

## Candy Dispenser Demo Handout

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This demo describes how to make a candy dispenser from a glass globe and turned parts. The globe can be an oil lamp shade, candle chimney or any glass object open at both ends. Thrift stores are a good source of interesting, inexpensive globes. These globes are not truly round and their dimensions vary widely so don't rely on technical drawings when making a candy dispenser. First obtain the globe and then modify the size of the wooden components accordingly.

Note that wood and glass respond differently to changes in humidity. Hence, all wood/glass joints should be loose fitting to prevent the glass from shattering if the wood swells. If you must glue glass to wood, use food safe silicone adhesives. These adhesives remain flexible and are safe in contact with food. DAP All-Purpose Adhesive Sealant is a silicone adhesive that claims it is *"SAFE FOR FOOD CONTACT: When cured and washed, ingredients which remain or migrate to food are listed in FDA Regulation No. 21 CFR 177.2600."*

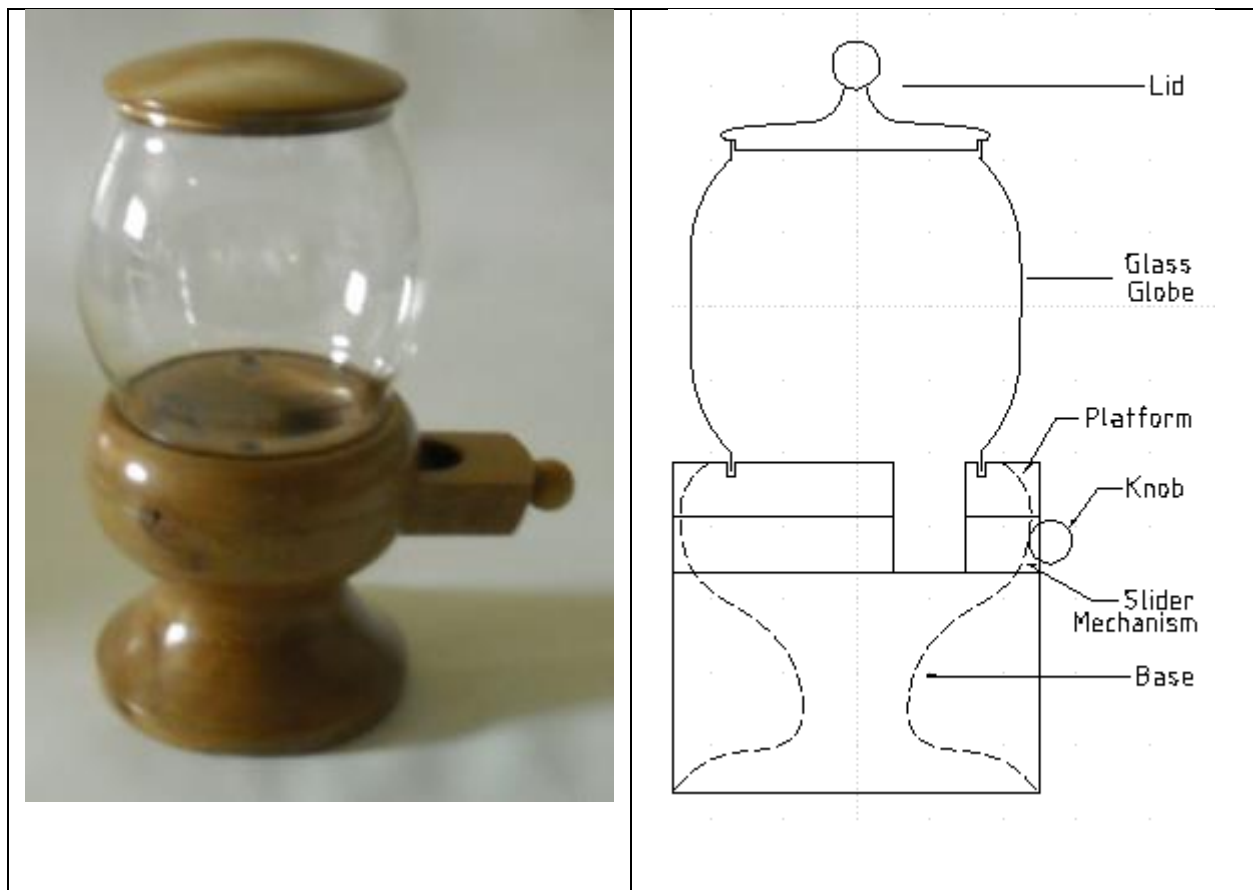


Figure 1

### Design Overview, Figure 1

The basic idea is to store candy in a glass container and release the candy with a wooden dispenser mechanism as shown in Figure 1. The glass globe is glued into a slot in the platform. The candy falls through a hole in the platform to fill a hole in the slider. The slider is pulled out with a knob until the hole moves past the edge of the base. The platform, slider mechanism and base are initially disks about 4.75" in diameter. They are turned to a pleasing shape as indicated by the dashed line. The base is undercut so a hand can be positioned under the slider to catch the candy.

