UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte TRANS TEXAS HOLDINGS CORP.[1]

Appeal No. 2005-2642
Reexamination Control No. 90/005,841
Patent 5,832,461[2]

HEARD: January 24, 2006

Before MARTIN, BLANKENSHIP, and MacDONALD, Administrative Patent Judges.

MARTIN, Administrative Patent Judge.

DECISION ON APPEAL

[1] Trans Texas Holdings Corp. is the owner of the patent under reexamination. The inventors named in the patent are Tomás Leon and Lewis J. Spellman.

[2] The ‘461 patent issued based on Application 07/780,834, filed October 23, 1991, which purports to be a continuation of 07/187,054, filed April 27, 1988 (abandoned), which is identified as a continuation of 06/770,493, filed August 27, 1985 (now Patent 4,742,457).

This is an appeal under 35 U.S.C. §§ 134 and 306 from the examiner's final rejection of claims 1-44, which are all of the original patent claims, under 35 U.S.C. § 103(a).[3] We affirm.

A. Related litigation

The patent under reexamination in this proceeding (Patent 5,832,461) and the patent under reexamination in Reexamination Control No. 90/005,842 (Patent 6,052,673), which is the subject of pending Appeal No. 2005-2643, were both involved in Trans Texas Holdings Corp. v. Pacific Investment Management Co., Civ. Act. No. A99CA658SS in the United States District Court for the Western District of Texas (Austin). On August 26, 2000, the district court entered a Markman[4] order (Exhibit E to the brief) construing various terms of the claims of both patents. In response to a question from the Board at oral argument concerning the dismissal date of the district

[3] The final Office action ("Final Action") states (at 2, ¶ 4) that claim 10 stands objected to under 37 CFR § 1.75 for being a substantial duplicate of claim 9. At pages 5 and 6 of the brief, appellant correctly notes that the merits of the objection are reviewable by way of a petition to the Commissioner rather than by way of an appeal to the Board. The objection is not repeated in the Answer.

[4] Markman v. Westview Instruments, Inc., 52 F.3d 967, 979, 34 USPQ2d 1321, 1329 (Fed. Cir. 1995), aff'd, 517 U.S. 370, 372, 38 USPQ2d 1461, 1463 (1996).

court action, appellant's counsel requested permission to submit a copy of the district court's docket report, which request was granted. The docket report was faxed to the board on January 25, 2006, and shows that the order dismissing the action was filed on January 8, 2001. A copy of that order, entitled "Order of Dismissal With Prejudice" (incorrectly giving the year as 2000), accompanied the reply brief as Exhibit F.

B. Related appeal

A decision is being mailed concurrently herewith in Appeal No. 2005-2643 in the '842 reexamination, the subject of pending Appeal No. 2005-2643 reexamination proceeding.

C. The invention at issue

The claims are directed to an investment system which includes an inflation-indexed deposit account and preferably also includes an inflation-indexed loan account. Both types of accounts have a principal component representing the initial investment and an accrual component which represents the portion of the account attributable to fixed interest and to inflation adjustments. '461 Patent at col. 2, l. 66 to col. 3, l. 4. Servicing of the accounts is handled by an account management data processor. Id. at col. 3, ll. 52-53. The accounts can be retired in a number of ways:

> Under one alternative, the principal component is enhanced by the variable interest component and the account retired by retiring the fixed interest component by one schedule and retiring the principal component by a second schedule. However, the account may be retired by retiring both components over a similar schedule or by amortization. By varying

> the manner in which each respective component is accrued or retired, the cash flow characteristics of the account can be significantly altered to fit the requisites of the individual or institution.

Id. at col. 3, ll. 13-23.

None of the patent claims have been amended during this reexamination proceeding. There are three independent claims (1, 24, and 36), of which claim 24 reads:

> 24. In combination, in an investment system for managing inflation risk:
> means for establishing data representative of a deposit account with an institution, the deposit account having a principal component representing the cash investment of a depositor for an account term, and an accrual component comprising a fixed interest component which is enhanced at a fixed interest rate times the principal component and a variable interest component which is enhanced at an index responsive to the rate of inflation times the principal component; and
> an account management dataprocessor [sic] including means for paying the deposit account over the term.

D. The grouping of the claims

At page 5 of the brief, appellant states that "[f]or purposes of this Appeal, all of the claims shall be considered separately and do not stand or fall together." Under 37 CFR § 1.192(c)(7) (2001), which was in effect when the brief was filed, a group of claims rejected on the same ground can be treated as standing or falling together unless the brief states that the claims of the group do not stand or fall together and explains why the claims are believed to be separately patentable. As noted below, some of the rejected claims have not been separately argued and thus will be treated as standing or falling with their parent claims.

E. The scope and meaning of the claims[5]

[5] The copy of the claims provided in Appendix I to the brief is inaccurate in that it fails to accurately reproduce the formulas recited in claims 12 and 21.

"[D]uring examination proceedings, claims are given their broadest reasonable interpretation consistent with the specification." In re Hyatt, 211 F.3d 1367, 1372, 54 USPQ2d 1664, 1667 (Fed. Cir. 2000) (citing In re Graves, 69 F.3d 1147, 1152, 36 USPQ2d 1697, 1701 (Fed. Cir. 1995); In re Etter, 756 F.2d 852, 858, 225 USPQ 1, 5 (Fed. Cir. 1985) (en banc)).

Thus, as explained in In re American Academy of Science Tech Center, 367 F.3d 1359, 1369, 70 USPQ2d 1827, 1834 (Fed. Cir. 2004), which was an appeal from a Board decision in a reexamination proceeding,

> the Board is required to use a different standard for construing claims than that used by district courts. We have held that it is error for the Board to "appl[y] the mode of claim interpretation that is used by courts in litigation, when interpreting the claims of issued patents in connection with determinations of infringement and validity." In re Zletz, 893 F.2d 319, 321 [13 USPQ2d 1320, 1321] (Fed. Cir. 1989); accord In re Morris, 127 F.3d 1048, 1054 [44 USPQ2d 1023, 1028] (Fed. Cir. 1997) ("It would be inconsistent with the role assigned to the PTO in issuing a patent to require it to interpret claims in the same manner as judges who, post-issuance, operate under the assumption the patent is valid.").
> Instead, as we explained above, the PTO is obligated to give claims their broadest reasonable interpretation during examination.

Appellant's reliance (Brief at 7) on the claim interpretation given in the district court's Markman order is therefore misplaced.

Appellant nevertheless argues (Reply at 4) that we are bound by the district court's Markman order under the doctrine of issue preclusion discussed in In re Freeman, 30 F.3d 1459, 1465-69, 31 USPQ2d 1444, 1448-51 (Fed. Cir. 1994). This argument fails because the Markman order was not "necessary to the judgment rendered in the previous action," which is one of the four conditions for application of the doctrine:

> Issue preclusion is appropriate only if: (1) the issue is identical to one decided in the first action; (2) the issue was actually litigated in the first action; (3) resolution of the issue was essential to a final judgment in the first action; and (4) plaintiff had a full and fair opportunity to litigate the issue in the first action. A.B. Dick Co. v. Burroughs Corp., 713 F.2d 700, 702, 218 USPQ 965, 967 (Fed. Cir. 1983), cert. denied, 464 U.S. 1042 (1984).

