Office de la Propriété Intellectuelle du Canada
Un organisme d'Industrie Canada

Canadian Intellectual Property Office
An agency of Industry Canada

CA 2409951 C 2006/12/05

(11)(21) 2 409 951

(12) BREVET CANADIEN
CANADIAN PATENT

(13) C

(86) Date de dépôt PCT/PCT Filing Date: 2001/05/24
(87) Date publication PCT/PCT Publication Date: 2001/11/29
(45) Date de délivrance/Issue Date: 2006/12/05
(85) Entrée phase nationale/National Entry: 2002/11/19
(86) N° demande PCT/PCT Application No.: GB 2001/002330
(87) N° publication PCT/PCT Publication No.: 2001/090917
(30) Priorités/Priorities: 2000/05/24 (GB0012668.0);
2001/01/24 (GB0101842.3)

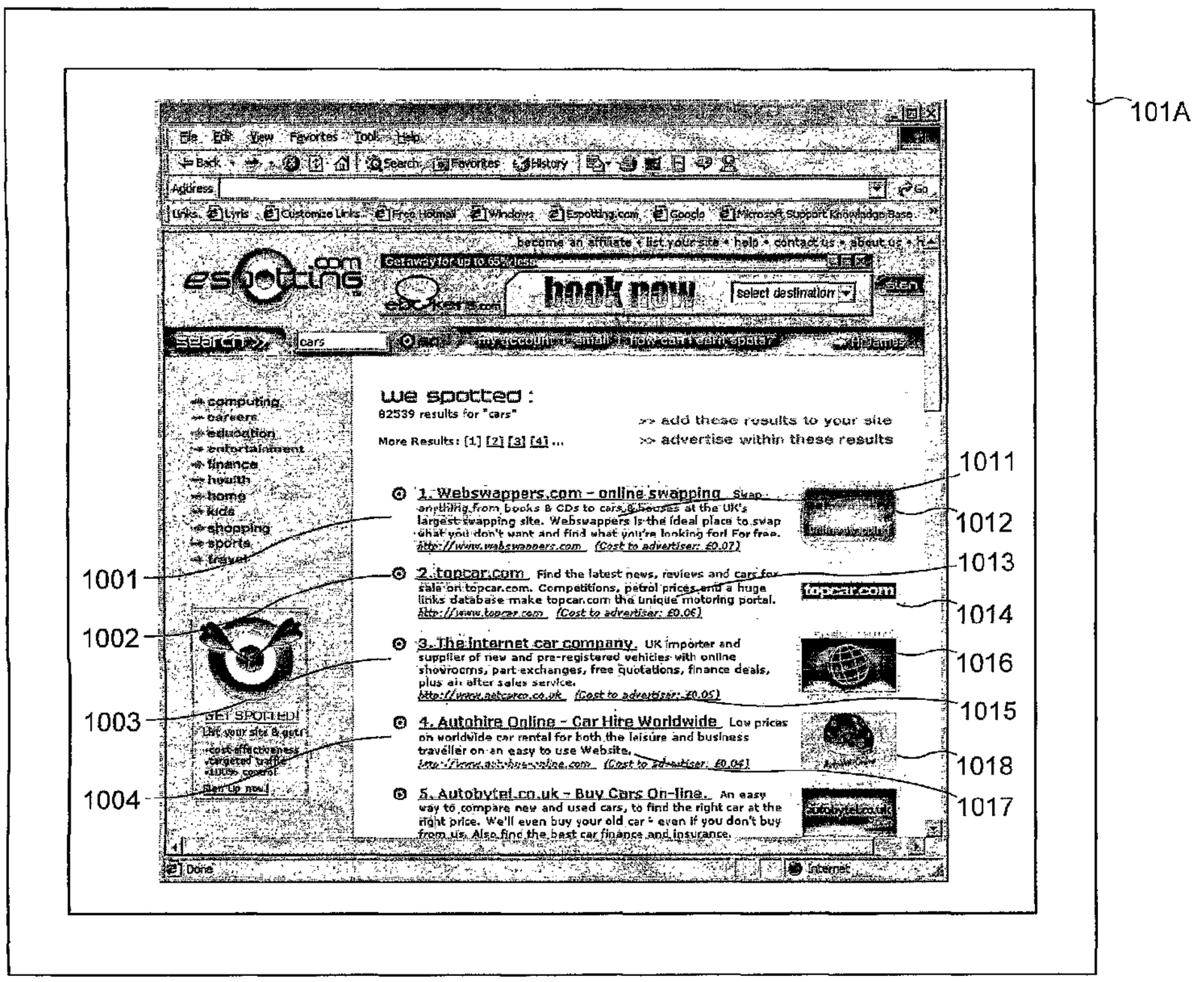
(51) Cl.Int./Int.Cl. *G06F 17/30* (2006.01)

