



# Standing Out in the World of Pen Making

Mark Dreyer

American Association Of Woodturners

2021 AAW Virtual Symposium (July 17 – 18)

# Background – Mark Dreyer

- Pen Making For Over 25 Years
- Demonstrator
  - AAW (Atlanta / Portland / Virtual)
  - Woodturners Worldwide
- Penmakers International
  - Midwest Penturners Gathering
- Regional Symposiums
- Local and Virtual
- “10 Minutes To Better Penmaking” - YouTube

# Mark Dreyer

ebay

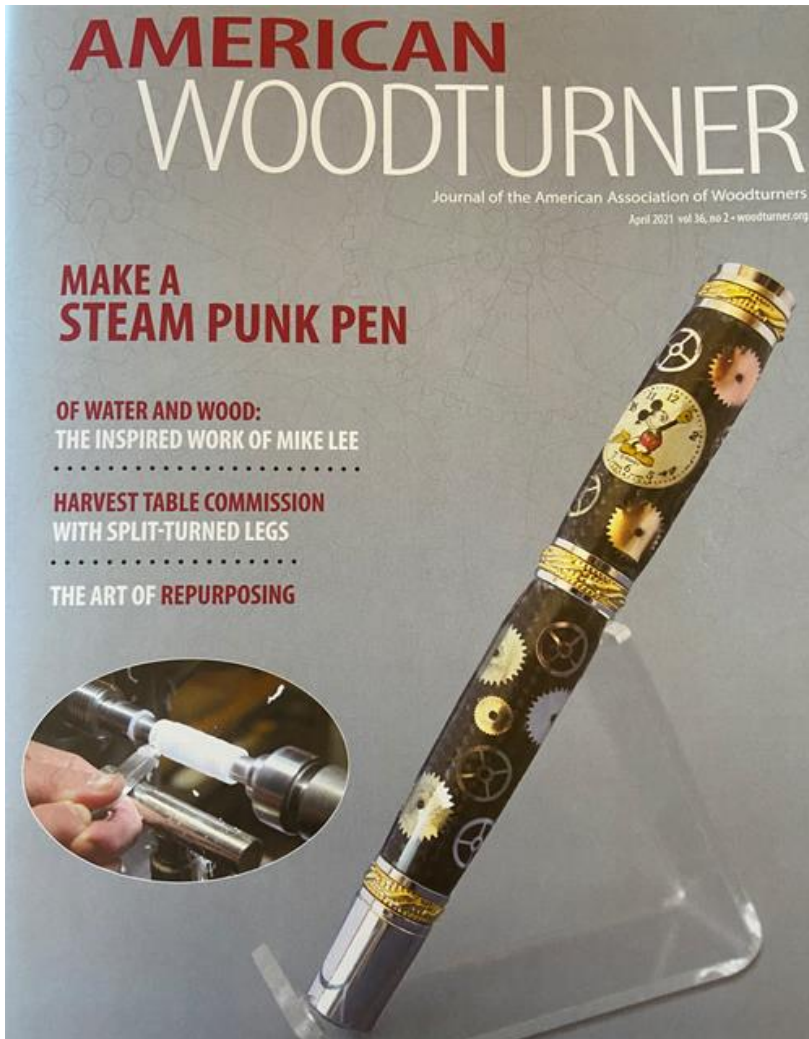


# Agenda

- Basic Pen Making
  - Paying Attention To The Details
  - Form and Detail Over Enhancements
- Standing Apart In Wood
- Standing Apart In Acrylic
- Introduction To Casting
- Interactive
  - Questions Are Encouraged



# Inspiration



**AAW Magazine  
April 2021**

**Mickey Watch Parts  
Pen**

**Steam Punk Crushed  
Penny**



# Inspiration



# Types Of Materials



# Inspiration





# Inspiration



# Let's Get Started



# Getting Started

- Component Set
- Pen Blank
- Mandrel / Setup
- Turning Tools
- Lathe
- Finishing





