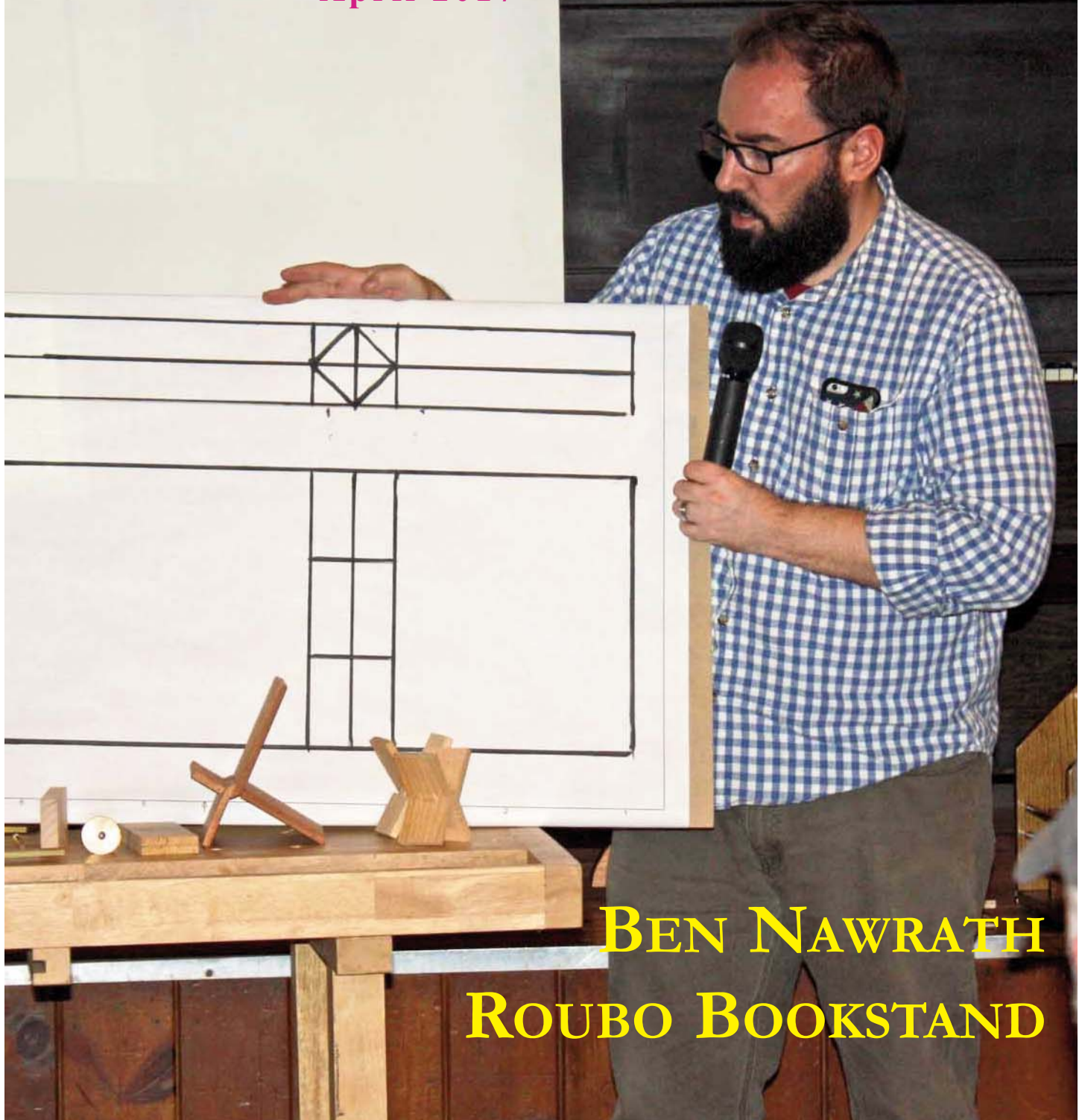


# THE Woodrack

April 2017



**BEN NAWRATH**  
**ROUBO BOOKSTAND**

## LIW BOARD OF DIRECTORS

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<i>Refreshments</i>	Jean Piotrowski
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<i>Workshop Coordinator/Food Critic</i>	Jim Moloney
	Charlie James

<i>Photographer Emeritus</i>	Jim Macallum
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## THIS MONTH:

## SECRETARY'S NOTES

## MIKE MITTLEMAN ON WOOD LOSS

## TURNERS' GUILD

SECRETARY'S  
NOTES

JIM HEICK

Our meeting started around 7:15pm. Mike Daum welcomed the members.

