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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte EMERSON P. JONES,
KAREN SCHOEN,
and IVAN ROSS

Appeal 2016–005430
Application 10/707,491
Technology Center 3600

Before MURRIEL E. CRAWFORD, ANTON W. FETTING, and
JOSEPH A. FISCHETTI, *Administrative Patent Judges*.

FETTING, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE¹

Emerson P. Jones, Karen Schoen, and Ivan Ross (Appellants) seek review under 35 U.S.C. § 134 of a final rejection of claims 32, 34–39, and 41–47, the only claims pending in the application on appeal. This is the

¹ Our decision will make reference to the Appellants’ Appeal Brief (“App. Br.,” filed November 6, 2015) and Reply Brief (“Reply Br.,” filed May 2, 2016), and the Examiner’s Answer (“Ans.,” mailed March 2, 2016), and Final Action (“Final Act.,” mailed January 7, 2015).

third time this application has come before this panel for appeal. We have jurisdiction over the appeal pursuant to 35 U.S.C. § 6(b).

The Appellants invented a way of conducting financial transactions. Specification para. 2.

An understanding of the invention can be derived from a reading of exemplary claim 32, which is reproduced below (bracketed matter and some paragraphing added).

32. A unit pricing device, comprising:

a processor;

a communication device

in communication with said processor and coupled to receive information from one or more data sources;

and

a storage device

in communication with said processor and storing data structures and instructions to be executed by said processor to:

[1] receive an issuer identifier

identifying an issuer of a unit;

[2] receive an equity security identifier

of an equity security associated with the issuer identifier;

[3] populate a first data structure with forward information,

including a forward settlement date and a forward settlement price,

describing a forward transaction that obligates a holder to purchase a number of shares of the equity

security associated with the issuer at the forward settlement date for the forward settlement price;

[4] populate a second data structure with convertible note information,

including

a convertible note maturity date,
a convertible note interest rate,
a conversion ratio,
a convertible note issue price,
a convertible note principal amount,
conversion conditions

identifying circumstances under which the convertible note may be converted,

and

an opportunistic remarketing period

during which the issuer of the unit has discretion to perform at least one of a capped and uncapped remarketing,

describing a convertible note

that is convertible to the equity security associated with the issuer according to a specified conversion formula;

[5] populate a third data structure with financial information

associated with the equity security identifier from a data source;

[6] populate a fourth data structure with financial information

associated with the issuer identifier from a data source;

and
[7] calculate,
based on
forward information in the first data
structure,
convertible note information in the second
data structure,
equity security financial information in the
third data structure,
and
issuer identifier financial information in the
fourth data structure,
pricing data associated with the unit comprising
the forward transaction and the convertible note.

The Examiner relies upon the following prior art:

Daughte	US 6,263,321 B1	July 17, 2001
Ross	US 2003/0009406 A1	Jan. 9, 2003
Green	US 2003/0093375 A1	May 15, 2003
Birle, Jr.	US 2003/0130941 A1	July 10, 2003
Zivan	US 2003/0144943 A1	July 31, 2003
Galant	US 6,839,686 B1	Jan. 4, 2005
Barron's Educational Series, Barron's Financial Dictionary, 1995		

Claims 32, 34–39, and 41–47 stand rejected under 35 U.S.C. § 101 as directed to non–statutory subject matter.

Claim 32 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Galant, Birle, Green, Daughtery, and Ross.

Claims 34–39 and 41–47 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Galant, Birle, Green, Daughtery, Ross, Zivan, Barron's Financial Dictionary, and Admitted Prior Art.

ISSUES

The issues of statutory subject matter turn primarily on whether the claims are directed to more than simply directing a generic computer to perform the abstract idea of pricing securities. The issues of obviousness turn primarily on whether the data added to the recited data structures is sufficient to make the claims as a whole patentable.

FACTS PERTINENT TO THE ISSUES

The following enumerated Findings of Fact (FF) are believed to be supported by a preponderance of the evidence.

Facts Related to the Prior Art

Galant

01. Galant is directed to investment information to assist in the evaluation of securities and ways for analyzing a variety of debt and equity instruments. Galant 1:8-14.

02. In the past, bond-pricing and rating information on a specific bond issue was obtained through personal contacts and various services. This process is cumbersome and time intensive as no single contact could provide comprehensive information,

thus a complete market evaluation was impossible to achieve.
Galant 1:15-21.