### Glass globe

The glass globe used in this demo is for a Coleman 200 series lantern. The sturdy, pyrex globe is about 4.25" tall and 4.5" diameter at its widest. Surprisingly, this globe holds almost 4 cups of candy.

### Lid

The lid simply closes the top of the candy dispenser and should complement the overall shape of the dispenser. Ensure the lid fits loosely.

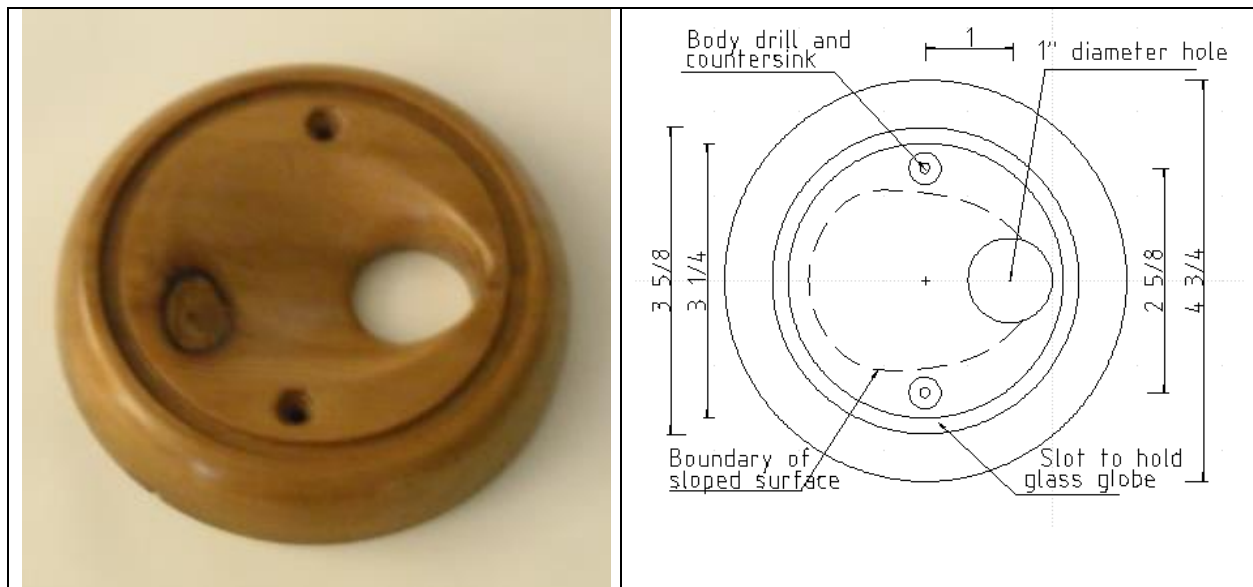


Figure 2

### Platform, Figure 2

The platform starts as a 4 $\frac{3}{4}$ " diameter,  $\frac{3}{4}$ " thick disk. A circular slot in the top of the platform loosely holds the glass globe in place. (The globe is glued in place after all components are finished.) A 1" diameter hole drilled just inside the slot allows the candy to fall through the

platform. The top of the platform is sloped to funnel candy into the hole. Two holes are drilled and countersunk so the platform can be screwed to the stationary member (see Figure 3). Screws, not glue, are used so the dispenser can be dismantled for cleaning or maintenance. The bottom of the platform is flattened.

Slider Mechanism, Figure 3

The slider mechanism, comprising a stationary member and a slider, is the heart of the dispenser. The mechanism starts as a 4 3/4" diameter, 3/4" thick disk with the top and bottom faces flattened. The platform and slider mechanism are stacked and aligned so the two screw holes and the 1" diameter hole can be accurately marked and drilled. The slider mechanism is screwed to the platform. The platform, slider mechanism and base are then turned to the desired outer profile as indicated in Figure 1. The slider mechanism is separated so it can be marked and cut.

To dispense candy, the slider must move to the right until the left side of the hole is near the bottom edge of the slider mechanism. Note that the hole need only be 'near' the edge. If the hole stops a little short of the edge as it does in the photo then all the candy within the hole will still fall. So don't worry, there are no critical dimensions in this design.