We had two guests for the evening. Neil from Deer Park and Alan from Kings Park.

Mike spoke to the members regarding the passing of Jim Macallum on February 28<sup>th</sup>, 2017. Jim was a LIW member for many years. Jim was our Photographer and Board of Directors Trustee and always an advocate for the members. He was also a member of the Antique Tool Club. Jim had always felt the LIW was his family. Mike asked the members to share stories of Jim.

Adam mentioned Jim told him he couldn't make a straight line, because all of his work was curved. Barry Saltzberg credited Jim with helping him make his first pen. Richie Zimmerman recalled how he worked with Jim at the Hofstra show, taking pictures of the exhibits. He was one of the first to arrive and the last to leave. He worked tirelessly from 8am to 11pm, making sure all pieces were photographed. Daryl recalls working with Jim, back in 2003, photographing and labeling all 150-200 projects. Jim was very meticulous in handling and photographing the projects to get the best results.

Thank you to all the members who shared stories. Jim was part of our LIW family and will be greatly missed.

The Saratoga Bus trip to the Northeast Woodworkers Show (April 1<sup>st</sup> and 2<sup>nd</sup>) has been cancelled. To make the trip fiscally responsible, we needed at least 30 members to sign up. As of the March 8<sup>th</sup> deadline, for Deposit reimbursement we had only 20 members. The remaining funds were due to the bus company on March 11<sup>th</sup>. Members are urged to post to the website if interested in going. Ride sharing is always an option.

Corey Tighe and the Programming Committee has been able to get Jeff Miller, renowned woodworker, to come and give a presentation and demonstration to our club on Friday, Oct. 20<sup>th</sup>, Sat Oct 21<sup>st</sup> and Sunday Oct 22<sup>nd</sup>. The following is an excerpt taken from Fine Woodworking Website.

<http://www.finewoodworking.com/author/jeff-miller>

Jeff Miller has been making furniture professionally for 30 years. Lately he is doing more and more teaching, much of it at his

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Next meeting  
Wednesday  
April 5th 7 PM

Jim Hennefield  
Knife Hinges &  
Dovetails

Chicago shop. "Teaching is more than just conveying information," Miller says. "For me, it's all about understanding the students and figuring out just what they need in order to progress." Miller's shop is outfitted with an extraordinary collection of workbenches he has built.....

The details are being worked out to provide an enjoyable, learning experience for our members. As details emerge, members are encouraged to sign up to attend. Final details and cost will follow.

Corey Tighe will be giving Woodworking classes at his shop in Patchogue. Further details, class times and costs to follow. Corey's website is: [CT-Woodwork.com](http://CT-Woodwork.com)

#### Show and Tell:

Corey presented a pair of Saw horses, made of 8/4 Ash and Walnut. These are Finished with Lindseed oil and wax.

Mike Mittleman displayed a Beverage Center made of oak and walnut with brass hardware corners. He also displayed a bottle opener which he credits Ed Piotrowski for helping him turn at Ed's shop.

Bob Wood displayed a Miter sled which he created as a jig to help him create a jewelry box for his wife. Bob explained the sled he was displaying was the second attempt. While fabricating the first sled, he cut through the fence on his table saw.

Jim Henfield (celebrated his Birthday at the meeting) displayed two wall cabinets. The cabinets were made of Koa and Sycamore and featured coopered (rounded) doors.

Rick Nichols displayed a carving of a soldier he was making for his Father-In-law. He mentioned a similar statue his father had.

Congrats goes out to all who presented their projects. Great Job!!

