Making a Breakable Paperclip Sculpture

By Jim Scott - May 12, 2019

The Joshua Plant [1], which premiered at CAT Theatre in January 2014, required what was probably my most difficult single prop to date. Here's how it's described in the script dialogue:

> *(. . . There is a knock on the door. . . .SANDY answers it. It's JIMMY. He's carrying some sort of metal sculpture.)*
> . . .
> SANDY: What's that?
> JIMMY: What does it look like?
> SANDY: Uh.
> JIMMY: It's my newest work.
> SANDY: You made that?
> JIMMY: Of course, I made it. You can't find anything like this in a store!
> SANDY: I'll say. What is it?
> JIMMY: Don't tell me you don't recognize you and Josh! It's a sculpture. Made completely of paper clips. The facial features were difficult, but I think it's clear that it's a mother and son, right?
> SANDY: Oh . . . yeah, of course.
> JIMMY: Paper clips are harder to work with than you might think. I heated them up to make them more bendable, but then they tended to snap. The key was to be really gentle and then let them cool down without touching them. Took a lot of patience.

in a later scene this stage direction appears:

> (JOSH picks up JIMMY's statue and throws it on the ground, breaking it.)

The requirements for this prop were as follows:

- It would be a wire sculpture.
- It had to at least *look* as if it were made from paper clips.
- It had to somehow depict a mother and son.
- It had to have a way of "breaking" without being destroyed. Making a separate sculpture for each performance was out of the question, so it had to be possible for the stage crew to reassemble it after each performance.

I decided to use actual paper clips, but I chose heavy-duty "jumbo" paper clips with thicker wire than standard paper clips. Despite JIMMY's dialogue, they're not hard to work with - you definitely don't need to heat them to make them bendable. I bent them easily with a variety of tools already on hand, including rounded-end needle-nose pliers and hemostats.

Actually, each paper clip needed to be straightened first, giving me a reasonably straight piece of wire to work with. *Unbending* wire is tricky, but eventually you get the hang of it.

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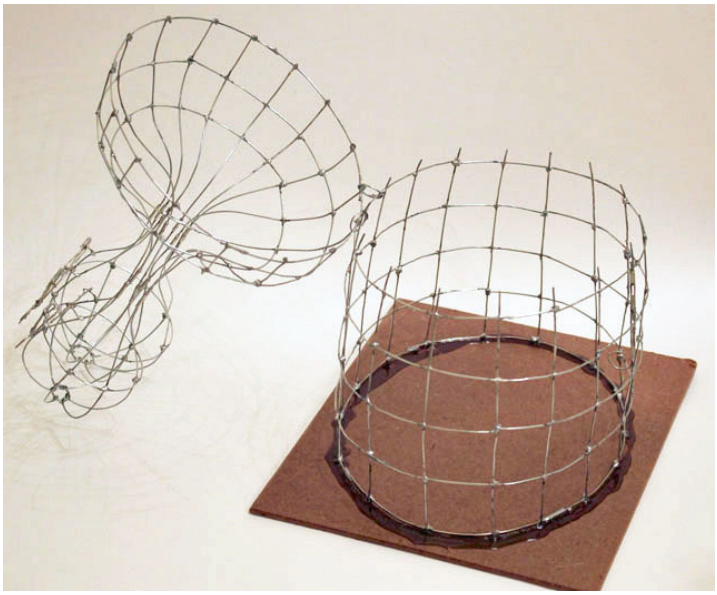
[1] Written by Amy Berlin & P. Ann Bucci, directed by Laurie Folmer

All the pieces would need to be fastened together, and soldering seemed the obvious choice. I acquired a soldering iron with enough power for the job - 45 watts.

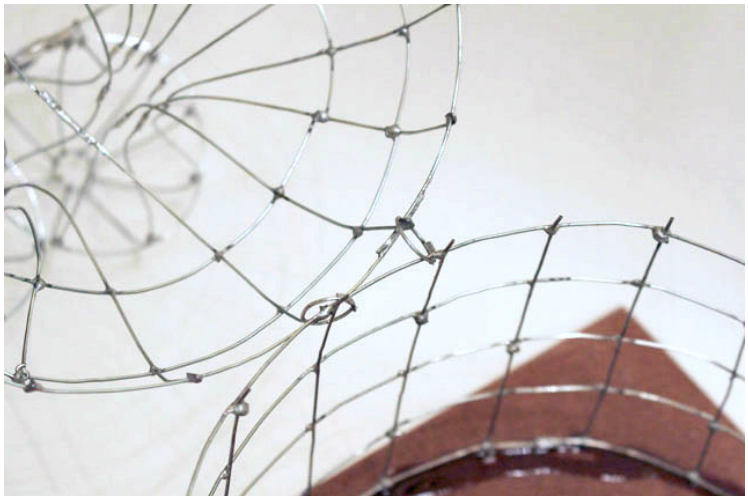
Here's a photo of the almost-finished sculpture. The bottom row of wire was glued to a 1/8" particleboard base, which was then covered with white felt.

