

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

**(10) Patent No.: US 6,366,910 B1**  
**(45) Date of Patent: Apr. 2, 2002**

**(54) METHOD AND SYSTEM FOR GENERATION OF HIERARCHICAL SEARCH RESULTS**

**(75) Inventors: Anand Rajaraman, Seattle; Nigel Green, Bellevue, both of WA (US)**

**(73) Assignee: Amazon.com, Inc., Seattle, WA (US)**

**(\*) Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

**(21) Appl. No.: 09/206,774**

**(22) Filed: Dec. 7, 1998**

**(51) Int. Cl.<sup>7</sup> ..... G06F 17/30**

**(52) U.S. Cl. .... 707/5**

**(58) Field of Search ..... 707/5**

**(56) References Cited**

**U.S. PATENT DOCUMENTS**

|             |   |         |                  |         |
|-------------|---|---------|------------------|---------|
| 5,062,074 A | * | 10/1991 | Kleinberger      | 707/5   |
| 5,251,131 A | * | 10/1993 | Massand et al.   | 704/9   |
| 5,442,778 A | * | 8/1995  | Pedersen et al.  | 707/5   |
| 5,488,725 A | * | 1/1996  | Turtle et al.    | 707/5   |
| 5,722,418 A | * | 3/1998  | Bro              | 128/732 |
| 5,787,422 A | * | 7/1998  | Tukey et al.     | 707/5   |
| 5,802,493 A | * | 9/1998  | Sherflott et al. | 705/1   |
| 5,835,905 A | * | 11/1998 | Pirolli et al.   | 707/3   |
| 5,848,409 A | * | 12/1998 | Ahn              | 707/3   |
| 5,897,638 A | * | 4/1999  | Lasser et al.    | 707/102 |
| 5,920,854 A | * | 7/1999  | Kirsch et al.    | 707/3   |
| 5,987,460 A | * | 11/1999 | Niwa et al.      | 707/6   |
| 6,011,862 A | * | 1/2000  | Doi et al.       | 382/132 |

|              |   |        |       |         |
|--------------|---|--------|-------|---------|
| 6,029,195 A  | * | 2/2000 | Herz  | 709/219 |
| 6,038,560 A  | * | 3/2000 | Wical | 707/5   |
| 6,195,652 B1 | * | 2/2001 | Fish  | 707/2   |

\* cited by examiner

*Primary Examiner*—Wayne Amsbury

*(74) Attorney, Agent, or Firm*—Perkins Coie LLP

**(57) ABSTRACT**

A method and system for querying hierarchically classified data. The system first receives a query request and then identifies classifications of the data that may satisfy the received query request. The system then displays the identified classifications. In response to selection of a displayed classification, the system displays sub-classifications when the selected classification has sub-classifications and displays the data within the classification when the selected classification has no sub-classifications. In another aspect, the system generates search results for items that are hierarchically classified. For classifications within the hierarchy of classifications, the system generates a search entry containing terms describing the items within that classification. The system then receives a search criteria. The system selects as initial search results those search entries whose terms most closely match the received search criteria. The system then adjusts the initial search results based on the hierarchy of classifications. This adjustment may include removing sub-classifications of a classification that is in the initial search results or adding a parent classification to replace multiple child classifications in the initial search results.