03. Galant facilitates the identification of **arbitrage opportunities**. The method and apparatus additionally provide for the analysis of a group of securities regarding intrinsic and incremental value, average portfolio coupon, average portfolio maturity, portfolio option value, theoretical portfolio value, and portfolio efficiency. Galant 2:4-10.

Green

04. Green is directed to systems and methods for creating, issuing, servicing, or maintaining convertible and exchangeable financial instruments and computer-based user interfaces thereof. Green para 0002.

05. Green creates (including testing and evaluating), issues (including offering and selling, and services or maintains convertible or exchangeable financial instruments. These financial instruments are created by a "building block approach", which allows a user to **build a financial instrument by selecting specific objects and features, and then providing the specific inputs for each selected feature. Green provides a user with the ability to experiment by selecting and re-selecting desired objects and/or features of a new financial instruments**. Specifically the model/calculator allows flexibility by providing a user the opportunity to select the desired objects and state the features of each desired object. The benefit of the flexible model/calculator

and associated system is that a user can simulate, generate and evaluate new financial instruments without creating a new model/computer and system for each new financial instrument. Green allows capital markets to experiment with new product ideas in an affordable and time-effective manner and minimize time period between the creation of a new financial instrument and the marketing of the new financial instrument. Green para 0008.

06. FIG. 3 illustrates some preferred embodiments to issue or *pricing a convertible or exchangeable financial instrument*. Green para 0014.

07. *Objects are used to compartmentalize inputs.* Examples of objects include: Redemption (i.e., expiration and return of principal), Cash Flow (i.e., coupons or dividends), *Conversion* (i.e., Holder's option to convert or exchange the instrument into an underlying asset), Issuer Call Terms (i.e., Issuer's option for an early redemption), Holder's Put (i.e., Holder's option for an early redemption), Credit, Issue Terms, Bankruptcy, Accretion, Contingent Payment ("CoPa"), Contingent Conversion ("CoCo"), and Model Parameters. Green para 0034.

08. The *convertible or exchangeable bond object simply passes as an argument* to the convertible or exchangeable model/calculator along with the other convertible or exchangeable model/calculator inputs. Green para 0037.

09. A rules engine *maintains objects and inputs of newly created convertible* or exchangeable financial instruments, allowing a user an opportunity to evaluate and manage a new financial instrument in the after market. In some embodiments, a rules *engine utilizes financial instrument features from several sources* (i.e., internal or external financial sources). Green para 0043.

10. Green describes a Conversion Object for creating, simulating or generating a financial instrument and selecting from a list of Conversion features. Conversion inputs may include: Capped, Date Schedule, None, Types of Instrument (e.g., PRIDES, PRIZES, etc.), Ratio, and Schedule. Upon selection of Capped, the user preferably is provided with a list of appropriate inputs corresponding to the Capped conversion, which includes: Ratio, Begins, Conversion Cap, Exchangeable Type, Cash and Ends. Upon selection of Date Schedule, the user preferably is provided with a list of appropriate inputs corresponding to the Date Schedule. Green para 0054.

Birle

11. Birle is directed to convertible and exchangeable financial instruments and methods and systems for offering and servicing the same, and relates more particularly to debit instruments which are convertible into equity instruments. Birle para 0002.

12. Birle describes that a bond is a common financial instrument having language indicative of a principle amount, and having further language indicative of a borrower's obligation to repay the principal at some future time. Birle para 0003. Bonds can further specify the borrower's obligation to make interest payments at specific times or not specify any obligation to interest payments prior to maturity. Birle para 0003.

13. Convertible bonds are instruments which have some qualities of bonds as well as some of the qualities of stock, where the bond can be converted by the holder into a number of shares of equity. Birle para's 0005 and 0009. The number of shares can be a fixed number or determined by a formula. Birle para 0005.