Freeman, 30 F.3d at 1465, 31 USPQ2d at 1448. Regarding claim interpretation, the Freeman court further explains:

> In the context of claim interpretation, this court has held that
>
> > judicial statements regarding the scope of patent claims are entitled to collateral estoppel effect in a subsequent infringement suit only to the extent that determination of scope was essential to a final judgment on the question of validity or infringement.
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> A.B. Dick Co., 713 F.2d at 704, 218 USPQ at 968. This court has warned, however, that statements regarding the scope of patent claims made in a former adjudication should be narrowly construed. Id. Additionally, to apply issue preclusion to a claim interpretation issue decided in a prior infringement adjudication, "the interpretation of the claim had to be the reason for the loss [in the prior case] on the issue of infringement." Jackson Jordan, Inc. v. Plasser American Corp., 747 F.2d 1567, 1577, 224 USPQ 1, 8 (Fed. Cir. 1984).

Freeman, 30 F.3d at 1466, 31 USPQ2d at 1449. The district court action at issue here concluded with a dismissal rather than with a judgment on validity or infringement.

In giving claims their broadest reasonable construction, the PTO will "tak[e] into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in the applicant's specification." Morris, 127 F.3d at 1054, 44 USPQ2d at 1027. However, we are not permitted to read limitations from the disclosed embodiments or examples into the claims. See American Academy, 367 F.3d at 1369, 70 USPQ2d at 1834:

> We have cautioned against reading limitations into a claim from the preferred embodiment described in the specification, even if it is the only embodiment described, absent clear disclaimer in the specification. See Liebel-Flarsheim Co. v. Medrad, Inc., 358 F.3d 898, 906 [69 USPQ2d 1801] (Fed. Cir. 2004) ("Even when the specification describes only a single embodiment, the claims of the patent will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope using 'words or expressions of manifest exclusion or restriction.'"); Teleflex, Inc. v. Ficosa N. Am. Corp., 299 F.3d 1313, 1325 [63 USPQ2d 1374] (Fed. Cir. 2002).

The principal point of contention regarding the scope and meaning of the claims is the

relationship between the rate of prior actual inflation and the resulting inflation adjustments of the deposit and loan accounts. Appellant contends that the claims require a continuous (i.e., nonstepped) relationship such that different amounts of prior actual inflation will result in different inflation adjustments. For the following reasons, we do not agree.

Each of the independent claims (1, 24, and 36) calls for either adjusting an amount “in a manner responsive to the rate of inflation” (claims 1 and 36) or enhancing a component “responsive to the rate of inflation” (claim 24). Appellant’s argument for a continuous relationship rests on the following definition of “responsive to the rate of inflation” in the specification: “Responsive to the rate of inflation, as used herein, means directly responsive to a market indicator of prior actual inflation and it is not meant to include the market's expectation of future inflation.” ‘461 Patent at col. 3, ll. 11-14. This definition has several possible interpretations. It can be construed as defining (1) only the phrase “responsive to the rate of inflation”; (2) the phrase “<u>the</u> rate of inflation” (our emphasis), whether or not preceded by “responsive to”; or (3) the phrase “rate of inflation,” whether preceded by “a” or “the.” We conclude that interpretation (3) is the broadest reasonable one and will so construe the phrase “rate of inflation” in all of the claims. As for the effect of the use of “directly responsive to” instead of “responsive to” in the definition, the broadest reasonable interpretation of the chosen phraseology is that it was meant to emphasize that the calculations of inflation adjustments must be based <u>on</u> the market indicator data which represents prior actual inflation (e.g., the CPI-U). <u>See</u> <u>The American Heritage Dictionary of the English Language</u> 373 (copy enclosed) (New College Edition, 1975) (hereinafter <u>American Heritage Dictionary</u>) (defining “directly” to mean: “1. In a direct line or manner; straight. . . . 2. Without anyone or anything intervening; immediately.”). Nothing in the specification clearly evidences an intent to have the phrase “directly responsive to” construed as requiring a continuous relationship.

Appellant’s argument that the foregoing definition from the ‘461 patent requires us to construe the claims as requiring that the inflation adjustments be a continuous function of the rate of prior actual inflation is wrong on two counts. First, as explained above, the phrase “directly responsive to” in the definition does not imply a continuous relationship. Second, even assuming it does, the definition does not address the relationship between the inflation adjustments and the rate of inflation. Instead, it addresses the relationship between the inflation adjustments and “a market indicator of prior actual inflation,” which need not represent the rate of prior actual inflation. In fact, appellant’s disclosed market indicators of prior actual inflation represent inflated price levels, from which the inflation rates and the resulting inflation adjustments are calculated:

> Once the current inflation index (CPIc) is determined, the level of inflation since the last reporting period is estimated by consideration of a preselected inflation index which reflects prior actual inflation. A preferred embodiment of the present invention utilizes the consumer price index CPI-U, for all items. However, any number of indexes may be successfully utilized including, but not limited to CPI-W, Producer Price Index, the Implicit Price Deflator for the Gross National Product, or any component of these price level measures so long as the index reflects some measure of past inflation. The level [of] inflation which has occurred since the previous iteration period can be determined by the formula:
>
> $$\frac{CPIc - CPIo}{CPIo}$$
>
> Where CPIo i[s] the inflation index at the time of the last iteration, or the initial index if the present iteration is the first.

‘673 Patent at col. 6, ll. 27-46 (emphasis added). “If . . . inflation has occurred during the prior iteration period, the cash outflow or disbursement attributable to the effects of inflation on the account balance is determined by applying the inflation rate to the deposit balance.” Id. at col. 6, ll. 58-62. Because the “market indicator of prior actual inflation” need not represent the rate of prior actual inflation, a claim recitation that an inflation adjustment is "responsive to a rate of inflation" should be understood as requiring no more than that the inflation adjustment be (a) "responsive to" the rate of prior actual inflation and (b) "directly responsive to" (i.e., based on) the data of a market indicator of prior actual inflation, which may represent inflated price levels rather than inflation rates.

Appellant's reliance on the district court's Markman order (Brief at 7) for a narrower definition is improper for the reasons given above. Also, because it is improper to read disclosed examples into the claims, American Academy, 367 F.3d at 1369, 70 USPQ2d at 1834, we are unpersuaded by appellant's argument that

> [i]n each of the examples in the '461 specification, the inflation component is adjusted for any amount of inflation, and adjusted on a one-for one basis. '461 specification, col. 10 to col. 26. Accordingly, reading the definition and the examples, one of skill would understand that there must be a direct correspondence between the rate of inflation and the amount by which the variable interest component is adjusted.

Brief at 6-7.

