



PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION  
International Bureau

## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

|                                                                                          |    |                                                                                                                         |
|------------------------------------------------------------------------------------------|----|-------------------------------------------------------------------------------------------------------------------------|
| (51) International Patent Classification <sup>6</sup> :<br>B41J 33/40, 29/38, B65C 11/02 | A1 | (11) International Publication Number: WO 99/44835<br>(43) International Publication Date: 10 September 1999 (10.09.99) |
|------------------------------------------------------------------------------------------|----|-------------------------------------------------------------------------------------------------------------------------|

(21) International Application Number: PCT/US99/02915

(22) International Filing Date: 10 February 1999 (10.02.99)

(30) Priority Data:  
09/033,342 2 March 1998 (02.03.98) US

(71) Applicant: BRADY WORLDWIDE, INC. [US/US]; 2221 West Camden Road, Milwaukee, WI 53209 (US).

(72) Inventors: SCHANKE, Robert, L.; 5105 South Mars Drive, New Berlin, WI 53146 (US). BANDHOLZ, Brent, A.; 1136 South 98th Street, West Allis, WI 53214 (US).

(73) Agent: RADLER, Daniel, G.; Quarles &amp; Brady LLP, 411 East Wisconsin Avenue, Milwaukee, WI 53202-4497 (US).

(81) Designated States: AU, BR, CA, CN, JP, MX, SG, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).

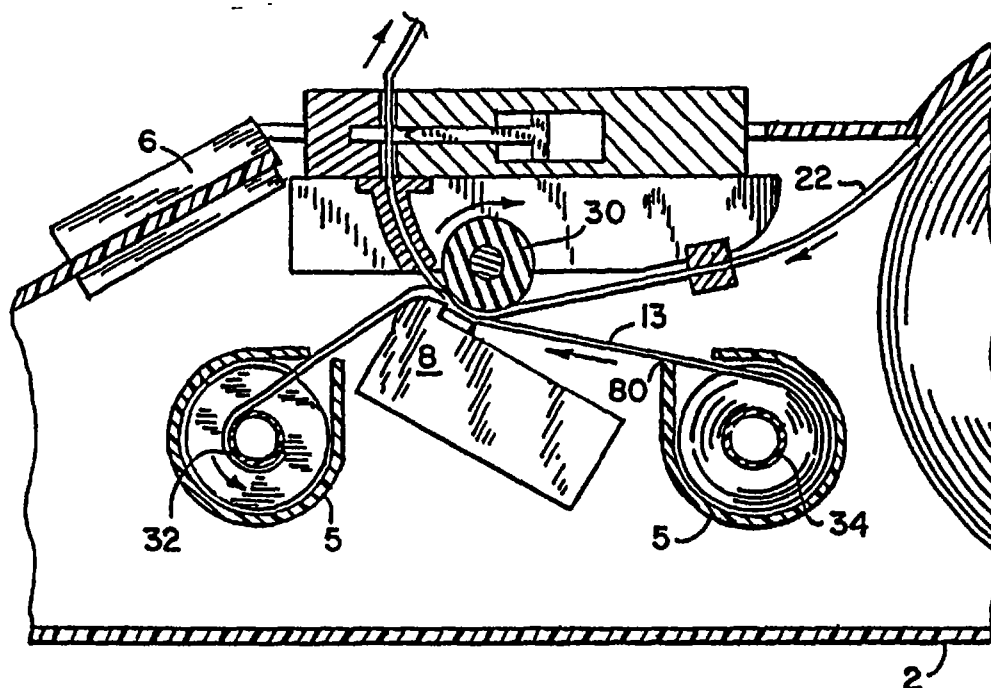
Published  
With international search report.

\*162162\*



\*G00002\*

(54) Title: METHOD AND APPARATUS FOR MAINTAINING RIBBON TENSION



## (57) Abstract

A bi-directional handheld label printer (10) with a novel labeling media (22) and ink ribbon drive mechanism. A delay is introduced in the labeling media and ink ribbon (13) drive mechanism to pretension the ribbon prior to feeding labeling media and ribbon past the print head. When the drive motor (72) reverses direction, the drive roller (30) stalls momentarily while the take up ribbon drive spindle tensions the ribbon (13) in the desired direction.