate its shape (depth/quickness of diameter opening) needed to make that bowl correspond to the 'Golden Mean', or into a bowl that Fibonacci would be proud of. To achieve a phi bowl describing a catenary arch (cat-phi bowl) all I need is to take my Excel spreadsheet vary the parameter "a" until the ratio between diameter and depth (height) equals  $\Phi$ ! The worksheet below does this. From the bowl shape and size given below, it is a simple matter to determine cut-lists to create segments and rings that will be turned to the desired shape. This Excel system also allows for the creation of nested segmented ring bowls that are all to scale (larger and smaller scale versions of each other). I will be testing this hypothesis this summer when I will produce a series of bowls ranging from 36 inches in diameter down to 6 inches in diameter, all of which will be cat-phi bowls – that is scale replicas of each other! The wood for the segments will be 1.5+ inches in thickness for the largest bowl and decline in thickness to 3/8 of an inch by the time we get to the smallest bowl. Diameters will decrease by 4 inches between bowls BUT all bowls will maintain the same phi ratio and their curves should be parallel!

I can hardly wait to start!! And anyone with a **helpful** suggestion as to what I can do with a 36 inch bowl can tell me.

---

<sup>1</sup> In mathematics, **hyperbolic functions** are analogs of the ordinary trigonometric, or circular, functions. The basic hyperbolic functions are the **hyperbolic sine** "sinh" and the **hyperbolic cosine** "cosh" from which are derived the **hyperbolic tangent** "tanh", corresponding to the derived trigonometric functions. The inverse hyperbolic functions are the **area hyperbolic sine** "arsinh" (also called "asinh" or sometimes "arcsinh"). Just as the points (cos t, sin t) form a circle with a unit radius, the points (cosh t, sinh t) form the right half of the equilateral hyperbola. Hyperbolic functions occur in the solutions of some important linear differential equations, for example the equation defining a catenary, and Laplace's equation in Cartesian coordinates.

<sup>1</sup> E is mathematical constant used to explain the **natural logarithm which** is the logarithm to the base e, where e is an irrational and transcendental constant approximately equal to 2.718281828. The natural logarithm is generally written as  $\ln(x)$ ,  $\log_e(x)$  or sometimes, if the base of e is implicit, as simply  $\log(x)$ . The natural logarithm of a number x is the power to which e would have to be raised to equal x. For example,  $\ln(7.389\dots)$  is 2, because  $e^2=7.389\dots$ . The natural log of e itself ( $\ln(e)$ ) is 1 because  $e^1 = e$ , while the natural logarithm of 1 ( $\ln(1)$ ) is 0, since  $e^0 = 1$ .

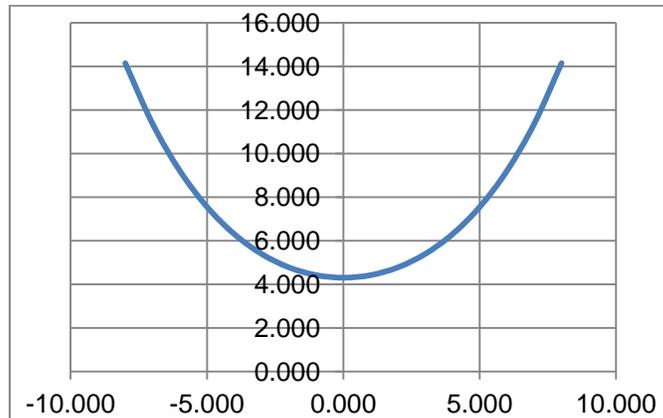
# Catenary Arch

...continued

Catenary Arch Worksheet.

a=	4.300	
x incrs =	1.000	
y	x	y
14.152	-8.000	14.152
11.373	-7.000	11.373
9.211	-6.000	9.211
7.550	-5.000	7.550
6.299	-4.000	6.299
5.390	-3.000	5.390
4.774	-2.000	4.774
4.417	-1.000	4.417
4.300	0.000	4.300
4.417	1.000	4.417
4.774	2.000	4.774
5.390	3.000	5.390
6.299	4.000	6.299
7.550	5.000	7.550
9.211	6.000	9.211
11.373	7.000	11.373
14.152	8.000	14.152