Moving on to the next construction question, each of the independent claims additionally calls for the deposit account (claims 1, 24, and 36) and the loan account (claim 36) to have a "term," which is defined by several passages in the specification. The first reads: "As referred to herein, the account term is the time period over which the account is retired or 'paid out' to the account holder." '461 Patent at col. 3, ll. 41-43. While this definition is ambiguous regarding whether the term begins when the account is opened or with the first payout or retirement payment, that ambiguity is removed by the explanation that "[t]he term of the account is the length of time from the initial deposit until maturity (i.e., when the account has been entirely retired)." '461 Patent at col. 4, ll. 61-64.[6] Neither of these definitions nor any other language in the independent claims requires that the claimed "term" of an account be predetermined, as argued by appellant in (a) characterizing claim 24 as including "the requirement . . . that the accounts have a specified term for paying out the account," Brief at 10, and (b) criticizing the accounts disclosed in the Mukherjee reference on the ground that they "did not have a particular pre-set term for payout." Id. While the '461 patent states that "[t]he account term is generally divided into a plurality of adjustment or iteration periods" and explains that "terms may be scheduled to include only a single iteration" (emphasis added), col. 3, ll. 43-45, this language does not require that the number of plural adjustment or iteration periods be set in advance; nor does it require that the retirement date of a single-iteration account be specified in advance. Nor does the phrase "schedule over a term," which is employed in some claims, imply plural iteration periods and thus preclude a single iteration and lump sum payment. To the contrary, claim 4, which depends on claim 1, specifies that the "means for paying the deposit principal component according to a second schedule over the term," recited in claim 1, comprises "a lump sum payment at the end of the term."

F. The references

[6] The "duration" of an account is "a mathematical expression of when the average time-weighted dollar is paid out of the account." '461 Patent at col. 4, ll. 64-66.

The rejections rely on the following references:

4,774,663 Musmanno et al. (hereinafter "Musmanno") Sep. 27, 1988 (filed Nov. 21, 1983)

Zvi Bodie, An innovation for stable real retirement income, Portfolio Management, Fall 1980, at 5-13 ("Bodie").

Santosh Mukherjee and Claire Orlans, Indexation in an Inflationary Economy – A Case Study of Finland, Vol. XL, Broadsheet No. 551, PEP The Social Science Institute, April 1975, at 50-73 and 106-11 ("Mukherjee").[7]

Persio Arida and André Lara-Resende, Inertial Inflation and Monetary Reform: Brazil, in INFLATION AND INDEXATION – ARGENTINA, BRAZIL, AND ISRAEL 27-37 (John Williamson ed., (March 1985) ("Williamson").

G. The grounds of rejection

[7] A better copy of Mukherjee than is currently of record accompanies this decision.

Claims 24-26, 28-32, 34-37, and 38-44[8] stand rejected under 35 U.S.C. § 103(a) as unpatentable over Mukherjee in view of Musmanno.

Claims 1-23, 31, 33, and 44 stand rejected under § 103(a) as unpatentable over Mukherjee in view of Bodie and further in view of Musmanno.

Claims 27 and 38 stand rejected under § 103(a) as unpatentable over Mukherjee in view Musmanno and Williamson.

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[8] The inclusion of claim 38 in the statement of this ground of rejection is obviously a typographical error, because that claim is not mentioned in the discussion of this ground of rejection in the Final Action (at 3-14, ¶¶ 7-23) or in the Answer (at 3-12, ¶¶ 2-18). Instead, it is addressed only in the discussion of the rejection based on Mukherjee, Musmanno, and Williamson. Final Action at 28, ¶ 52; Answer at 23-24, ¶ 46.

H. The Mukherjee and Musmanno references

Mukherjee describes the Finnish experience with inflation-indexing in various areas, including bank deposit accounts (at 50-56), government- and industry-issued bonds (at 57-63), social security, pensions, and insurance (at 63-66), bank loans (at 67-69), and commercial and property contracts (at 70-73).

The Finnish banking system was divided into three groups: (a) commercial savings; (b) cooperative; and (c) Post Office. Mukherjee at 50, 1st para. "As the rapid inflation of 1950-1 was being checked by the stabilisation programme begun in October 1951, the banks took the decision, in principle, to adjust both their loans and deposits for inflation, on the basis of quarterly inspections of the cost-of-living index." Id. at 50, second para. While "[t]he initial idea had been to apply an extra charge to all loans equal to half the rise in the index, and then to use the funds to compensate all depositors for half their loss due to inflation," id. at 50, 4th para., that initial idea was not adopted. Instead,

> [w]hat was eventually decided was different and more complex. Not all deposits were index-linked, but only specifically designated accounts carrying certain restrictions on withdrawal. Full inflation proofing was given to these designated accounts. The money needed to make them keep pace with the cost of living was found by imposing an 'index surcharge' on all loans. The amount of the surcharge was usually fixed according to the proportion of the bank's deposits benefiting by index adjustment, so that the bank could just balance its commitments.

Id. at 50-51. The first index-linked bank deposit accounts went into effect in May 1955 and had the following characteristics:

(1) A lump sum of 30,000 markka was required to open the account;

(2) Withdrawals were not permitted during the first year;

(3) The fixed interest paid on the account balance was 1 to 1½ percentage points below that paid for normal deposits; and

(4) They did not share the tax exemption enjoyed by ordinary savings accounts.

Mukherjee at 51, 2d full para.

Furthermore, the indexing feature operated in a stepped, discontinuous manner rather than a continuous manner:

> Once the cost-of-living index (October 1951 = 100) had risen 2 points above 104, the capital was increased by as many as 2 full per cents as the index had risen between deposit and withdrawal. The figures used were the averages (to the nearest whole number) of the index values for the three months before deposit and withdrawal respectively. The system did not work the other way; no reduction would take place if the index fell.

Id. at 51, 3d full para. In January 1957, a choice of two kinds of index-linked accounts became available to the public: in addition to the above taxable accounts, thereafter called 'A' accounts, 'B' accounts were offered which were tax-free (like normal, nonindexed deposit accounts) but gave only 50 per cent index compensation. Id. at 52, 2d full para. The interest rates for the two types of accounts were as follows:

> `A' and 'B' accounts at first carried the same basic rate of interest of 4¾ per cent. In January 1957, when 'B' accounts started, the index clause for 'A' accounts was made more sensitive. Compensation was now to be paid for full 1 per cent changes in the cost-of-living index, instead of full 2 per cents. 'B' accounts received exactly half the index-related compensation rate paid on 'A' accounts.

Id. at 54, 4th full para. We agree with the examiner that the phrase "basic rate of interest" in the foregoing passage refers to a fixed rate of interest. Final Action at 4, ll. 1-3. Appellant does not contend otherwise.

'B' accounts suffered a death blow when 'A' accounts, which provided full indexing, were freed from taxation. Mukherjee at 56, 2d para.

Under the heading "Sudden death," Mukherjee explains that in March 1968, a stabilization agreement signed by the central trade union and employer organizations abolished the system of index linkage for wages, rents, business contracts, bonds, and bank deposits and precluded the index clause from being applied to bank deposits after November 30, 1968. Id. at 56, 4th para.

