



## Silicone Rubber Fish Sculpture

by [Thinkenstein](#) on March 20, 2012

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Author:Thinkenstein [author's website](#)

I'm a refugee from Los Angeles, living in backwoods Puerto Rico for about 35 years now and loving it. I built my own home from discarded nylon fishnet and cement.

## Intro: Silicone Rubber Fish Sculpture

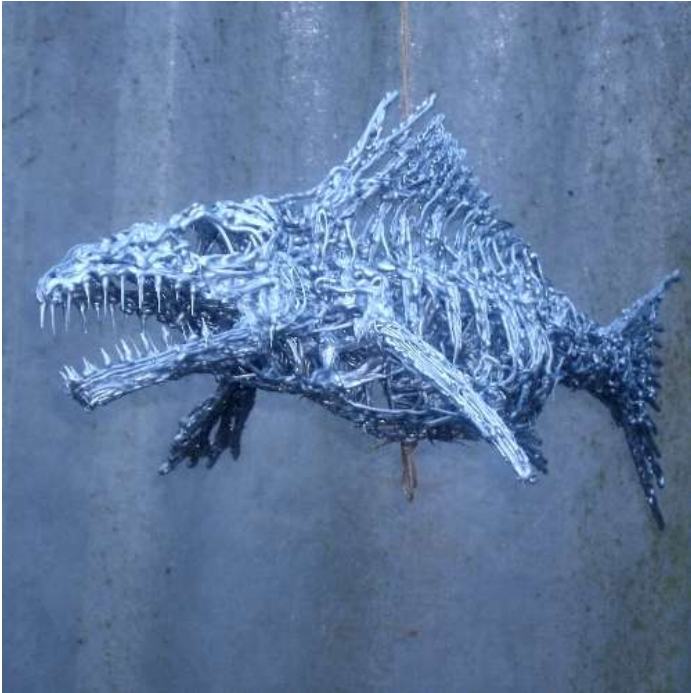
This silicone rubber fish sculpture uses an unusual construction technique. Most of it was done by extruding lines of aluminum-colored silicone in air! It's like 3-D drawing. The material is light-weight and basically unbreakable.

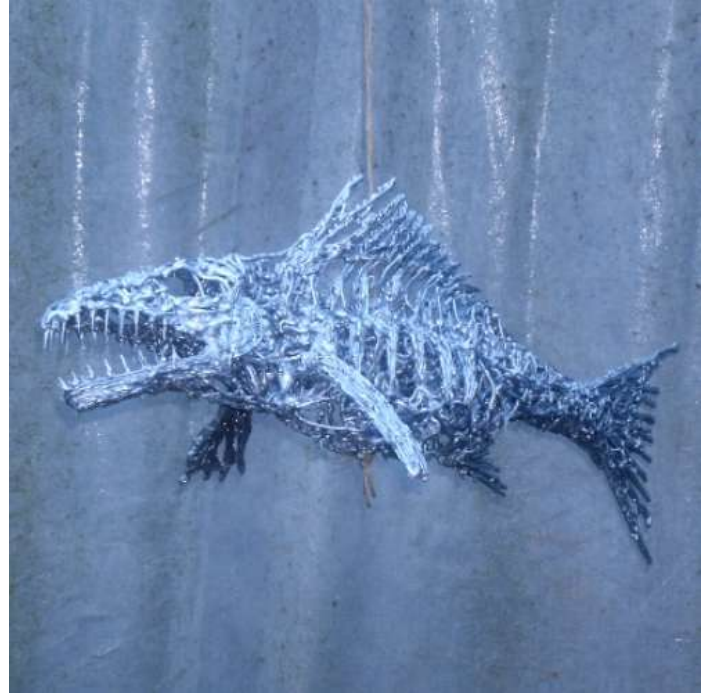
I love the see-through potential of this technique, allowing suggestions of internal anatomy. Now I can make my own fossils!

A fish swimming in the air is like a fish swimming in water. Hanging, as a means of display also eliminates the need for bases and dedicated floor space.

This piece has a temporary string support now. It is also set up with a socket through the center of the body so it can be mounted on a base with a vertical rebar as a stand. That way, it can also be displayed in more conventional show settings someday.

This could have lots of applications in education; such as biological models, architectural models, or really far-out art projects.