# Safety



# Pre-Turning – Preparing a Blank

- Blank Selection
- Instructions
- Number Of Tubes
- Drill Bits
- Bushings
- Marking Your Blank





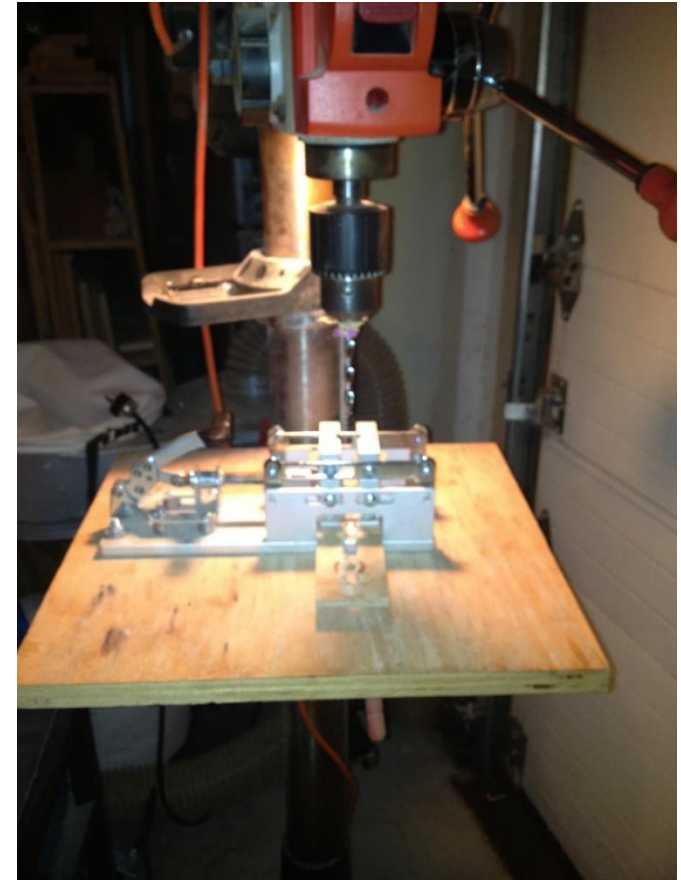
# Acrylic

- Not All Plastic / Resin is Acrylic
- Types Of “Acrylic”
  - Acrylic Acetate
  - Inlace Acrylester
  - Polyresin (PR)
  - Alumilite



# Alternative Pen Pre-Turning

- Do Not Drill Through
- **Over Drill**
- Staying Cool
- Use A Jig
- **Painting The Blank**
- Gluing – 5 Minute Epoxy
- Finishing The Ends
  - Sanding



# Understanding Mandrels

- Fixed vs. Professional
- Mandrel Saver
- Turning Between Centers
  - 60 Degree Live Center
  - Purpose Built Mandrels



# Alternative Pen End Milling



# Pen Turning - Turning

- Sharp Tools Are A Must
  - As Fast As I Can Go
  - Skew Chisel Vs. Gouge Vs. New Turning Tools
- Cutting Sequence
  - “Pressure” side to side NOT inward
  - Rough Cuts
  - Round Down
  - Work The Ends
  - Sand
    - Different Micro Mesh For Light Vs. Dark Woods



# Turning Tools

## HIGH SPEED STEEL

- Adjustable Angle



## CARBIDE

- No Sharpening



# Wood Cutting Sequence

- Cutting Sequence
  - Drop Cut
  - Scoop Cut
  - Peel Cut
  - Finish Cut
- **Stop Once Round**
- Work The Ends