Steve Eckers mentioned he saw a hardware store in Florida called Orchard Supply & Hardware. He recommends members look them up.

#### Raffle Winners:

Bob Wood

Rob Demarco

Justin Mastanga

Our presenter for the evening was Ben Nawrath. Ben gave a great presentation on the creation of a Roubo Bookstand. A Roubo Bookstand is made from a single piece of wood. It opens as pictured or folds flat. The design is actually much older than Andre Roubo (he wrote in the 1770s); it is a traditional form for supporting the family Quran.

Ben demonstrated his techniques for taping, marking and chiseling the joints to create a hinge, from a single piece of wood. Ben displayed a 45degree angle jig to hold the piece while chiseling out the hinge. There was much discussion on our Club website forum. Thank you and Great job!! Ben's presentation was appreciated by the members. Good interaction between Ben and the members made for an enjoyable night.

Last but not least, DUES!!! DUES!!!! DUES!!! If you have not renewed by now, please see Joe Bottigliere to renew.















## A BRIEF LOOK AT WOOD LOSS, WOOD TURNING & SAW BLADE KERF



MICHAEL R. MITTLEMAN

I was cleaning my shop the other day and was struck by the amount of sawdust that had accumulated from various sawing, drilling, planing and sanding operations. And as sometimes happens I started to wonder how much material (wood) destruction actually occurs in a project life cycle. Clearly, different tools produce different amounts of “waste.” A simple example came to mind: making a 2” cut with a hole saw versus a similar sized Forstner bit. Much more material loss occurs with the Forstner bit than with the hole saw.

Wow, that was easy, but how about with tools other than a drill press? How about a table saw or a wood lathe? How much of the original stock is actually lost?



Blade Thickness

Standard kerf = 0.1  
Thin kerf = 0.094"

First consider sawing and blade kerf. The thickness of a full kerf 10” table saw blade is 1/8” or 0.125”. Thin kerf blade thicknesses vary somewhat, but most brands hover around 3/32” or approximately 0.094”. Effectively, each cut “wastes” 1 kerf width. The losses can really add up for projects with several cuts. For example, consider strip making used with laminates and some small boat constructions:

### Strip Making Example

If the starting material is nominally a 1” X 8” X 96” board, it is actually 3/4” X 7 1/4” X 96”. The end product is strips measuring 3/4” wide X 96” long X 1/4” thick. A full kerf blade measuring 1/8” thick will be used. Thus, each strip produced is 1/4” wide + 0.125” loss due to cutting or altogether 0.375”.

The procedure is repeated until the board is consumed. How many strips are obtained? Answer:  $7.25''$  (board width) /  $0.375''$  (strip + kerf) = approximately 19 strips. The aggregated width of all the strips 3/4” wide X 96” long X 1/4” thick strips is  $19 \times .25'' = 4.75''$ . In other words, of the original 7 1/4” board, 2.5” (or 2 3/8” kerf and 1/8” scrap) were destroyed by the cutting process. This results in a  $2.5'' / 7.25'' = 34.5\%$  shrinkage or waste rate.

What happens when a thin kerf (3/32”) blade is used? The 1/4” + 3/32” (strip + kerf) figure yields 0.344” per strip. The maximum number of strips would be  $7.25''$  (board width) /  $0.344''$  (strip + kerf) = 21 strips. The aggregate width of all obtained strips is = 5.25”. The savings from using a thin kerf blade over a full kerf blade is small at  $0.125 - 0.094 = 0.031''$  per cut, but it adds up as the number of cuts increases. For the preceding example, the 21 strips required 21 cuts, so  $21 \times 0.031'' = 0.651''$  or about 5/8” was gained. Of the original 7 1/4” board, 2” (actually, 1.974” kerf and 0.026” scrap) were destroyed by the cutting process. This results in a  $2'' / 7.25'' = 27.59\%$  shrinkage or waste rate. The thin kerf led to about a 7% reduction in lost material.