### Step 1: Armatures

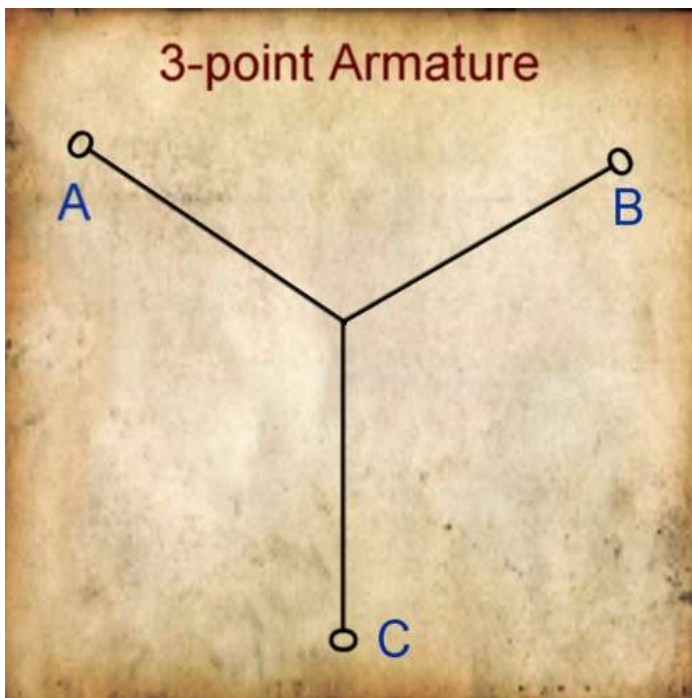
Sculpture armatures are like skeletons upon which other materials are built up. In this case, there is a wire running through the spine of the fish, and some smaller ones in the fins to help keep them in position. Since the silicone is soft and flexible, gravity can make things sag. If you don't want it to sag, it needs to be thick enough to resist sagging, or have reinforcement.

Since I was developing the technique as I went along, I didn't really know what I was doing and had to do a lot of adapting -- which was fun. This armature, a simple line through the spine, was not ideally shaped for positioning in space. Ideally, an armature should have three attachment points, not in the same line. Three points define a plane. By adjusting the positions of the three points with adjustable lengths of string from overhead, you can position the plane, and your work, in any position.

A universal armature might be something like three wires radiating out from a central point, each wire with an eye at the end for attaching strings. When the sculpture is completed, you can cut off any extruding armature wires and patch the spots with more silicone.

If you want to keep everything flexible and rubbery in the finished piece, you can use string in an armature, instead of wire, attaching the string ends to a temporary, rigid external armature that is cut off later.





## Step 2: Drawing in the Air

Silicone is really fun to work with. When freshly extruded, it is a soft, sticky, almost-solid, liquid material. It has strength limitations, which improve as it hardens up. Because of those limitations, if you try to draw too long a line, it will sag and break under its own weight.

For very long lines, coat some string with silicone first, by rubbing it on with your fingers, using rubber gloves. You can then drape that long line, attach the ends with silicone, and then build up the line thickness later with added extrusions.

For shorter lines, just press the tip of the silicone cartridge to your work to attach one end of the line, extrude the line, and press to attach the other end.

Once you get a network of basic lines in place, it is fairly easy to fill in the gaps with more lines, and eventually skin over areas for a more solid appearance.

For more detailed extrusions, you can use plastic-tipped syringes, available at pet stores. Fill them directly from the big cartridge. As with the big cartridges, the conical tip can be cut at different locations to make bigger or smaller extrusion diameters. To clean them out, remove the plunger and wipe it. Let the silicone inside the syringe dry and then you can push and scrape with wire tools to get it clean. Pumping the plunger in and out rubs the inside of the syringe to get the walls clean. I use something like a giant cotton swab to get the little loose particles out.

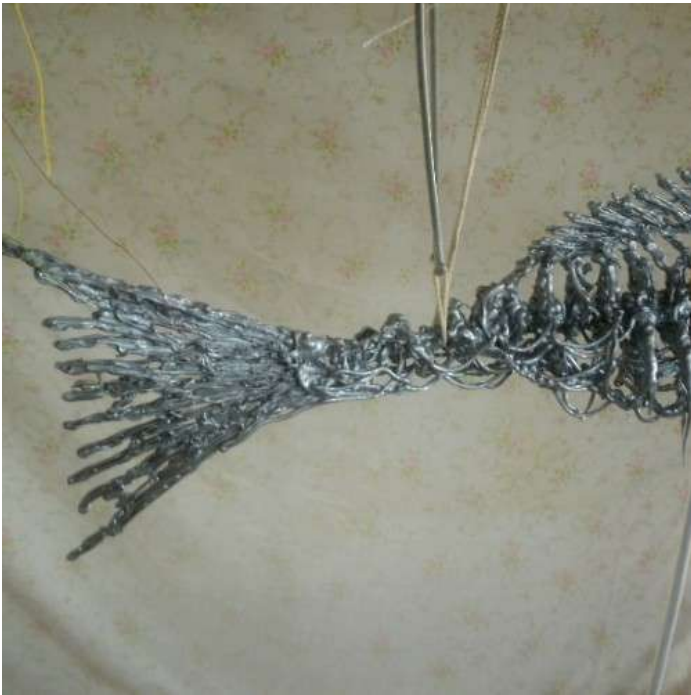


### Image Notes

1. Sometimes, you need to work upside-down.







#### Image Notes

1. These plastic-tipped syringes are available at pet stores. The washer helps one exert more pressure by making a bigger finger rest.