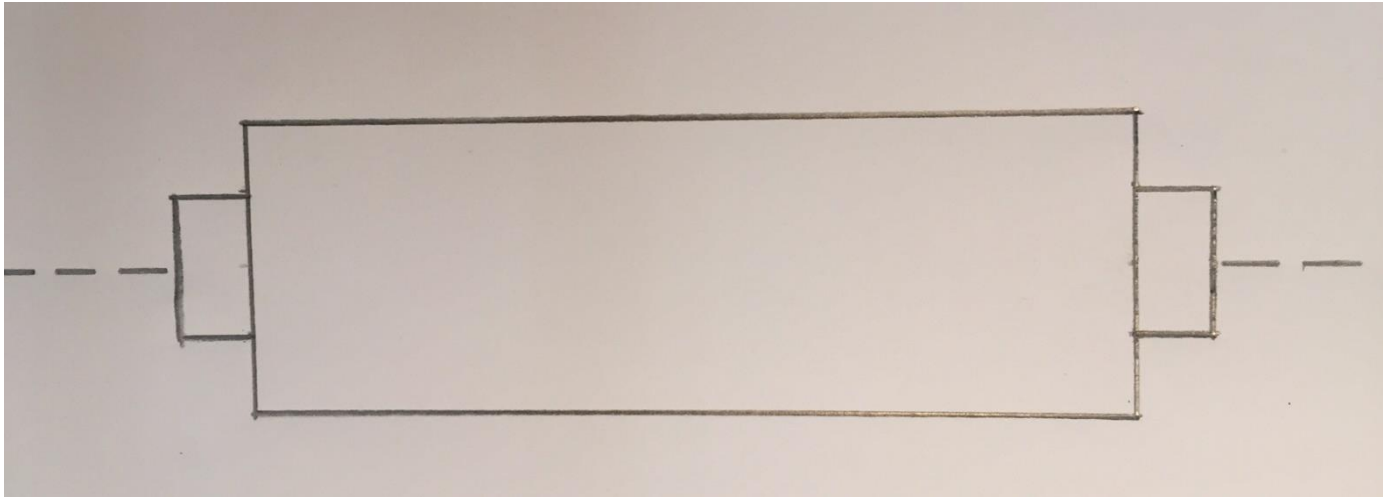


# Acrylic Cutting Sequence

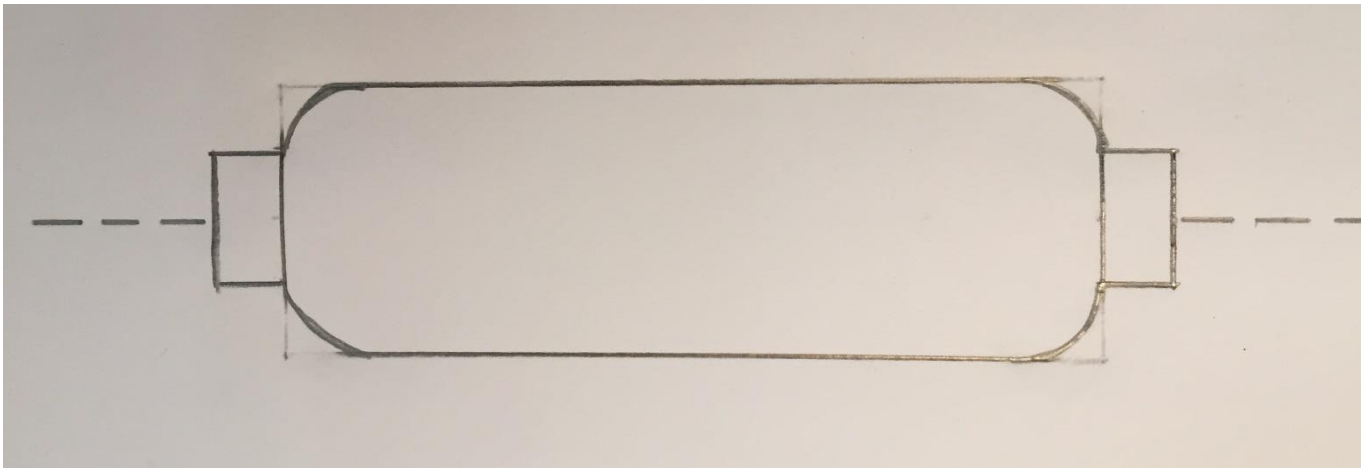
- Cutting Sequence
  - Scoop Cut
  - Peel Cut
  - Finish Cut
- **Stop Once Round**
- Work The Ends



# Round The Ends



Cut from the outside in for support.



