

# Short-legged Trivet in Cookie Jar Mode

By Fred Truck



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In 1972, I bought an incense burner for my wife, Lorna, as a Christmas present. It cost \$40. As we didn't have very much money, Lorna wasn't very happy with my gift to her, but over time, she grew to love it. The expense was forgotten.



At some point, she asked me what it represented. I told her it was a Trivet (which of course, it wasn't). A trivet is a kitchen tool, originally a tripod, that the cook rests something hot on to protect the countertop.

Looking closely at our Trivet, we could see it had some unique features. It appears to be

1. A unicorn
2. A hippopotamus with fangs
3. A rooster

In Western mythology, such a creature is a chimera. Later, we found Hindu or Buddhist Temple guardians that resembled the Trivet but no exact match.

Fast forward 50+ years. I received a 3D scanner for my birthday. I was casting about for a suitable subject to scan and due to the fact that we had located a very large format photo I

did in 1999 which I called Mr. Milk Bottle and his Horse, Trivet, I decided I wanted to scan the Trivet. Lorna found the Trivet, and I set to work.

The Creality Ferret Pro scanner is a portable device that can be operated hand-held, or stationary. It is sophisticated using LIDAR. I employed a rotating turn table and got results I could work with. The Trivet is a complex surface with many curves and variations. There were many holes in my model that had to be filled to make a closed, continuous body, a requirement for good 3D printing. Plugging the holes is relatively easy with canned shapes like spheres, planes or ovals, but the best way is to use metaballs. Metaballs are ball-shapes that expand to bordering edges. This makes the surface continuous. While this may be desirable, it is also how the overall geometry of the model changes without intention.

Editing took about a week.

I use a Creality Ender 3 S1 Pro printer. It took me 3 days to find the right combination of PLA filament and extruder settings. Once I succeeded, I could afford to take a critical attitude in assessing my work.

Due to the editing I did to fill holes in my model, the proportions of the Trivet changed. This was acceptable to me because I was happy that the Trivet I was making wasn't a carbon copy of the original. My Trivet was printed in 2 parts. That being the case, there was even more distortion.



I invented the concept of **Imprecise Construction**. Accident is nothing new in art, but the art referred to is usually painting. **Short-legged Trivet** is a sculpture. Some of the accidental quality was the result of interaction between the machine and me. Other accidental features originated in the machine and the way it interpreted the code it had written.

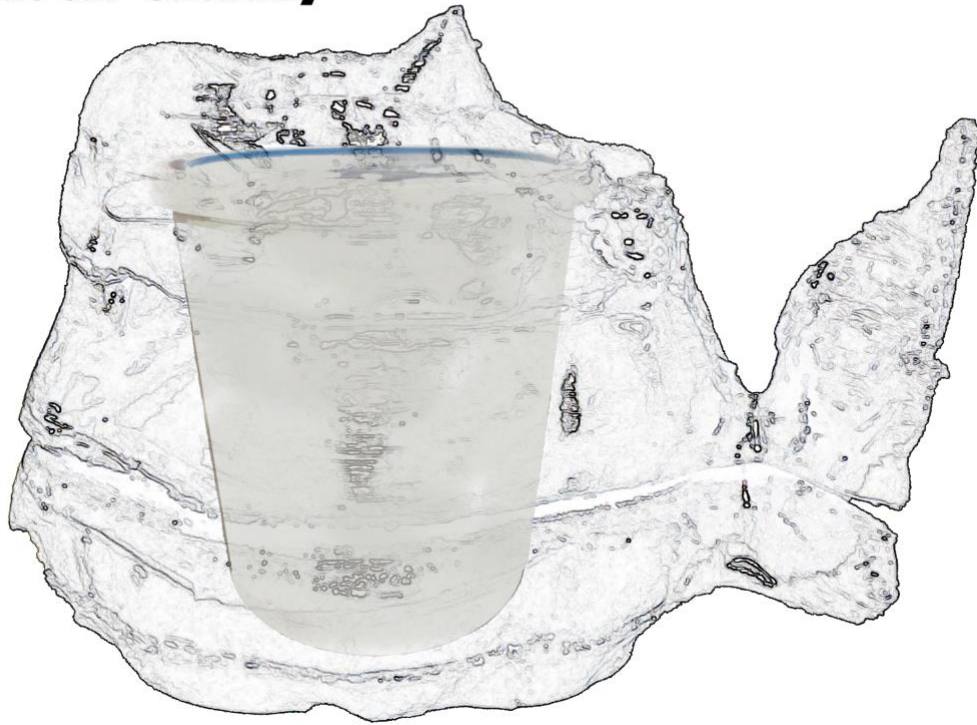
The final word still rested with me.

What is important in Imprecise Construction is that all the parts fit, but they don't have to be perfect or meet specific tolerances. Even though this sculpture was made by machines and myself in collaboration, perfection was not desirable. Imprecise Construction makes unique expression possible.

In the back of my mind, I thought about ceramics from my childhood that allowed for play but were useful. **Cookie Jars!** When I was a child, we had a ceramic cookie jar that was a sculptured pig wearing a bandana around its neck. The top of the jar fit on the bottom, but pretty loosely.



## **Short-legged Trivet Cookie Jar Cutaway**



There were a couple of printer malfunctions that helped me achieve imprecise construction. For one thing, the machine tried to make a layer where there was no directive to do so. Then, it truncated the legs.

I haven't made the cookie jar yet, but the concept is viable.

Thus, the Short-legged Trivet came into existence.