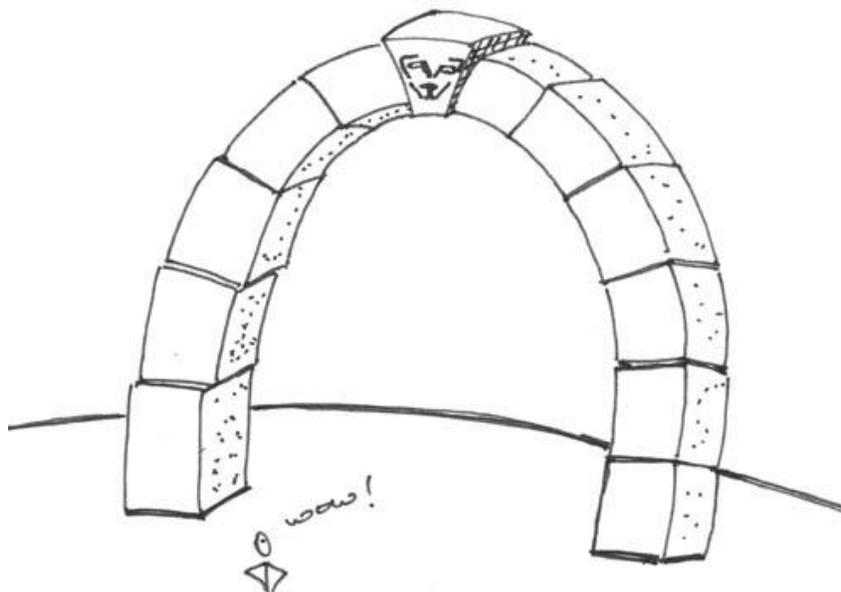
e= 2.718282



Note "a" is a parameter that determines how 'quickly' the bowl opens up

Golden Ratio Calculation = 1.624

Ideal GR Phi Ratio = 1.618



## Big Ash Tuesday

Ted Monk

Back in November the Events Committee held a meeting at Events Committee Chairman Robert Atkinson's place to further discuss the Annual Competition. It was attended by Robert, Don Moore, Gordon Marshall, Dan Graham and myself (unfortunately Peter Nicholl couldn't make it).

Following the meeting a delicious lunch of venison stew and fresh biscuits was served, followed by apple pie and ice cream for dessert. The venison stew was made from Dan's fall kill, I made the biscuits and the apple pie was baked by Robert. This was a hearty meal and everyone had their fill... and more.

Following lunch we all waddled out to our cars (Robert to his tractor) and drove a short distance to a location nearby where there was a large Ash tree that was waiting to be cut up. The tree was about 16" in diameter at the base and approximately 50 feet long.

The tree was brought down as part of a field expansion by a neighbour of Robert's and we were given the welcome to it.

The location of the tree was a fair distance across a muddy section which wasn't accessible by the tractor so we had to roll the logs. However, first we had to lay down a bed of branches to roll them on.

Once the tree was cut up into a half-dozen 8 foot lengths the logs were rolled across the muddy field on the branches that we laid. The logs were then transported back to Robert's via his tractor where we cut them up into more manageable sizes.

This was a bit of hard work but it was a great Guild day - a successful meeting, a delicious lunch (yep, it's still all about the food!) and some beautiful wood to take home!

***Here are a few photos:***



*Venison Stew and Biscuits*



*Apple Pie and Ice Cream*

Big Ash Tuesday

...continued



*The Standoff*



*Dan Sizing Up The Tree*



*Prepared For Battle*



*Robert Takes The First Strike*



*Just A Little Piece*



*Taking A Break*

Big Ash Tuesday

...continued



*Near The End*



*Ready For Loading*



*A Bridge Of Branches*



*About Three Gloves Wide*



*Workin' In A Muddy Mess*



*The Supervisor Is The One In The White Hat*

Big Ash Tuesday

...continued



*Happy Work*



*The Second Load*



*Cutting To Size*



*Beautiful Wood*



*Tasty Wood*



*Safety Geared*

## Five Star Rated Finishes

Gordon Marshall

Here is a list of 5 star rated finishes that I gleaned from a much larger news item off the "Woodworkers Institute" website. Members could use it as a rough guide to what may be the better finish for certain applications.