14. A contingent payment financial instrument may be a convertible debt instrument. If the instrument is callable, the issuer may have the right to redeem the instruments at their accreted value. Holders may also have the right to require the issuer to redeem the instruments at their accreted value specified dates, and upon a change in control of the issuer. The difference between the issue price and principal amount of the contingent payment debt instrument will accrue by a specified percentage. A three-percent yield, for example, may be a reasonable rate under some market conditions. Beginning at a pre-determined period of time after issuance of the contingent payment instruments the issuer may pay contingent interest if the trading value of the

instrument exceeds a specified percentage of the accreted value of each instrument for some pre-determined number of consecutive days (or any other suitable period) immediately preceding the first day of the interest accrual period. In some embodiments, the specified percentage of the accreted value may change, for example, by a predetermined percentage on a periodic basis. Also, in some embodiments, the amount of the contingent payment may change with multiple triggers that may be triggered at specified pre-determined times. Other embodiments may have multiple triggers that may be triggered at any time. In some embodiments, contingent payments may be triggered by only one trigger or by more than one trigger. In some embodiments, a trigger may be any event and may or may not be associated with the financial instrument paying such contingent payments. Birle para 0039.

15. From the point of view of the holder, after the non-call period the holder may value the debt instrument, as an economic matter, as a right to convert the debt instrument into issuer stock coupled with a right to receive cash which, if the issuer's stock drops in value, is equal to the accreted value of the instrument. That is, the pure bond features of a contingent payment debt instrument may be valued at that point as a form of "insurance" or put option. Because it may be more valuable, for holders, to have a right to convert the contingent payment debt instrument into the issuer's stock coupled with this bond element than to simply hold the issuer's stock, the trading value of the

instrument may exceed the value of the issuer stock into which it is convertible. If the issuer's stock rises enough that the "insurance" or put characteristics of the pure bond elements of the contingent payment debt instrument are reduced in value, however, the trading value of the contingent interest debt instrument may tend to approximate the fair market value of issuer stock. Birle para 0040.

Ross

16. Ross is directed to structuring an obligation, and more particularly, structuring an interest-bearing obligation which is convertible into stock. Ross para. 1.

17. As background, Ross describes a number of financial mechanisms exist for paying interest to the purchaser of an obligation including a bond (such as a convertible bond, for example), a bond plus a warrant unit structure to buy stock, or a money market fund. Likewise, a number of financial mechanisms exist which permit a holder to purchase stock at a future date. For example, "options contracts", which are typically sold to the public, give the holder of the contract the right to purchase a given stock at a fixed price at a future date. Similarly, "warrants", which are typically given or sold to employees of a company, give the holder the right to purchase stock in the employee's company at a fixed price at a future date. Ross para. 2–3.

18. Ross describes a senior unsecured obligation which is convertible into shares of stock. The note may have a predetermined issue price and a nominal maturity amount, wherein the nominal maturity amount may be subject to any upward adjustment in the event there is an interest adjustment. The nominal maturity amount may represent a predetermined annual initial accretion rate and such initial accretion rate may be in effect for a predetermined period of time after the issuance of the note. After the predetermined period of time has elapsed, there may be one or more interest adjustments by which the accretion rate may be varied according to a formula described in detail below. Further, the note may be repurchased, redeemed, or converted into shares of stock under conditions described. Of note, the obligation may have one or more "put" dates (i.e., dates at which a holder of the obligation may "put", or sell, the obligation). In addition, the interest adjustment for the obligation may occur on a put date for the obligation or a non-put date (i.e., any other desired date). Further, the value of the adjusted interest may be dependent upon the price of a stock and/or the price of a stock in combination with the price of the obligation. For example, the value of the adjusted interest may be dependent upon: i) the price of the stock; or ii) the price of the stock in combination with the price of the obligation (wherein the price of the stock and/or the price of the obligation may be weighted relative to one another); or iii) a ratio of the price of the stock to the price of the obligation (wherein the price of the stock and/or

the price of the obligation may be weighted relative to one another); or iv) a ratio of the price of the obligation to the price of the stock (wherein the price of the stock and/or the price of the obligation may be weighted relative to one another). Further still, the interest may be reset to a market rate (which may be actual or calculated) for debt having a maturity which may correspond to one or more put dates of the obligation. Ross para. 26–27.

Daughtery

19. Daughtery is directed to automatically calculating options for use in a variety of markets, such as commodities or securities markets. Daughtery 1:14–17.

20. Daughtery describes financial instruments that have been shown to be equivalent or relatable to options, including fixed-income instruments identical to an individual or series of cash-settled, "capped" call options--a call option with a maximum benefit. These options are purchased with the expectation that the issuer will remain a viable, profitable entity. However, the maximum return on the call is "capped" at some amount (the coupon payment and principal payment at the end of the period). One capped option represents each coupon payment as well as the principal or notional value repaid. Daughtery 21:1–21.