# Demo

**Turning Acrylic - Carbide Tools  
10 Minutes To Better Pen Making  
Mark Dreyer**





# Finishing Math

- 10 Minutes to pick out a blank
- 5 Minutes to pick out the kit
- 5 Minutes to drill the blank
- 4 Minutes to glue the blank
- 4 Minutes to put something on the TV (optional)
- 25 Minutes to turn the blank
- 10 Minutes to sand the blank
- **59 Minutes** to get the blanks ready for finish

# Finishing Math

- Want the best finish I can get in 1 minute
- 1.6% of your time for finishing?



# More Finishing Math

- Lathe - \$2000
- Turning Tools - \$1000
- Mandrel - \$20
- Chucks and centers - \$100
- Blanks - \$8
- Kit - \$20
- Drill bits - \$10
  
- ~\$3500 Invested In Your Hobby



# More Finishing Math – Abrasive

- 100 Grit
  - 120 Grit
  - 180 Grit
  - 220 Grit
  - 320 Grit
  - 400 Grit
  - Micro Mesh
- 
- 25 Cents Worth Of Sand Paper

# Steps To Improve Finishing

- Practice
  - Finish Blanks 10 Times
    - 3 Times Then 3 Times Then 3 Times Then Once
- Practice On Real Blanks
- 2 Techniques To Really Improve Finishing





# Other Considerations

- Drilling Longer Blanks
- Lining Up For Assembly



# Demo – Time Permitting

- GluBoost



**Fill n' Finish | Pore Filler +  
Finisher – Flexible Non Creeping  
Water Clear Wood Finish Formula  
With Zero to Minimal Witness  
Lines**



**Fill n' Finish Thin | Filler,  
Finisher, Top Coat – Flexible Non  
Creeping Water Clear Wood  
Finish Formula With Zero to  
Minimal Witness Lines**



# Standing Apart In Wood

- Coloring (Demo)
  - TransTint
  - Dye
- Bleaching (Demo)
  - Wenge
  - Black Palm
- Segmenting
- Worthless Wood
- Stabilizing



# Segmenting



All Pens Created And Photos:  
Mark James

# Stabilization

- Allows for turning of wood that would be impossible to turn otherwise
- Dry the blank
- Stabilization “Juice”
- Vacuum Chamber





# “Worthless” Wood

- Casting – Half Wood / Half Acrylic





# Aluminum Rod



# Standing Apart In Acrylic

- Painting The Hole (Demo)
- Tubes Vs. The Hole
  - Effectiveness of Light Passing Layers
- **Understanding Light**
  - Style