In the discussion of inflation-indexed government and industry bonds, Mukherjee notes that "[b]anks and cooperative credit societies needed the income from index bonds to held pay compensation on indexed deposit accounts," id. at 59, 1st full para., and in the discussion of inflation-indexed loans further explains:

> Banks started to make indexed charges on loans when their indexed deposit business became of appreciable size. In the savings and cooperative bank sector this was in 1956. Similar charging arrangements by the commercial banks did not come into operation until rather more than a year after that. This part of the banking sector had interrupted this business for a year, and initially were able to cover indexed payments to depositors with income from their holdings of government indexed bonds.
>
> The Post Office Bank usually tied its loans 25 per cent to the cost-of-living index. All other banks operated on the principle of calculating an index

surcharge on all loans at rates just sufficient to cover indexed payments to depositors. This meant, for example, that in a year when the index rose by 10 per cent, a bank with one fifth of its deposits in fully index-linked accounts would place an index surcharge of 2 per cent on all its outstanding loans. This surcharge became payable immediately by borrowers as additional interest;

the outstanding

debt was not,

however, written up.

Id. at 67-68.

The examiner relies on Musmanno primarily for its disclosure of using a data processor to handle a securities brokerage and cash management system. Specifically, Musmanno's figures depict, in flow-chart form,

> a data processing implementation for a brokerage-cash management financial system which provides for automatic investment of free credit cash balances in short term investments which include an insured savings account option; a full range of security brokerage transaction functions; which permits consumer transaction ("charge") card and check charges; and which includes safeguards against abuses., e.g., check kiting.

Musmanno, col. 1, ll. 24-33. Appellant concedes that these flow charts represent operations performed by a data processor. See Brief at 11 ("Musmanno . . . teaches the use of a specific type of data processing to manage a specific type of account, the so-called Cash Management Account. Musmanno teaches specific software for carrying this function out, which is shown, for example, in Figures 1A, [1B], 2, 3 and 4.").

The examiner does not contend that Musmanno discloses using a data processor to service inflation-indexed accounts.

I. The merits of the rejection of claims 24-26, 28-32, 34-37, and 39-44 for obviousness over Mukherjee in view of Musmanno

The legal conclusion that a claim is obvious within § 103(a) depends on at least four underlying factual issues: (1) the scope and content of the prior art; (2) the differences between the prior art and the claims at issue; (3) the level of ordinary skill in the pertinent art; and (4) an evaluation of any relevant secondary considerations. See Graham v. John Deere Co. of Kansas City, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966). As explained in Princeton Biochemicals Inc. v. Beckman Coulter Inc., 411 F.3d 1337, 75 USPQ2d 1051, 1054 (Fed. Cir. 2005), it is also necessary to consider the question of motivation:

> As this court pointed out in Ruiz v. A.B. Chance Co., 357 F.3d 1270, 1275 [69 USPQ2d 1686, 1690] (Fed. Cir. 2004), in making the assessment of differences between the prior art and the claimed subject matter, section 103 specifically requires consideration of the claimed invention "as a whole." . . .
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> . . . This "as a whole" assessment of the invention requires a showing that an artisan of ordinary skill in the art at the time of invention, confronted by the same problems as the inventor and with no knowledge of the claimed invention, would have selected the various elements from the prior art and combined them in the claimed manner. Id. In other words, section 103 requires some suggestion or motivation, before the invention itself, to make the new combination. See In re Rouffet, 149 F.3d 1350, 1355-56 [47 USPQ2d 1453, 1456] (Fed. Cir. 1998).

Appellant has not submitted any declarations or affidavits addressing the level of ordinary skill in the art. Therefore, the level of skill in the art must be ascertained from the references themselves. See In re Oelrich, 579 F.2d 86, 91, 198 USPQ 210, 214 (CCPA 1978) ("the PTO usually must evaluate both the scope and content of the prior art and the level of ordinary skill solely on the cold words of the literature"); In re GPAC Inc., 57 F.3d 1573, 1579, 35 USPQ2d 1116, 1121 (Fed. Cir. 1995) (Board did not err in adopting the approach that the level of skill in the art was best determined by the references of record).

In the absence of any indication to the contrary by the examiner, we assume the rejected claims are entitled to the benefit under 35 U.S.C. § 120 of the August 27, 1985, filing date of Application 06/770,493, the earliest of the chain of "continuation" applications that led up to the application which issued as the patent under reexamination.

Claim 24 reads:

> 24. In combination, in an investment system for managing inflation risk:
> means for establishing data representative of a deposit account with an institution, the deposit account having a principal component representing the cash investment of a depositor for an account term, and an accrual component comprising a fixed interest component which is enhanced at a fixed interest rate times the principal component and a variable interest component which is enhanced at an index responsive to the rate of inflation times the principal component; and
> an account management dataprocessor [sic] including means for paying the deposit account over the term.

Before comparing claim 24 to Mukherjee, we will address the examiner's reliance on Musmanno as evidence that "it was notoriously well-known to employ data-processors to manage plural accounts," Final Action at 4-5, ¶ 7, and the examiner's assertion that it therefore would have been obvious to "automate MUKHERERJEE [sic] et al. on a data-processor such as MUSAMANNO [sic] et al. in order to facilitate account management." Id. at 5, ¶ 7 (underlining omitted). We agree that it would have been obvious in view of Mukherjee and Musmanno, prior to appellant's August 27, 1985, effective filing date, for a bank to offer inflation-indexed deposit and loan accounts and to service the accounts with a data processor in order to obtain the speed and accuracy offered by automated (as opposed to manual) processing. Appellant's argument that Musmanno's software is "totally inapplicable to the issue at hand: the adjustment and management of inflation-indexed accounts," Brief at 11, is unconvincing because the examiner is not proposing to use Musmanno's disclosed software to service Mukherjee's inflation-indexed accounts. "Claims may be obvious in view of a combination of references, even if the features of one reference cannot be substituted physically into the structure of the other reference." Orthopedic Equip. Co, Inc. v. United States, 702 F.2d 1005, 1013, 217 USPQ 193, 200 (Fed. Cir. 1983) (citing In re Anderson, 391 F.2d 953, 958, 157 USPQ 277, 281 (CCPA 1968)). Instead, what matters in the § 103 nonobviousness determination is whether a person of ordinary skill in the art, having all of the teachings of the references before him, is able to produce the structure defined by the claim. Orthopedic Equip., 702 F.2d at 1013, 217 USPQ2d at 200 (citing In re Twomey, 218 F.2d 593, 596, 104 USPQ 273, 275 (CCPA 1955)). On this point, appellant argues:

> The complexity of the data processing required for carrying out the claimed invention is evident in the four examples of data processing systems described in the subject patent specification (see Figures 2-5), along with the numerous and varied permutations of these four systems that they enable and that would be evident to those of skill in light thereof, which provide those of skill with the basic understanding to [sic] necessary to overcome the problems that faced the Finnish system and that apparently led to the "Sudden Death" of that system.

Brief at 12. This argument fails for several reasons, the first of which is that, as noted above, Mukherjee attributes the "[s]udden death" of the Finnish system of providing inflation-adjusted accounts to the 1968 trade agreement which abolished inflation indexing. Mukherjee at 56, 4th para. Second, appellant has not explained, and it is not apparent from an examination of appellant's Figures 2-5, why appellant believes a programmer[9] having ordinary skill in the art just prior to appellant's effective filing date would have been unable to design suitable data processing software for implementing inflation-adjusted accounts of the type disclosed in Mukherjee.