### Step 3: Hanging or Base-mounted

I started out with the idea of hanging the sculpture when completed, but then decided I wanted the option of mounting it from a base with a vertical rod into the body of the fish.

Here you can see the rod added, running through a piece of plastic tubing. The tubing was locked in place with silicone in the body of the fish, creating a socket for the removable rod. After the silicone hardened up, I removed the rod and trimmed the tubing flush with the bottom of the fish. A string can go through the tubing for hanging the fish, or the rod can go through the tubing for base mounting it. (A stop on the rod would keep it from coming out the top of the tubing and completely penetrating the body of the fish, or the top of the tubing could be capped.)

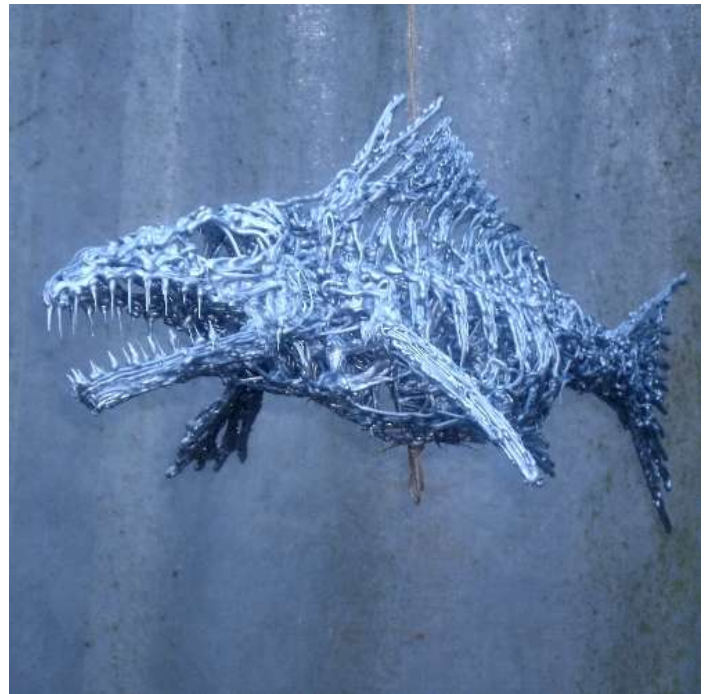


#### Image Notes

1. Rod socket added.

### Step 4: Adding Fins

Instead of building the fins in place, I just drew them out on a non-stick polyethylene cutting board and attached them when they hardened up. I used some stainless steel welding rod, where needed, for rigidity in the fins. Stainless steel is best for armature wire because it will never rust. The silicone rubber and stainless steel combination has got to have excellent longevity.



#### Image Notes

1. You can draw small designs and make jewelry this way, too.



## Step 5: Don't Throw Away the Empties!

I try to recycle everything, including the empty silicone rubber cartridges.

To get the plunger cup out of the cartridge, cut the tip of the cartridge so the hole is big enough to push a rod (1/4" rebar) tool through it. Push the plunger cup out the back of the cartridge. When the silicone hardens up, it peels right off the cup. You can get it out of the cartridge using tools made of rebar, or other materials, that can reach in and scrape, or rub.

As music toys, the empty cartridges make good maracas. Use two plunger cups to close up the openings trapping seeds, or other shaker things inside.

I also like to paint and buy my acrylics in pint jars. It's cheaper in bulk. Since one can lose a lot of paint to drying from opening and closing the jars all the time, I like to transfer the paint to empty silicone cartridges with caps. Then, I extrude what I need and never lose paint to drying. See: <http://www.instructables.com/id/Grease-Gun-Paint-Storage>



## Related Instructables



**Silicone Rubber Sculpture Techniques** by Thinkenstein



**How to sculpt chocolate** by PenfoldPlant



**USB casting in transparent resin** by protoman



**Kinetic Cardboard Fish** by djairjr



**Digital Sculpting, 3D Printing and Animatronics** by doktorvortexx



**Constructing a 3D Settlers of Catan Board** by homechicken