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**Jones et al.**

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(54) **MEDICAMENT DISPENSER**

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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 781 days.  
  
This patent is subject to a terminal disclaimer.

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(30) **Foreign Application Priority Data**

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**A61M 15/00** (2006.01)

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See application file for complete search history.

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

3,269,389 A 8/1966 Meurer et al.  
3,759,095 A 9/1973 Short, Jr. et al.

(Continued)

**FOREIGN PATENT DOCUMENTS**

DE 1461280 A1 2/1969  
EP 0469814 A1 2/1992

(Continued)

**OTHER PUBLICATIONS**

U.S. Appl. No. 11/573,656, Non-Final Office Action dated Feb. 3, 2011.

(Continued)

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(57) **ABSTRACT**

A sheet driver for use in a medicament dispenser with blister pockets includes: (a) a base, extending from the base, (b) a shaft defining a rotational axis; at the base, (c) a drive surface for receipt of drive to rotate the base about the rotational axis; about the shaft, (d) a torsion spring defining first and second spring legs; mounting about the shaft and the torsion spring for rotation about the rotational axis, and (e) a hub defining a hub surface for receipt of a sheet of the medicament carrier, the hub surface being adapted to provide an initial effective winding surface which provides uniform indexing of the medicament carrier.

**23 Claims, 21 Drawing Sheets**

