



CRANE

Innovation Infosheet

Downloaded May 23, 2022

Material Extruder

Track Code: CRANE-98843

Categories:

- Materials and Manufacturing
- NSWC Crane

Keywords:

- Crane
- Dispensing
- Explosives
- Materials and Manufacturing

Explosive materials come in all forms including liquids, gels, slurries, granulated particulate, crystalline powder, and cast or pressed solids. One method of employing explosives is to bore a hole or series of holes in the object or material to be moved or destroyed and insert the explosives into the hole. Unfortunately, where holes are drilled horizontally or vertically up and/or into porous and fractured surfaces, they cannot contain the explosive and control of the charge is difficult. In addition, solid explosives are challenging to insert deeply or into irregularly shaped openings.

Naval Surface Warfare Center, Crane Division (NSWC Crane), has developed and patented a method and apparatus for extruding or dispensing viscous materials into boreholes or any other location. This portable, lightweight, safe, and reliable technology provides visualization and control of the application rate and/or volume. Users can use a reference table/aid to associate piston travel, temperature of material to be extruded, and material properties with displacement volume and/or travel required to effect a specific explosive result.

Advantages:

- Lightweight and portable material dispenser
- Increase in precision and accuracy

Potential Application:

- Military
- Structural demolition
- Surface mining
- Drilling
- Excavating

-Oil field

People:

- Scheid, Eric (Project leader)
- Boivin, Larry

Intellectual Property:

Application Date: April 2, 2008

Type: Utility Patent

Country of Filing: United States

Patent Number: 8,240,520

Issue Date: August 14, 2012

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