Claim 24 recites, inter alia, "a variable interest component which is enhanced at an index responsive to the rate of inflation times the principal component." Appellant's contention that this language requires that the index and resulting variable interest component be a continuous function of the rate of prior actual interest is unconvincing. For the reasons given above in the discussion of the definition at column 3, lines 11-14, it is only necessary for the index and resulting variable interest component to be (a) responsive to the rate of inflation and (b) directly responsive to (i.e., based on) a market

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[9] Where an invention involves two technologies (here, computer programming and financial systems), the person having ordinary skill is presumed to have ordinary skill in both technologies. In re Brown, 477 F.2d 946, 950-51, 177 USPQ 691, 694 (CCPA 1973).

indicator of prior actual inflation. The examiner is therefore correct to read the claimed "means for establishing data representative of a deposit account with an institution . . ." on inflation-indexed deposit accounts of the type described by Mukherjee, including the 'A' and 'B' deposit accounts discussed at pages 51-56. Final Action at 3-4, ¶ 7. We note that this claimed means alternatively reads on the initially proposed accounts that were not adopted, which are described at page 50, last paragraph ("The initial idea had been to apply an extra charge to all loans equal to half the rise in the index, and then to use the funds to compensate all depositors for half their loss due to inflation."). Furthermore, assuming for the sake of argument that the index and resulting variable interest component must be continuous (i.e., nonstepped) functions of the rate of the prior actual inflation, the initially proposed accounts were to operate in that manner. See Mukherjee at 50, last para. The fact that the initially proposed accounts were never adopted does not detract from Mukherjee's status as a reference teaching the desirability of such accounts. See In re Sivaramakrishnan, 673 F.2d 1383, 1384-85, 213 USPQ 441, 442 (CCPA 1982):

> That Gable may not have actually reduced the specific mixture of resin and cadmium salt to practice has no bearing on whether the mixture is "described in a printed publication" under §102(b). See e.g., Mannix Co. v. Healey, 341 F.2d 1009, 1010 n.1, 144 USPQ 611, 612 n.1 (CA 5 1965); Siegel v. Watson, 267 F.2d 621, 624, 121 USPQ 119, 121 (CADC 1959); Ritter v. Rohm & Haas Co., 271 F. Supp. 313, 341, 154 USPQ 518, 542 (S.D.N.Y. 1967). Cf. In re Deters, 515 F.2d 1152, 1155, 185 USPQ 644, 647 (CCPA 1975) (that a reference is a "paper patent" is irrelevant to its value as evidence of level of skill in the art); In re Blake, 53 CCPA 720, 724, 352 F.2d 309, 312, 147 USPQ 289, 291 (1965) (patent statute does not require commercial use of subject matter of a prior-art disclosure for that disclosure to qualify as a reference).

Appellant's argument that Mukherjee's indexed deposit accounts do not have predetermined, fixed terms and therefore fail to satisfy claim 24's requirement for a deposit account "term" is also unconvincing. As explained supra, the account "term" is not defined in the specification or in the claims as being predetermined and fixed and thus is broad enough to read on the period running from the opening date of the account to the closing date of the account. Furthermore, assuming for the sake of argument that the claimed account "term" should be construed as being predetermined, we agree with the examiner (Final Action at 3, ¶ 7) that it would be satisfied by Mukherjee's disclosure (at 51, 2d full para.) that withdrawals were not permitted from indexed accounts during the first year, which effectively establishes a predetermined, one-year minimum term for those accounts. Finally, assuming for the sake of argument that the claimed account "term" must be even more narrowly construed as being both predetermined and fixed, we also agree with the examiner that it would have been obvious to implement inflation-indexed accounts of the type disclosed by Mukherjee as certificate of deposit (CD) accounts having fixed terms. More particularly, the examiner noted that "CD[s] explicitly had terms." Final Action at 34, ¶ 57. Although the examiner did not state that he was taking official notice that CDs having fixed terms were known in the art prior to appellant's filing date, we hold that that subject matter is clearly appropriate for official notice. See In re Ahlert, 424 F.2d 1088, 1091, 165 USPQ 418, 420-21 (CCPA 1970) (PTO tribunals, where it is found necessary, may take notice of facts beyond the record which, while not generally notorious, are capable of such instant and unquestionable demonstration as to defy dispute). Furthermore, although the examiner did not explain how the “prior art as a whole” would have suggested implementing inflation-indexed deposit accounts of the type disclosed by Mukherjee as CDs, it is evident his position is that in view of Mukherjee’s disclosure of preventing withdrawals from the inflation-indexed accounts during the first year and the fact that CDs were known to have fixed terms (typically with a penalty for early withdrawal), it would have been obvious to implement such inflation-indexed accounts as CDs having predetermined, fixed terms of one year or more. We agree. The obvious advantage to the bank of holding deposits in the form of CDs is to reduce the likelihood of withdrawal before the end of the specified term. Appellant’s discussion of the “term” limitation in this claim (Brief at 10) fails to address the examiner’s reliance on CDs or explain why it would have been unobvious to implement inflation-indexed deposit accounts of the type disclosed by Mukherjee as CDs.

For the foregoing reasons, we are affirming the rejection of claim 24.

Dependent claim 25 specifies that the deposit account term is divided into a plurality of iteration periods. Claim 26 depends on claim 25 and calls for enhancing the fixed interest component in accordance with the fixed interest rate for the previous iteration period. The examiner asserts that the use of plural iteration periods

> was notoriously well-known and ubiquitously in use, and further explicitly demonstrated by MUSAMANNO [sic] et al.: “daily iteration”—col. 6, lines

> 5-10; col. 6, lines 19-21. It would have been obvious . . . to divide the account into iteration periods, in order to compound interest payments accurately for an arbitrary deposit term, and in order to maximize compounding as was well-known in the art and suggested by MUSAMANNO et al. (col. 6, lines 19-21).

Final Action at 5, ¶ 25 (emphasis omitted). Appellant's argument that Mukherjee's inflation-indexed accounts do not have a "term" which can be divided into a plurality of iterations, Brief at 12; Reply brief at 5, is unconvincing for the reasons given in the discussion of "term" in claim 24.

Appellant also argues (Brief at 13) that the examiner's reliance on alleged "common knowledge" of interest compounding contravenes In re Lee, 277 F.3d 1338, 61 USPQ2d 1430, 1434 (Fed. Cir. 2002). This argument is unconvincing because the examiner is not relying on a nonspecific assertion of common knowledge; rather, he is relying on the artisan's knowledge of certificates of deposit and interest compounding techniques and advantages, and thus satisfies Lee's requirement that general knowledge, when relied on to negate patentability, "must be articulated and placed on the record." 277 F.3d at 1345, 61 USPQ2d at 1435. Interest compounding over a plurality of iteration periods, such as daily, monthly, or quarterly, unquestionably constituted general knowledge in the art and thus is suitable subject matter for official notice under Ahlert and appropriately relied on for motivation under Lee.