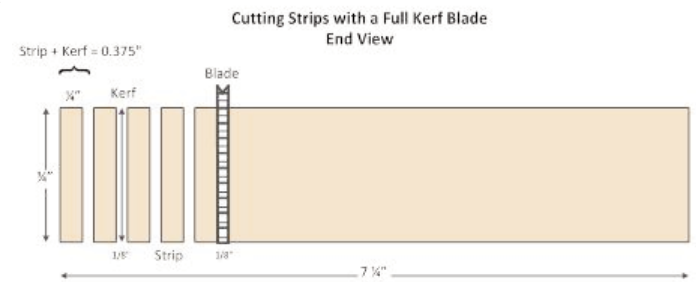


To summarize, between the two blade thicknesses, up to 35% of the materials end as waste and that assumes there are no cutting errors or wood defects. Stated differently, 35 cents of every dollar spent on lumber ends up in the dust collector.

What is the story with wood turning? Let's see:

### Woodturning Example

For simplicity's sake, assume a vase will be turned that has a simple cylindrical shape. The O.D. measurements are 8 1/4" tall X 4 1/2" in diameter. The I.D. dimensions are 8" tall X 4" in diameter. In other words, the cylinder is a hollow tube



with a 1/4" thick bottom and walls. To find the volume measured in cubic inches of a cylinder, the formula  $V = \pi \times r^2 \times h$ , where  $V$  = volume,  $\pi$  or pi = 3.14159,  $r^2$  = radius squared and  $h$  = height. All measurements are in inches.

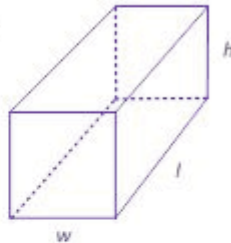
For the example, the O.D. volume is  $V = \pi \times 2\frac{1}{4}''^2 \times 8\frac{1}{4}'' = 131.2 \text{ in}^3$  ( $\text{in}^3$  = cubic inches). In contrast, the I.D. volume is  $V = \pi \times 2''^2 \times 8'' = 100.5 \text{ in}^3$ . In other words, about  $(131.2 \text{ in}^3 - 100.5 \text{ in}^3) / 131.2 \text{ in}^3 = 23.38\%$  of the input material ends as waste. For every \$10 spent on raw stock, \$2.34 is lost through production.



Rectangular Prism  
Volume in Cubic Inches  
Formula

$$V = w l h$$

Where,  
 $V$  = volume  
 $w$  = width  
 $l$  = length  
 $h$  = height



Cylinder Volume in Cubic  
Inches Formula

$$V = \pi r^2 h$$

Where,  
 $V$  = volume  
 $\pi = 3.14159$   
 $r^2$  = radius  
squared  
 $h$  = height.

When solid objects are created from woodturning the waste factor can be somewhat less than with hollowed pieces. In this example 4" X 4" X 8" rectangular stock is used to create the largest possible cylinder (which happens to be 4" X 8"). The rectangular stock's volume is  $V = w \times l \times h$  or  $V = 4'' \times 4'' \times 8'' = 128 \text{ in}^3$ . The cylinder's volume is  $V = \pi \times 2''^2 \times 8'' = 100.5 \text{ in}^3$ . Therefore, the waste factor is  $(128 \text{ in}^3 - 100.5 \text{ in}^3) / 128 \text{ in}^3 = 21.5\%$ .

Are there any ideas for a new hollowing tool? Strip making would conserve more stock if a slicing tool was available instead of traditional sawing methods. What happens when laser cutters are employed? What are the destruction rates for other cutting tools such as routers, band saws, planers and jointers? Besides the trash heap, are there good uses for sawdust?



My first turning project...

This article supplies the tools needed to estimate stock losses by providing a procedure to compare the beginning and ending volumes of the work piece.



Voila, finished!!!



## TURNERS' GUILD



## BARRY SALTSBERG

President Mike Josiah called the meeting to order promptly at 7:09 pm.

Coming events:

Totally Turning at Saratoga, April 1-2

AAW Symposium in Kansas City, MO., June 22-25

Mike reminded everyone that Gary M is responsible for programming, and Barry S is the mentor coordinator. Anyone wanting help in any aspect of turning should contact Barry, and he will set you up with a mentor who lives close to you.

