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Systems and Methods for Adding or Subtracting Energy to a Battering Ram

AzTE Case # M13-243P

Background

The definition of a battering ram includes a heavy metal bar used to break down walls and doors. Battering rams have been used since ancient times to open closed gates in city walls. A hydraulic jackhammer could be considered a modern battering ram and is used to break concrete or rock. The purpose of a battering ram is to use heavy weight to increase force applied to an object. The weight can serve to increase human strength.

Invention Description

Researchers at Arizona State University have developed a mechanical battering ram that increases human strength. Military personnel or law enforcement officers can use the innovation during hand-to-hand combat. The innovation is a device with masses that attach to the human body and allow a soldier to punch with more force. Another device setting allows the user to punch more rapidly, landing more blows with greater force. This innovation is related to an earlier innovation M13-112P that is a system for adding or subtracting energy to body motion. The innovation can be used in conjunction with other components such as an exoskeleton.

Potential Applications

- Soldiers engaged in hand-to-hand combat
- Law enforcement
- Physical rehabilitation

Benefits and Advantages

- **More Power** – Increases human strength, providing punches with greater impact.
- **More Speed** – Allows for punches to be landed more quickly with greater frequency.
- **Greater Flexibility** – Can be used for other applications such as breaking down doors, making holes in walls, or breaking windows.