(72) Inventeurs/Inventors:
ISHAG, DANIEL, GB;
BISHOP, SEBASTIAN LUKE, GB;
BANCROFT COOKE, NICHOLAS DESMOND JAMES, GB;
HARCOMBE, JUDD, GB

(73) Propriétaire/Owner:
MIVA (UK) LIMITED, GB

(74) Agent: GOWLING LAFLEUR HENDERSON LLP

(54) Titre : DISPOSITIF DE RECHERCHE ET METHODE AFFERENTE
(54) Title: SEARCHING APPARATUS AND A METHOD OF SEARCHING



(57) Abrégé/Abstract:
A search engine at a service provider is configured to identify commercial suppliers in response to a keyword specified by a user. Keywords are received and searches are performed on an index database to identify displayable text items. Images are stored in the form of commercially relevant graphical images such as logos. A logo is linked to each item of displayable text and an output list is produced in which each text item includes a displayable graphical image. The system may store different image formats to allow the graphical images to be displayed on a variety of platforms.

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
29 November 2001 (29.11.2001)

PCT

(10) International Publication Number
WO 01/90917 A2

(51) International Patent Classification[7]: G06F 17/00

(21) International Application Number: PCT/GB01/02330

(22) International Filing Date: 24 May 2001 (24.05.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

0012668.0	24 May 2000 (24.05.2000)	GB
0101842.3	24 January 2001 (24.01.2001)	GB

(71) Applicant *(for all designated States except US)*: **ESPOTTING (UK) LIMITED** [GB/GB]; 5th floor, The Old Truman Brewery, 91 Brick Lane, London E1 6QL (GB).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **ISHAG, Daniel** [GB/GB]; Flat 3, 19 Queens Gate, London SW7 (GB). **BISHOP, Sebastian, Luke** [GB/GB]; 16 Randolf Road, London W6 1AN (GB). **BANCROFT COOKE, Nicholas, Desmond, James** [GB/GB]; 16 Ennismore Mews, London SW7 1AN (GB). **HARCOMBE, Judd** [GB/GB]; 4A Devonshire Road, London W4 2HD (GB).

