

THE KANSAS CITY STAR.

This inventor is flush with pride

Lee's Summit company's high-efficiency toilet could mean huge savings for prisons, and for taxpayers.

By DONALD BRADLEY
The Kansas City Star

How many times each day does the average prison inmate flush the toilet?

Ponder that. The answer comes later.

First, take a walk through Metcraft Industries in Lee's Summit with a guy named Audie Murphy who, if names account for anything, should end up being the most highly decorated prison toilet inventor in American history.

He puts on safety goggles before he enters the plant's busy production floor and heads toward the lab in back.



The 20-by-40-foot room has no windows, and its doors are kept locked. It's where Murphy, the small company's research and development director, does his secret work.

"We wouldn't let people who work here in there," Murphy shouts over the machinery.

He opens the door and there's his

Audie Murphy of Metcraft Industries Inc. has come up with an economical and efficient toilet targeted for prisons. He recently worked on a prototype.

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FROM A1

baby: bright, shiny, stainless steel and sitting proud on a raised platform like the latest rocket in a defense plant.

It's a toilet. But not just any toilet. It's Metcraft Industries' patent-pending high-efficiency prison toilet, the one that caused a buzz at recent trade shows in Long Beach, Calif., and Nashville, Tenn.

The American Correctional Association wants to write about the toilet in its newsletter. Metcraft has acquired another factory in Harrisonville in anticipation of spiked sales.

So what's the fuss? Murphy's design of a "reseal cylinder" and other features allows the toilet to flush efficiently using only one gallon of water. He says it actually works at eight-tenths of a gallon. Many older prisons still have units that use three, four or even five gallons.

Which gets back to the opening question — how many times a day does an inmate flush?

According to industry experts, as many as 30. Far more often than typical people, but the average person probably doesn't use his or her toilet for an ashtray, to dispose of contraband or to cool drinks.

Yes, inmates do that. They put pop cans into the bowl and flush occasionally to keep the water cool.

Know, too, that plumbing fixtures in prison are different. The inner workings are behind the wall. Usually there's not even a flush handle because it could be used as a weapon.

"The time for this toilet has come."

STEVE CONNAUGHTON, A PRODUCT MANAGER FOR WATER TECHNOLOGIES AT SLOAN VALVE CO.

The special fixtures also have to be far tougher than the norm. As one industry type said, "The toilet is the last thing an inmate has to break."

Industry experts and prison officials say retrofitting prisons with Murphy's new high-efficiency toilet could mean huge savings in monthly water bills — bills generally paid by taxpayers. Beyond that, the invention could play a key role in the push for American prisons to go green.

And at a time when it's said that America doesn't manufacture anything anymore, here's a small firm in a tough economy that seemingly has made a better mousetrap and is getting ready to expand and hire more workers.

"I've seen it — it works," said Steve Connaughton, a product manager for water technologies at Sloan Valve Co., a Chicago-based company that is the largest maker of toilet valves.

"Prisons must start saving energy, and water is a big part of the energy package," he said. "States are looking for ways to save. The time for this toilet has come."

Murphy didn't go to MIT or any other hoity-toity technology school. He went to Metropolitan Community College-Longview. But mainly he grew up in Independence a curious boy who liked to take things apart and put them back to-

gether.

"My dad will tell you there's still a lot of torn-up stuff at the house," said Murphy, 48, who has worked at Metcraft all his adult life.

In 2002, the company moved from Grandview to an industrial park in Lee's Summit.

Metcraft's 25 workers make stainless-steel toilets, urinals, showerheads and lavatories for prisons, jails and highway rest stops.

The "high abuse" market, said Paul Ryan, Metcraft's president.

"I'd like to think we are in every major prison in the country," said Ryan, noting Metcraft's already-in-use 75,000 toilets.

He is a big believer in T. Boone Pickens' assertion that because of the rising world population, droughts and climate change, "water is the new oil."

The U.S. inmate population is estimated at just over 2 million. Folsom State Prison in California, which has about 4,500 beds, goes through 40 million gallons of water a month, Murphy said.

Murphy used to manage the plant until Ryan put him solely on research and development. Murphy started on the latest high-efficiency toilet about five years ago, and the company applied for the patent in 2006.

One of the first prototypes went to the East Mississippi Correctional Facility in West

Meridian. Facility manager Mike Mayatte said it works exactly as described.

Another unit is in the police station in Lee's Summit.

Metcraft has a second plant in Slater, Mo., and recently added the Harrisonville facility. Still, Ryan knows his company can't possibly meet the demand if the new product takes off. Some production probably will be contracted out. Not yet priced, each unit is expected to cost between \$800 and \$1,000.

On a recent day, Murphy showed off the toilet's features, including the little hole in front of the bowl from which air and then water jets out to break up debris.

Murphy then put on a demonstration.

"You're going to see something you've never seen before," he said.

He put 35 golf balls into the bowl and pushed the flush button. The balls danced about before shooting down the drain.

Next, he placed five units of artificial debris — shaped pretty much like you would expect — into the bowl. He thought a moment and added five more.

"That's double the load," he said.

He pushed the button, and all 10 blasted out of sight.

Murphy raised his head and smiled the smile of a boy inventor.

"I've got the best job in the building."

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