

Patent Points

NOW STARTING MY 17TH YEAR...

A New PTO ?

The last several years have seen a worsening of conditions at the US Patent Office. Labor disputes between Examiners and PTO management have been extremely bitter. Examiners are becoming more afraid to allow patents when additional reviewers or a "second set of eyes" forces the Examiners to issue new rejections. Allowance rates have plunged.

New rules that limited applicants' ability to file continuations, limits on the number of claims, and an onerous "Examination Support Document" that could be more costly than writing the patent application itself were proposed by the PTO but later shot down by the courts. Having courts invalidate proposed rules is a huge embarrassment to a Government agency such as the PTO.

The backlog of pending applications kept growing and is now over 770,000. Delays seemed to increase even as staffing rose.

After the presidential election the PTO director and other top managers quit, leaving an interim director in charge. After months without a permanent Director, the Patent Office finally has a new head. Perhaps things will change for the better, or at least become "less worse"...

New PTO Director

David Kappos has been confirmed as the new Director of the PTO. Kappos was a Vice President of Intellectual Property at IBM, and has served on the Boards of several IP Associations.

Kappos is the first Patent Attorney to head the PTO since 2001. The Patent Office has languished as political appointees with no patent experience have been selected as prior PTO directors. For example, a Congressman who had prosecuted Clinton's impeachment and later lost his reelection was appointed, perhaps as a political favor. Other congressional staff members have been appointed for management positions at the PTO when their congressmen left office. A lawsuit was even filed to block the appointment of one congressional staffer with no patent experience.

Having a Patent Attorney running the Patent Office will likely shift the focus away from politics and back toward technical matters.

PTO Director has a BSEE

Not only is Kappos a Patent Attorney, but he also has a BS in Electrical Engineering from UC Davis. He worked as a development engineer at IBM before moving into IBM's legal group.



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New Rules Still on Hold

The PTO's controversial continuation rules that were blocked by the District Court have been partially allowed by a small panel of the Appeals Court, but now the full Appeals Court will re-hear the case. It will then likely go to the Supreme Court, unless the new PTO Director drops the new rules.

Software Patents in Limbo

The appeals court has also significantly limited software patents, but the Supreme Court will take up the controversy in the *In Re Bilsky* case. The new guidance on software patents from the Appeals court is thus in doubt since the Supreme Court may propose their own rules on Software patents. The patentability of Software has been seriously weakened by this and other recent decisions. Some PTO rejections are saying that Software per se is no longer patentable, even software claims reciting "machine-readable media", which had been allowed before.

The new Supreme Court Justice, Sonia Sotomayor, was an attorney at an IP Law firm and has ruled on some IP cases. She should help to beef up the Court's understanding of technology and patent-related cases.

OMB Shoots Down New Appeal Rules

In a further blow to the PTO, the Office of Management and Budget (OMB) blocked new rules about Appeals within the PTO. The PTO said the new rules were not a significant burden, but OMB disagreed.

Appeals have swelled from a backlog of 4,000 last October to 11,000 in June 2009. The Examiner wins 60% of the time now at the PTO Appeal Board. Not surprisingly, pre-appeal conferences with the Examiner's Supervisor go with the Examiner 70% of the time.

PTO in a Cash Crunch

The PTO is experiencing a serious budget crisis. It is running a deficit and may have to borrow funds. Travel, hiring, and overtime have been cancelled.

The PTO relies on funds from patent applicants, such as issue and maintenance fees. However, with the weak economy, fewer patents are being filed. Also, the PTO has significantly reduced its allowance rate, causing fewer patents to issue than in past years. The result is that the PTO is receiving much less money from issue and maintenance fees.

There are some reports that the PTO has reversed and is starting to allow more patents to bring in more funds. However, the allowance rate has plunged from 60% to 40%, and some are saying the allowance rate is as low as 36%. For some technologies the allowance rates are even smaller, such as 17% for business method patents.

I have seen 11 allowances in the last few months, which is an extraordinarily large number for such a short time. One appealed case was even allowed by the Examiner before reaching the Appeal Board, although we did have to write the appeal brief twice.



PTO Allowance Rate Plunges

The US Patent office also reported that allowance rates have plunged from 72% in 2000 to 54% in 2006, and now to 40% in 2009.

On appeal, PTO examiners were upheld 69% of the time, up from 51% in 2005.

Phase-Change Memory

My informal "Patent of the Year" is shown on page 3. Phase Change Memory (PCM) uses alloy resistors that change from a high-resistance amorphous state to a low-resistance crystalline state under certain heating/current conditions. PCM may replace eeprom for use in flash memory. While the basic technology is known, the application of PCM cells in various environments is a wide-open field for patenting by forward-looking companies.



