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(54) CAPTURED SPRING ASSEMBLY FOR A FIREARM

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(51) **Int. Cl.** *F41A 3/78* (2006.01)

(52) U.S. Cl.

(58) **Field of Classification Search**USPC 89/198, 199; 42/1.06, 74, 97; 267/70,
267/71, 291

See application file for complete search history.

(56) References Cited

U.S. PATENT DOCUMENTS

2,361,180	Α	*	10/1944	Dobremysl 89/1.1
3,298,282	Α	*	1/1967	Loffler et al 89/198

3,366,011	Α	*	1/1968	Sturtevant 89/198
3,381,405	Α	ak.	5/1968	Edwards 42/74
3,731,590	Α	ajc	5/1973	Zimmerman, Jr 89/163
4,126,080	Α	*	11/1978	Reynolds 89/199
4,344,352	Α	alic	8/1982	Yates et al 89/198
4,522,107	Α	sķt	6/1985	Woodcock et al 89/196
5,827,992	Α	*	10/1998	Harris et al 89/191.01
5,909,002	Α	*	6/1999	Atchisson 89/130
7,493,845	B2	×	2/2009	Mantas 89/42.01
8,430,015	B2	*	4/2013	Faifer 89/44.01
2006/0236853	Al	*	10/2006	Boersching et al 89/198

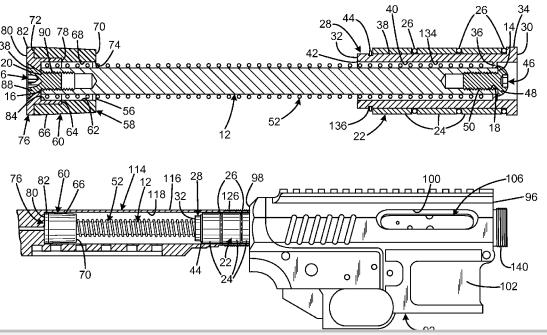
^{*} cited by examiner

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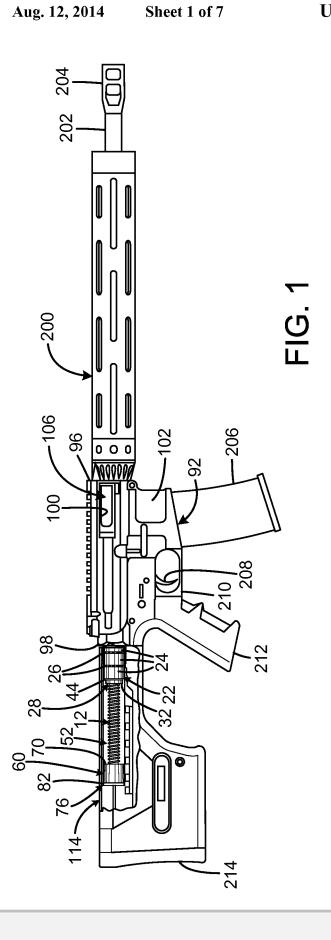
(57) ABSTRACT

A captured spring assembly for a firearm has a rod having a forward and rearward ends, a movable buffer that defines an aperture that receives the forward end of the rod and is operable to reciprocate between a forward battery position and a rearward retracted position, a coil spring that encompasses the rod, wherein the forward end of the rod has a limit element having a head that is larger in diameter than the rod, wherein the buffer has an internal limit element that is larger in diameter than the rod, and wherein the internal limit element has at least one portion that is smaller in diameter than the limit element head, but also larger in diameter than the rod. There may be a spring stop attached to the rearward end of the rod that is large enough for the spring to bear against and the buffer to strike against.

18 Claims, 7 Drawing Sheets

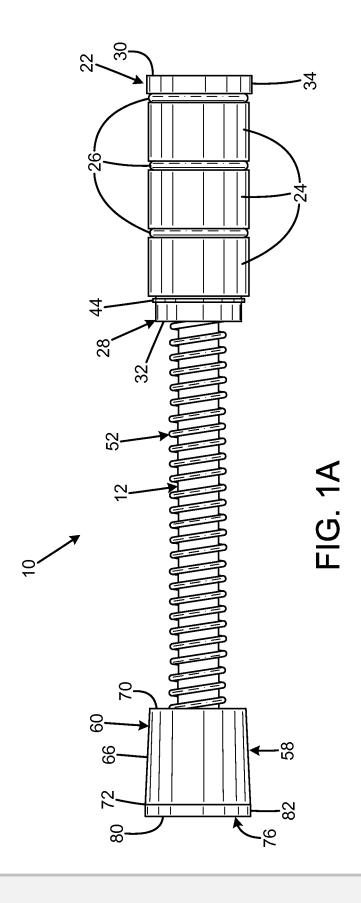


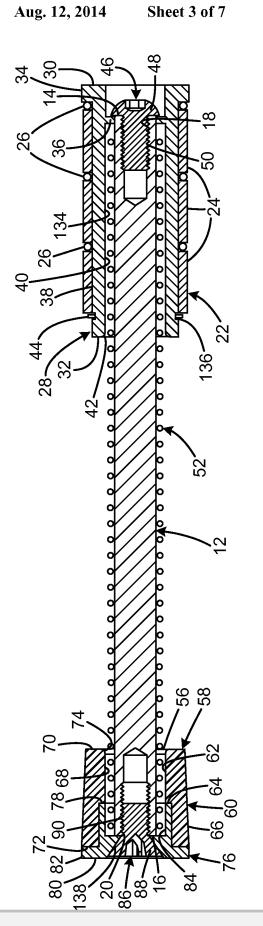


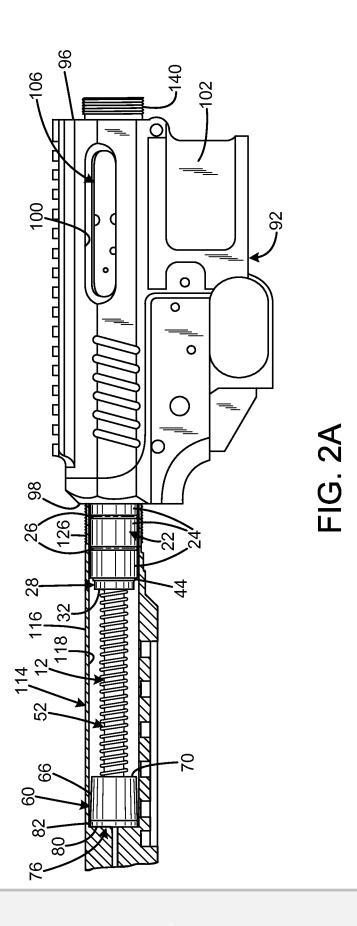




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