

B.C. inventor of wildfire-fighting Bambi Bucket inducted to hall of fame

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A Bambi Bucket is used to help douse a wildfire in Alaska in 2015. *SGT. BALINDA O'NEAL / AP*

Salt Spring Island entrepreneur Don Arney has been a big-dream inventor since childhood. One of his earliest ideas was for a blimp/airplane hybrid and while still just 12, he drew up a proposal and sent it to the president of the Avro Canada aviation

company.

He was chuffed when he received an encouraging letter in reply, but a little chagrined later after he'd learned enough physics to realize that idea wouldn't fly.

But the inventor trait followed him all his life and has now earned him induction into the National Inventors Hall of Fame in Alexandria, Va. for the Bambi Bucket. The collapsible fabric container which Arney invented in the early 1980s is now the go-to standard for helicopter firefighting in 110 countries around the world.

"Right from when I was a kid I was always intrigued with the way that things worked mechanically," Arney said.

The Bambi Bucket is collapsible (some version fold into the size of a set of golf clubs), easy to install on a standard helicopter cargo hook, easy to fill and precise — capable of releasing a column of water directly onto a fire.

After its introduction, the Bambi Bucket was adopted rapidly and Arney estimates SEI has about 95 per cent of the market for buckets used in helicopter firefighting.

"Something like this, certainly I appreciate it," Arney said of the honour. "But it was totally out of the blue, the last thing I was expecting to see."

The award is also "certainly welcome" if he can use it to put some of the spotlight on his team at SEI Industries, the company he founded in Delta, which keeps the distinctive orange-coloured buckets in the forefront of helicopter firefighting.



Arney's "a-ha" moment came while he was testing industrial-strength underwater airbags at a North Vancouver shipyard for a previous employer.

"I've said to others that a lot of invention is by extension," Arney said, which means being able to look at one thing and envision how a few changes could



Don Arney, inventor of the Bambi Bucket.
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turn it into something else.

In this case, Arney was testing the airbags — typically filled with compressed air to lift heavy objects under water — by filling them with water and marvelling at how much weight the lightweight bags could contain.

Being familiar with aviation, it got him to thinking, “What would I have to do to that to make it into a firefighting bucket?”

The answer was to devise a simpler valve at the bottom of the fabric bucket to deliver a stream of water rather than the more cumbersome and failure-prone mechanisms in the rigid plastic buckets in use at the time.

Arney devised the design in a flurry of work in a single evening, which was followed by a year of work to come up with a working prototype — which he said illustrates the “one per cent inspiration, 99 per cent perspiration” motto of inventors.

He introduced the prototype to his first customer, Okanagan Helicopters (which became CHC Helicopters) in 1982 at the same time both the Canadian and U.S. forest services were looking for new innovations to replace the aerial buckets they were using.

“They had 12 features they wanted to see in a new-generation bucket and we had all 12, plus two they hadn’t thought of,” Arney said.

“The Bambi Bucket has been an essential tool for wildfire response agencies since it was introduced,” said Leanne Ingham, acting superintendent of aviation management for Wildfire B.C. in an email.

The agency requires all the helicopter contractors it hires to use “a bucket of their choice,” and almost all of them use the Bambi Bucket.

It’s that level of dominance in such an essential service that caught the attention of the selection panel at the National Inventors Hall of Fame.

“Don himself, I think he kind of epitomizes the spirit of an inventor,” said Rini

Paiva, vice-president of selection and recognition for the non-profit group.

The Inventors Hall of Fame was founded by a group of intellectual-property lawyers and the U.S. Patent and Trademark Office. The group inducts people who hold U.S. patents on innovations that have had a significant impact on society.

Arney is in a 2017 class of 15 inductees that also includes Iver Anderson, the inventor of lead-free solder used in electronics manufacturing; and Marshall Jones, who invented novel ways of using industrial lasers in welding. There's also a posthumous award for Earle Dickson, inventor of the ubiquitous Band-Aid brand adhesive bandages.

The induction will take place during a gala event May 5 at the National Building Museum in Washington, D.C.

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