



US006386907B1

(12) **United States Patent**
Ruffa

(10) **Patent No.:** **US 6,386,907 B1**

(45) **Date of Patent:** **May 14, 2002**

(54) **BATTERY CLAMP**

(75) **Inventor:** **Anthony A. Ruffa**, Hope Valley, RI (US)

(73) **Assignee:** **The United States of America as represented by the Secretary of the Navy**, Washington, DC (US)

(*) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) **Appl. No.:** **09/413,093**

(22) **Filed:** **Oct. 5, 1999**

(51) **Int. Cl.⁷** **H01R 11/00**

(52) **U.S. Cl.** **439/504; 439/506**

(58) **Field of Search** 439/504, 181, 439/186, 187, 506, 759, 822, 283, 281, 279, 183, 184; 200/19.2, 19.27, 19.01, 19.4, 275; 320/105

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,129,843 A *	7/1992	Bowsky et al.	439/685
5,131,858 A *	7/1992	Heimbrock	439/181
5,601,452 A *	2/1997	Ruffa	439/504

* cited by examiner

Primary Examiner—Gary F. Paumen

Assistant Examiner—Ross Gushi

(74) *Attorney, Agent, or Firm*—Michael J. McGowan; Prithvi C. Lall; Michael F. Oglo

(57) **ABSTRACT**

An improved automotive battery jumper cable includes an electrically conductive cable which is terminated at each end by a terminal clamp. Each of the terminal clamps includes a pair of gripping members each having a jaw end and a handle end. The gripping members are pivotably connected to each other about an axis between the jaw ends and the handle ends. A torsion spring is mounted on the gripping members for normally urging the jaw ends toward each other. Each of the jaw ends of the gripping members is provided with a copper jaw member for engaging and grasping the battery terminal. One of the jaws on each clamp is not electrically connected to the cable. One of the battery clamp is electrically connected to the respective end of the cable via an encapsulated pressure switch. The pressure switch is physically positioned between the copper jaw and the jaw end of the gripping member such that spring pressure provided by the torsion spring is operative for closing the encapsulated pressure switch when the clamp is mounted on a battery terminal. This provides a gas free region around conductive plates of the encapsulated switch to prevent arching. An in-line fuse can be mounted in the cable to prevent short circuits of the batteries.

3 Claims, 6 Drawing Sheets