### Polyurethane:

**Deft Defthane Polyurethane** This is an oil-modified urethane varnish with alkyd resin that produces a durable, non-toxic finish when cured. Contains mineral spirits and naphtha. Time to recoat - 12 hours. Tested colour and sheen - Clear gloss, clear semi-gloss, clear satin. VOC = 450 g/l. Volatiles = 50%. The finish has been used on the USA Space Shuttles for more than 10 years. Liquid colour, clear light amber. \$21.50 litre at Lee Valley

**Deft Defthane Polyurethane (low VOC version)** is a high-solids oil-modified urethane varnish with alkyd resins (low VOC version) that produces a durable, non-toxic finish when cured. Contains mineral spirits and naphtha. Time to recoat - 12 hours. Tested colour and sheen - Clear gloss, clear semi-gloss, clear satin. VOC = 350 g/l. Volatiles = 37%. It too has been used on Space Shuttles for more than 10 years. Liquid colour, clear light amber.

### Tung Oil:

**General Finishes' Arm-R-Seal, Gloss** is a superb blend of tung oil, with alkyd and urethane resins that produces a high-gloss lustre. Contains Stoddard Solvent (mineral spirits). Time to recoat - four to six hours. Volatiles = 63%. Liquid colour, medium amber. \$14.99 quart at Woodcraft

**Lee Valley Polymerised Tung Oil Sealer** This superb thinned polymerised tung oil finish contains petroleum distillates (mineral spirits) to allow better first-coat penetration. When used by itself, it produces a rich satin-gloss lustre. Excellent for high-speed application. Time to recoat - eight to 24 hours. Liquid colour, clear amber. \$42.00 litre at Lee Valley

**Lee Valley Polymerised Tung Oil, High Lustre** is a magnificent polymerised tung oil finish that produces a rich high-gloss lustre. Contains petroleum distillates (mineral spirits). The finish produced is very provocative and sensual with excellent grain enhancement. Time to recoat - 8 to 24 hours. Liquid colour, clear amber. \$49.50 litre at Lee Valley

**Thompson and Formby Inc. (Minwax) - Formby's Tung Oil Finish, High Gloss, Low Gloss** is a superb tung-oil-based alkyd varnish blend, with other oils. Contains petroleum distillates (mineral spirits). Time to recoat - 8 to 10 hours. Volatiles = 76%. VOC = 550 g/l. Liquid colour, clear light amber.

**Waterlox - Antique Gloss Finish** is a high-build, tung oil, gloss-lustre finish, resistant to alcohol, fruit juices, milk, water and food acids. Contains Stoddard Solvent, naphtha and other solvents, synthetic copal and rosin-based resins. Time to recoat - 8 hours. Volatiles = 59.4%. Liquid colour, clear amber. \$34.99 quart at Woodcraft

## Five Star Rated Finishes

...continued

### Linseed Oil:

**Minwax Company Inc. - Minwax Antique Oil Finish, Natural** is a linseed alkyd resin-based wiping finish that dries very fast and produces a rich satin lustre. Time to recoat - 24 hours. Volatiles = 65% by weight. Contains Stoddard Solvent (mineral spirits). VOC = 550 g/l. Liquid colour, clear, medium amber.

**The Robson Family - Tried & True Danish Oil Finish** is a superb partially-polymerised pure linseed oil finish which produces a rich, warm, provocative, satin-gloss lustre. It is non-toxic and contains no petroleum distillates or heavy metal dryers. This finish is more viscous than traditional Danish oils and should be applied in very thin layers. Thinning is not recommended. Time to cure - 8 to 10 hours. VOC = 0 g/l. Liquid colour, clear light amber. \$16.90 litre at Lee Valley

**The Robson Family - Tried & True Varnish Oil** is a magnificent highly-polymerised, pure linseed oil finish, formulated for maximum build and lustre. Non-toxic, it contains no petroleum distillates or heavy metal dryers. It is extremely viscous and must be applied in very thin layers, which will produce a warm, provocative, gloss lustre. This finish produces one of the most sensual surfaces you will ever have the pleasure of touching. If thinning is desired, Robson's Danish oil is recommended. Any other solvent will adversely compromise the curing process. Time to recoat - 24 hours. VOC = 0 g/l. Liquid colour, clear light amber. \$30.80 litre at Lee Valley

### Salad Bowl Finish:

**General Finishes' Salad Bowl Finish** is a 'non-toxic-when-cured' finish that produces a satin lustre. Contains petroleum distillates. Time to recoat - six to 12 hours. Safe for food use after 72 hours and for use in the dishwasher, per the manufacturer. Volatiles = 68%. Liquid colour, clear light amber. \$16.50 quart at Woodcraft



## How-To: Beeswax Finish For Cheap

Ted Monk

I make my own beeswax finish that incorporates beeswax and mineral oil. This is a very straight forward process that creates a quality product at a very, very low cost.