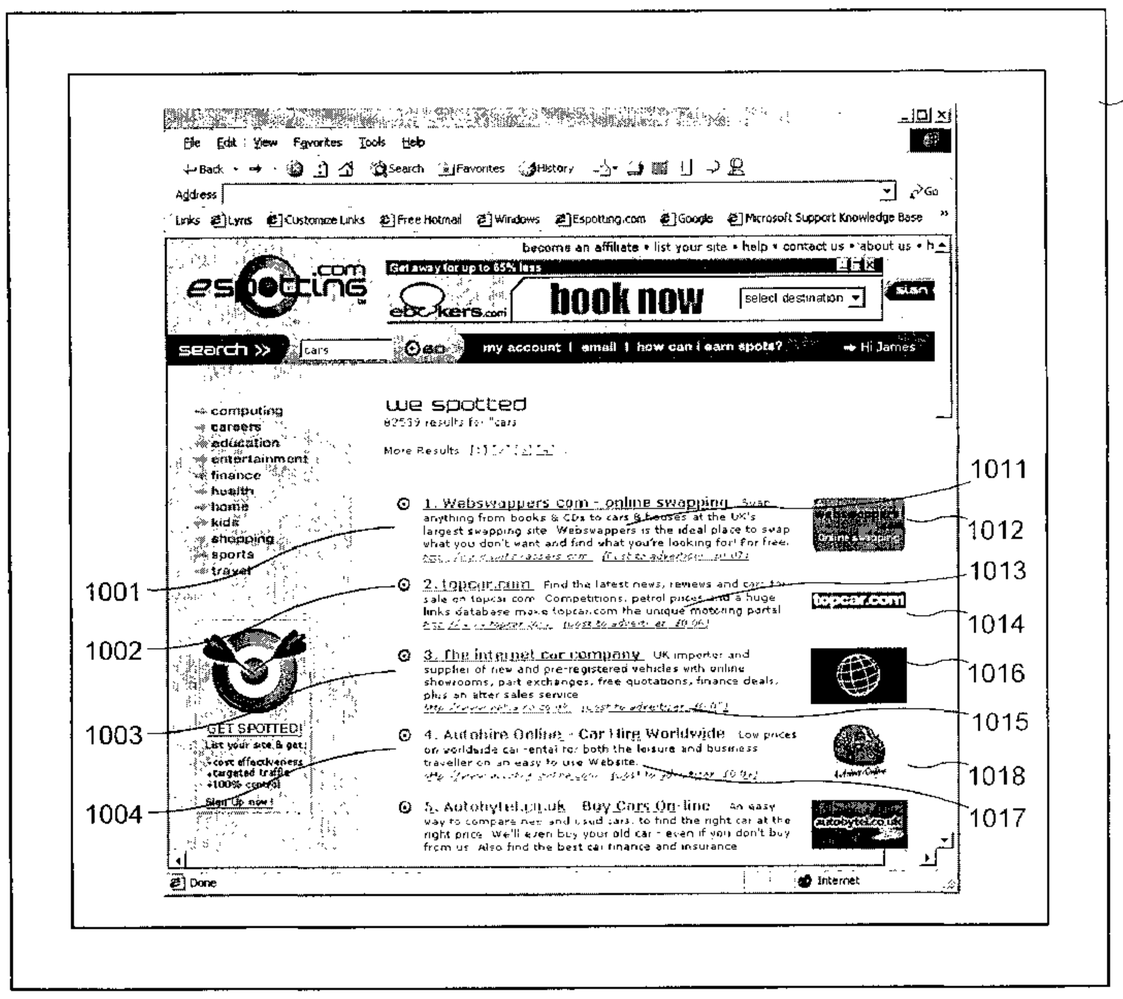
(74) Agents: **AHMAD, Sheikh, Shakeel__** et al.; David Keltie Associates, 12 New Fetter Lane, London EC4A 1AG (GB).

(81) Designated States *(national)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: SEARCHING APPARATUS AND A METHOD OF SEARCHING



(57) Abstract: A search engine at a service provider is configured to identify commercial suppliers in response to a keyword specified by a user. Keywords are received and searches are performed on an index database to identify displayable text items. Images are stored in the form of commercially relevant graphical images such as logos. A logo is linked to each item of displayable text and an output list is produced in which each text item includes a displayable graphical image. The system may store different image formats to allow the graphical images to be displayed on a variety of platforms.

WO 01/90917 A2

WO 01/90917 A2

Published:

— *without international search report and to be republished upon receipt of that report*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Searching Apparatus and a Method of Searching

Background of the Invention

1. Field of the Invention

The present invention relates to searching and in particular relates to searching apparatus configured to identify commercial suppliers in response to a specified key word.

2. Description of the Related Art

Search engines that facilitate the searching of available data that may be supplied in electronic form are well known. Initially, these search engines were established by academic institutions and were configured primarily to disseminate research information and similar studies.

More recently, searching activities of this type have been deployed in more commercial environments. In particular, in response to a user's request for commercial information, possibly identifying suppliers of particular goods or services, search engines are known that can provide a list of suppliers that are available to provide goods or services of the requested type.