For the foregoing reasons, we are affirming the rejection of claims 25 and 26.[10]

Claim 28, which also depends on claim 25 (reciting plural iteration periods), specifies that the fixed interest rate is “compounded continuously.” This phrase is not defined in the specification but is described at http://www.riskglossary.com/link/compounding.htm (copy enclosed) as the limiting case of interest compounding, in which interest is credited on a continuous basis (i.e., every instant). The examiner’s position is that “continuous compounding of interest was notoriously well-known and ubiquitous in the technical field of endeavor” and that it would have been obvious to apply such compounding to Mukherjee’s accounts “in order to maximize compounding and thus attract lenders (e.g., depositors).” Final Action at 6-7, ¶ 10. Appellant responds, “While the Patent Owner would generally agree that continuous compounding was known for conventional deposit accounts, the Patent Owner does not agree that one of skill would have found it obvious to apply such compounding in the context of an indexed account.” Brief at 14. This argument is unconvincing because it fails to address the examiner’s proposed motivation, which we find persuasive, for applying continuous compounding to the fixed interest component of Mukherjee’s accounts. The rejection of claim 28 is therefore being affirmed.

[10] Dependent claim 27 stands rejected on a different ground, discussed infra.

The rejection of claims 29-32, which are dependent on claim 24, rejected over the same prior art as claim 24, and not argued separately from claim 24, is affirmed for the same reasons as the rejection of claim 24. 37 CFR § 1.192(c)(7) (2001).[11]

Claim 34, which depends on claim 24 and is separately argued, specifies that the deposit account is "being used to finance property of the institution." The phrase "property of the institution" is not defined in the specification of the '461 patent. As in our discussion of claim 24, we are reading the term "institution" on banks offering inflation-indexed deposit accounts of the type described at pages 50-56 of Mukherjee. Regarding claim 34, the examiner argues that Mukherjee

> discloses [the] claimed: "deposit account being used to finance property of the institution" ("apply an extra charge to **all loans** equal to half the rise in the index, and then use the funds to compensate . . . depositors"—page 50, col. 1. Furthermore, it is noted that banks <u>inherently</u> acquire assets, because that is one of the functions of a bank, and was necessary to maintain solvency. It is further taught by the application to "Mortgage Banks" (p. 61). Regarding <u>implicit</u> and <u>inferred</u> teachings relied upon, it is noted that 'an artisan is likely to extract more than a layman from reading a reference'—<u>In re Oetiker</u> (CAFC) 24 USPQ2d 1443 (10/13/1992).

Final Action at 8-9, ¶ 15. We agree with appellant that the examiner is incorrect to characterize the deposit accounts as "property" of the institution. Brief at 14. However, there is merit to the examiner's assertion that banks inherently acquire assets (i.e., property) and his implication that the assets are acquired, at least in part, with money

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[11] Of these claims, claim 31 is also rejected on another ground, addressed <u>infra</u>.

that has been received in the form of deposits for deposit accounts. Final Action at 9, ¶ 15. Tangible examples of such property include the building which houses the bank and the equipment and furniture contained therein. The rejection of claim 34 is therefore affirmed.

Claim 35 depends on claim 24 and specifies that the deposit account is "secured by the property of the institution." The phrase "property of the institution" is broad enough to read on any type of property which is used to protect the integrity of the data representing the deposit accounts and thus includes known building security techniques and known electronic security techniques for the data processing computers. The examiner is therefore correct to argue that "this was a well-known method of running a bank. It would have been obvious . . . to secure the accounts of MUKHERERJEE [sic] et al. and MUSAMANNO [sic] et al. in order to assure depositors, and thus attract depositors, and in order to make money on deposits." Final Action at 9, ¶ 16 (underlining omitted). Appellants' denial that "it was a [sic] 'well known' for a bank to secure a deposit account with funds on deposit with that institution," Brief at 15, ¶ h, was correctly dismissed by the examiner on the ground that the claim does not require that the securing "property" be in the form of deposited funds. Final Action at 38, ¶ 63.

Appellant also complains (Brief at 15, ¶ h; Reply brief at 7) that the examiner failed to respond to appellant's earlier request under 37 CFR § 104(d)(2)[12] to make of

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[12] Section 1.104(d)(2) (2005) reads:
(2) When a rejection in an application is based on facts within the personal knowledge of an employee of the Office, the data shall be as

record whatever evidence he has which supports his position regarding the unpatentability of claim 35.[13] This request for a § 104(d)(2) affidavit or declaration by the examiner is clearly inappropriate because the examiner is relying not on personal knowledge but on the general knowledge of persons having ordinary skill in the banking art that it was standard practice to provide security for deposit accounts. This assertion of general knowledge is specific enough to satisfy Lee's requirement that general knowledge, when relied on to negate patentability, "must be articulated and placed on the record." 277 F.3d at 1345, 61 USPQ2d at 1435.

The rejection of claim 35 is therefore affirmed.

Independent claim 36 reads as follows:[14]

36. A system for managing deposit and loan accounts, comprising:

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specific as possible, and the reference must be supported, when called for by the applicant, by the affidavit of such employee, and such affidavit shall be subject to contradiction or explanation by the affidavits of the applicant and other persons.

[13] This request appeared in the "Response to Office Action Dated July 25, 2001," at 6.

[14] Claim 36 is incorrectly reproduced in Appendix I to the brief, which fails to include the change made by the Certificate of Correction, dated September 26, 2000.

means for establishing data representative of at least one deposit account for a term;
means for establishing data representative of at least one loan account for a term, the loan account having a loan principal component and a loan accrual component, the loan accrual component having a fixed interest component and a variable interest component;
an account management dataprocessor [sic] for servicing the accounts over the term, comprising:
means for adjusting the amount in the deposit account in a manner responsive to the rate of inflation;
means for paying out the deposit account;
means for determining the amount in the loan accrual component in a manner responsive to the rate of inflation; and
means for retiring the loan account over the term, including
means for retiring the fixed interest component by a first schedule over the term, and
means for retiring the loan principal component by a second schedule over the term.

Dependent claim 37 additionally recites "means for retiring the variable interest component by a third schedule over the term."

As noted supra, the phrase "schedule over a term" can consist of a single iteration, such as a lump sum payout. Furthermore, the recitation of a first, a second, and a third "schedule over a term" does not imply that the schedules are different. In fact, dependent claim 38 (the subject of a different ground of rejection, addressed infra) specifies that all three schedules are the same.

For the reasons addressed above, it would have been obvious in view of Musmanno to automate the management of inflation-adjusted deposit and loan accounts like those disclosed in Mukharjee order to obtain improvements in speed and accuracy over manual account management. The claimed "means for paying out the deposit account" reads on such automated, inflation-indexed accounts regardless of how the deposit account is paid out. Likewise, the claimed means for retiring loan principal component over the term, the claimed means for retiring the fixed interest component by a first schedule over the term, and the means for retiring the variable interest component by a second schedule over the term are broad enough to read on inflation-indexed loan accounts of the type disclosed by Mukharjee no matter how or when those components are retired.

