

US008678550B2

(12) United States Patent Silverbrook

(54) PRINTHEAD ASSEMBLY WITH LAMINATED INK DISTRIBUTION STACK

- (75) Inventor: Kia Silverbrook, Balmain (AU)
- (73) Assignee: Zamtec Ltd, Dublin (IE)
- (*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 793 days.

This patent is subject to a terminal disclaimer.

- (21) Appl. No.: 12/834,893
- (22) Filed: Jul. 13, 2010

(65) Prior Publication Data

US 2010/0277538 A1 Nov. 4, 2010

Related U.S. Application Data

- (63) Continuation of application No. 11/779,845, filed on Jul. 18, 2007, now Pat. No. 7,758,181, which is a continuation of application No. 11/227,240, filed on Sep. 16, 2005, now Pat. No. 7,258,430, which is a continuation of application No. 10/974,751, filed on Oct. 28, 2004, now Pat. No. 6,966,625, which is a continuation of application No. 10/296,438, filed as application No. PCT/AU00/00597 on May 24, 2000, now Pat. No. 6,824,242.
- (51) Int. Cl. *B41J 2/155* (2006.01)

DOCKE

(10) Patent No.: US 8,678,550 B2 (45) Date of Patent: *Mar. 25, 2014

(56)

EP

EP

References Cited

U.S. PATENT DOCUMENTS

5,316,395 A	5/1994	Imai		
5,451,991 A	9/1995	Saito et al.		
5,565,900 A	10/1996	Cowger		
5,757,398 A	5/1998	Anderson		
5,929,877 A	7/1999	Hetzer		
5,963,234 A	10/1999	Miyazawa		
5,997,125 A	12/1999	Nishioka		
6,003,971 A	12/1999	Hanks		
6,050,679 A	4/2000	Howkins		
6,250,738 B1	6/2001	Waller		
6,322,206 B1	11/2001	Boyd		
6,322,677 B1	11/2001	Woodruff		
	(Continued)			

FOREIGN PATENT DOCUMENTS

84823	2/1994
98701 A	5/1994
(Cont	inued)

Primary Examiner — Anh T. N. Vo (74) Attorney, Agent, or Firm — Cooley LLP

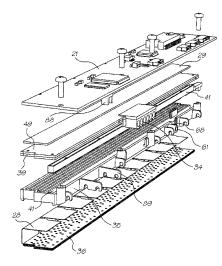
(57) ABSTRACT

05

05

A print engine assembly includes an elongate chassis defining a print media exit slot; an elongate printhead assembly mounted relative to the chassis and configured to eject ink onto print media; a paper feed mechanism configured to transport the print media past the elongate printhead and out through the exit slot, the paper feed mechanism comprising a pair of bearing moldings received within and mounted on opposite ends of the chassis, the paper feed mechanism further comprising at least one roller mounted between the bearing moldings and a motor mounted to one of said bearing moldings to drive said at least one roller; and a platen member extending parallel to the printhead, the platen member mounted to either end of the chassis and on which said printhead assembly is mounted.

4 Claims, 22 Drawing Sheets



US 8,678,550 B2

Page 2

(56)		U.S. 1		ces Cited DOCUMENTS	2003/010	18090 A1 07619 A1 27454 A1*	2/2002 6/2003 1/2009	Kitahara	0
	6,488,422 6,788,336 6,966,625 6,988,784 7,114,868 7,328,994 7,407,259 7,425,053 7,686,416 7,740,338 7,758,181 7,789,485	B1 B2 B2 B2* B2* B2* B2* B2* B2* B2* B2* B	9/2004 11/2005 1/2006 2/2008 8/2008 9/2008 3/2010 6/2010	Silverbrook 347/104	EP GB JP JP JP JP JP JP		5077 A 5748 9274 5984 883 9900 5430	NT DOCUMENTS 8/1999 9/1983 8/1992 12/1996 6/1997 7/1999 1/2000 5/2000	