When services of this type have been implemented using internet technology, it is common practice for the search results to be provided to a user without charge, thereby remaining consistent with other internet activities. Thus, a search engine may provide a list of contacts in the form of a web page having links to supplier's websites etc. When a user accesses a supplier's website via the search material, the search provider obtains information to this effect. The service provider is then in a position to submit a charge to the advertising supplier based on the number of hits that have taken place. It is therefore advantageous from the service provider's perspective for the service to be used and for many hits to occur. A problem with this approach is that the information provided by known search engines makes the information available in a relatively dry form and as such users are less encouraged to make active use of the service and are not attracted to particular suppliers. Furthermore, the user is often presented with long lists of data from which it is often very time consuming and

tedious to selected a desired supplier's web site.

It is an object of the present invention to at least substantially reduce or overcome the above described problems.

Brief Summary of the Invention

According to an aspect of the present invention, there is provided Searching apparatus configured to identify commercial suppliers in response to a specified keyword, the apparatus comprising: input means arranged to receive an input keyword; searching means configured to search a database indexed with respect to specified keywords to identify displayable text items related to said input keyword, each item regarding one of said commercial suppliers; image storage means arranged to store graphical images, each graphical image identifying a commercial supplier; linking means configured to link each stored graphical image with a respective one of the displayable text items; and output means configured to supply data defining a list of said identified text items and any respective linked displayable graphical images selected by said linking means.

The present invention provides a rapid recognition of a supplier from a list of textual information by virtue of the provision of a recognisable graphical image identifying or associated with the supplier. This in turn leads to less browser fatigue when considering search results and makes searching much easier.

In a preferred embodiment, the input means is a computer, a web enabled television, a mobile telephone or a hand-held computer. Preferably, the searching means includes a relational database with a plurality of related tables and the image store may be arranged to store representations of logos. Preferably, the logos are stored in a plurality of formats such as those appropriate for a personal computer, a web television, a mobile phone or a hand-held computer or any combination of these formats.

According to a second aspect of the present invention, there is provided a method of searching for details of commercial suppliers, comprising the steps of: receiving an input keyword; searching an index of keywords to identify said input keyword and textural items associated therewith; linking a stored displayable

graphical image identifying a commercial supplier to a respective one of the identified textural items; and producing an output list of textural items and any respective linked displayable graphical images selected by said linking step.

Brief Description of the Drawings

A presently preferred embodiment of the present invention will now be described by way of example with reference to the accompanying drawings. In the drawings:

Figure 1 shows an environment connecting a plurality of users over the world wide web;

Figure 2 shows procedures implemented within the environment shown in *Figure 1*;

Figure 3 details the structure of the service provider identified in *Figure 1*;

Figure 4 illustrates operations performed by the service provider illustrated in *Figure 1*;

Figure 5 details the structure of the database identified in *Figure 4*;

Figure 6 illustrates a file directory for graphical images stored within the data bank identified in *Figure 4*;

Figure 7 illustrates a campaign generation form;

Figure 8 shows a search request form;

Figure 9 illustrates a filtered query;

Figure 10 shows an output image displayed on a computer;

Figure 11 shows an output image displayed on a web television;

Figure 12a shows an output image displayed on a WAP enable mobile phone; and

Figure 12b shows an output image display on a handheld computer.

Best Mode for Carrying Out the Invention

An environment in which a plurality of users **101** to **105** are connected to the world wide web **100** is illustrated in *Figure 1*. In accordance with http protocols, it is possible for users **101** to **105** to generate universal resource locations (URLs)

which result in a particular website being interrogated and hypertext transfer protocol (http) pages being returned.

Many commercial organisations have made use of this environment therefore product and service suppliers **111, 112, 113** host electronic commerce (e-commerce) websites such that, in response to an enquiry being made to these websites by users **101** to **105** for example, it is possible for orders to be placed and for commercial transactions to be effected. A problem exists however in that for transactions of this type to take place it is necessary for the users **101** to **105** made aware of the specific URLs for the service and goods suppliers **111** to **113**.

To facilitate this activity, service providers, such as service provider **121** support search engines. Thus, as an alternative to generating a URL that contacts a supplier directly, it is possible for a user, such as user **101**, to direct a single URL to the service provider **121** that includes specific search terms or keywords. At the service provider, a system identifies these keywords and performs a search to identify particular suppliers that may be able to satisfy the demand expressed by the users.