I purchase the mineral oil at the grocery store in the pharmacy section and I get the beeswax from a local honey maker. The total cost for both was under \$3.00 giving a cost per ounce at roughly .24 cents. This is 1/10 of the cost for similar commercial products!

The recipe that I use is simple and it takes less than 15 minutes to make it. Here's the recipe that I used:

### Ingredients:

1 cup (240 ml) mineral oil  
2.5 ounces (71 g) beeswax

### Preparation:

Use a tall metal container or can and pour the mineral oil into it and add the beeswax. Melt over low heat just until the beeswax has completely dissolved, stirring as it melts. Once the mixture is blended, remove from heat. Allow to cool for a couple minutes so that it's not too hot for the glass jars, then pour into the glass jars and allow to finish cooling completely. Add the lid, label it, then store in a cool location.

These ingredient amounts resulted in a wax that though solid when cooled was soft and smooth. You can vary the amount of beeswax to give you either a softer or harder wax.

I use the smaller (4 oz.) size Mason jars because they are short with a wide mouth, allowing me to access right to the bottom. This recipe yields around 12 oz. and requires 3 of these jars.

Be careful when heating and blending the oil and beeswax, especially if using an open flame!

As you can see, there's not much to it. 😊 Here are some photos beginning with the ingredients:



*Beeswax and Mineral Oil*



*Melted, Blended and Poured*

## How-To: Beeswax Finish For Cheap

...continued



With a few simple ingredients and a few minutes I got enough beeswax finish to last me for quite some time, and all for under 3 bucks! 😊

I also make variations on this recipe by adding more amounts of mineral oil. By adding more mineral oil the finished product becomes a softer paste, which I like for other applications. Start with the above recipe and then experiment to get the consistency that you are looking for. You can always reheat and add more mineral oil until you get it right. 😊

I also spoke with several people that use a microwave oven for melting the wax and blending. Although I haven't tried it yet it sounds to be a lot safer than doing this over an open flame.

Try it and let me know how you make out.



## Shavings

### Andrew Furlong Donates Woodturning Book

Here's another belated acknowledgement - Andrew Furlong, Guild member Don Campbell's grandson, our young penturner, donated the book, "Connections - International Turning Exchange 1995-2005" to the Guild back on September 20th, 2010. This is a great book with lots of turning history. Thanks so much, Andrew!

### Steven Kennard Teaching In Maine

Lifetime Guild member, Steven Kennard, is teaching a week long workshop at the Center for Furniture Craftsmanship in Rockport, Maine. The workshop is titled 'Turned and Sculpted Boxes' and takes place August 13<sup>th</sup> - 17<sup>th</sup>. Those of us that have attended Steven's two day workshops know that five days can only be that much better! To find out more please go to <http://www.woodschoool.org/>

### And Speaking Of Maine...

At only an 8 hours drive away from Halifax, Maine is a great place for the woodworker, with lots of woodworking related shops and sites. Check out Guild member Ted Monk's blog where he writes about his visits:

- Center For Furniture Craftsmanship - <http://tinyurl.com/7o2hwwq>
- Lie-Nielsen Toolworks - <http://tinyurl.com/6tfv48f>
- The Ducktrap Bay Trading Company - <http://tinyurl.com/6mspdmo>
- Windsor Chairmakers - <http://tinyurl.com/6tlverc>
- Liberty Tool Company - <http://tinyurl.com/85ntt86>
- The Davistown Museum - <http://tinyurl.com/7hweaws>
- The Hull's Cove Tool Barn - <http://tinyurl.com/7mvd2xy>
- Captain Tinkham's Emporium - <http://tinyurl.com/7bea32t>

### Busy Bee Tools Winterlude

Check out Busy Bee on February 16<sup>th</sup> - 18<sup>th</sup> for three days of hot in-store pricing, door crashers, free giveaways and more! For more info please go to:

