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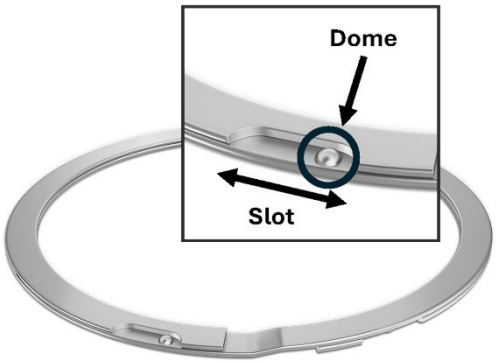
Smalley Revolox® Retaining Ring Secures Patent for Self-Locking Design

FOR IMMEDIATE RELEASE

Lake Zurich, IL, December 12, 2025 – Smalley is proud to announce it has been awarded a patent for the Revolox® Self-Locking Retaining Ring, a groundbreaking advancement in retaining ring technology. Featuring a unique self-locking mechanism, the design delivers exceptional performance in high-speed and high-vibration environments. The patent highlights Smalley's ongoing commitment to engineering excellence and continuous innovation.



Originally launched in 2021, the Revolox ring incorporates a dome-shaped protrusion that locks into a slot, preventing expansion during acceleration and high rotational speeds. Installation is simple, making the design especially well-suited for automated assembly where installation efficiency is critical. Based on Smalley's proven Spirolox® design, the Revolox is made from flat wire and coiled on edge through a process called edgewinding. This results in greater design flexibility and superior strength compared to a stamped part.

"This patent is an example of our dedication to solving modern-day manufacturing challenges for our customers," said Jeremy Archer, Principal Engineer at Smalley. "The Revolox makes installation faster and easier for high-volume applications requiring rotational speeds greater than those of typical retaining rings. Additionally, the design allows for easier hand installation. Either way, it is an improvement in efficiency."

The Revolox is the latest addition to Smalley's line of self-locking rings designed for high-RPM applications. It joins the Tab and Slot series, including the Outer Diameter (OD) and Centerline configurations. While Tab and Slot rings are rated for higher RPM thresholds, the Revolox distinguishes itself with versatility, offering removability along with design features that support efficient, high-volume production.

For more information about the Revolox Self-Locking Retaining Ring, visit https://www.smalley.com/retaining-rings/self-locking-rings.

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Smalley is a leading provider of precision-engineered flat-wire components with over 100 years of innovation in manufacturing. As the inventor of the edgewound wave spring and Spirolox® retaining ring, Smalley delivers solutions trusted by more than 70% of Fortune 500 manufacturers. Our parts help optimize performance, save space, and simplify assembly. With more than 11,000 U.S.-made standard parts available, we also provide custom solutions supported by our team of expert engineers. Learn more at www.smalley.com.

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