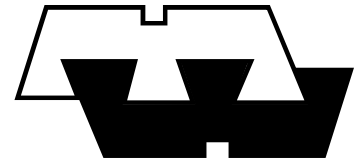




# MICHIGAN WOODWORKER

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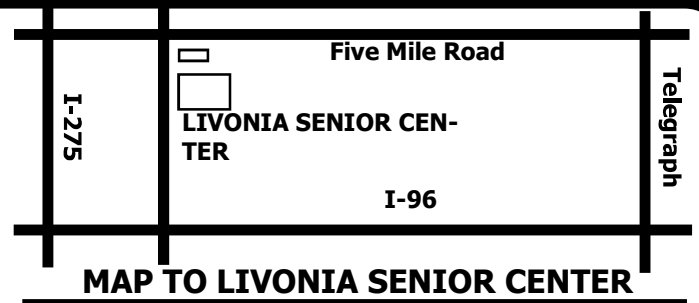


Michigan Woodworkers' Guild (est. 1981) May 2019 Vol. 40 No. 5

## SUNDAY, MAY 19

At the Livonia Senior Center from 2:00 to 4:30 pm.  
The raffle and other activities from 1:00 to 2:00 pm

**Ed Stuckey** and **Ed Thomas** will demonstrate  
**Various Sharpening Techniques.**



The Guild luncheon will be at the Senate Coney Island on the 23rd at 1:16 pm (see map on page 6)

**MWG THEATER WILL FEATURE "CABINETS"** by Mark Adams. Starts at 12:30. Takes you through the design and layout of both kitchen and furniture cabinets as well as the build process.



## RAGNAR BERGETHON AND SOME OF HIS FASCINATING PROJECTS

### CALENDAR OF EVENTS

The **June 9** Field Trip will be a visit to the **Yankee Air Museum** at **Willow Run Airport**.

The **June** luncheon will be at George's Cony Island on the **27th** at 1:16 pm

**NO MEETING  
OR LUNCHEON  
IS SCHEDULED  
FOR JULY**

The annual picnic and swap meet will be on **Sunday, August 11** at the **Royal Oak VFW Park** from noon until....

The **August** luncheon will be at George's Cony Island on the **22nd** at 1:16 pm

**Lee Calkins** will demonstrate the **Making of Electric Guitars** at the **September** meeting at the **Royal Oak Senior Center**.

The **September** luncheon will be at George's Cony Island on the **26th** at 1:16 pm



## President's Corner

By Pete Goddard



The April meeting was interesting and well attended. Ragnar Bergethon did an outstanding job of presenting two separate topics. The first, Band Saw Boxes was based on projects he had completed drawn from "The New Bandsaw Box Book" by David Picciuto. All of the examples were beautifully done. Saw kerfs, used on many of the boxes were effectively invisible once closed up. I thought enough of the boxes and the presentation to buy the book. The second topic, Passive Amplifiers was less common than band saw boxes. These passive amplifiers allow the small speakers on cell phones to be heard without requiring an active amplifier. Given the loss in hearing that occurs with age (and if not careful with woodworking), passive amplifiers provide an attractive solution.

Our May meeting will be on sharpening. If you need to learn anything about sharpening woodworking tools, this is the meeting to attend. I look forward to the presentations and to the interaction between the audience and our presenters. Sharpening is one area where everyone seems to have a strong opinion. Somehow, those opinions never seem to be in sync.

There will be a Woodworking Guild Summit meeting between the various Michigan woodworking organizations on May 9<sup>th</sup>. I will brief the membership on the outcome of the meeting at the May MWG monthly meeting on the 19<sup>th</sup>. There are two other meetings worth noting during May. The Great Lakes Woodworking Expo is in Adrian, Michigan. The SAPFM is doing their demonstrations at the DIA in Detroit this month. Unfortunately, both events were May 4<sup>th</sup> and 5<sup>th</sup>.

The June trip to the Yankee Air Museum is firm. Attendees will need to sign up with Tony Gigliotti prior to the event. Identifying attendees in advance will allow the museum to effectively assign docents to the visit. Please see Tony at the May meeting or via email as early as practical and prior to June 1.