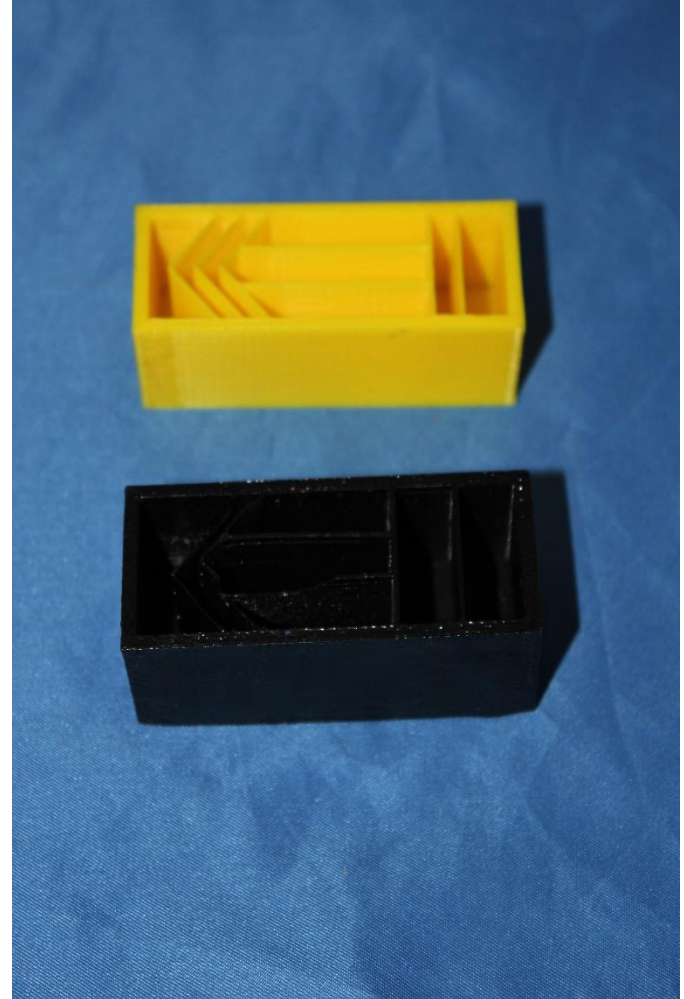


# Standing Apart In Acrylic



# Using Technology

- 3D Printing



# Non “Man-Made” Materials

- Antler
  - Deer / Elk / Moose / Caribou
- Alligator Jaw Bone
- Shark Vertebra
- Snakeskins
- Corian
- Pine Cones
- Sweet Gum Pods





# Casting - Ideas

- Stamps
- Stickers
- Carbon Fiber
- Snake Skin
- Watch Parts
- Alligator Jaw Bone
- Abalone
- Crushed Penny



# Casting Ideas



Photo Courtesy Of John Underhill

# Casting Materials – “Let The Blank Tell You What To Use”

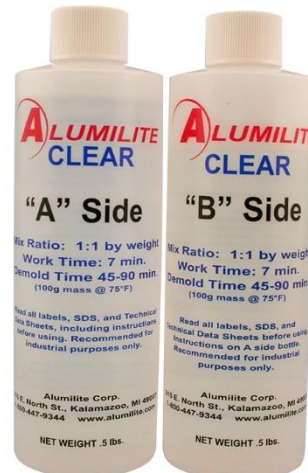
## SILMAR 41 (PR RESIN)