Show & Tell - due to the cancellation of last month's meeting due to the weather, there was a large showing at this meeting, including many bowls and eggs for the chapter challenge

Ed Pio and his group had an ambrosia maple platter. Ed had 2 bowls and many eggs himself.

Jean Pio had a pyrographed egg and a bowl.

Bob Urso had a load of eggs, including a pomegranate, and a box elder bowl, a platter and another bowl.

Joe P had a natural edge bowl, a platter, plus a dozen eggs that looked like they came from the supermarket.

Barry had the completed bowl, vase and hollow form (with base and finial and stamped patterns burned in) from the last meeting's demo, two bowls with infill, and a pierced bowl that exploded off the lathe and was put back together (basically firewood), and some eggs.

Tony had 2 eggs and a flat-rim bowl.

Jim Maloney had a textured bowl and some eggs.

Steve Blakley had a bowl and some eggs.

Doug had 2 eggs, one of them fried.

Jim Brown had 2 eggs and a small bowl.

Charlie Felson had a spalted birch bowl and a BIG egg.

Brian Roughly had a spalted maple bowl and some eggs.

Ted Perry had a bowl and some eggs.

Bill Barnhart had a bowl, some eggs and a saucer.

The Chapter Challenge for May (none for April) is a weed pot (a small vase, a flower pot, etc).

Mike announced that the AAW is offering a 50% discount for new members. Details to follow. Membership in the AAW includes a subscription to American Woodturner, one of the best turning magazines out there; ability to register for the annual symposium, the bi-monthly instructional ezine, Woodturning FUNdamentals.

Raffle winners were Gary M (so what else is new!), Jim Clancy and Joseph Vanek.

The program was on jigs.

Gary (Mister Segmenting) showed a not-so-good segmenting jig followed by a much improved segmenting jig ("wedgie sled" available on you-tube; some shop-made hollowing tools, and a holder for sharpening tools.

Norm B had a pen blank cutting jig, a pen blank "tree," and a nylon blank holder.

Barry showed a cross cutting jig for logs.

Marty showed a magnetic lathe tool holder, a shop-made hardboard caliper, a thin-stem steady rest, and a closed-end pen blank holder.

Eddie Pio had a vase mandrel and a doughnut bowl holder. He showed a bowl that separated in 2 pieces due to ring shake. for more information on ring shakes, go to [forrest.mtu.edu](http://forrest.mtu.edu). Ed also showed a book, Fixtures and Chucks for woodturning by Doc Green.

Ed Maloney showed a Longworth chuck for reverse turning and several 3D printed holders for inside/outside turning. He also showed a dust monitor. Finally, he showed some pyrographed designs made by a high voltage transformer and baking soda. With that system, you never know what the results will be, but what he showed were spectacular.

Mike talked about piercing. He showed his medium speed power carver, which has a maximum speed of 30,000 RPMs, noting that you need to do it in several passes going clockwise, and when the cut is complete, do one more pass going counterclockwise to clean up the cut. He mentioned the high speed type of piercing tools, which are air powered. These include right angle “dental” hand pieces, and several straight pen-type hand pieces. These run at a speed of 400,000 RPMs. He noted that you must use carbide bits for the high speed tools, because diamond bits clog and burn almost immediately. In terms of transferring a design onto the wood, there is a xylene chemical transfer or a heat transfer from a “xerox” printed design and a household iron. You can also use transfer paper available from Michaels or AC Moore or other art store that you put under your design and trace with a pencil. Do not use carbon paper, as it is almost impossible to get off.



