



## Spider Filigree Fountain & Rollerball Pens

### General Instructions

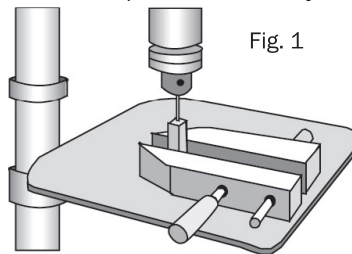
Whether you're a novice turner or a pro, you'll find these projects are all quick and easy to make. Using cut-offs and shorts, the type everyone saves but doesn't know what to do with, you'll find yourself making handsome, custom woodturning projects which are great for gifts or for sale. The following is general in nature, please refer to the instruction sheet on the opposite side for specific dimensions and sizes for your project.

### 1. Cutting Blanks

Cut wooden blanks to the size specified in the enclosed instructions. For your safety, be sure that the blanks are solid and have no holes, checks or other defects.

### 2. Drilling Blanks

Center and bore a hole through your stock as specified in the Project Instructions on the opposite side. The center of the blank can be located at the intersection of diagonal lines, drawn from opposite corners. All holes are easily drilled using a clamp and a drill press (FIG. 1). Before you start to drill be sure that your blank is at 90° to the drill press table. You may also chuck and drill the stock on your lathe.

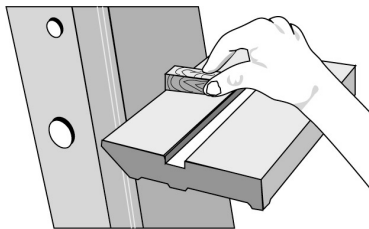


### 3. Gluing Blanks to Tubes

Rough the brass tube's surface with a fine grit sandpaper and use a quick drying CA type glue to secure the brass tubes into the blanks. Rotate the tube as you insert it to ensure maximum surface coverage of glue. If you find that CA glue is not providing adequate bonding, an alternative is any two part epoxy type glue.

### 4. Sanding Blanks to Length

Using a belt or disc sander, square the ends of the brass tube/wood blank. The blank should be flush with the brass tube on both ends. Care should be taken to not sand into the tubes (FIG. 2). If any excess glue remains inside the tubes it should be gently scraped out.



*Tip: Excess glue can be scraped out using the threaded end of the mandrel when mounting the blanks for turning.*

### 5. Mandrel Preparation

Woodcraft's new Pen and Pencil Makers Mandrel system allows you to turn a variety of small projects without requiring the purchase of a unique, special mandrel each time. The only item you will need to purchase to turn new projects is the specially designed bushing set for the project of your choice. The mandrel is provided with either a #1 Morse Taper or a #2 Morse Taper. If you prefer to use the mandrel in a three jaw chuck, simply loosen the Morse Taper set screw and slide the Morse Taper off of the shaft. Now the mandrel shaft may be mounted directly in your three jaw chuck. With the bushing sets specified on the project instruction sheet, mount your wood blanks and bushings as depicted for each project. With the mandrel mounted in your lathe, slide a bushings onto the mandrel, followed by a wood blank and a second bushing or spacer as required, followed by the second wood blank if required. With the wood blanks installed on the mandrel secure the wood blank/bushing assembly using the washer and retaining nut provided. Bring up a live center in the tailstock to support the threaded end of the mandrel. Do not over tighten the tailstock or the mandrel will flex and bend causing oval shaped turnings.

### 6. Turning Blanks

Place your tool rest parallel and as close as possible to the blank. Rotate the blank by hand to ensure it will not touch the tool rest when the lathe is turned on. Using a turning speed of approximately 1,000 RPM begin turning the blank to a diameter slightly larger than the bushings. You can work the stock down to just short of the desired design or diameter by carefully scraping or sanding.

### 7. Finishing the Blanks

Blanks can be finished like any other wood project. Using a fine grit sandpaper, sand the blank until it is flush with the bushing for parallel sided projects or until the desired profile is obtained for custom projects. Use a wood filler, if desired, to fill any grain openings in the blank. Final sanding with a wet/dry paper will create a blank which is glass smooth. *Tip: We have found that use of Micro Mesh sanding paper after wet/dry sanding creates a perfect, glass smooth finish.*

### 8. Assembly

All parts should fit together as depicted in the parts diagram for each project. In some cases a machinist vise will be needed to completely press the parts together. Protect all plated parts from scratching by covering them with a cloth or thin pad before placing them in a vise. Proceed carefully, many of the kit components are delicate and uneven or excessive pressure will cause permanent damage.



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Product #129956, 129961, 129959

## Spider Filigree Fountain & Rollerball Pens

### 1. Cutting Blanks

Cut two wood blanks, one  $\frac{5}{8}$ " x  $\frac{5}{8}$ " x  $2\frac{1}{8}$ ", the second  $\frac{5}{8}$ " x  $\frac{5}{8}$ " x  $2\frac{3}{8}$ ".