Appellant's argument that Mukherjee's inflation-indexed deposit accounts are not "directly responsive to the rate of inflation" (Brief at 16) is unconvincing for the reasons given above in the discussion of claim 24. Appellant's similar argument (Brief at 16) with respect to Mukherjee's inflation-indexed loan accounts is unpersuasive for the following reasons. First, claim 36 as construed in light of the definition at column 3, lines 11-14, requires no more than that the amount in the loan accrual component be (a) "responsive to the rate of inflation" and (b) "directly responsive to" (i.e., based on) a market indicator of prior actual inflation, which may represent inflated prices levels rather than the inflation rate. Second, even assuming for the sake of argument that there must be continuous (i.e., nonstepped) relationship the loan accrual component and the rate of prior actual inflation, Mukherjee's initially proposed accounts (at 50, last para.) were to operate in that manner, as were the loans offered by the Post Office Bank, which tied its loans to 25 per cent of the cost-of-living index:

> Banks started to make indexed charges on loans when their indexed deposit business became of appreciable size. . . .

> The Post Office Bank usually tied its loans 25 per cent to the cost-of-living index. All other banks operated on the principle of calculating an index surcharge on all loans at rates just sufficient to cover indexed payments to depositors. This meant, for example, that in a year when the index rose by 10 per cent, a bank with one fifth of its deposits in fully index-linked accounts would place an index surcharge of 2 per cent on all its outstanding loans. This surcharge became payable immediately by borrowers as additional interest; the outstanding debt was not, however, written up.

Id. at 67-68. Appellant's discussion of claim 36 (Brief at 16) fails to mention the Post Office Bank approach, let alone explain why it fails to provide a continuous relationship between the amount of the loan accrual component and the inflation rate. Instead, appellant explains why the "directly responsive" requirement is not believed to be satisfied by the above-quoted approach followed by the "[a]ll other banks," a question we need not decide.

Appellant argues that claim 36 "require[s] both a deposit account and a loan account, and require[s] that both be adjusted in a manner responsive to the rate of inflation—this is the fully-hedged program—where possible losses on the deposit side are 'fully hedged' by similar gains on the other side." Brief at 17. Claim 36 does not require such balancing, and even if did, such is suggested by Mukherjee at page 50, last paragraph ("The initial idea had been to apply an extra charge to all loans equal to half the rise in the index, and then to use the funds to compensate all depositors for half their loss due to inflation.") and at page 67, first full paragraph ("All other banks operated on the principle of calculating an index surcharge on all loans at rates just sufficient to cover indexed payments to depositors.").

Appellant further asserts that "nowhere does Mukherjee teach o[r] suggest the combination of an inflation-adjusted deposit account with an inflation-adjusted loan account." Brief at 17. Apparently, appellant is asking us to construe the claim as limited to a combination of one inflation-adjusted deposit account and one inflation-adjusted loan account. This argument fails because claim 36 recites "at least one deposit account" and "at least one loan account" and, in any event, is an open-ended "comprising" claim.

For the foregoing reasons, we are affirming the rejection of claim 36. The rejection of dependent claims 37 and 39-44 based on Mukherjee in view of Musmanno is affirmed because those claims were not separately argued at pages 15-17 of the brief, which discuss this ground of rejection. 37 CFR § 1.192(c)(7) (2001).[15]

Summarizing, the rejection based on Mukherjee in view of Musmanno is affirmed with respect to all of the claims rejected on that ground, i.e., claims 24-26, 28-32, 34-37, and 39-44.

J. The merits of the rejection of claims 1-23, 31, 33, and 44 for obviousness over Mukherjee in view of Bodie and further in view of Musmanno

As did the examiner, we will begin by addressing claims 31 and 33, which depend on independent claim 24, and claim 44, which depends on claim 36. Final

[15] Of these claims, claim 44 is also rejected on another ground, addressed infra.

Action at 15-16, ¶¶ 25-27. The rejections of claims 24 and 36 based on Mukherjee in view of Musmanno have been affirmed for the reasons given above.

Claim 31 specifies that the principal component of the deposit account is "retired over a plurality of iteration periods in the account term by payments to the depositor in each iteration period."[16] Because the payout is recited as being retired "over a plurality of iteration periods," the examiner is correct to conclude that this claim recites the payout characteristic of an annuity. Final Action at 15, ¶ 25. Appellant does not contend otherwise. For this payout feature, the examiner relies on Bodie, which is concerned with how to generate retirement income that is protected against inflation. Bodie, following a brief discussion (at 5, para. bridging cols. 1-2) of the unsatisfactory performance of equity-based variable annuities (VA's) based on common stocks, explains that what is needed is a "purchasing power annuity (PPA)." After noting that PPA's in the form of inflation-indexed government bonds are available, Bodie's summarizes his own, alternate proposal for a PPA:

> At first glance, the only asset that appears capable of providing a base for such an annuity would be default-free bonds linked to some index of the cost of living. Although proposals for the U.S. government or some other institution to issue such price-indexed bonds have abounded, there is no indication that anyone with the power and authority to implement any of these proposals in inclined to do so.
>
> Given the apparent reluctance, it not outright opposition, on the part of government and private corporations to the issuance of price-indexed bonds, the relevant question is whether we can find any other asset, or combination of assets, currently existing in [begin page 6, first column] the U.S. financial system that could fulfill the same function. <u>The empirical</u>

[16] This claim does not specify how the deposit accrual component is paid out.

> evidence developed below suggests that the most promising asset base for PPA's is short-term bonds hedged against unanticipated inflation with a small position in a well-diversified portfolio of commodity futures contracts.

Id. at 5, 2d col. through page 6, 1st col. (footnotes omitted). The examiner explains his reliance on Bodie as follows:

> BODIE suggests a "purchasing power annuity" which is linked to the cost of living (page 5, col. 2). It would have been obvious . . . at the time of the invention to employ an index linked account as taught by MUKHERERJEE et al. and MUSAMANNO et al. in conjunction with an annuity payout in order to hedge retirement income against inflation, as suggested by the explicit balancing of index-linked deposits with index[-]linked obligations (page 50 of MUKH) using a ubiquitous and popular financial retirement savings and payout format: annuities.

Final Action at 15 (underlining omitted). The examiner's reliance on Bodie as disclosing "a 'purchasing power annuity' which is linked to the cost of living (page 5, col. 2)" makes it clear that he is relying on Bodie's discussion of the desirability of implementing PPA's as annuities in the form of (unavailable) default-free government or corporate bonds linked to some index of the cost of living. Appellant is therefore incorrect (Brief at 17-20; Reply brief at 8) to treat the rejection as based on Bodie's proposed PPA's which rely on a combination of short-term bonds and commodity futures contracts, which PPA's are not mentioned in the part of Bodie cited by the examiner: page 6, second column. In fact, this error was pointed out by the examiner in responding to same argument in appellant's "Response to Office Action Dated July 25, 2001," at 9. The examiner stated: "[T]he part of BODIE relied upon is not the part Applicant has referenced. It would have been obvious to revert to the prior art. Although BODIE claims to have a better system by using futures, it recognized the prior-art." Final Action at 39, ¶ 68 (underlining omitted).

Appellant's interpretation of the rejection as based on Bodie's proposed PPA's appears to be based on Bodie's disclosure that inflation-indexed annuities in the form of default-free government or corporate bonds annuities did not exist:

> Bodie then goes on to say that such things don't exist! So Bodie has no explanation or description whatsoever of the nature of this hypothetical index-linked bond, but concedes that in any event no such instrument exists. The author then states that the only solution to his desire to provide a PPA would be to base in [sic; it] on commodity futures contracts—an indicator or [sic; of] future expected inflation, not past inflation. Id. at page 6, col. 1.