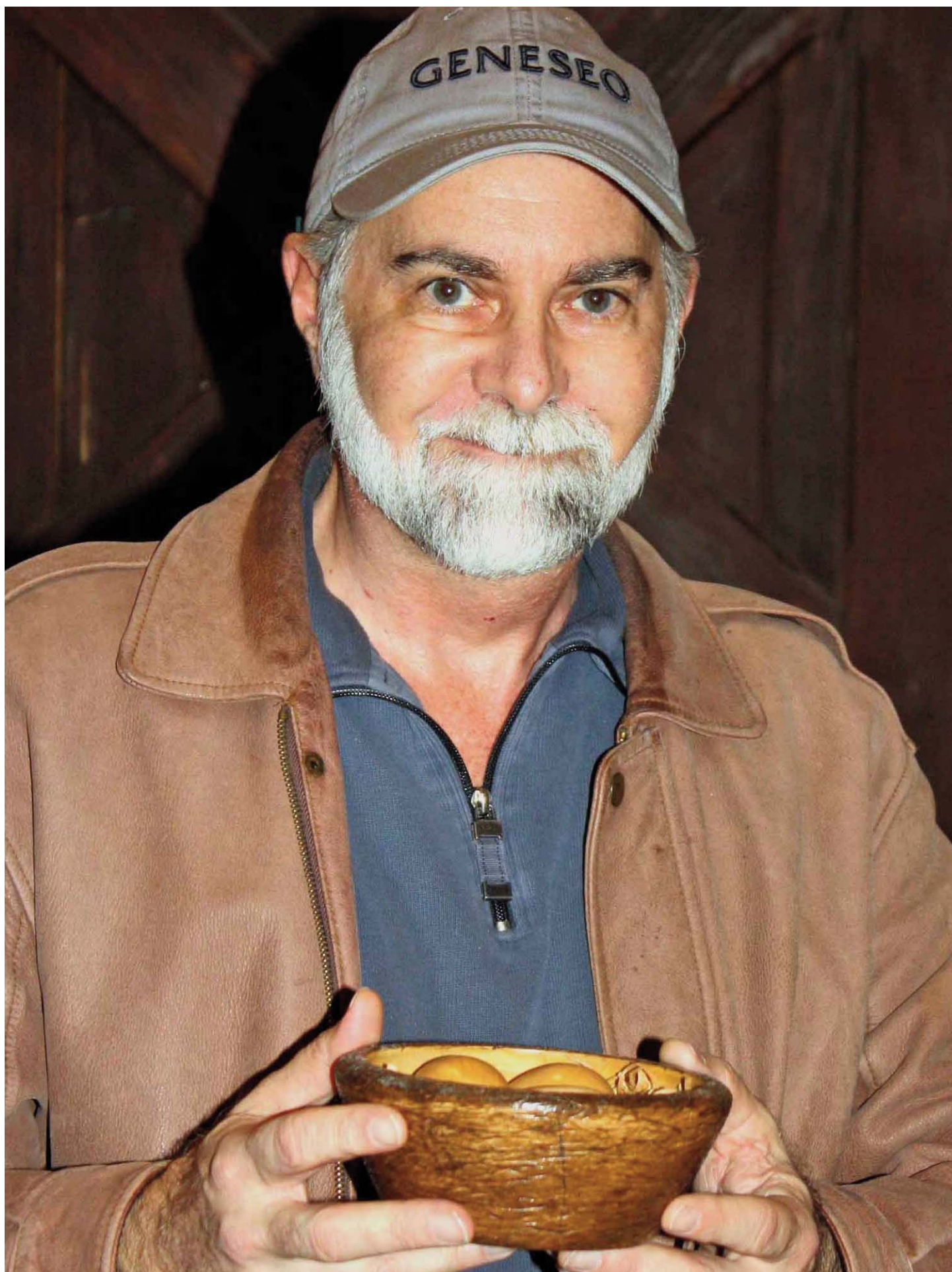




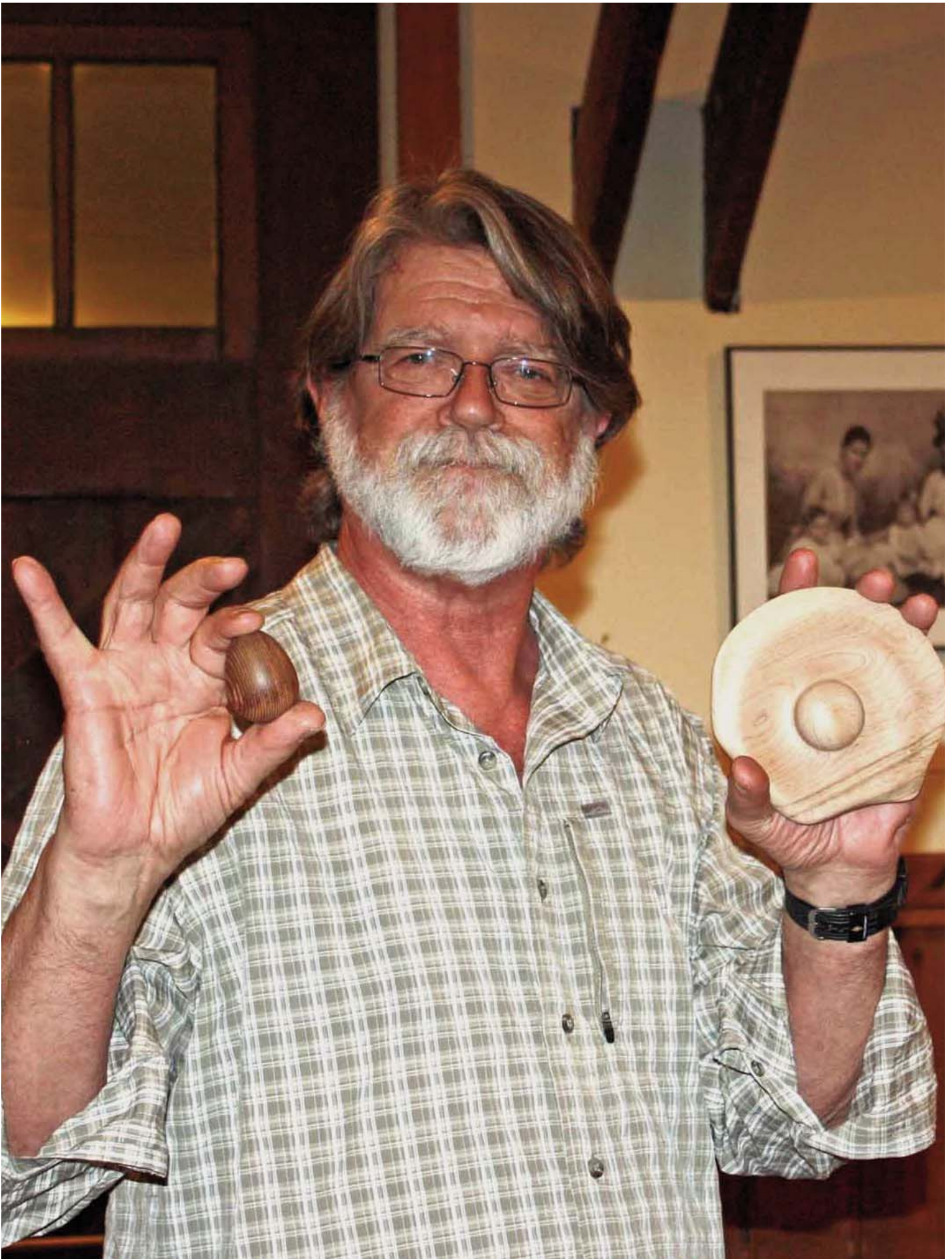
















## The Marketplace

Routers,Sanders,Drills and more for sale,  
**Dennis Taddeo 631 543 2256**

I have to sell my shop; all the tools. They are currently in storage in Garden City, and need help cataloging and sorting it. That also gives you first crack at buying them. Among the tools are a 3 HP Saw Stop; a dust collection system, Sears drill press; Lie Nielsen bench; 2 speed Delta planer; 6" Powermatic jointer; 14" bandsaw; dust collection system; Festool vacuum; router table; air compressor; drills, hand tools etc.

**Harry Aristodou 516-306-4780 [aristidouhc@msn.com](mailto:aristidouhc@msn.com)**