And here's a closeup of the heads:

The basic structure started with a simple, wide oval base for stability and durability. The "breaking" was implemented by having the top half of the sculpture separable from the bottom half. I wondered if such a simple, clean break might not look convincing to the audience, but this prop was already complicated enough without having to engineer a more ragged-looking break.

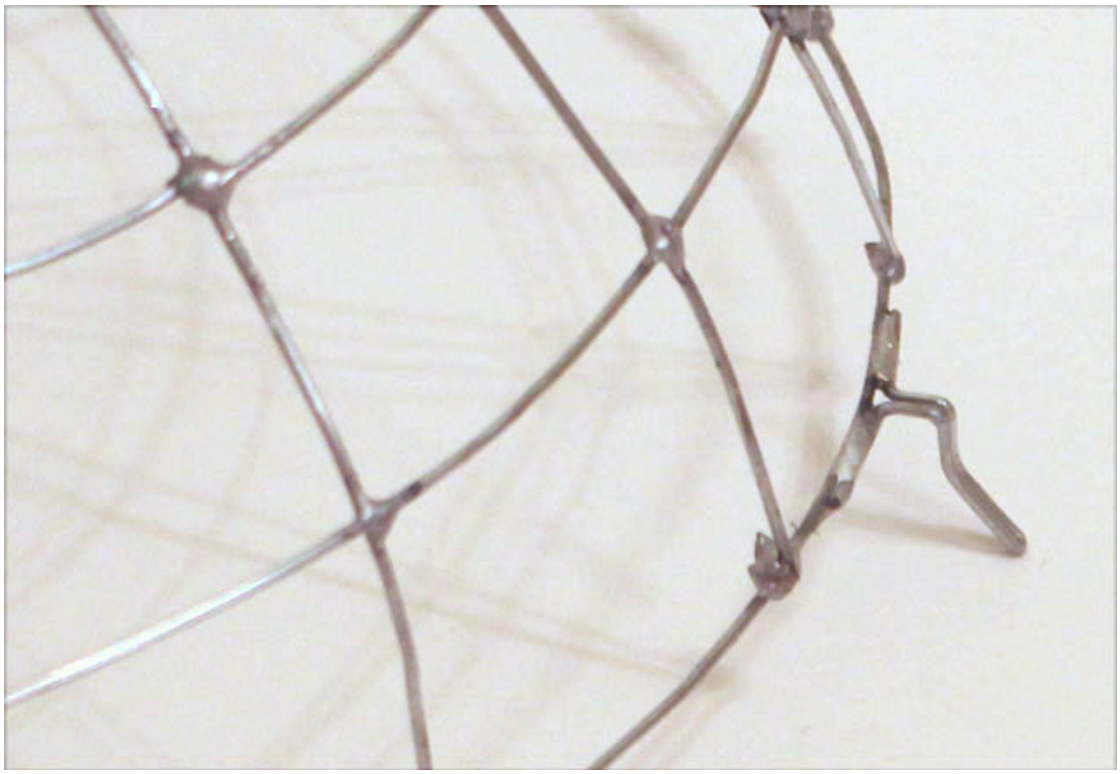


The two halves would appear to hang together by a thread, implemented as two loops of wire.

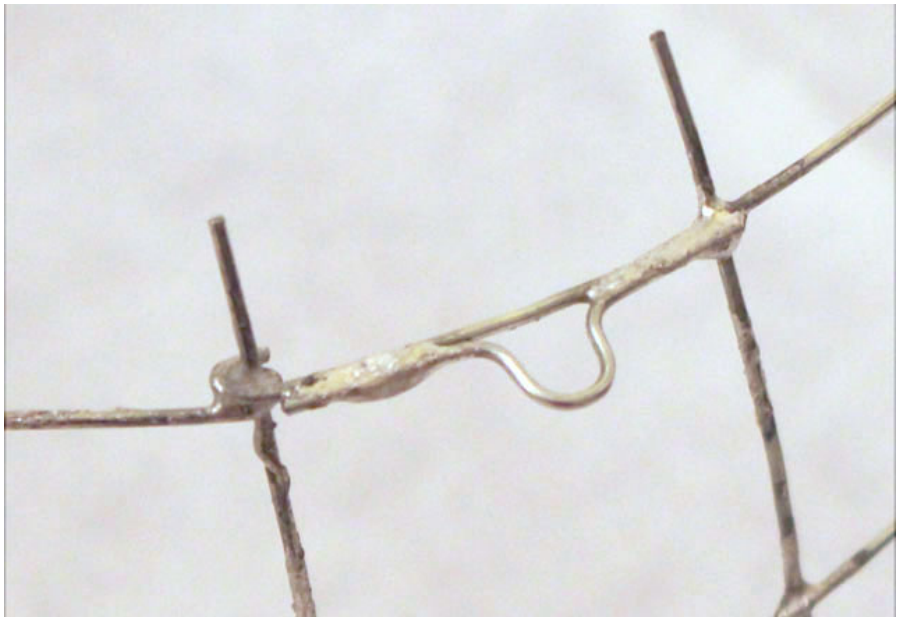


Keeping the two halves together would facilitate removal by the stage crew at the end of the breakage scene. It would also make it easier for the sculpture to be reassembled for the next performance.