Spring is well underway and summer will quickly arrive. As usual, there will be no mid summer meeting or event. July has been dark for many years for the Guild. As noted in the last newsletter, December will also be dark this year. Our picnic will, as usual, be held during August in Royal Oak.

I look forward to seeing everyone at the Livonia Senior Center on the 19<sup>th</sup>.

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## MEETING REVIEW

By Dale Aushman



Ragnar Bergethon

### Passive Smartphone Speakers and Bandsaw Boxes

Ragnar Bergethon did a masterful job of teaching our April attending members the art and intricacies of making wooden passive smartphone amplifiers and bandsaw boxes. These can be beautiful pieces with great functional utility. The amount of wood required is minimal so that exotic hardwoods with great figure can be affordably used. These items are fun to make and are ideal gifts, appreciated even by younger family members.

#### Passive Smartphone Amplifiers:

Ragnar provided background on how and why a passive speaker for a phone functions. Requiring no cords or batteries, the device focuses, filters and projects the sound coming from your tiny phone speakers towards



the user's location. Unlike active powered amplifier devices such as Bluetooth speakers, the passive "amps" do not actually increase the sound power, but rather "funnel" it towards the user, increasing the effective power. The wood material and shape of the sound transmission path also does "filter" the sound, i.e.

change the shape of the power spectrum, typically enhancing the lower frequencies relative to higher frequencies thereby making the sound less "tinny." This is the same physical process involved in many musical instruments from violins, to guitars, to wooden and brass horns such as clarinets, French horns, or bugles. In essence the passive amplifier is a small version of a cheerleader's megaphone.



Ragnar showed us how to make three specific examples of passive amplifiers for small smart phones: 1) Square or semi-square speaker, modeled after the Woodsmith Magazine Smart Phone Amplifier; 2) Cross-over unit with cone or straight edged speaker; and 3) Traditional unit with a longer channel, deep cone shaped speaker, and speaker wood grain running from front to back. The Woodsmith speaker was described in issue no. 232, August 2017. Or plans are available online at a cost from

<https://www.woodsmithplans.com/plan/smartphone-amplifier/>.

Any of the plans could be modified to support specific phones, or iPads and other tablets as well. Many alternative designs can be found on the Internet, including YouTube videos. Just google smartphone wood passive speaker or amplifier.

Space or time does not allow me to report the construction details of Ragnar's three models, but detailed instructions come with the various sources of the plans, especially the Woodsmith model. But he does



offer some important general guidelines. The most important feature is the smoothness of the walls in the phone cradle, the sound channel and speaker. He recommends placing the speaker on a hard surface, even if you put feet on the speaker, as soft surfaces will muffle the sound output. Ragnar prefers a cone shaped speaker to a can shape or square speaker. And speaker size and length are very important, the bigger the better. As sound travels through the wood as well as the speaker, wood selection impacts tone and richness, with hardwoods such as Maple, Mahogany, Walnut, Spruce, Boxwood and Cherry having the best tonal qualities. And for all units, the phone insert slot can be designed for specific or multipurpose sizes, with a slot size of  $3 \frac{3}{4}$  in. wide by  $7/8$  in. deep working in most cases. He recommends tapering the cradle bottom from sides to center to accommodate 2 speaker phones. As to final finish, Ragnar recommends sanding to 400 grit, applying finish to all areas, with four plus coats on the exterior.

### **Bandsaw Boxes:**

Ragnar recommends bandsaw boxes as another fun



project. The design is only limited by your imagination and it is a great project for improving bandsaw skills. And it results in an attractive functional item which will be used and displayed for years, or given as a cherished gift.

The boxes are basically jewelry or small item boxes.

They can be simple one-drawer models, or more complex designs with multiple drawers. Ragnar's seven granddaughters prefer models with many drawers, ideally coming with money in the drawers! Boxes can be made without a back plate, which allows the drawer to be opened from either side, but then requires careful placement of the door for good appearance.



