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Chia et al.

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- (54) **HINGED TOY LAUNCHER WITH MIRRORED SCOPE**
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(56)

References Cited

U.S. PATENT DOCUMENTS

1,187,218 A *	6/1916	Wister	F41A 21/08 42/106
2,955,586 A *	10/1960	Hamrick	F41A 21/00 124/57
3,262,440 A *	7/1966	Kuhn	F41B 11/51 124/67
3,441,270 A *	4/1969	Nielsen	F41G 1/40 446/473
4,878,305 A *	11/1989	Gabrielidis	F41A 19/09 42/72
5,605,140 A *	2/1997	Griffin	F41B 11/642 124/59
5,715,802 A *	2/1998	Moore	F41B 11/00 124/66
5,901,693 A *	5/1999	Smith	F41B 11/642 124/66

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F41B 4/00 (2006.01)
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- (52) **U.S. Cl.**
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(57)

ABSTRACT

A toy projectile launcher having a front portion, a rear portion, a hinge connecting the front portion and the rear portion, a handle connected to the front portion and adapted to rotate the front portion against the rear portion around the hinge among a left orientation, a right orientation, and a center orientation, and a rotatable two-way mirror, the handle being rotatable around a same axis of rotation as the hinge, and the rotatable two-way mirror being coupled to the front portion via a mechanical transmission adapted to translate a rotation of the front portion around the hinge to a rotation of the rotatable two-way mirror at a 2:1 ratio.

11 Claims, 13 Drawing Sheets