**59 Claims, 17 Drawing Sheets**

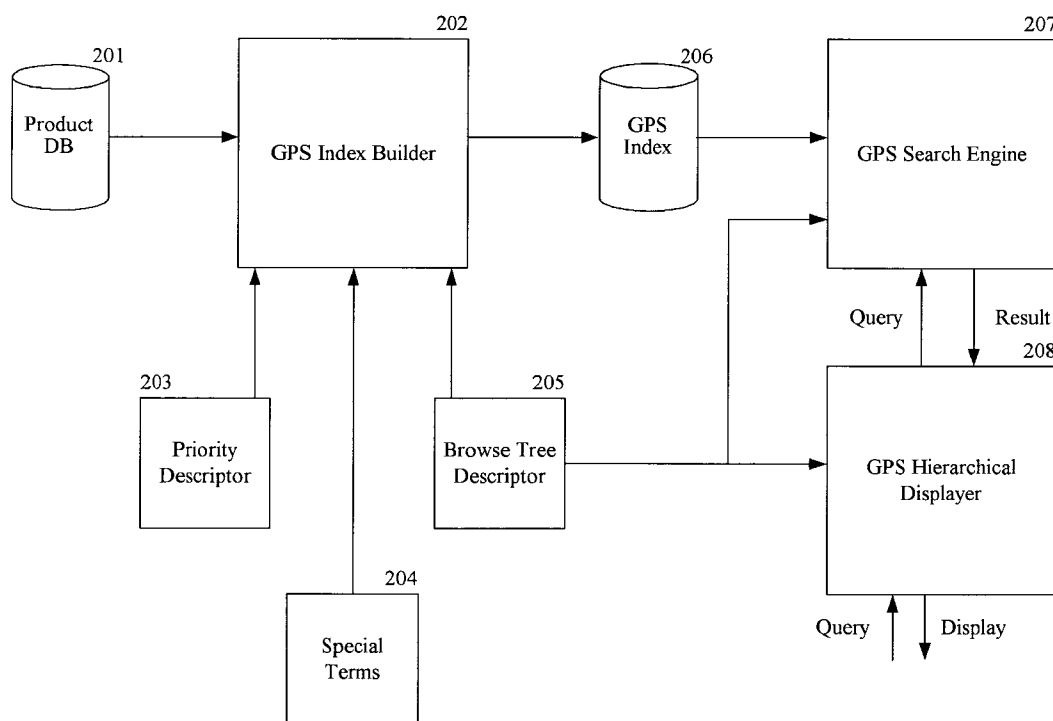




Fig. 1A

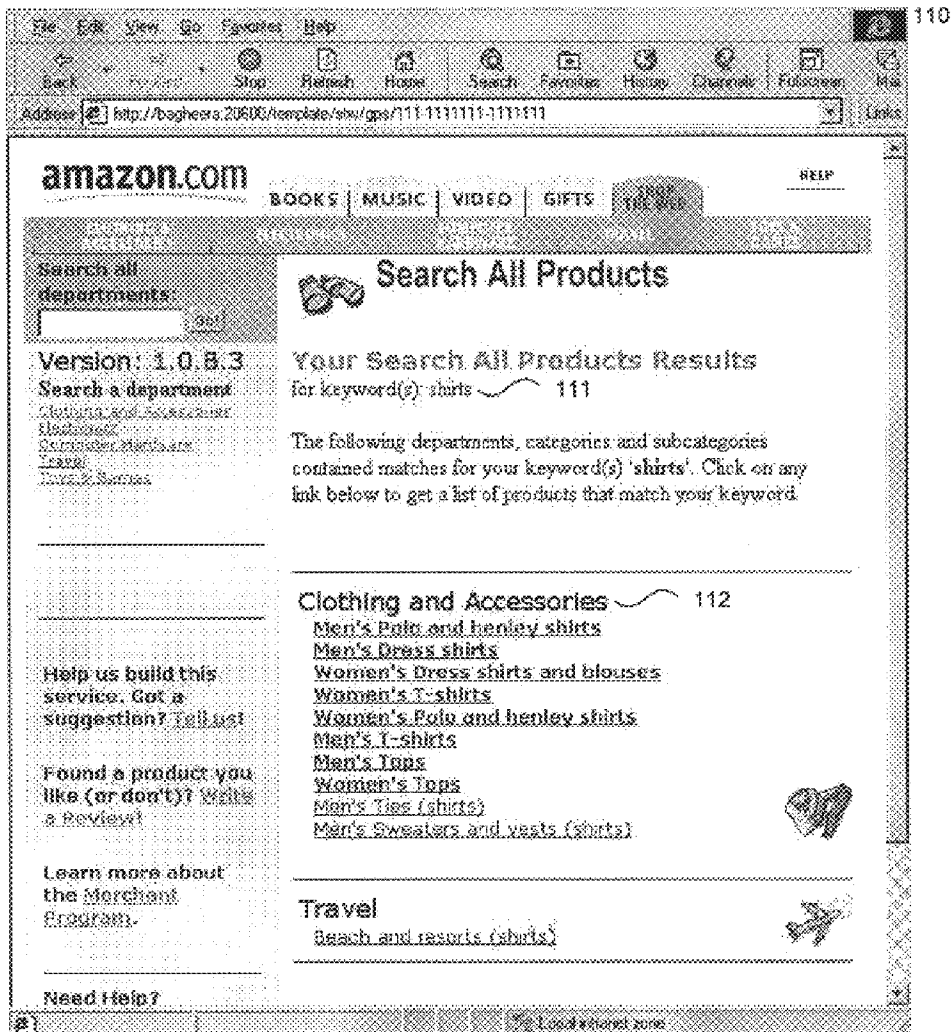


Fig. 1B

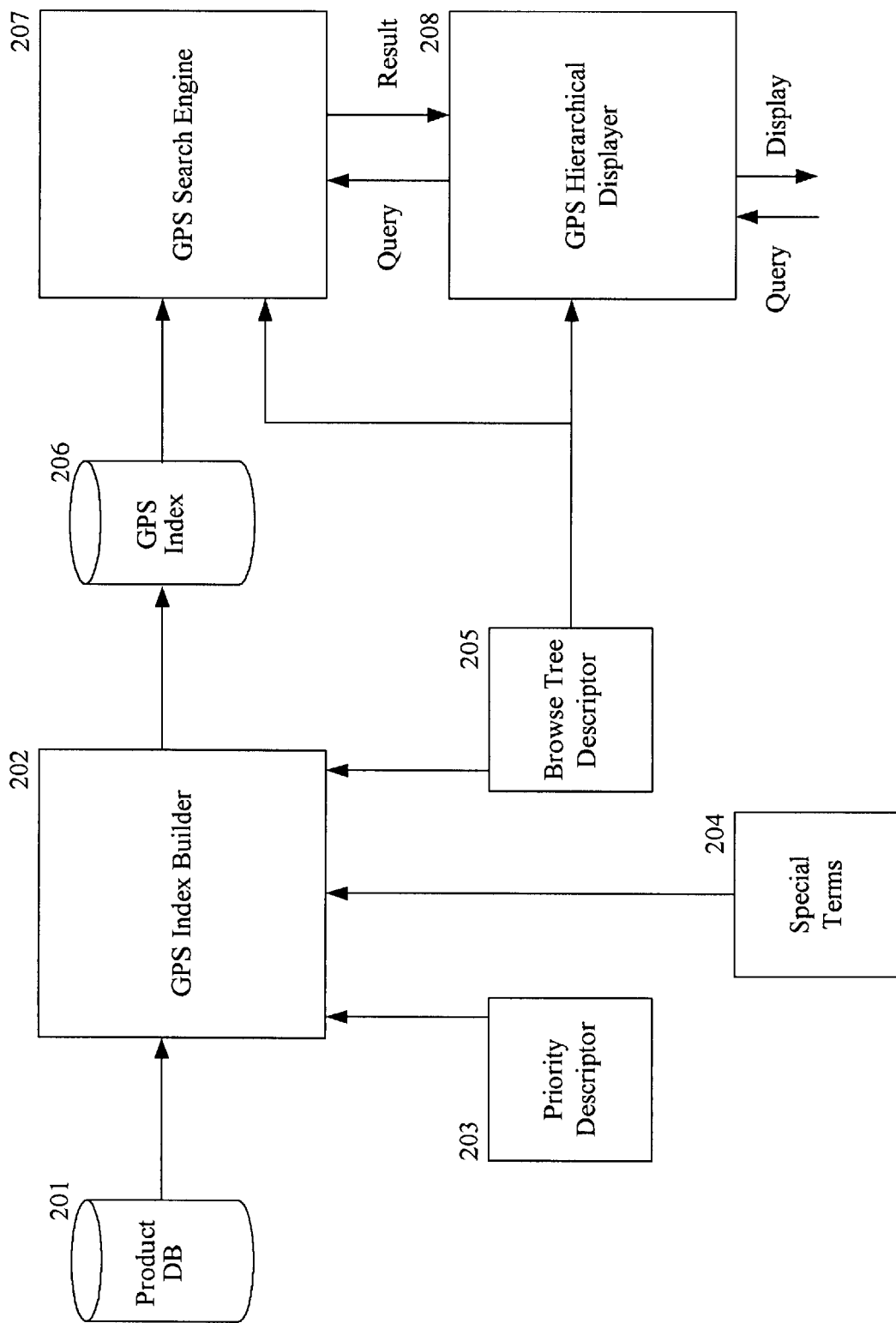


Fig. 2

301

Travel Table

| ID | Category | Subcategory | Name                | Destination | Orig dest... | Provider           | Description |
|----|----------|-------------|---------------------|-------------|--------------|--------------------|-------------|
|    | 31       | 237         | Hawaii<br>Honeymoon | Maui        | Seattle      | Hawaii<br>Travel   | ~           |
|    | 31       | 240         | Australian<br>Tour  | Australia   | Seattle      | Outback<br>Venture | ~           |
|    |          |             |                     |             |              |                    |             |
|    |          |             |                     |             |              |                    |             |
|    |          |             |                     |             |              |                    |             |
|    |          |             |                     |             |              |                    |             |
|    |          |             |                     |             |              |                    |             |
|    |          |             |                     |             |              |                    |             |
|    | 31       | 240         | New Zealand<br>Tour | New Zealand | Seattle      | Outback<br>Venture | ~           |

Fig. 3A

# Explore Litigation Insights

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

## Real-Time Litigation Alerts



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

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

## Advanced Docket Research



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

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

## Analytics At Your Fingertips



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

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

## API

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

## LAW FIRMS

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

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

## FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

## E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.