Brief at 20. However, the fact that indexed annuities were not commercially available does not detract from Bodie's teaching of their desirability or preclude the examiner from relying on Bodie as a reference for that teaching. Sivaramakrishnan, 673 F.2d at 1384-85, 213 USPQ at 442. Nor does Bodie's observation that such annuities were not commercially available amount to a "teaching away" from the use of such annuities. As explained in Syntex (U.S.A) LLC v. Apotex Inc., 407 F.3d 1371, 1380, 74 USPQ2d 1823, 1830 (Fed. Cir. 2005):

> Under the proper legal standard, a reference will teach away when it suggests that the developments flowing from its disclosures are unlikely to

produce the objective of the applicant's invention. In re Gurley, 27 F.3d 551, 553 (Fed. Cir. 1994). A statement that a particular combination is not a preferred embodiment does not teach away absent clear discouragement of that combination. In re Fulton, 391 F.3d at 1199-1200.

Regarding the examiner's motivation for combining the teachings of Bodie with those of Mukherjee as modified above in view of Musmanno, we agree that it would have been obvious for a bank to want to pay some or all of the costs of its inflation-indexed deposit accounts by investing in inflation-indexed annuities of the type described in Bodie, if and when they should become available, with the principal component of the annuity being paid out over a plurality of iterations over the term, as required by claim 31, and with the accrual component also being paid out over a plurality of iterations over the term (not required by claim 31). Appellant has not explained why claim 31 would be patentable over Mukherjee, Musmanno, and Bodie even if Bodie's disclosure of inflation-indexed annuities is considered to be enabling. We are therefore affirming the rejection of claim 31 based on those references.

Claim 33, which depends on claim 24, specifies that the "index" recited in that claim "corresponds generally to the consumer price index." The examiner has rejected this claim on the cited references in two different ways, both of which are persuasive. First, he argues that the claim is unpatentable over the combined teachings of Mukherjee and Musmanno in the manner discussed in the rejection of claim 24, asserting that Mukherjee discloses relying on the "consumer price index" at page 51, third paragraph. Final Action at 15, ¶ 33. Since that page of Mukherjee mentions the "cost-of-living index" but not the "consumer price index," we assume that the examiner is equating the two terms, a conclusion which strikes us a correct one. As appellant does not contend otherwise or otherwise argue the merits of claim 33, we are affirming the rejection on this ground. The examiner alternatively relies on the teachings of Mukherjee, Musmanno, and Bodie as applied to claim 31 and further relies on Bodie's teaching (at 5, 2d col.) of basing a purchasing power annuity on "default-free bonds linked to some index of the cost of living," again apparently equating the cost-of-living index to the claimed "consumer price index" without challenge by appellant. The rejection of claim 33 is therefore also affirmed on this ground.

Claim 44, which depends on independent claim 36, calls for paying out the deposit principal component "by a schedule over the term" and also paying out the deposit accrual amount "by a schedule over the term." The examiner construes this claim as reciting the characteristic of an annuity, i.e., as requiring payout over a plurality of iteration periods, Final Action at 16, ¶ 27, an interpretation neither urged nor challenged by appellant. Nevertheless, we hold this interpretation to be unduly narrow because the phrase "by a schedule over the term" is broad enough to read on a single, lump sum payment at the end of the term, which is not how an annuity is paid out. This broader construction is consistent with column 3, lines 44-45 of the '461 patent ("terms may be scheduled to include only a single iteration") and also from a comparison of claim 1 ("means for paying the deposit principal component according to a second schedule over the term”) with dependent claim 4 (“wherein the deposit principle payment means comprises means for making a lump sum payment at the end of the term”). As a result, the examiner’s reliance on Bodie’s teaching of an annuity is superfluous and we are affirming the rejection for obviousness over Mukherjee and Musmanno for the reasons given above in the discussion of parent claim 36, to which we add our observation that the payout provisions of claim 44 are broad enough to be satisfied no matter how principal and accrual components are paid out. Assuming, on the other hand, the examiner is correct to construe claim 44 as reciting an annuity, the rejection is affirmed for the same reasons that we have affirmed the rejection of claim 31 for obviousness over Mukherjee, Bodie, and Musmanno.

Independent claim 1 is similar to independent claim 24 to the extent claim 1 recites (a) means for establishing data representative of a deposit account having a deposit principal component and a deposit accrual component comprising a fixed interest component and a variable interest component, (b) means for determining the rate of inflation, (c) an account management data processor for servicing the deposit account over its term, and (d) means for adjusting the amount in the deposit accrual component in response to the rate of inflation. Thus, claim 1 to this extent is unpatentable over Mukherjee in view of Musmanno for the reasons given above in the discussion of claim 24.

The other limitations of claim 1 have also been addressed in connection with other claims. Specifically, claim 1 differs from claim 24 by further reciting “means for retiring the fixed interest component by a first schedule over the term" and "means for paying the deposit principal component according to a second schedule over the term." For the reasons give above in the discussion of claim 44, the examiner is incorrect to construe this language as reciting an annuity, i.e., payments over a plurality of iteration periods. The examiner's reliance on Bodie's annuities is therefore superfluous and the rejection of claim 1 is affirmed for the same reasons as is the rejection of claim 24 over Mukherjee in view of Musmanno, since the payout provisions of claim 1 are broad enough to be satisfied no matter how the principal and fixed interest components are paid out. Alternatively, assuming the examiner is correct to construe claim 1 as reciting an annuity, the rejection is affirmed for the alternative reasons given for our affirmance of the rejection of claim 31.

Appellant does not specifically address any of dependent claims 2-23, instead simply incorporating by reference the arguments made with respect to other rejected claims. Brief at 18, 20. As those arguments are unpersuasive for the reasons given above, the rejection of claims 2-23 is also affirmed.

K. The rejection of claims 27 and 38 based on Mukherjee and Musmanno, further in view of Williamson

Appellant's only argument for the patentability of dependent claims 27 and 38 is that they depend on parent claims 25 and 37, respectively, which appellant contends are allowable over the cited prior art. Brief at 20. Because we have affirmed the rejections of claims 25 and 37, we are also affirming the rejection of claims 27 and 38.

L. Summary

All of the rejections have been affirmed with respect to all of the rejected claims.

M. Extensions of time

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a). See 37 CFR §§ 41.50(f) and 41.52(b).

AFFIRMED

JOHN C. MARTIN Administrative Patent Judge	)	
HOWARD B. BLANKENSHIP Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
ALLEN R. MacDONALD Administrative Patent Judge	)	

JCM/jcm

cc:

David L. Parker, Esq.
FULBRIGHT & JAWORSKI
2400 One American Center
600 Congress Avenue
Austin, TX 78701

Enclosures:

(a) The American Heritage Dictionary of the English Language 373 (New College Edition, 1975).

(b) Santosh Mukherjee and Claire Orlans, Indexation in an Inflationary Economy – A Case Study of Finland, Vol. XL, Broadsheet No. 551, PEP The Social Science Institute, April 1975, at 50-73 and 106-11.

(c) http://www.riskglossary.com/link/compounding.htm.