Barron's

21. Barron's is directed to a dictionary of finance and investment terms. Barron's Title.

22. Barron's provides that the definition of a unit, in the context of securities, is more than one class of securities traded together. Barron's 677: Unit definition 3. For example, a common share and a subscription warrant might sell as a unit. Barron's 677: Unit definition 3. Barron's further defines a unit in primary and secondary distributions of securities, one share of stock or one bond. Barron's 677: Unit definition 4.

23. Barron's provides that the definition of a convertible is a corporate security, such as preferred shares or bonds, that is exchangeable for a set number of another form at a pre-stated price. Barron's 120: Convertibles.

24. Barron's provides that the definition of a subscription warrant is a type of security, usually issued together with a bond or preferred stock, which entitles the holder to buy a proportionate amount of common stock at a specified price. Barron's 607: Subscription Warrant.

ANALYSIS

Claims 32, 34–39, and 41–47 rejected under 35 U.S.C. § 101 as directed to non–statutory subject matter

The Supreme Court

set forth a framework for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts. First, [] determine whether the claims at issue are directed to one of those patent-ineligible concepts. [] If so, we then ask, “[w]hat else is there in the claims before us? [] To answer that question, [] consider the elements of each claim both individually and “as an ordered combination” to determine whether the additional elements “transform the nature of the claim” into a patent-eligible application. [The Court] described step two of this analysis as a search for an “‘inventive concept’”—i.e., an element or combination of elements that is “sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.”

Alice Corp., Pty. Ltd. v CLS Bank Intl, 134 S.Ct. 2347, 2355 (2014) (citing *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 132 S.Ct. 1289 (2012)).

To perform this test, we must first determine whether the claims at issue are directed to a patent-ineligible concept. The preamble to claim 32 recites that it is a unit pricing device. The seven steps in claim 32 result in providing a price for a unit comprising a forward transaction and a convertible note. The Specification at 1 recites that the invention relates to

conducting transactions, and more particularly, embodiments relate to issuing a unit including a forward contract and a note or other instrument. Thus, all this evidence shows that claim 1 is directed to pricing a security.

It follows from prior Supreme Court cases, and *Bilski* in particular, that the claims at issue here are directed to an abstract idea. Like the risk hedging in *Bilski*, the concept of security pricing is a fundamental economic practice long prevalent in our system of commerce. The use of security pricing is also a building block of the modern economy. Thus, security pricing, like hedging, is an “abstract idea” beyond the scope of §101. See *Alice Corp. Pty. Ltd.*, 134 S.Ct. at 2356.

As in *Alice Corp. Pty. Ltd.*, we need not labor to delimit the precise contours of the “abstract ideas” category in this case. It is enough to recognize that there is no meaningful distinction in the level of abstraction between the concept of risk hedging in *Bilski* and the concept of security pricing at issue here. Both are squarely within the realm of “abstract ideas” as the Court has used that term. See *Alice Corp. Pty. Ltd.*, 134 S.Ct. at 2357.

The remaining claims merely describe examples of attributes that might characterize such a security. We conclude that the claims at issue are directed to a patent-ineligible concept.

The introduction of a computer into the claims does not alter the analysis at Mayo step two.

the mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention. Stating an abstract idea “while adding the words

‘apply it’” is not enough for patent eligibility. Nor is limiting the use of an abstract idea “‘to a particular technological environment.’” Stating an abstract idea while adding the words “‘apply it with a computer’” simply combines those two steps, with the same deficient result. Thus, if a patent’s recitation of a computer amounts to a mere instruction to “‘implement[t]” an abstract idea “‘on . . . a computer,” that addition cannot impart patent eligibility. This conclusion accords with the preemption concern that undergirds our §101 jurisprudence. Given the ubiquity of computers, wholly generic computer implementation is not generally the sort of “‘additional feature[e]” that provides any “‘practical assurance that the process is more than a drafting effort designed to monopolize the [abstract idea] itself.”

Alice Corp. Pty. Ltd., 134 S.Ct. at 2358 (citations omitted).

“[T]he relevant question is whether the claims here do more than simply instruct the practitioner to implement the abstract idea [] on a generic computer.” *Alice Corp. Pty. Ltd.*, 134 S.Ct. at 2359. They do not.