Procedures performed within the environment of *Figure 1* are shown in *Figure 2*. At step **201** the service provider **121** receives data from suppliers **111** to **113**. As this data is received, a local database is populated at step **202**. This process is then ongoing as more and more data becomes available or is identified by the service provider.

At step **203** a search request is received from a user, such as user **101**. At step **204** a search is performed and at step **205** the results of this search are returned to the user **101**. The user **101** is then in a position to contact the suppliers **111** to **113** directly. However, when this is effected via data provided by the service provider **121**, the service provider **121** is informed of this so that the service provider is made aware to the effect that its customers, i.e. the suppliers, have received a hit, and may therefore provide the basis for a charge being submitted. Consequently, at step **206** the question is asked as to whether any more data is to be submitted to the database. When answered in the affirmative, control is effectively directed to step **201**. Alternatively, if answered in the negative, control is directed to

203.

The structure of service provider **121** is detailed in *Figure 3*. A central processing unit **301**, such as a Pentium III processor, communicates with, for example, 256 megabytes of random access memory **302**, CD-reader **303**, a communications interface **304**, a backup tape streamer **305** and a ninety gigabyte (for example) disc store **306** over a bus **307**. Instructions executable by the central processing unit **301** are read from RAM **302** after being installed via a data carrying medium in the form of a CD-ROM **308** receivable within the CD-ROM reader **303**.

Operations performed by service provider **121** are illustrated in *Figure 4*. The service provider effectively provides a searching tool configured to identify commercial suppliers in response to specified keywords. Keywords defined by a user are supplied as input requests to a search engine **401**. The search engine **401** accesses a database **402** that has been indexed with respect to specified keywords to identify displayable text items related to the input keyword or keywords. In addition to supplying this text information to a server **403**, an image conversion process **404** provides a linking mechanism configured to associate or link a graphical image received from an image bank **405** to each item of displayable text. Image conversion process **404** in combination with a server **403** provide an output mechanism configured to supply data defining the identified text from database **402** with associated displayable graphical images selected from image bank **405**.

In addition to performing searches, the system shown in *Figure 4* also receives configuration data from suppliers, such as suppliers **111** to **113**, and this configuration data includes textural matter supplied to database **404** and graphical images supplied to image bank **405** under the control of an administration process **406**.

In the preferred embodiment, the data stored in database **402** includes a title relating to a specific product or service or to a particular supplier. In addition, there is a description of the particular product or service and a URL allowing a web browser to make immediate contact with the supplier identified by the searching process.

Image bank **405** is preferably arranged to store a commercially related

graphic often in the form of a particular supplier's logo. Thus, the provision of a graphical image bank **405** allows images to be stored for which a supplier may have conducted a large and ongoing marketing campaign so as to make their graphical image or logo familiar to a wide range of users. Thus, the inclusion of this logo in data relating to the commercial activities of an identified organisation allows the user to identify a particular supplier more quickly and, in combination with background advertising activities, will tend to prompt a user to select or make contact with that organisation to a greater extent than if the logo or graphical image were not there.

It is appreciated that the representation of graphical images requires different types of data for their presentation within different types of platforms. Image conversion process **404** is therefore not only required to combine a graphical image with a textural image received by the searching process **401** but it is also required to select a particular type of image dependent upon the nature of the equipment available to the requesting user. Selecting one of the several different pre-formatted images for a display device is considerably faster than the alternative of converting a standard image to the required format on the fly (in real time). This way is preferred because of speed, even though the storage capacity requirements for the image bank **405** are greater.

Prior to combining a graphical image received from image bank **405** with textural matter received from process **401**, it is required that the image conversion process **404** make reference to the particular type of end user equipment and thereafter select an appropriate image from image bank **405**. Thus, as shown in *Figure 4*, it is possible to select an image from image bank **405** appropriate for a standard web browser as indicated at **411**. Alternatively, an image may be selected that is appropriate for being displayed on a web television, as indicated at **412**, or a WAP enabled mobile telephone as indicated at **413**, or in accordance with protocols required for other wireless transmission as indicated at **414** or in accordance with various protocols associated with handheld devices, as indicated at **415**.

