

Job Profile

Custom forged organic handrail

- Falling Hammer found several ways to keep their customers' price tag down while keeping the high-end quality up.

By Cassandra Covill and Peter Thatcher Swarz-Burt

This job came to us from a couple in Fairfield, CT who had seen some of our forged organic tables on our website. Their house is located in an area of patchy woodlands, and they wanted to reflect their surroundings in the entryway to their new home.

We appreciated that code did not require a full railing since it is exceedingly difficult to create a fully organic railing that matches 4-inch code restrictions without it becoming a veritable tangle of branches and leaves. Going with a handrail design allowed us the open space to make the details of our trees more interesting and realistic while keeping the price tag within the customers' budget.

One factor that complicated the design process was the homeowners' desire to run LED strips along the bottom of the cap, which necessitated that the bottom of the cap remain hollow and unobstructed along its entire length. It



also meant that the post at the bottom end of each rail needed to be hollow, so the two front posts were forged down hot from 1¼-inch tube to match the 1¼-inch solid posts elsewhere. The ends of the tube posts were capped to avoid filling with cement during installation. After installation we drilled into the side of the step with a 1-inch core bit to remove the bottom of the post and provide a conduit for the wiring.

All of the trunks and branches were tapered hot under our Say-Mak air hammer. The bark texturing was performed cold under custom dies on the same hammer, and once textured, the

Fortunately code did not require a guardrail for this entryway to a client's new home, giving Falling Hammer more creative freedom with their organic woodland design.

For your information

Job: Grove of Oaks Handrail in Fairfield, CT. Installed November 2009.

Suppliers of note:

- Tapering and texturing: Say-Mak 50 kg hammer, 110 lb ram weight
- Preventing rust: RUST-OLEUM® Industrial Speedy-Dry Acrylic Enamel Primer
- Weathering and Highlighting: Gilders Paste Celtic Bronze
- Setting posts: Rockite

CONTACT

Peter Thatcher Swarz-Burt
Falling Hammer Productions LLC
28 Main Street
Oakville, CT 06779
Phone: (203) 597-1114
Fax: (203) 597-1114
fallinghammerproductions@yahoo.com
www.fallinghammerproductions.com

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pieces were heated again and bent to random organic shapes. The branches and trunks were then fitted together, MIG welded, and the welds ground and re-textured with a cross-peen hammer. The cap rail was fabricated from three pieces of our own bark-textured 3/4-inch round stock; the pieces were welded in a jig to ensure that the appropriate width of channel was left in the underside to accept the LED strip.

The oak leaves were designed in-house, but we sent them out to be laser cut from 16-gauge sheet in the interest of speed and cost. The leaves were then textured under another set of custom dies. We would have preferred to vein all of the leaves rather than simply texture them, but the budget simply did not allow that level of detail. As it was, the textured surface accepted the eventual finish very well and provided a look far superior to simple sheet metal at an only slightly increased cost.

The acorns were hot-forged from 3/4-inch round stock under yet another set of custom dies. These dies allowed us to turn out excellent looking acorns in a single heat, and again the cost savings were greatly appreciated by the customers. The slightly rough and faceted finish on the acorns ensured that it was clear they were forged rather than cast while at the same time making them more suitable for the finish that the customers wanted.

Once the railings had been fabricated into six, 8-foot panels we began the finishing process. We recently switched to using waterborne RUST-OLEUM® Industrial Speedy-Dry Acrylic Enamel Primer and have been very pleased with the results. The first coat sprayed was a zinc phosphate primer, and we followed this with two coats of a dark greenish-brown that is quite hideous. So much so, in fact, that when we arrived on site with the panels it took some time convincing the customers that this was actually the right color and that they would love it once completed.

We drilled 2-inch cores 4 inches deep to set all of the posts, and then we poured them solid with Rockite once they were all aligned and clamped. Once the cement was solid, we began TIG welding the panels together, again making sure to leave the channel for the LED strip. The welds were ground and textured with a cross-peen, then all joints were hand painted with the same coating that the rest of the railing had received. At this point we also touched-up any scuffs that had occurred during transport.

