

Aluminum Animals For Merry-Go-Rounds

From a letter to Fred Fried, as written by A. K. Brill

A page from Brill's Catalog #11 advertised aluminum giant and standing horses as "big beautiful animals that were skillfully copied from the old time hand carved Parkers. We had photos projected in a size larger than even the originals, and carefully copied in cement. From these we made glass patterns in negative, and in them positive casts. These were carefully sharpened in minute detail, probably deeper than in the original wooden horse, and then the pattern cast in aluminum. Here, too, the detail was again sharpened. The horses we sell are cast from these patterns."

Photo from the NCA Archives.

A letter written to Frederick Fried in 1979 sheds light on how A. K. Brill of Peoria, Ill., produced aluminum animals for merry-go-rounds. Brill developed hundreds of plans for amusement rides, games, and related objects, which he made and sold by mail order from his catalog of nearly 400 pages.

"I didn't invent the aluminum horse—I merely perfected it," he stated, after describing his first casting experience in 1951. He went on, "As far as I know, it was first used by Jay Warner, Bay St. Louis, Miss., who built many cheap merry-go-rounds—the only bearing they had was the one at the top.

"I got hold of one of his horses—they were skip welded, so easy to cut apart. Fiberglass, or flexible plastic (vinyl) had not been invented, so he must have made the impression of the part of the wooden horse in sand, and using pumice (parting sand), 'cast' a positive in the cope in sand. Then by cutting off the thickness of the aluminum he wanted in the positive, putting the two parts of the flask back together, he got the thin aluminum horse. If you don't follow me, write—I'll draw a picture.

"The bottom of the sand mold—which is an open frame lying on a loose board, is called the 'drag,' the top half — similar — is called the 'cope.' Now laying the pattern on the board, putting the flask around it, 4 in. large in each direction, 8 in. longer, 8 in. wider, 4 in. deeper, moulding sand is rammed up over the pattern, and you have a negative in sand.

"As mentioned, Warner probably put 'parting' sand over the cavity after removing the pattern, and rammed in more sand, and got a positive. He put a board on top, and carefully lifted and flipped it so he had a duplicate of the wooden pattern in sand. Which he pared off the thickness he wanted the aluminum to be, reassembled the flask (very carefully, so the pared sand hung down into the cavity), and poured the aluminum. It took 12 to 14 casts—2 heads, 2 bodies, 2 tails, 8 legs, or tails could have been cast with bodies.

"Believe you me, those men were not only skilled craftsmen—they were artists, and I have



been around enough foundries to know a molder when I see one work.

"Now for my animals. In the early 1900s, Peoria had artists like those mentioned above. In the first place, we had the world's largest foundry in the Avery Thresher Plant. You've seen pictures of the Avery steam tractor that looked and worked like a steam railroad engine.

"The foundry worked 100 days a year, men earned up to and over \$20 a day, when average workmen got \$4. But the molder drank it all (Peoria also made whiskey) and worked for cement contractors in the summer, shoveling sand for sidewalks (like he did in the foundry) but for \$4 a day.

"In 1951 when I started casting aluminum, there was still one of these old artists in every foundry. I started with a Jay Warner Horse cut apart. A little later Allan Herschell began making horses with aluminum parts and wooden bodies, and later full aluminum horses. Mr. Vern Garsabrig, of Nittany Rides, State College, Pa.,

gave me a Herschell horse with straight head, it is in my catalog. With the two, I was doing all right, but Uncle Sam only allowed me 500 lbs. a ~~year~~ aluminum due to the Korean War—it was a quarter, not a year. So I sold patterns, also used scrap aluminum.

"I saw a rubber reindeer used to decorate city lamp posts. I purchased one through a funeral supply house. However the foundry cut it apart, without first making a sand form, and it fell apart almost flat. To save their hide (after they had run up \$350 in time (a fortune in those days), they gave me name and address of a retired molder with 50 years foundry experience. His name was Carl Joyslin. He not only had been a stove molder, but also developed parts for the first spirit duplicators.

"He took their thin castings, and with brown roofing paper thickened the reindeer parts, and heated and pounded them to fit.

"In the meantime I had a job writing advertising for a furniture and appliance store, and the boss calls me in and says we've got \$400 for a Santa Clause and Sleigh. Can you build it?

"Well I got another reindeer from the funeral supply house, and as he was rated in Dunns and Bradstreets for half a million, I used the store stationary and contacted suppliers of fiberglass and chemicals—all sent samples. We made negative and positives of half of the reindeers, and a big sleigh, and Santa Clause. There was no brown coloring available so we used furniture stain. A phonograph motor had Santa's arm waving—we stopped traffic.

"So I told Carl Joyslin (the molder) about it, and he said he would like to make plastic patterns—so we did, first the Curly Mane horse from my own merry, then on a trip to Philly, near Harrisburg, there was a dilapidated Meadowbrook park, where I traded aluminum horses (the parker) for Dog, Pig, Chicken. A sculptor carved the Rabbit in cement (in parts). I had the reindeer.

I got the big standing horse for an unassembled parker (pattern) at Meadowbrook, and same cement carver who made the Rabbit, made the

giant horse from a drawing I made with my projector.

"The rabbit, is from a photo of the Merry bought in Woodside park in Philly, but I didn't have sense enough to get the winking one, I photod the straight one.

"The circus wagon carvings, pilater heads, etc. were all made by the same process, fiberglass negative, fiberglass positive, tooled with cutting wheel and burrs on flexible shaft, put on a follow board (closing all openings) and put in the sand.

"I ended up working with Theel. Early in the game, I traded him animals for gears, etc., and he bought every pattern I made. He is in Leavenworth, Kans. Prices generally went up, work isn't good—it's all right on the outside, but inside that doesn't show, varies in thickness and surface, and although horses are a bit less, I was paying \$5 a pound for the scrolls and ornaments, now it's still higher. So naturally, I don't sell many. . . .

"More Honors—if my Thermofax will pick it up, I will enclose the letter from Smithsonian Institution (no less) requesting a chicken or rabbit and wanting to keep some of the sample plans I sent them. I figure the letter satisfies my ego—my stuff is good enough for them to want it. If I would give them plans or animal without paying for it, I would be 'buying' the honor, which of course I couldn't feel right about. . . .

"I note, I forgot to tell you of the present process Theel uses, to make patterns from wooden animals.

He follows the first steps of the Warner process, and after he has the impression in the sand from the wooden part, pours in dry sand (not moulding sand) to the thickness he wants the aluminum. Over the dry sand he lays a sheet of thin flexible plastic (similar to what the cleaner returns the suit in) and then rams up the cope. He lifts and turns the cope, pulls out the plastic, and sucks or sweeps out the dry sand—puts the cope back in and pours. It still takes plenty of skill, but is faster and easier than paring the sand.

"I'll try to find more stuff, and photos. If you want anything, write . . . I'm getting old and I'd like to leave something permanent."

According to Barbara Williams, the Woodside "Merry" Brill refers to in his letter is the Dentzel carousel Frederick Fried bought, which is now at the Smithsonian Institution. It must have been what we call a "flirting rabbit."

An ad for Brill's aluminum animals for merry-go-rounds reads, "Our development in plastic pattern making made true reproduction of old hand carved animals possible. We are constantly improving our pattern making methods as new materials appear. The finished animal will always be aluminum. We've experimented with plastic in production, but ended up with the theory, if true reproduction were possible in plastic, they would make the statues in the parks from it."