It is to the advantage of the service provider to include details of many

commercial suppliers thereby making the service provided attractive to users. Similarly, as a service provider becomes more attractive to users, there is a greater incentive for suppliers to be included on the database which in turn creates a commercial pressure. Consequently, in order to sustain the service, the service provider submits a charge to suppliers and suppliers pay for the privilege of being included on the database.

A searching operation performed by searching process **401** is capable of selecting particular entries included in database **402** in response to keywords supplied by users. In accordance with database terminology, such a process is usually referred to as a filter in that entries that include the particular keyword identified by a user are filtered exclusively such that a list is produced that contains only the entries for which the particular keyword is included. Unless specific measures are included within this process, the ordering of this list will tend to depend upon the order in which the data was written to the database in the first place. For some searches, the length of the list could be quite large but recent studies have shown that most users will select a particular supplier after viewing at most two pages of information. Thus, although hundreds of potential suppliers may be selected in response to a particular keyword, it is likely that only the first ten or so entries within a particular filtered search will be of interest to a user. Consequently, a commercial pressure is created not only to be included but also to be highly ranked.

Within the environment of database technology, it is possible to order entries with respect to one or more fields, usually in an ascending order, i.e. with the lowest value at the top or in a descending order with the highest value at the top. Thus, it is conventional practice to include a field within a searched table or query that dictates the order in which the entries are conveyed to users.

Within the present system, suppliers are invited to bid for their position in output listings. In terms of a bid, this may be organised as a fixed amount with, say, a highest bidder paying a fee in the region of hundreds of thousands of dollars. Alternatively, fees may be charged on a per hit basis. A hit occurs for a particular supplier when the search results presented to the user include a textual entry from

that supplier. Thus, a supplier may bid thirty cents per hit and when their own website identifier receives a hit, the service provider notes that another thirty cents are to be charged to that particular supplier. Such an approach is often perceived as being preferable in that suppliers are not required to make any payment unless actual hits are generated.

Consequently, suppliers are invited to bid a per hit charge with respect to each keyword of interest. Thus, for the sake of this example, it is assumed that suppliers **111**, **112** and **113** each produce musical instruments and each are keen to increase their sales of saxophones. Each are therefore interested in subscribing to the keyword "saxophone" such that when a user submits the keyword "saxophone" to the searching process, the suppliers **111** to **113** desire their presence to be identified, in terms of a title of the products they supply, a brief description and a link to their own website allowing further enquiries or actual orders to be submitted.

Each of the suppliers **111** to **113** are invited to bid for the privilege of being included on the database and for ranking within the database. Supplier **113** declares that they are not prepared to make a payment for this privilege, whereas supplier **111** is prepared to pay twenty cents per hit and supplier **112** is prepared to pay forty cents per hit. Consequently, these values are included within database **402** and when a search is executed with respect to the keyword "saxophone" all entries using this keyword will be filtered out and thereafter the entries will be ordered. Consequently, supplier **112**, having made the highest bid, will be presented more highly in the list than supplier **111**. At the discretion of the service provider, supplier **113**, who is not prepared to pay anything, may or may not be included within the list. If included, supplier **113** will be placed at the bottom of the list.

Database **402** includes a plurality of tables, as illustrated in *Figure 5*. These comprise a supplier table **501**, a campaign/ keywords table **502**, a display table **503** and an image table **504**. Supplier table **501** essentially includes information relating to the specific supplier and is included primarily for administration and accounting purposes. Thus, an entry at **511** comprises a unique supplier identification, followed by an entry at **512** identifying the supplier's name, an entry or entries at **513**

identifying the supplier's address and an entry at **514** recording a balance, that is to say a totalised amount that should be invoiced to the supplier, based on filtered hits, at the end of the next accounting period. Thus, each time the particular supplier obtains a hit, through use of the services provided by service provider **121**, the bid amount for the particular campaign is added to the balance recorded at **514**.

Each supplier may express an interest in more than one keyword. Furthermore, the supplier's particular interests may vary from one keyword to another, reflecting particular marketing campaigns. Thus, it is known that supplier **112** in this example manufactures saxophones but supplier **112**, having an expertise in piping, also supplies piping to the automotive industries. Supplier **112** appreciates that these represent completely separate markets and therefore separate campaigns exist for each of these markets. It is therefore preferable that, in response to a search being performed, different information is supplied to users requesting interests in saxophones compared to users expressing interests in automotive brake piping.

