



**CRANE**

## Innovation Infosheet

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### Extraction Device for Drill Bits

**Track Code:** CRANE-101430

**Categories:**

- Mechanical Engineering
- NSWC Crane

**Keywords:**

- Crane
- Materials and Manufacturing
- Mechanical Engineering
- Mining Industry

Current drill technologies include rotary drills, hammer drills, and helical drill bits. Rotary and hammer drill bits cut and/or break surfaces and remove material as the drill bit is advanced. Helical drill bits draw material away from the cutting surface through the use of helical grooves or channels. These types of drill bits may become stuck in the material, especially when the drill does not have the ability to reverse rotation.

Naval Surface Warfare Center, Crane Division (NSWC Crane), has developed and patented U.S. Patent No. 9,180,528, an extraction tool for removing stuck drill bits with keyed clamping system (KCS) shafts. The device fits onto a KCS drill bit shank, where it can be manually rotated to turn the drill bit out of a hole where it is stuck.

**Advantages**

- More efficient transfer of energy, reducing the effort required to dislodge a stuck bit
- Reduces the risk of damage to the bit or injury to the user
- Increased user effectiveness in reduced time

**People:**

- Miller, Colt (Project leader)
- Moan, Brad
- Scheid, Eric

**Intellectual Property:**

**Application Date:** (None)

**Type:** Utility Patent

**Country of Filing:** United States

**Patent Number:** 9,180,528

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