

[[Abstract](#)] [[Summary](#)] [[Drawing Description](#)] [[Detailed Description](#)] [[Claims](#)]

5647265 75193

Tool and system for machining a round strand

Inventors: Johnson;
James T.
King
George VA
Kolstrom;
Frank E.
Indian
Head MD

Issue July 15,

Date: 1997

Assignee The United
(s): States of
America as
represented
by the
Secretary
of the Navy
Washington
DC

Abstract

A system including a cutting tool is provided for cutting a round strand from a soft, rubber-based material. The cutting tool comprises a tube having an inner and an outer surface which form a sharp leading edge. The tool further comprises a blade which fixedly attaches to the outer surface of the cutting tube. The blade has a wedge-shaped leading edge and a circular-shaped arc on its bottom end for receiving the tube. A handle for the blade attaches to the top end of the blade. The system for cutting a round strand from a soft, rubber-based material also includes an arbor support arm, a vacuum chuck plate, and a horizontal milling machine having a numerical control. The arbor support arm connects to the handle of the cutting tool. The arbor support arm in turn connects to the horizontal milling machine. The vacuum chuck plate also connects to the horizontal milling machine at a table. The vacuum chuck plate has a cylindrical pin which extracts any round strands stuck in the cutting tube. The vacuum chuck plate also has a sloped surface for extracted round strands to roll into a collecting bin.