



# Science and Technology

## EMERGENCY PREVENTION & RESPONSE

### RESCUE BASKET

**AN IMPROVED RESCUE BASKET TO BE USED IN SEARCH AND RESCUE OPERATIONS CAPABLE OF SAFELY HOLDING TWO ADULTS AND DRASTICALLY IMPROVING RECOVERY TIME IN AN ENVIRONMENT WHERE EVERY SECOND COUNTS.**

Rescue baskets are a vital tool for recovering victims who are stranded on rooftops, ship decks, and most notably in large bodies of water. Traditionally helicopters will deploy the rescue basket via cable and hoist, followed by lifting the victim from the ground or water up to safety. Currently, the ability to respond to mass rescue incidents are somewhat limited as the rescue baskets can only safely hold one victim (maximum 300 pounds). Additionally, single passenger rescue basket operations can become complicated if the victim is tall, heavy, wounded, or wearing multiple layers that may hamper their ability to enter the rescue basket. These factors may drastically affect the speed and safety of rescue operations and cost lives.

This invention is for a welded, light-weight stainless steel rescue basket with an open end for smoothly loading victims who are wounded or too large for single-passenger recovery tools, a door that can partially close off the open end for safety during transportation, and the capacity to hold two adults. It also includes a flotation system that allows the basket to float even when loaded.

### KEY BENEFITS

- + Increases the efficiency and effectiveness of rescue basket operations
- + Capable of loading extra-large or wounded victims, easier to load/unload all victims
- + Reduces the likelihood of drowning in water environments
- + Potential 50% faster loading and unloading to save lives in dangerous situations (hypothermic environment, sinking ship, multiple people in water)

### STAGE OF DEVELOPMENT

Prototype

### PARTNERSHIP SOUGHT

License  
Cooperative Research & Development Agreement (CRADA)

### INVENTORS

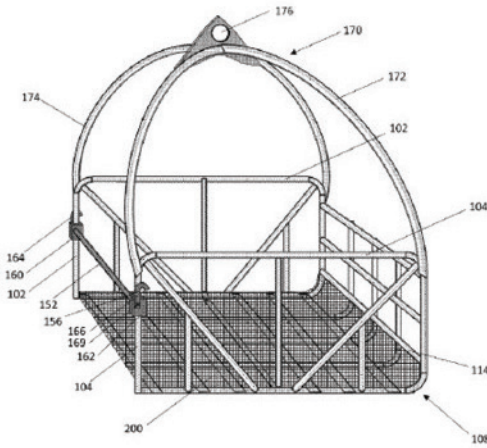
Spencer Smith  
Riely Brande  
Nolan Richerson  
Benjamin Crutchfield  
Christian Breviaro  
Ronald Adrezin  
Michael Plumley  
Marion Lewandowski

### DHS COMPONENT

US Coast Guard

# THE TECHNOLOGY

This invention includes a rectangular structural frame with a first end, a second end, two sides, a bottom and an open top defining a basketed cavity with the capacity of holding two full-sized individuals. A net liner covers the bottom of the basket. This invention also includes a door mechanism positioned at the first end of the frame. The door mechanism has a crossbar spanning from each side of the rail with a latch that secures the door and bushings that allow the crossbar to easily slide up and down the rails. The basket also includes a bail assembly with a pair of handles, a ring for a cable and hoist attachment, and has two cylindrical floats positioned at each end of the basket. These floats are held in place by metal rods and attached to the frame.



*Drawing of a rescue basket having a net liner, door mechanism, and bail assembly. Image from figure 4 of US Patent Application 16/368,013*



*Photograph of the new improved rescue basket on the right next to the old USCG rescue basket on the left.*

## APPLICATIONS

The technology has several potential end-users:

- + Search and Rescue Agencies
- + US Military Services

## PATENT INFORMATION

US Patent Application  
16/368,013



## CONTACT INFORMATION

+ T2C@hq.dhs.gov

TECHNOLOGY SOLUTIONS

**FOR MORE INFORMATION ABOUT THE DHS TECHNOLOGY TRANSFER & COMMERCIALIZATION BRANCH:**

<https://www.dhs.gov/science-and-technology/technology-transfer-program>