Taking the claim elements separately, the function performed by the computer at each step of the process is purely conventional. Using a computer to receive data, populate a data structure, and calculate a price amounts to electronic data processing—one of the most basic functions of a computer. All of these computer functions are well-understood, routine, conventional activities previously known to the industry. In short, each step does no more than require a generic computer to perform generic computer functions. The limitations of a processor, communications device and storage device only recite components of any general purpose computer.

Considered as an ordered combination, the computer components of petitioner's method add nothing that is not already present when the steps are considered separately. Viewed as a whole, petitioner's device claims simply recite the concept of security pricing as performed by a generic computer. The device claims do not, for example, purport to improve the functioning of the computer itself. Nor do they effect an improvement in any other technology or technical field. Instead, the claims at issue amount to nothing significantly more than an instruction to apply the abstract idea of security pricing using some unspecified, generic computer. Under our precedents, that is not enough to transform an abstract idea into a patent-eligible invention. *See Alice Corp. Pty. Ltd.*, 134 S.Ct. at 2360.

We are not persuaded by Appellants' argument that

while each individual step recited in Claim 32 could theoretically be performed by a conventional computing system, the operations recited in Claim 32 combine to create an ordered combination that is not well-understood, routine, or conventional and that is not previously known to the industry. Additionally, these specific features are other than what is well-understood, routine, and conventional in the field. For example, no cited references disclose or suggest the above elements of Claim 32 as recited in the overall combination of the claim. Therefore, these specific features clearly cannot be considered well-understood, routine, and conventional in the field.

App. Br. 11. A combination of data structures on which the price of a security is in some un-recited fashion is based is as a matter of notoriously well known fact entirely conventional. Appellants apparently mean to assign weight to the uniqueness of the combination of particular data elements populated in the data structures. Such a list of data for use is no more than conceptual advice as to what data would be useful in forming a

price, and the claim does no more than attach labels for mental perception to each of the data elements. The claim recites no manner in which the data are actually used in some manner dictated by that label, or any manner of use at all for that manner. The claim instead recites that a price is calculated on some unrecited basis from some subset of the data. So, again, this is simply advice to somehow form a price using some of this data. This claim is so preemptive that simply displaying the data content, receiving someone's judgement as to a price based on the viewed data, and computing a price as the assignment of that received price is within the claim scope.

We are not persuaded by Appellants' argument that this case is similar to *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed Cir 2014). App. Br. 12. This claim does not even refer to the internet and it does not solve a problem created by computer technology. This invention performs a price calculation that can also be done with paper and pencil.

We are not persuaded by Appellants' argument that the claim recites particular computer components. App. Br. 13. As discussed supra, the recited components are conventional in any general purpose computer and are used to do only the expected functions of such components.

We are not persuaded by Appellants' argument that “[w]hen viewed as a whole, Claim 32 clearly recites significantly more than simply pricing convertible securities. These recited claim elements are more than sufficient to show that the claims amount to significantly more than an attempt to patent the alleged abstract idea.” *Id.* This argument does not explain why claim 32 recites significantly more and so is entirely conclusory.

*Claim 32 rejected under 35 U.S.C. § 103(a) as unpatentable over
Galant, Birle, Green, Daughtery, and Ross*

Much of this claim remains the same as in the prior appeal and the issues related to those portions were resolved in that appeal. Issue preclusion keeps those issues from being resurrected, except to the extent the changes affect the meaning and interpretation of those portions. The only change to claim 32 is the insertion of the following additional convertible note information into the second data structure in limitation [4]: “conversion conditions identifying circumstances under which the convertible note may be converted, and an opportunistic remarketing period during which the issuer of the unit has discretion to perform at least one of a capped and uncapped remarketing.” Appellants’ arguments are directed exclusively to this newly added limitation.

We first find that this additional recital does not define or even narrow the manner or implementation of identifying of circumstances, the scope of such circumstances, the nature of such conditions or how such conditions are expressed. More problematic for Appellants is that the recited remarketing period is again a period of time entered in a data structure. A period of time in a data structure does not inherently have any relation to remarketing or discretion. Thus, simply entering a one character code and a single date is within the scope of these two additions. Interpretation may reside exclusively within the mind of the beholder and still be within the scope of these limitations.