Service provider **121** has established a system that is sensitive to this possibility and as such the relationship between a particular supplier and a particular keyword is identified as a campaign. Thus, the total number of campaigns facilitated by the system may be considered as the sum of all keywords multiplied by the number of suppliers expressing an interest in each of the keywords. Thus, in the example, if each supplier **111** to **113** has expressed an interest in three keywords, the total number of campaigns considered by the system would be nine.

The database system **402** maintains a record of these particular campaigns within campaign keyword table **502**. Consequently, table **502** includes an entry **521** that uniquely identifies the campaign, an entry identifying the particular supplier for that campaign at **522**, an entry for the particular keyword of interest at **523** and an entry representing the bid, that is to say, the amount that a supplier is prepared to pay when the keyword specified at **523** is entered by a user and the service provider returns information generated by the supplier identified by the supplier identification at **522**.

Database **402** is relational and as such a link **525** confirms that the supplier

identification at **511** is linked to the supplier identification at **522**. Consequently, upon identifying a particular campaign, as a result of a search being performed, it is possible to relate the information contained within table **502** back to the information contained within table **501**, primarily resulting in further charges being accumulated within field **514**.

The relationship between tables **501** and **502** defines how keywords are searched resulting in a list of entries being submitted to a user. A user then selects a particular entry which then defines a specific campaign. The link between tables **502** and **501** then allows a particular campaign to be associated with a particular supplier and for a financial accrual to be made in the balance entry **514**. Thus, although a supplier may be signed up for several campaigns, when any of these campaigns is selected, a single balance entry at **514** is accumulated.

Display table **503** and image table **504** define the way in which information is selected for submission to users in filtered lists. Specific output information is stored for each campaign therefore table **503** and table **504** have a primary key defined by an entry for the campaign identification, as shown at **531** of table **503** and as shown at entry **541** for table **504**. These campaign identifications are related to the campaign identification at **521** and are thereby relationally linked, as illustrated by link **551** and link **552**.

Display table **305** stores textural information, in the form of a title field **532**, a description field **533** and a URL field **534**. When conveyed to a user this textural information is linked to a graphical image, usually in the form of a supplier's logo. The graphical image is read from image bank **405** in response to information received from database **402** and in particular with respect to information read from image table **504**. Image table **504** includes references to particular files stored on image bank **405**. For each campaign, image bank **405** stores a plurality of graphical images stored in appropriate formats. In the example shown in *Figure 5*, the system is configured to select one of four types of graphical images and the particular location of the respective files are stored at **542** for the first type of file, a web browser, at location **543** for a second type of file, a web television image, at location **544** for a WAP mobile phone and at location **545** for a handheld personal

digital assistant.

Thus, in operation, a keyword is detected by the search process **401**. Process **401** is then configured to execute a search upon campaign table **502** by submitting SQL commands to the database **402**. In relatively modestly sized systems, the searching operation may be performed dynamically as and when required. However, as the amount of data increases, it may be preferable to perform background housekeeping operations to maintain additional indexes such that, in response to particular keywords being identified, the rate at which data retrieval is performed may be increased significantly. However, as is understood in the art, the maintaining of these additional indexes does place additional strain upon the overall process and therefore a compromise must be reached in terms of the amount of time taken for a search to be conducted and the amount of background housekeeping performed in order to make additional indexes available.

For the purposes of this disclosure, it should be understood that an indexing operation non-exclusively includes background pre-preparation of dedicated additional indexes or a dynamic re-indexing of existing tables.

The storage of graphical images within image bank **405** is illustrated in *Figure 6*. The data is effectively stored as a file system and the root directory has been identified at **601** as I: Beneath this, there is a sub-directory or folder for each particular supplier and in this example supplier **111** has a directory illustrated at **602** and supplier **112** has a directory illustrated at **603**.

Within the folder for each supplier, additional folders or subdirectories are created for each specific campaign. Thus, supplier **111** has established a campaign A illustrated at **604**, with an additional campaign, shown as campaign B at **605**. Similarly, supplier **112** has established a campaign C as shown at **606** and campaign D as shown at **607**.