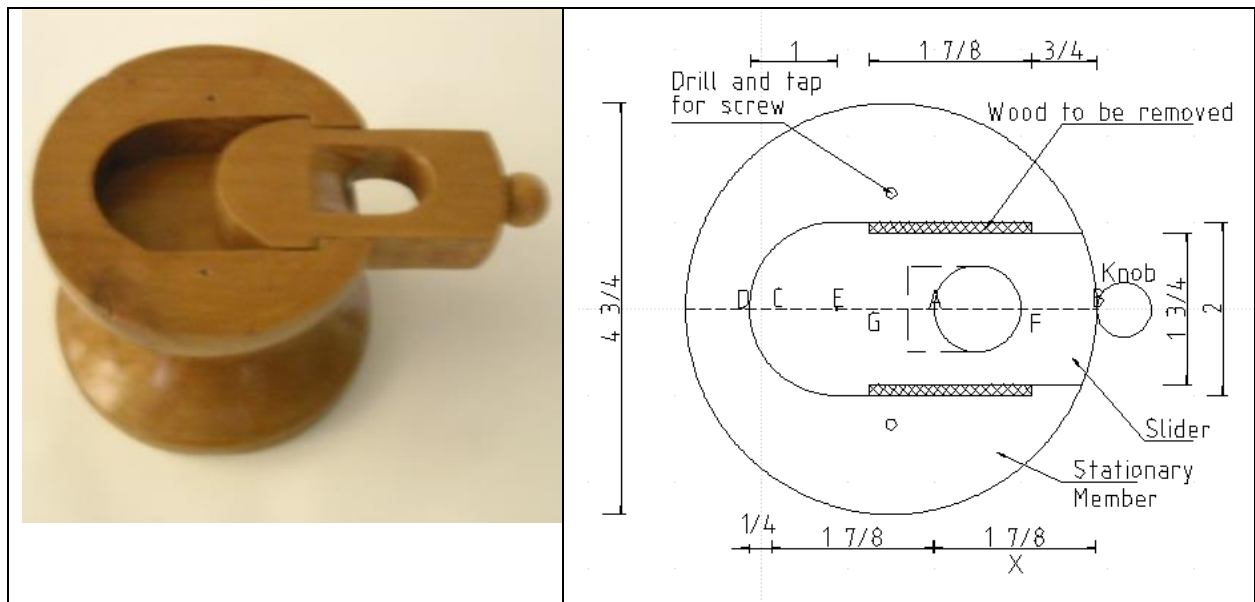


Figure 3

For simplicity, the discussion that follows assumes the slider mechanism (the disk) is still 4 3/4" in diameter. Once you understand how to mark and cut the disk you can modify the dimensions to suit your actual case. The important dimensions are shown in Figure 3.

Draw a line across the top of the disk that goes through the center of the disk and the center of the hole. Draw lines 1" above and below that line. Draw lines 7/8" above and below the center line. These lines define the sides of the slider.

Measure the distance from the left side of the hole (A) to the right edge of the bottom of the disk (B). This is the distance the slider must travel. This distance, called X at the bottom of Figure 3, is 1 7/8". On the top of the disk mark a point on the center line a distance X to the left of the left side of the hole (C). This mark will be even with the hole in the platform when the slider is fully extended. Place another mark 1/4" to the left of C to define the left side of the slider (D). The additional 1/4" of length prevents candy from getting behind the slider. Measure 1" to the right of D and mark (E). Set a compass to a 1" radius and draw an arc centered on E that connects the top and bottom lines and passes through D.

The crosshatched area in Figure 3 determines how far the slider will travel. Make a mark on the center line 3/4" from the edge of the slider (F). Make a mark a distance X to the left of the previous mark (G). Extend marks F and G up and down to define the edges of the crosshatched areas.

At this point you should see the slider and stationary member drawn on the top of the disk. Look at the design and ensure it will work for your particular case. Once the design is final erase all unnecessary lines to prevent confusion before cutting out the slider.

Sand away the saw marks on the stationary member and screw it to the platform. Ensure the top of the base is flat. Using the lathe as a clamp, glue the stationary member to the base. Do not include the slider in this glue up. Clean up any excess glue, especially any that will hinder motion of the slider. The stationary member is glued to the base to give the stationary member greater strength and stability.

Clean up the saw marks on the slider and sand its top, bottom and sides to ensure it slides loosely within the stationary member. The gap will close a little when a finish is applied so make sure the slider fits loosely. Carve a ramp into the hole to give the slider a smoother motion through the candy. Turn a knob that will be screwed or glued to the slider after the finish has cured.

### Base

The base raises the slider mechanism to a convenient height, provides a stable base for the dispenser and is shaped to allow room for a hand under the sliding hole. The top surface of the base is flattened. The bottom is recessed to ensure stability.

### Finish

Don't forget that this candy dispenser will hold food. Also note that candy will slide across some of the surfaces. Hence, those surfaces that contact candy should have a hard, smooth, food safe finish.

I'm not an expert on food safe finishes but here's my two cents worth for a candy dispenser. I am comfortable using fully cured and washed polyurethane, polycrylic or epoxy in contact with food. Basically, I apply the finish and wait for it to cure at room temperature. Then I warm the finish to encourage full reaction of the finish. Say, 150 degrees for 2 to 3 hours. Then I wash the finish with hot tap water and wipe dry to remove any surface contaminants. I assume the finish is now safe enough for use.

There may be many other ways to finish these surfaces. I don't know enough about the food safety of wood finishes or applicable Federal law to have an opinion.

### Assembly

Assembling the candy dispenser is fairly straightforward once the finish is ready. Screw or glue the knob to the slider. Insert the slider into its space inside the stationary member. Ensure the slider moves freely. Screw the platform to the stationary member. Put a thin (1/16") bead of silicone adhesive in the bottom of the slot in the platform and gently press the glass globe in place. Let the dispenser sit with the lid off until the silicone has cured. Wash the silicone the best you can. I'd suggest rinsing the inside of the silicone bond with warm water a few times followed by wiping the interior surfaces of the glass and wood with a warm, damp rag.