US007606111B2

(12) **United States Patent**
Lee et al.

(10) **Patent No.:** **US 7,606,111 B2**
(45) **Date of Patent:** **Oct. 20, 2009**

(54) **SYNCHRONOUS PAGE-MODE PHASE-CHANGE MEMORY WITH ECC AND RAM CACHE**

(75) Inventors: **Charles C. Lee**, Cupertino, CA (US);
Frank I-Kang Yu, Palo Alto, CA (US);
David Q. Chow, San Jose, CA (US)

(73) Assignee: **Super Talent Electronics, Inc.**, San Jose, CA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 303 days.

6,286,075	B1 *	9/2001	Stracovsky et al.	365/230.03
6,487,113	B1	11/2002	Park et al.		
6,496,415	B2	12/2002	Tsao		
6,504,791	B1	1/2003	Naura et al.		
6,912,598	B1	6/2005	Bedarida et al.		
7,050,328	B2	5/2006	Khoury et al.		
7,075,841	B2	7/2006	Resta et al.		
7,099,179	B2	8/2006	Rinerson et al.		
2005/0041498	A1	2/2005	Resta et al.		
2005/0158950	A1	7/2005	Scheuerlein et al.		
2006/0087893	A1 *	4/2006	Nishihara et al.	365/189.01
2007/0121376	A1	5/2007	Toda		

* cited by examiner

(21) Appl. No.: **11/769,324**

(22) Filed: **Jun. 27, 2007**

(65) **Prior Publication Data**

US 2008/0266991 A1 Oct. 30, 2008

Related U.S. Application Data

(63) Continuation-in-part of application No. 11/748,595, filed on May 15, 2007, now Pat. No. 7,471,556, and a continuation-in-part of application No. 11/740,398, filed on Apr. 26, 2007.

(51) **Int. Cl.**
G11C 7/10 (2006.01)

(52) **U.S. Cl.** **365/238.5**; 365/163; 365/230.03

(58) **Field of Classification Search** 365/238.5,
365/163, 230.03

See application file for complete search history.

(56) **References Cited**

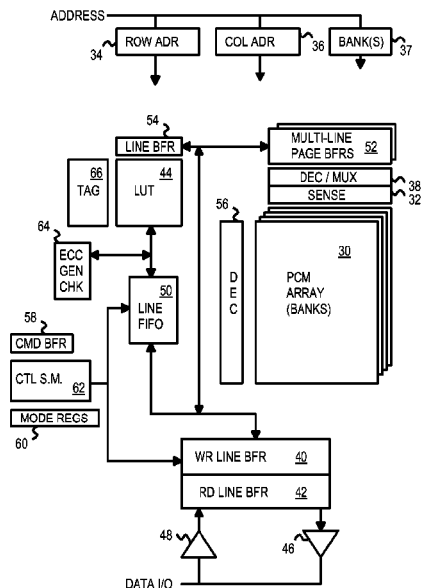
U.S. PATENT DOCUMENTS

5,751,637 A 5/1998 Chen et al.

(57) **ABSTRACT**

Phase-change memory (PCM) cells store data using alloy resistors in high-resistance amorphous and low-resistance crystalline states. The time of the memory cell's set-current pulse can be 100 ns, much longer than read or reset times. The write time thus depends on the write data and is relatively long. A page-mode caching PCM device has a lookup table (LUT) that caches write data that is later written to an array of PCM banks. Host data is latched into a line FIFO and written into the LUT, reducing write delays to the relatively slow PCM. Host read data can be supplied by the LUT or fetched from the PCM banks. A multi-line page buffer between the PCM banks and LUT allows for larger block transfers using the LUT. Error-correction code (ECC) checking and generation is performed for data in the LUT, hiding ECC delays for data writes into the PCM banks.

20 Claims, 15 Drawing Sheets



Easy-to-Remember Gmail Address:

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370 Patents Issued

After 16 years of writing patents as a full-time Patent Agent, 370 applications that I've written have now issued as patents. Congratulations inventors!

You can view the 370 issued patents I've written at:

www.gpatent.com

Rates Set for 2010

My hourly rate for 2010 will be \$230 per hour, billed in quarter-hour increments. Fixed-price quotes are available for patent applications to facilitate budgeting and avoid expensive surprises.

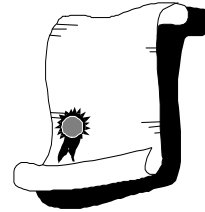
Prosecution work such as amendments and other paperwork is billed at the hourly rate. Litigation-support work is billed at a higher rate.

Patent searches are billed at a flat \$500 for U.S. abstract searches. Patents can be viewed on-line.

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Address Correction Requested