

Improved Aiming Device for an M203 Grenade Launcher

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The M203 is a 40mm grenade launcher used by the United States military. The full potential of the grenade launcher is often unrealized when used on the battlefield. To explain, effective firing requires an accurate estimation of range, an accuracy that is often precluded by a number of factors. Therefore, a soldier must often fire multiple rounds, making manual range corrections, before putting rounds on target. Our senior design project aims to eliminate the shortcomings of the current aiming assembly by accurately determining the tilt-compensated distance to a target, and using a microcontroller to determine the correct firing solution to the target. The firing solution consists of the angle at which the launcher should be fired to put rounds on the target. In-sight cues then guide the firer to the correct firing angle. Our device also offers a second mode of operation allowing the firer to shift in five-meter increments from a known point in the horizontal plane. Most importantly, the device operation is simple, an important consideration in high stress combat situations or when relatively novice firers are using the device. Our device increases the survivability and lethality of a soldier using the M203 grenade launcher.

“The Cultural Significance of Writing in the Art of Faith Ringgold”

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Faith Ringgold is a contemporary multimedia artist whose work represents a reactive stance against stereotypes of African Americans perpetuated through past literature, specifically nineteenth century children’s literature. The purpose of the study is to identify the levels of cultural significance of writing in the art of Faith Ringgold. Faith Ringgold’s illustrated storybooks can be interpreted as individual art pieces because they are directly derived from her story quilts. The artistic and story book images were analyzed using historical formalist, cognitive, and expressionist theories, which examine artwork through visual and contextual veins. I examined various materials, including the narratives that accompany her story quilts, Ringgold’s children’s books, and examples of nineteenth century children’s literature.

The textual and narrative elements of Ringgold’s work add a dimension of cultural wealth, but are also culturally significant in their portrayal of the African American experience. This study demonstrates the means by which Ringgold’s oeuvre successfully amalgamates attributes from her African and American heritages into her artwork. Ringgold makes a major contribution to children’s literature with her text-infused art. The impact of this study is its acknowledgement that writing in the art of Faith Ringgold gives American children and families the opportunity to experience an informed and artistically rich view of one of the many cultures represented in the United States.