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Greenwood

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(54) **ADJUSTABLE ARCHERY ARROW INSERT**

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F42B 6/04 (2006.01)

(52) **U.S. Cl.**
CPC ***F42B 6/04*** (2013.01); ***F42B 6/08*** (2013.01)

(58) **Field of Classification Search**
CPC F42B 6/04; F42B 6/08
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,210,330	A	7/1980	Kosbab	
4,558,868	A	12/1985	Musacchia	
4,874,180	A	10/1989	Fingerson et al.	
4,943,067	A	7/1990	Saunders	
5,154,432	A	10/1992	Saunders	
5,234,220	A	8/1993	Schellhammer et al.	
5,269,534	A *	12/1993	Saunders	F42B 6/08 403/343
5,417,439	A	5/1995	Bickel	
5,496,043	A *	3/1996	Ester	F42B 6/08 473/584
5,516,117	A	5/1996	Rangel	
7,004,859	B2	2/2006	Palomaki et al.	
7,077,770	B2	7/2006	Palomaki et al.	
7,115,055	B2	10/2006	Palomaki et al.	
7,270,618	B2	9/2007	Palomaki et al.	
7,331,886	B2	2/2008	Morris et al.	
7,374,504	B2	5/2008	Palomaki et al.	
7,608,001	B2	10/2009	Palomaki et al.	
7,651,421	B2	1/2010	Smith et al.	
7,686,714	B2	3/2010	Smith et al.	
8,057,330	B2 *	11/2011	Blosser	F42B 6/04 473/582
8,460,134	B2 *	6/2013	Palomaki	F42B 6/08 473/582
8,475,303	B2	7/2013	James	
8,480,520	B2 *	7/2013	Webber	F24B 6/08 473/582
8,668,605	B1 *	3/2014	Huang	F24B 6/08 473/582
8,784,243	B2 *	7/2014	James	F42B 6/04 473/578
8,961,341	B2 *	2/2015	Dickerson	F42B 6/08 473/582
2009/0163308	A1 *	6/2009	Odabachian	F42B 6/08 473/582
2013/0288831	A1	10/2013	James	

* cited by examiner

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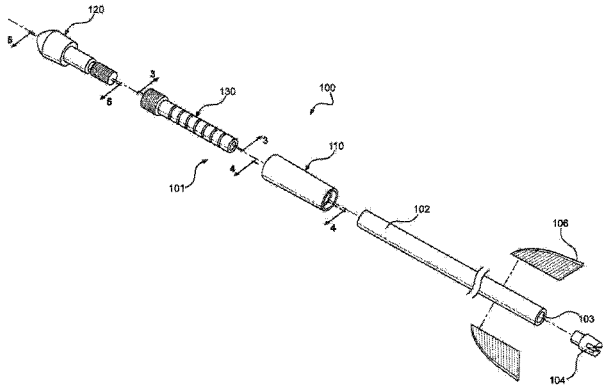
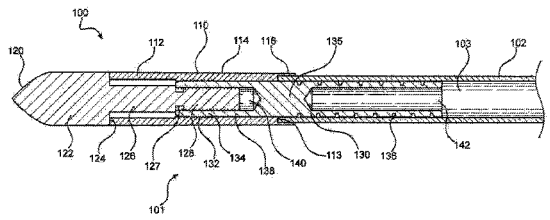
(57) **ABSTRACT**

The Adjustable Archery Arrow Insert is a three-piece arrow tip attached to an arrow shaft and includes an arrow tip insert, an arrow tip collar, and an arrow tip. The arrow tip insert is threadably received by the arrow tip collar and is attached to the arrow shaft, where the arrow tip is inserted within, and the arrow tip collar overlaps, the arrow shaft. The arrow tip is inserted through the arrow tip collar and attached directly to the arrow tip insert without protruding into the arrow shaft. Sections of the arrow tip insert may be removed to adjust the overall weight of the arrow. The Adjustable Archery Arrow Insert transfers the impact forces of the arrow tip to the arrow tip insert and arrow tip collar, where the forces are transferred over a larger area thereby minimizing the forces on front edge of the arrow shaft.

15 Claims, 6 Drawing Sheets