



US009862461B2

(12) **United States Patent**  
Cao(10) Patent No.: **US 9,862,461 B2**  
(45) Date of Patent: **Jan. 9, 2018**(54) **EXTENDABLE AND RETRACTABLE BOAT AWNING**

(71) Applicant: John Cao, Boca Raton, FL (US)

(72) Inventor: John Cao, Boca Raton, FL (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.: 15/172,460

(22) Filed: Jun. 3, 2016

(65) **Prior Publication Data**

US 2017/0349241 A1 Dec. 7, 2017

(51) Int. Cl.  
B63B 17/02 (2006.01)  
E04H 15/06 (2006.01)(52) U.S. Cl.  
CPC — B63B 17/02 (2013.01)(58) **Field of Classification Search**  
CPC — B63B 17/02; B63B 2017/026; E04H 15/06;  
E04H 15/08; E04H 15/34; E04H 15/46  
See application file for complete search history.(56) **References Cited****U.S. PATENT DOCUMENTS**2,335,252 A \* 11/1943 Geiger — A01K 89/015  
282/255  
3,034,741 A \* 5/1962 May — A01K 89/002  
282/2803,069,109 A \* 12/1962 Gelec — A01K 89/012  
242/239  
6,439,150 B1 5/2002 Murphy et al.  
7,093,558 B1 5/2006 Mandanici  
7,395,774 B2 7/2008 Borges et al.  
7,571,691 B2 5/2009 Russikoff  
7,895,964 B2 3/2011 Russikoff  
2008/0296114 A1 \* 12/2008 Chen — E04H 15/045  
192/20  
2010/0290170 A1 12/2011 Russikoff  
2013/0206050 A1 5/2013 Russikoff

\* cited by examiner

*Primary Examiner* — Anthony D Wiest(74) *Attorney, Agent, or Firm* — Robert M. Downey, P.A.(57) **ABSTRACT**

An awning for a boat is operable between retracted and extended positions and includes a frame structure having left and right telescopically extendable and retractable tube assemblies each having a fixed tube, a telescopic mid tube and a telescopic end tube. Cross tubes extend transversely between each of the mid tubes and the end tubes. A canvas roller is mounted transversely between the fixed tubes. A sheet of marine canvas is secured to the roller and the end cross tube and is rolled onto the roller when the awning is retracted. A gear box disengages the canvas roller to allow the telescoping tube assemblies and canvas to be manually extended. To retract the awning, the gear box is engaged with the canvas roller and a removable crank handle is operated to rotate the roller and roll up the canvas as the frame structure is telescopically retracted.

**6 Claims, 21 Drawing Sheets**