We further find that the pricing recited in limitation [7] is based on forward information in the first data structure, convertible note information in the second data structure, equity security financial information in the third data structure, and issuer identifier financial information in the fourth data structure. This limitation does not specify which parts of the forward information, convertible note information, equity security financial information, and issuer identifier financial information are used and certainly does not recite that all parts are used. This limitation is therefore no more than basing pricing on some forward information in the first data structure, some convertible note information in the second data structure, some equity security financial information in the third data structure, and some issuer identifier financial information in the fourth data structure. Thus, there is no recital that the particular additions, *supra*, to convertible note information are among the portion of the convertible note information in the second data structure relied on in pricing.

The Examiner cited Green, Daughtery, and Ross to show it was known to attach conditions for conversion and to have capped and uncapped remarketing of such securities and to attach dates to circumscribe when certain such events are permitted. As these references are clear in such regard, it is not such knowledge that Appellants contest. Rather, Appellants contend that the references fail to describe a data structure that contains such information. App. Br. 20–23.

The problem Appellants have with this argument is that one of ordinary skill in the programming arts, indeed anyone in an introductory programming course, knows that you have to have physical data to represent

the conceptual data one is working with, and this requires some form of data structure. The originally filed disclosure does not suggest any advantages to filling four data structures in the particular manner recited, and indeed does not mention data structures as such and populating them at all. Thus, once it is shown that it was known to take the factors added in the amendment into consideration for convertible instruments, which is uncontested, it inherently followed that the only way to do so in a computer automation environment was by populating data structures with such data.

As to the argument regarding the number of references cited (App. Br. 21), Appellants admit that this in itself is unpersuasive. In any event, this is not an instance where five disparate references are pieced together like Flopsy, but an instance in which a complex instrument such as a convertible security has many facets, and often any given reference only discusses a portion. Thus, this is a case of using five references to put the picture of the whole together from references each describing parts of that whole. This is not an indication of hindsight. It is an indication of complexity of something already known.

Claims 34–39 and 41–47 rejected under 35 U.S.C. § 103(a) as unpatentable over Galant, Birle, Green, Daughtery, Ross, Zivan, Barron's Financial Dictionary, and Admitted Prior Art

Claim 34 adds a datum of a contract fee. Claim 41 adds data of dates associated with at least one capped remarketing and a date associated with an uncapped remarketing. Claim 43 adds a datum of a number of warrants distributed. Claim 44 adds a datum regarding an issuer call option. Claim

45 adds data of an initial share price, an initial share conversion price, an initial share conversion premium, and a share conversion ratio.

Claims 35–39 further describe the contract fee, the number of shares, and the interest rate. Claim 42 adds that a contingency is associated with the note. These claims do not recite that these data items are used in the claim 32 pricing.

Claim 46 adds that pricing is based on prior historical convention and claim 47 adds software instructions to execute on a computer.

First, we find these limitations are unchanged from the prior appeal and the addition to parent claim 32 has no effect on the issues related to these claims. Thus, the issues related to these claims were resolved in the prior appeal and the arguments presented here are subject to issue preclusion.

We adopt the Examiner’s findings and analysis from Final Act. 7–9 and reach similar legal conclusions.

As to claims 34, 41, 43, and 44, Appellants do not contest the Examiner’s findings that the informational content of these limitations were known, but instead contest the Examiner’s decision to afford them no patentable weight. App. Br. 25. Again, Appellants do not contest that the data referred to were known.

To fully appreciate the Examiner’s findings regarding patentable weight, we first recall that the parent claim, and therefore all of the dependent claims are directed to structural rather than procedural subject matter.

As to structural inventions, such claims must be distinguished from the prior art in terms of structure rather than function, *see, e.g., In re Schreiber*, 128 F.3d 1473, 1477–78 (Fed. Cir. 1997). In order to satisfy the functional limitations in an apparatus claim, however, the prior art apparatus as disclosed must be capable of performing the claimed function. *Id.* at 1478. When the functional language is associated with programming or some other structure required to perform the function, that programming or structure must be present in order to meet the claim limitation. *Typhoon Touch Techs., Inc. v. Dell, Inc.*, 659 F.3d 1376, 1380 (Fed. Cir. 2011) (discussing *Microprocessor Enhancement Corp. v. Texas Instruments, Inc.*, 520 F.3d 1367 (Fed. Cir. 2008)). In some circumstances generic structural disclosures may be sufficient to meet the functional requirements, *see Ergo Licensing, LLC v. CareFusion 303, Inc.*, 673 F.3d 1361, 1364 (Fed. Cir. 2012) (citing *Telcordia Techs., Inc. v. Cisco Sys., Inc.*, 612 F.3d 1365, 1376–77 (Fed. Cir. 2010)).

