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Wombat anchors position

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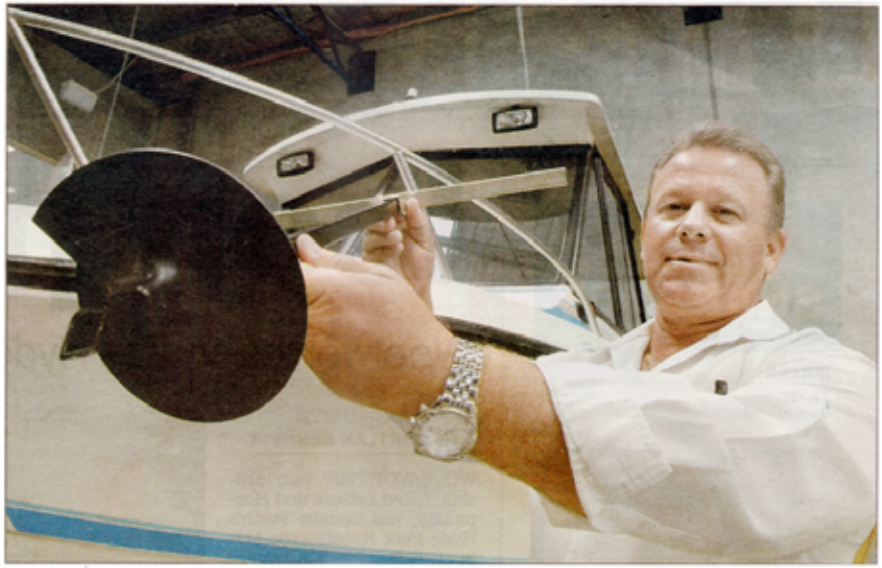

QUICK FIX: Steve Lewenhoff's rapid anchor invention, the Wombat. Picture: NATALIE SLADE

"WHACK in a wombat!"

It may sound like animal cruelty, but it could be the catch-cry that keeps your canine, horse, boat, four-wheel-drive or even light aircraft out of trouble.

The Wombat rapid anchor looks like a plastic propeller on a stick. But the ingenious device, which retails for $50 for two and weighs less than 400g, can anchor up to 250kg. And it does it in shallow sand, with just a twist of the wrist.

Like all successful designs, the Wombat's strength is its simplicity.

Invented by Screwpile Australia's chief executive Steve Lewenhoff, it is the culmination of 14 years' work in the construction engineering.

Mr Lewenhoff's Bayswater company makes screwpiles — giant metal poles with threads or helices that screw into the ground to hold buildings and structures in place.

Screwpiles do this by "biting" into the ground the same way a screw bites into a piece of wood. They are an industry standard.

But, being made of metal and needing specialised machinery, screwpiles are costly to make and expensive, and time-consuming to install.

That's fine for the construction industry, but prohibitive for the retail market, where Mr Lewenhoff wanted to provide a cheap, light, reusable anchoring point that people could use to tie up everything from their pet in the park, to their boat on the beach or a light aircraft on the ground.

It needed to be strong and stable enough to pull bogged four-wheel-drives out of the sand when there were no trees available to anchor a winch.

The more Mr Lewenhoff thought about it, the more uses sprang to mind: securing awnings, caravans, trampolines, swings, large pot-plants and trees, and creating temporary boat moorings.

But how to achieve all this?

Then, 15 months ago, Mr Lewenhoff had the idea of using composite plastics instead of metals to create his helices.

"The theory has always been that whatever you put in the ground has to be very rigid, was not supposed to flex at all, and you used substantial force to get it in," Mr Lewenhoff said.

"But we were always having problems making this very small, shallow-ground anchor work effectively — it was too expensive, too hard to put in the ground or had to go down too deep.

"It was never user-friendly in steel. So, about 15 months ago I decided to completely change the concept of rigid members in the ground and go flexible to see what happened."

Mr Lewenhoff grafted a nylon helix on to a square steel rod (square, because it was easier to add accessories such as a T-bar to help screw it into the ground).

"The first prototype worked very well — until I tried to remove it from the ground," Mr Lewenhoff said.

What he found was that, as the nylon helix screwed into the ground, it splayed apart. But because of its plastic design, the more it splayed, the more counter-force was applied — which acted as a better clamp in the sand.

With a little tinkering, Mr Lewenhoff refined the design so that the clamping action remained while the Wombat was screwed in, but reversed when it was screwed out. The result was a lightweight, shallow rod that could hold a phenomenal amount of weight.

And because it was cheap and reusable — unlike star pickets and other anchoring posts that are hard to remove once in the ground — several Wombats could be grouped to hold even more weight.

"The boating industry has embraced it with open arms," Mr Lewenhoff said. "It can be used as a portable anchor, as well as a temporary mooring underwater."

Surprisingly, the aviation industry has also adopted it just as enthusiastically.

"Due to insurance requirements, every aircraft has to carry an anchoring system with it to tie it down once it has landed," Mr Lewenhoff said.

"Before, it used to be a sledgehammer and a bunch of metal star pickets, which weighed a lot and meant less cargo could be carried.

"But the wombat weighs less than 400g and you don't need a sledgehammer to put it in."

The company has donated hundreds of Wombats to the Royal Flying Doctor Service.

This may just be the tip of the iceberg. A larger, industrial version should be ready in 18 months, according to Mr Lewenhoff, which could radically alter the construction industry.

"The expanding, flexible helix has the potential to change what the construction industry does worldwide," he said. "From the Wombat, we will develop smaller and cheaper structural ground anchors, especially with steel so expensive now.

"It has the potential to reduce construction costs to about a third, simply because (our ground anchors) don't need to be that big and strong, and don't need a large machine to put them in the ground."

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