- Longer Open Time
- More Vibrant Finish



## ALUMILITE

- Embedding
- Smell
- Setting Times (Slow / Clear)
- Setting Time



## EPOXY & UV

- Embedding
- Smell
- More Fool-Proof
- UV Ready In Minutes



# Starting To Cast

- Color Casting
- Embedded Objects
- Clear Casting



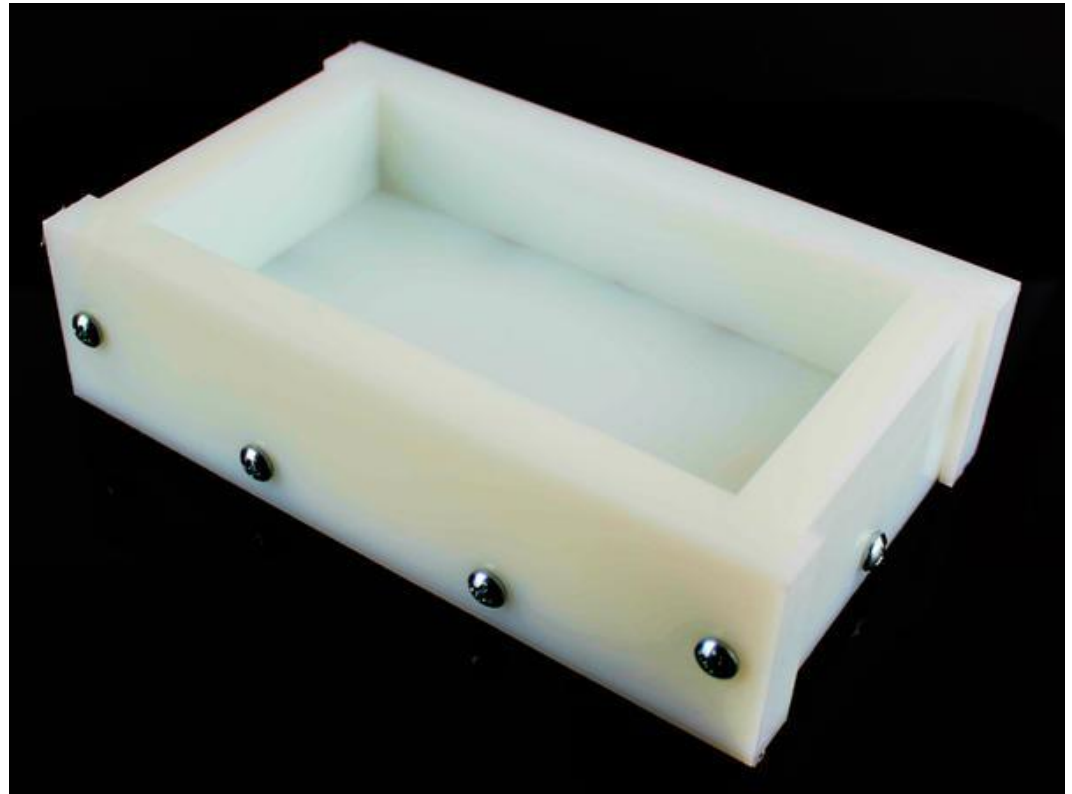
# Color Casting

- Less Need For A Pressure Pot



# Making Your Own Molds

- HDPE Cutting Board





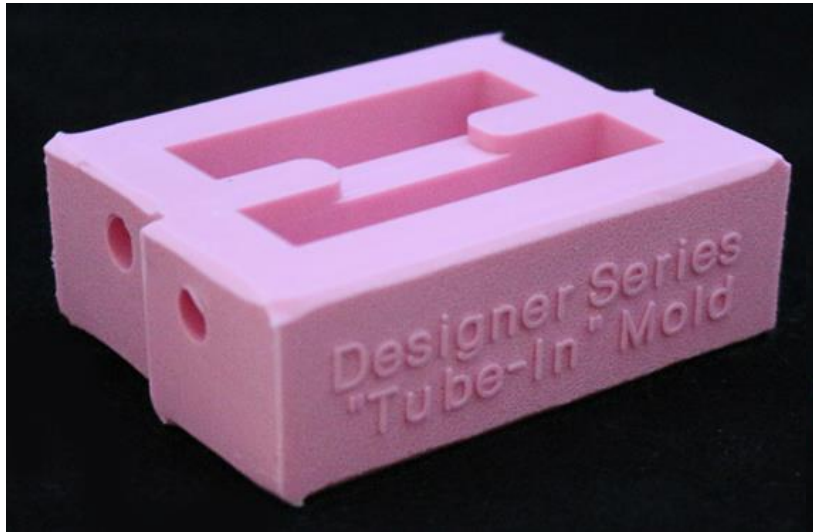
# Clear Casting Techniques

- Safety Is A Must
  - Gloves
  - Eye Protection
  - Ventilation
- Sample Blanks
- Material
  - Silmar 41 vs. Alumilite
- Molds

# Casting – Molds

## PTownSubbie Casting Molds

- Clear Casting Vs. Color Blanks



Molds Courtesy Of:  
Fred Wissen  
<http://www.ptownsubbie.com/>

# Vertical Casting System

## Underhill Casting Solutions





# Vertical Casting System



# Vertical Casting System



# Adding Some Pressure





# Other Topics

- Pen Wizard
- “Kitless” Pens
- Closed End

# Question and Comments

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- 10 Minutes To Better Pen Making
- IAP: mg\_dreyer