Also, a structural invention is not distinguished by the work product it operates upon, such as data in a computer. "[E]xpressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim." *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969). Furthermore, "inclusion of the material or article worked upon by a structure being claimed does not impart patentability to the claims." *In re Otto*, 312 F.2d 937, 940 (CCPA 1963).

The data referred to in these limitations are identified by labels but are otherwise not narrowed. Nothing in the claim depends on or enforces the perceptual labels the claim suggests. Mental perceptions of what data represents are non-functional and given no weight. *King Pharm., Inc. v. Eon Labs, Inc.*, 616 F.3d 1267, 1279 (Fed. Cir. 2010) (“[T]he relevant question is whether ‘there exists any new and unobvious functional relationship between the printed matter and the substrate.’”) (citations omitted). *See also In re Lowry*, 32 F.3d 1579, 1583 (Fed.Cir.1994) (describing printed matter as “useful and intelligible only to the human mind”) (quoting *In re Bernhart*, 417 F.2d 1395, 1399 (CCPA 1969)). Data labels are just examples of such mental perceptions. Data, being a succession of binary digits, are just those digits, not perceptual labels of those digits. The binary digits may impose some functional consequence, but absent some recitation of how so, such consequence is not an issue.

No structure per se is recited in these claims and the only functions recited are those in the parent claim 32, which include data entry and storage and price calculation. As no particular data storage format is recited, text files are within the scope of the data entry and storage which any general purpose computer, including those described in the prior art, are able to perform as part of the operating system capacity. And, as we found supra with regard to the statutory subject matter rejection, as no price calculation algorithm is recited, simply displaying the data and receiving someone’s judgement as to what the price should be is also within the scope of the price calculation limitation as the mathematical operator of assignment is a calculation operator. Again this is within the capacity of any general

purpose computer. Thus, the Examiner's finding as to patentable weight is supported by the capacity of any general purpose computer to perform the recited functions.

The findings as to lack of patentable weight are also supported by the fact that the claims to no more than store labelled binary data and perform some calculation with some of that data, which again, any general purpose computer does. As we found supra, the labels are non-functional, being merely vehicles for instilling mental perceptions. Nor do the labels narrow the pricing calculation as no algorithm is recited that would depend on the perception induced by such labels.

As to claim 46, Appellants contest whether this limitation was described in the admitted prior art. App. Br. 26. Claim 46 recites:

The device of claim 32, further comprising instructions to be executed by said processor to:

retrieving [sic, retrieve] financial information associated with previous issuers of convertible instruments; and

using [sic, use] the financial information nation associated with previous issuers of convertible instruments during generation of the pricing data associated with the proposed unit.

The Examiner finds that Green described this in the prior appeal and Appellants did not contest this finding. Appeal Decision mailed Sept. 30, 2013 at 14:23–24. Thus we will not relitigate this issue.

As to claim 38, Appellants contest Examiner's finding as to design choice. Claim 38 recites:

The device of claim 32, wherein the number of shares received by the holder as a result of the forward transaction is reduced if the value of the equity security increases.

As this limitation does not alter the structure or function of parent claim 32, the Examiner's finding that simply asserting some factor that is not part of the claimed structure and does not affect its function is an obvious matter of design choice.

CONCLUSIONS OF LAW

The rejection of claims 32, 34–39, and 41–47 under 35 U.S.C. § 101 as directed to non–statutory subject matter is proper.

The rejection of claim 32 under 35 U.S.C. § 103(a) as unpatentable over Galant, Birle, Green, Daughtery, and Ross is proper.

The rejection of claims 34–39 and 41–47 under 35 U.S.C. § 103(a) as unpatentable over Galant, Birle, Green, Daughtery, Ross, Zivan, Barron's Financial Dictionary, and Admitted Prior Art is proper.

DECISION

The rejection of claims 32, 34–39, and 41–47 is affirmed.

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No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv) (2011).

AFFIRMED