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Foreman

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(54) **MECHANICAL CLAMP FOR CYLINDRICAL OBJECTS**

5,259,690 A * 11/1993 Legge 403/385
5,689,860 A * 11/1997 Matoba et al. 24/335
6,109,569 A * 8/2000 Sakaida 248/75

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FOREIGN PATENT DOCUMENTS

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DE 2225629 * 11/1978 24/329
FR 0975673 * 3/1951 24/329

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* cited by examiner

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(57) **ABSTRACT**

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A clamp for cylindrical objects uses a plurality of split-rings, each of which has a first half-ring and a second half-ring. Each first half-ring is hingedly coupled to a corresponding second half-ring at a hinge point. Means, coupled to each first half-ring at a distance from the hinge point, are coupled to a control assembly. The control assembly is operated to apply one of a pulling force to each first half-ring to simultaneously open each of the split-rings, or a pushing force to each first half-ring to simultaneously close each of the split-rings.

(52) **U.S. Cl.** **24/335; 24/270; 24/339; 403/385**

(58) **Field of Search** **24/335, 329, 330, 24/339, 270**

(56) **References Cited**

U.S. PATENT DOCUMENTS

2,752,174 A * 6/1956 Frost 285/194
4,438,958 A * 3/1984 DeCenzo 285/234
4,639,979 A * 2/1987 Polson 24/270

23 Claims, 1 Drawing Sheet

