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# (12) United States Patent

Hajduk et al.

# (54) HIGH THROUGHPUT PREPARATION AND ANALYSIS OF PLASTICALLY SHAPED MATERIAL SAMPLES

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This patent is subject to a terminal disclaimer.

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See application file for complete search history.

# (56) References Cited

#### U.S. PATENT DOCUMENTS

1,870,412 A	8/1932	Kennedy
2,590,839 A	4/1952	Clapham
2,786,352 A	3/1957	Sobota
3,071,961 A	1/1963	Heigl et al.

(10) Patent No.: US 7,013,709 B2 (45) Date of Patent: \*Mar. 21, 2006

3,151,483 A	10/1964	Plummer
3,613,445 A	10/1971	Dent et al.
3,618,372 A	11/1971	Beckstrom
3,675,475 A	7/1972	Weinstein
3,713,328 A	1/1973	Aritomi
3,798,960 A	3/1974	Glass
3,805,598 A	4/1974	Corcoran
3,818,751 A	6/1974	Karper et al.
3,835,697 A	9/1974	Schneider et al.
3,849,874 A	11/1974	Jeffers
3,895,513 A	7/1975	Richardson
3,908,441 A	9/1975	Virloget
3,933,032 A	1/1976	Tschoegl

#### (Continued)

10/1980 Greenwood

5/1984 Lazay et al.

#### FOREIGN PATENT DOCUMENTS

CA 2112792 7/1994

4,229,979 A

4,447,125 A

#### (Continued)

## OTHER PUBLICATIONS

U.S. Appl. No. 09/939,404 entitled "High Throughput Mechanical Property and Bulge Testing of Material Libraries," (D. Hajduk et al.) filed on Aug. 24, 2001.

#### (Continued)

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# (57) ABSTRACT

A rapid throughput method for the preparation, analysis or both of libraries of material samples is provided. According to the method, a plurality of samples is provided. The plurality of samples is then formed into a plurality of films. Thereafter, the plurality of films is plastically deformed. Preferably, the plurality of films is deformed into a configuration appropriate for testing of properties or characteristics of the samples.

# 22 Claims, 4 Drawing Sheets