### 2. Drilling Blanks

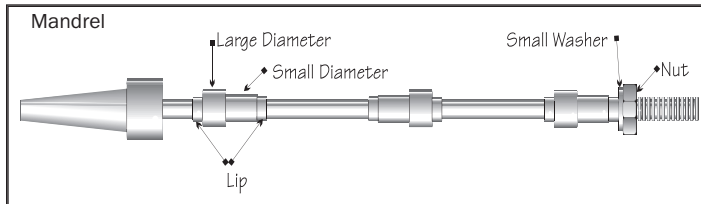
Using a  $\frac{3}{8}$ " brad point bit, drill a hole lengthwise through the center of each blank.

### 3. Gluing Blanks to Tubes

See General Instructions for details.

### 4. Sanding Blanks to Length

See General Instructions for details.



### 5. Mandrel Preparation

Mount the tube blanks on your lathe mandrel and turn to bushing dimensions. All three bushings are identical, but proper placement will enable you to turn to the dimensions required for the pen top and bottom. Place the first bushing on the mandrel with the "large" diameter on the headstock side of the mandrel. Slide the shortest blank onto the mandrel and over the lip of the first bushing. Place a second bushing on the mandrel with the "small" diameter oriented toward the headstock and slip the bushing lip into the first blank. Place the second blank (the longer blank), on the mandrel, followed by the third bushing with the "large" diameter oriented toward the headstock. In this configuration, the blank closest to the headstock is Tube #1 (the pen bottom), and the blank closest to the tailstock is Tube #2 (the pen top).

Tip: Mark or identify your bushings so that you can use them in the same mandrel position each time and avoid damaging more than one bushing lip when the mandrel nut is tightened to secure your blank assembly.

### 6. Turning the Blanks

1. The diameter of both tube must exactly match the bushing diameter. If these diameters are not precisely obtained the cap may not screw completely onto the bottom of the pen, or the filigree may fail to slide over the top tube.

2. A portion of the wood on the pen top, Tube #2, must be parted off for pen assembly. After turning the pen top to the bushing diameter, part  $\frac{7}{32}$ " from the end which will be receiving the Center Ring (H). When parting, all wood should be removed down to the brass tube, being careful not to damage the tube. We suggest trying to match the grain between the bottom and top of the pen to help you decide which end should be parted off.

### 7. Finishing the Blanks

Prepare as described in the General Instructions.

### 8. Pen Assembly

#### Cap Assembly

1. The Center Ring, part (H), consists of two pieces as shown in the diagram. Slip the small, black plastic ring (H2) onto the main center ring component (H1) so that the shoulder on the black plastic ring faces away from the main component (H1). The shoulder on the black plastic ring (H2) receives the filigree and must face away from the main component. This two piece assembly now becomes the Center Ring (H). Press the center ring (H) onto the brass, parted end of Tube #2 until it seats against the wood of Tube #2. If the Center Ring is loose, we recommend carefully gluing it in place with CA glue.

2. Press the Brass Clip Bushing (I) into Tube #2 opposite the Center Ring. Be sure the bushing is seated flush with the wood of Tube #2.

3. Slip the un-notched end of the Filigree (J) over the wood of Tube #2, making sure it seats over the shoulder of the black plastic ring section of the Center Ring.

4. Place the stud of the Finial (L) through the Clip (K), align the clip in the notch of the Filigree (J) and screw the Finial (L) into the top of the Brass Clip Bushing (I).

#### Lower Barrel Assembly

1. The Fountain Pen kit may have the Ink Pump (P) attached. If so, gently remove the Ink Pump at this time, pulling it apart from the Fountain Nib/Nib Barrel assembly.

2. Press the long end of the Gold Coupler (C) into the end of Tube #1 which will become the bottom of the pen. Press the large end of the Gold Reducer/Coupler (E) into the opposite end of Tube #1.

3. Press the Black Plastic Cap Receiver (F) onto the small end of the Reducer/Coupler (E). Press the Lower Barrel Finial (G) into the opposite end of the Black Plastic Cap Receiver (F).

### Roller Ball Operation

1. Place the Roller Ball Spring (N) into the lower barrel assembly large end first. Insert the Ink Refill (M) into the lower barrel assembly and screw the Nib Assembly (A/B) onto the lower barrel assembly.

### Fountain Pen Operation

1. Your Fountain Pen kit has been designed for use with the Ink Cartridge (Q) or for use with the Ink Pump (P). To use the ink cartridge, simply press the nipple end of the cartridge into Fountain Pen Nib/Black Plastic Nib Barrel assembly (O). You will feel the cartridge seat itself as the nib punctures the interior of the cartridge. Thread the Fountain Nib/Nib Barrel assembly back onto the lower barrel assembly.

2. If you are using the Ink Pump (P) you must first fill the pump with ink. Turn the black plastic knurled tip counter clockwise until the plunger is seated at the bottom of the ink cartridge reservoir. Place the tip of the cartridge reservoir into a bottle of ink such that the reservoir opening is always submerged in the ink. Turn the black knurled tip clockwise and ink will be drawn into the cartridge reservoir. Seat the Ink Pump back onto the Tip/Nib assembly.

3. When using your Fountain Pen for the first time, gently shake the pen to "load" the tip with ink. Ink can be thrown from the tip so proceed carefully and shake gently.

Fountain & Rollerball Pen Parts

