

Invention & Patent News: Van Cor Threads with Total Surface Contact

Safety, predictability and convenience. The next technological development that will add to our quality of life. For a technology to have such broad strokes, it has to be basic and used everywhere. The breakthrough is in physical connections that are total surface contact threads. Normally, mechanical threads have 30 to 35 percent contact. Total surface contact prevents threads from moving, so it transmits vibration instead of loosening; it is a seal that conducts heat efficiently. Combined, these factors reduce fatigue, so they last longer.

These new boxes of tools are called the Van Cor Threads. Three of them have been patented and two more are in the works. The wave thread (patent # 9,080,590, issued on 7/14/15) looks like a male organ with a thread around it. Normal threads pull on the outside of a cylinder shape and stress is focused on the first thread. The wave thread pulls through the end of a cone shape. That is how it can evenly distribute stress and be 20 percent stronger. The effect of having an even distribution also gives it more capacity for withstanding shocks. In plain English: Plane, train and automobile components will be harder to break.

The concentric thread (patent # 9,080,591, issued on 7/14/2015) is weird. It is made from non-circular shapes. That can be a leaf, a map of the United States or a square. A square thread will give square containers better use of space. It will make many consumer products more interesting and unique. The total surface contact will eliminate plastic seals, for one less piece of trash. Concentric threads are the only ones that can pull inwards while being tightened downwards. That means a stronger hold with less material. It is the only thread that can screw around a corner, so bottle caps can be more interesting.

There is more, but it gets technical. Preventing fatigue and corrosion in fasteners used in bridges and pipelines will make them more durable. Boston had water mains explode because the nuts and bolts rusted. Seals will become the backups, not the primary source of holding hydraulic and pneumatic pressures. The potential is making industrial and commercial equipment safer with less downtime.

The Van Cor Threads are inventions; getting them into use requires engineering. That will take individuals who gain insights by experimenting and breaking them, finding their limits, figuring how to make money by making better products. Access will be via an online store that will sell hundreds of Van Cor Threads for \$1. A personal use patent will cost \$10; then anyone in the world can buy the threads. Van Cor is looking for commercial licenses.

Creating the vancorthreads.com online store will be funded by a Rocket Hub crowd funding campaign, <http://www.rockethub.com/projects/61719-van-cor-threads-re-inventing-the-screw>, to raise \$40,000; \$16,000 for the online store and \$24,000 for testing and debugging the machining software. The first products will be wave and concentric threads. The campaign was launched September 28, 2015, and it ends November 1, 2015.

Van Cor has reached out to 200 U.S. newspapers and 300 international ones. Magazine articles have already been translated in China, Japan and Korea.

Supporting articles by Domenic Poli, Brattleboro Reformer, Brattleboro, VT:

http://www.reformer.com/news/ci_28642664/winchester-man-open-kickstarter-account

http://www.reformer.com/news/ci_28089313/winchester-man-one-step-closer-all-thread-fastener

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