Tool required include (of course) a bandsaw, with blades of  $\frac{1}{4}$  in. with 4-6 tpi for outside and slicing, as well as a  $3/26$  in. with 4-10 tip and rounded back for turning corners as tightly as possible. Timberwolf blades, with their premium Swedish steels, proprietary induction hardening methods and exclusive tooth milling processes are ideal for box making. One can also use other suppliers, but it will be helpful for tighter curves to carefully round the back edges using an oil stone on the moving blade. Other necessary tools include files and sanders (including powered sanders), and flocking equipment and materials for lining the drawer and frame insides.

A great source of instruction is *The New Bandsaw Box Book: Techniques & Patterns for the Modern Wood-*



worker by David Picciuto, available in paperback on Amazon for about \$15. This book includes the Florence box project, the box demonstrated by Ragnar. The book has several other cool designs as well. Mr. Picciuto also has an accompanying YouTube video which quickly shows all the major steps in making a box from the templates in his book.

<https://www.youtube.com/watch?v=NtSPLmQicUU>.

Again, space and time does not allow me to record all of the detailed steps in making a box, but the book has excellent instruction and accompanying photos. Ragnar makes some additional key points, some counter to instruction in the book, based on what he has learned by making many such boxes. Make the drawer bottoms close to horizontal and finger accessible so that the box has maximum usefulness. Make paper templates for the box and drawer designs, but apply with LIGHT DUTY artist (or photo mount repositionable) spray adhesive so that the template paper is easy to remove later. The author recommends cutting in the middle of the box and drawer template lines, but Ragnar recommends cutting on the outside waste side for the box frame, and on the drawer (waste) side of the drawer outline. These cuts have a better chance of preserving the original shapes of the frame following sanding for craftsmen without the experience or skill of cutting exactly to a line with no deviations. He recommends cutting the bottoms  $\frac{1}{4}$  to  $\frac{3}{8}$  in. thick, rather than the  $\frac{1}{2}$  in. used by the author. And for high boxes with tall backboards, planning a separate board to back size and thickness and applying later may be safer for those bandsaws with limited height capability.

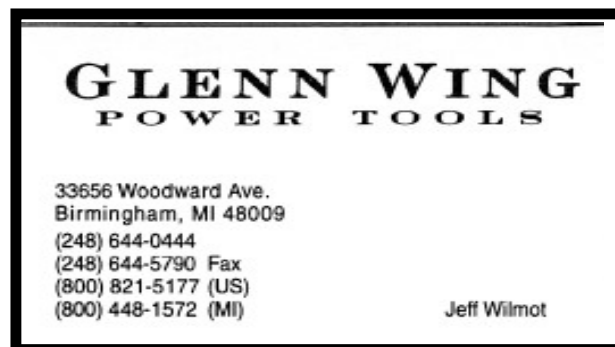
The boxes require a great deal of sanding so a powered stationary sanding wheel and/or belt will be very useful. Author recommends no sanding on the interior of box frame or drawers, as these will be flocked which will cover up minor imperfections. But this assumes the craftsman is really good at smoothly following lines on the bandsaw. Ragnar recommends sanding to 120 grit on these interior surfaces just to be sure. He sands to 320 smoothness on all exterior surfaces of both frame and drawer.

He recommends 1 coat of finish to the areas to be flocked (to control the even absorption of the adhesive), and four coats elsewhere. Ragnar feels that flocking provides a better interior cover than hand cut felt. One should tape off the edges of the areas to be flocked.

Lee Valley has flocking kits of a selected color, including a flocking gun and color-matched adhesive for about \$43. Woodcraft and Rockler both seem to only sell the fibers, colored adhesive and "gun" as separate items, but likely totaling close to the same price. Considering all sources, flocking is available in 32 colors.

These are simple yet exciting projects, beautiful when completed with good prospects for pleasing family members or others as gifts. And they only require a small amount of wood, compared to many possible projects. Ragnar did an exemplary job of documenting and explaining the projects, and clearly put much effort into the presentations and displayed examples. The PowerPoint slides were extremely helpful. We thank him for his hard work for us! And we thank the Guild Executive Board and Officers for arranging such an enjoyable and educational session.

For those members who have interest in making a "Band Saw Box" or "Passive Amplifier" check out the Guild web site and Click on Photo. You will find two PowerPoint presentations by Ragnar Bergethon and several close up pictures.





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**RAGNAR GENERATED A LOT OF INTEREST**