



US010857609B2

(12) **United States Patent**
Chen et al.

(10) **Patent No.:** **US 10,857,609 B2**
(45) **Date of Patent:** **Dec. 8, 2020**

(54) **NON-CONTACT WIRE ARRAY TENSION CONTROL DEVICE**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 407 days.

(21) Appl. No.: **15/924,832**

(22) Filed: **Mar. 19, 2018**

(65) **Prior Publication Data**
US 2018/0264573 A1 Sep. 20, 2018

(30) **Foreign Application Priority Data**
Mar. 20, 2017 (TW) 106109107 A

(51) **Int. Cl.**
B65H 49/32 (2006.01)
B65H 59/04 (2006.01)
B23H 7/10 (2006.01)
B23H 1/02 (2006.01)

(52) **U.S. Cl.**
CPC **B23H 7/104** (2013.01); **B65H 49/32** (2013.01); **B65H 59/04** (2013.01); **B23H 1/028** (2013.01); **B65H 2701/36** (2013.01)

(58) **Field of Classification Search**
CPC B23H 7/104; B65H 59/04
See application file for complete search history.

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(57) **ABSTRACT**
The present invention provides a non-contact wire array tension control device for controlling a plurality of tension respectively corresponding to a plurality of electrical discharge wires, including delivering spools and electromagnets. The delivering spool has a magnetic end and a wire outputting end, the wire outputting end is coupled with an electrical discharge wire for outputting the electrical discharge wire. A plurality of electromagnets are coupled to the corresponding magnetic end for controlling a spin rate of the corresponding delivering spool, wherein the spin rate of the corresponding delivering spool is controlled by adjusting a magnetic force generated by the electromagnet. Moreover, a magnetic direction of the electromagnet is parallel to an axial direction of the delivering spool. The invention uses the electromagnets to control the magnetic damping force of the delivering spools for simultaneously controlling the tension of the electrical discharge wires by non-contact method.

9 Claims, 6 Drawing Sheets