Once the paint was dry it was time to apply the Gilders Paste Celtic Bronze, which, combined with the nasty green-brown undercoat, served to create an excellent illusion of weathered and highlighted bronze. The accents of the Gilders Paste truly brought the railings to life and allowed for our long hours of making sure that every inch was textured to really pay off. Without the texture the Gilders Paste the finish would have been much less effective and the overall look would have been much less interesting. We then top-coated with a satin-finish exterior grade varnish to insure the long life of the Gilders Paste.

In the end we spent roughly 100 hours making and installing these railings, which have made excellent advertising on our website and impressed both the customers and the builder. 🍷

4 reasons to use waterborn paint

The waterborn paint proved itself many times during this project and is worth looking into for those unhappy with their current coatings.

1 It is readily available in a number of colors.

2 Since it lacks a volatile thinner it does not require hazardous shipping and does not create a cloud of deadly and explosive fumes during application.

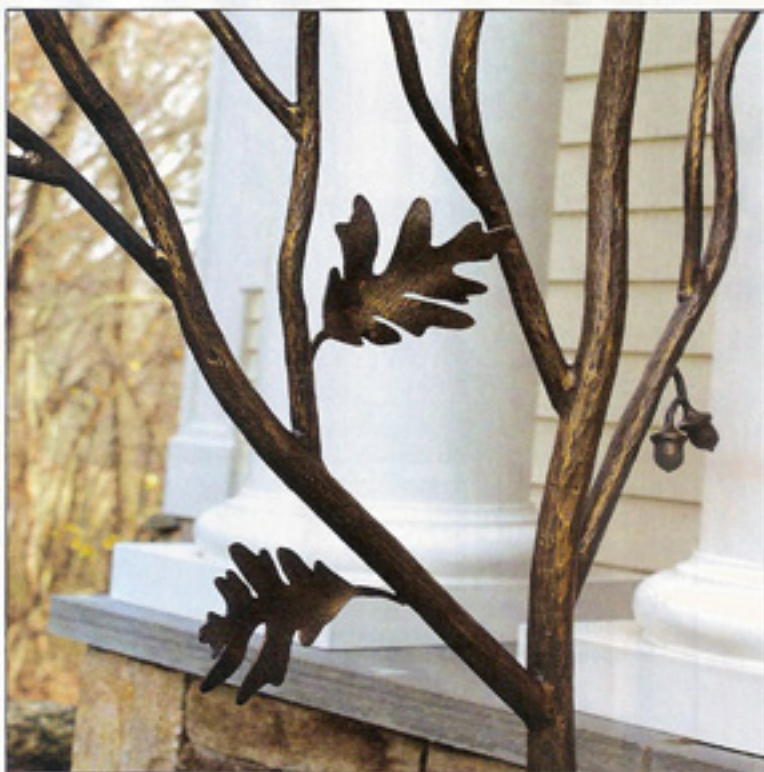
3 Any drips on site clean up with a little water and a sponge. This was a major source of happiness for us.

4 The fact that once dry it is rated for serious chemical exposure is just icing on the cake.



Branch sample, far left. Falling Hammer tapered hot all of the trunks and branches under their SayMak air hammer and then textured the bark cold under custom dies.

Acorns, left. The fabricator hot-forged the acorns from $\frac{3}{4}$ " round stock under a set of custom dies in a single heat.



Gilders Paste, above. The finish on the rail consists of a sprayed zinc phosphate primer, followed by two coats of a dark greenish-brown waterborn paint. Once the paint was dry Falling Hammer applied Celtic Bronze Gilders Paste to give the appearance of weathered and highlighted bronze.

Leaf, left. Even without a vein, the oak leaves, which were designed in-house, and finished with Gilders Paste, turned out even better than expected.