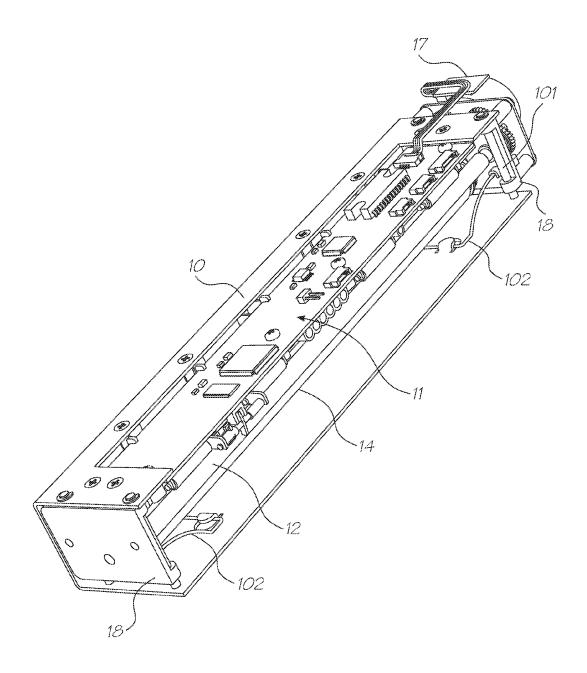


FIG. 1

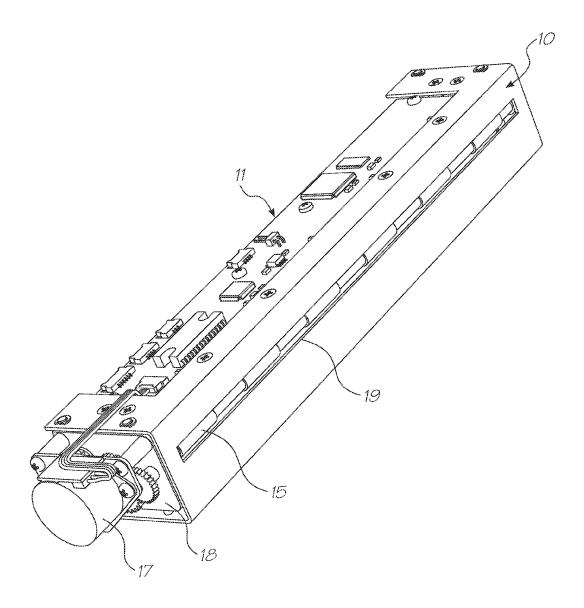


FIG. 2

DOCKET A L A R M Find authenticated court documents without watermarks at <u>docketalarm.com</u>.

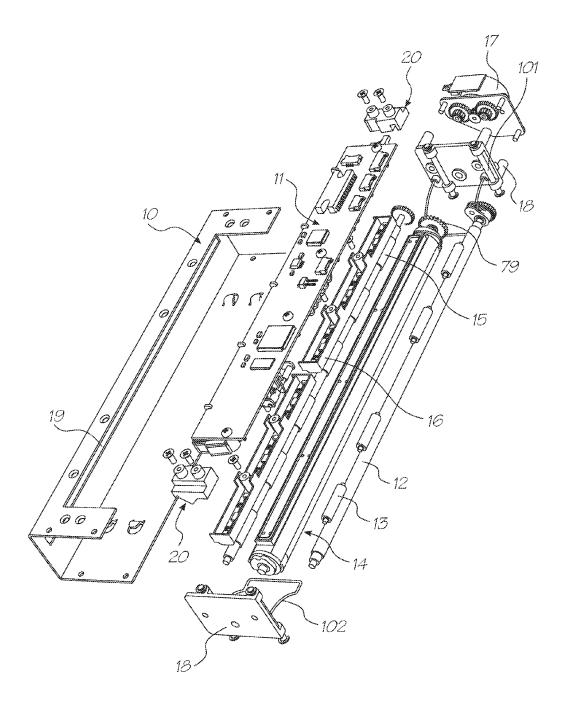


FIG. 3

DOCKET A L A R M Find authenticated court documents without watermarks at <u>docketalarm.com</u>.

DOCKET A L A R M



Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.