<http://www.busybeetools.com/pages/Winterlude>

### Woodturning On A 150hp Lathe

In case you missed it... here's Paul Moore, the Crazy Canadian Woodworker, of Stockroom Supply showing us how he does a bit of woodturning:

<http://tinyurl.com/88uyblt>

### A CA Glue Tip

Guild member Dan Graham recently had an occasion to use CA glue which required clamping. He found that it was recommended to place a piece of wax paper between the project and the clamp so that they would not stick together - it worked! So, the next time that you're using CA glue put some wax paper under your next project :)

### Annual Bird Count

If you have 15 minutes between Feb 17<sup>th</sup> and 20<sup>th</sup> and are going for a hike, have bird feeders in your yard or just see birds hanging out why not take part in the 2012 Great Backyard Bird Count? All you need to know is at the following web-site:

<http://tinyurl.com/86x4a4>

**Please get involved!**

*Do you have any 'Shavings' that you'd like to share? How about a cool woodturning website or video that you found? Perhaps you have something for sale that the other Guild members would be interested in? How about a humorous anecdote or a turning tip? If you do, please send them along to [tedmonk@gmail.com](mailto:tedmonk@gmail.com)*

## The Turning Point

*“The Turning Point is  
YOUR newsletter. Its  
success depends on  
YOU”*

The purpose of the Official Journal of the Nova Woodturners' Guild is to keep you updated on the various aspects of the Guild, to announce upcoming meetings and to keep record of past meetings. In addition, and more importantly, its purpose is as a vehicle to share information among the Guild members.

It is through the sharing of information and ideas that the true benefit of being a Guild member is determined.

This newsletter gives the opportunity for you to do that.

Please submit articles, how-to's, photos, humour, interesting tidbits, reviews, items for sale, items wanted, helpful jigs that you've made, thoughts, ideas, observations, websites, videos and anything else related to woodturning.

We need your input to make The Turning Point a success.

Don't worry if you don't consider yourself a 'writer'. This is not about how great you can write (look what we're getting away with! ☺), it's about getting the information out there. Type it as you speak it. If it needs editing we can edit it for you. No submission is too large or too small. We'll take it all! ☺

Please send your submissions to Ted Monk at [tedmonk@gmail.com](mailto:tedmonk@gmail.com)

**The deadline for submissions for the March issue is March 1st, 2012**

*Sharing is what a guild is all about!*

**Ensure that you continue to receive the newsletter by  
keeping us updated with your email address!  
Please send any changes to [tedmonk@gmail.com](mailto:tedmonk@gmail.com)**

**Don't Forget - We're On The Web!**

**The Nova Woodturners' Guild website is a great  
place to connect between meetings!**

**It offers message forums, a member photo  
gallery, hints and tips, links and more!**

**<http://novawoodturnersguild.com>**

## Your 2011-2012 Guild Executive

**President:** Don Moore

[moorewood1@gmail.com](mailto:moorewood1@gmail.com)

**Vice President:** Dianne Looker

[Dianne.Looker@msvu.ca](mailto:Dianne.Looker@msvu.ca)

**Secretary:** Ted Monk

[tedmonk@gmail.com](mailto:tedmonk@gmail.com)

**Treasurer:** Dan Graham

[djgraham@ns.sympatico.ca](mailto:djgraham@ns.sympatico.ca)

**Past President:**

Bill Luther



*“...to encourage and promote the art and craft of woodturning”*

**Members At Large:**

Ian Scott

Gary Landry

Gordon Marshall

Doug McGuire

---

## Committees

### Library

Jim Diamond

Richard Ford

### Website

Ian Scott

Norm Jolivet

### Membership & Promotion

George Price

Gary Landry

### Fund Raising

Norm Jolivet (Raffle Master)

Bill Luther (Competition Prizes)

### Newsletter

Ted Monk

### Events

Don Moore

Robert Atkinson

Dan Graham

Gordon Marshall

Peter Nicholl

Ted Monk

### Insurance

Alan Hunt

Don Moore

Darrell Eisner

### Constitution & By-laws

Dianne Looker

Jim Diamond

### Guild Photographer

Chris Palmer

*“We would love to see your name here! Contact any member of the Executive with your interest.”*