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Gaudet

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- (54) **FORCE LIMITING 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 1010 days.

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CPC **A42B 3/121** (2013.01); **A47B 91/04** (2013.01); **B25D 1/12** (2013.01); **F15B 15/226** (2013.01); **F16F 15/0237** (2013.01)

- (58) **Field of Classification Search**
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See application file for complete search history.

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(57) **ABSTRACT**

A force limiting device comprises a housing defining an axially extending chamber containing a working fluid. A force transmitting member may be mounted for linear reciprocable movement inside the chamber under the action of external loads. An axial array of plates is floatingly disposed in the chamber between the force transmitting member and an end wall of the chamber. At rest, each plate is spaced from an adjacent plate by a gap occupied by the working fluid. When the force transmitting member is displaced towards the array of plates, the fluid in the chamber causes the plates to be successively pushed against each other, thereby causing some of the fluid to be squeezed out from between the plates.

10 Claims, 12 Drawing Sheets