In addition to the two wire loops, the two parts of the unbroken sculpture were held together by three sort of hook-and-eye closures. The "hooks" on the bottom edge of the top half of the sculpture looked like this:



The "eyes" along the top edge of the bottom half looked like this:

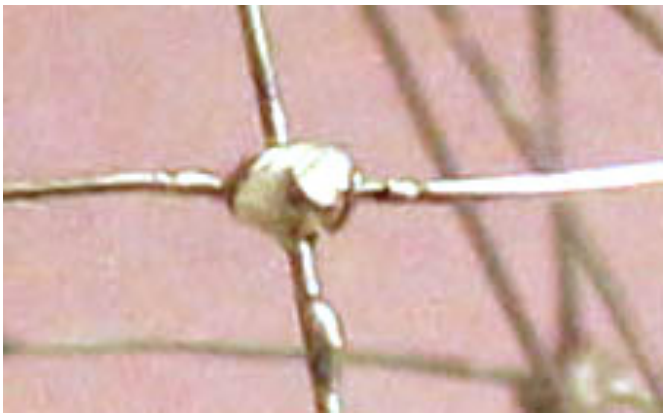


They fit together like this:

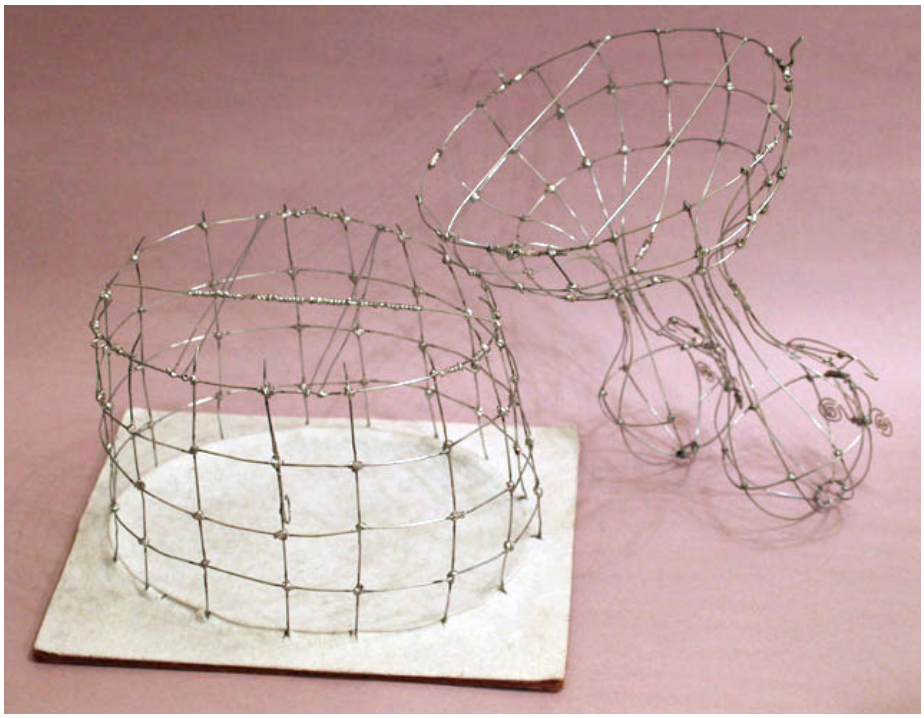
Most of the work involved (1) bending wire and (2) joining the wires wherever they met or crossed. When one end of a wire met another wire at a right angle, the wire end had a tiny loop in

it that the other wire passed through. This was soldered together. Where two wires merely crossed, at first I only soldered them together.

In rehearsals, it became clear that knocking the sculpture across the stage was making these joints come apart. So I had to go back over the sculpture to reinforce all the joints. I wrapped a tiny loop of extra wire tightly around each wire crossing, then re-soldered the joint together.



I also had to reinforce the oval shapes where the top half and bottom half met. This was done with bracing: stiff straight wires running from one side to the other, as shown at the right.



Once the sculpture was reinforced, it still needed to be reshaped a little after each performance, but for the most part it held up well. Fortunately, the two faces were strong enough not to suffer any real damage.