



**CRANE**

## Demolition Charge Having Multi-primed Initiation System

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**Categories:**

- Chemical Engineering
- NSWC Crane

**Keywords:**

- Chemical Engineering
- Crane
- Environment
- First Responder
- Military
- Pyrotechnics

Explosives have long been used to remove obstacles, perform demolition, mine for materials, and for other purposes. Demolition packages that are hastily put together can lead to inadvertent demolition, insufficient force, or other serious consequences. In military applications, a "satchel charge" was developed to help reduce the risk of failure. The "satchel charge" is exactly what it sounds like, a demolition package inside of a canvas sack containing explosives linked by a detonating cord. These sacks are heavy and not easily primed or employed without preparation. Other issues include accidental initiation and the inability to assure reliable detonation.

Naval Surface Warfare Center, Crane Division (NSWC Crane) has developed, patented, and deployed a "Demolition Charge Having Multi-Primed Initiation System." This device is an environmentally sealed, universal container designed to house explosive materials that will maintain reliable initiation with low output detonators, even in extreme weather conditions and temperatures.

The device is capable of being initiated by a variety of initiation systems or devices, reducing the occurrence faulty or missing equipment. In addition, it has the ability to string multiple charges together with only one detonator cord and blasting cap.

In currently available detonation devices, cold weather causes changes to charge chemicals and to the output of explosives, thereby requiring a larger detonator. The device developed by NSWC Crane allows for the reliable detonation of insensitive explosives in extreme temperatures.

**Advantages:**

- Decreased risk of accidental detonation
- Eliminated need for multiple blasting caps
- Weather resistant
- Decreased hazardous material clean up due to lack of explosive dust
- Ease of use

**Potential Applications:**

- Demolition Industry
- First Responders
- Mining
- Military
- Explosives

**People:**

- Scheid, Eric (Project leader)

**Intellectual Property:**

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