Within each of these campaign subdirectories a plurality of files exist, each for a specific image. Thus, campaign A consists of image one shown at **608**, image two shown at **609**, image three shown at **610** and image four shown at **611**. Similarly, campaign B comprises image five shown at **612**, image six shown at **613**, image seven shown at **614** and image eight shown at **615**. In this example, the first

image of a particular campaign may be suitable for being displayed on a conventional web browser running on a PC or similar. The second image is appropriate for being displayed on a web television system, the third image is suitable for being displayed on a WAP enabled mobile phone and a fourth image is suitable for being displayed on a hand held computer.

Thus, images of this type are included for campaign C, image nine at **616** being for a web browser, image ten at **617** being for a web TV, image eleven at **618** being for a mobile phone and image twelve and **619** being for a handheld computer.

Administration process **406** allows new suppliers to register with the service provider. The administration process **406** also allows existing suppliers to establish new campaigns and allows existing suppliers to modify existing campaigns.

In order to establish a campaign, a supplier **112** contacts the service provider **121** over the world wide web **100** using a specific URL established for this purpose. In response, supplier **112**, having a computer system **112A** and a display monitor **112B** receives a campaign generation form as illustrated in *Figure 7*. In response to receiving the form shown in *Figure 7*, displayed on monitor **112B**, a supplier is invited to identify a particular keyword at entry **701**. This keyword may be selected from a list of existing keywords or a supplier may wish to establish a new keyword.

At entry **702**, the supplier enters a title and at entry **703** the supplier enters their URL, identifying the website that users will contact in response to an identification being made by the searching process. Thereafter, at location **705** a further description is included, up to a maximum number of characters, thereby completing the textural content of the particular entry for the particular campaign under consideration.

Entry **706** allows a file to be identified representing the supplier's logo. It is possible for a supplier to identify the location of a file directly or, in accordance with established windows com protocols, a browse button **707** may be selected resulting in a box being displayed showing a representation of the local file system and allowing a particular graphical file to be selected. Thereafter, details from the form may be submitted back to the service provider **121** by operation of submit button **708** or the form may be cleared by operation of reset button **709**.

Upon operation of submit button **708**, the information contained within the form is returned from the supplier **121** over the world wide web 100 back to the service provider **121**.

In response to receiving information of the type illustrated in *Figure 7*, the administration process **406** populates database **402** with the textural information and populates image bank **405** with appropriate graphical information. The administration process **406** interrogates the nature of the graphical information that has been submitted to ensure that the information has been conveyed in an acceptable protocol. If a judgement is made to the effect that the protocol is not appropriate, the supplier is contacted and invited to make an alternative submission. Once appropriate graphical information has been received by administration process **406** it is processed in order to render it into representations that are appropriate for the particular platforms that are being served. Thus, in response to receiving a single graphical image, relating to particular campaign, the administration process processes this graphical information in order to produce a graphical image appropriate for a web browser, with a further graphical image being produced that is appropriate for a web television, a further graphical image being produced that is appropriate for a WAP enabled mobile telephone and a further graphical image being produced that is appropriate for a handheld computer. These four (or more) images are then written to specific files and held within image bank **405**.

After writing the graphical images to the image bank **405**, image table **504** is populated with details as to the specific file locations for the images. Similarly, display table **503** is populated with a unique identification for the campaign, along with the title, description and URL provided by the supplier. Similarly, table **502** is populated identifying the specific campaign, the keyword identified at **701** and the bid identified at **704**. Thus, in this specific example, supplier **112** has expressed an interest in the keyword "saxophone". Supplier **112** has provided a graphical image that identifies its logo in an acceptable form. This graphical image has been processed to present the graphical image in the four representations being considered for this specific example. Furthermore, textural information has been written to display table **503** and a bid of forty cents has been written to field **524** of

table **502**. Thus, in response to a search on the keyword "saxophone" being initiated by a user, an appropriately indexed version of table **502** allows the keyword to be filtered in combination with an ordering exercise in order to place campaigns with the highest bids at the top of the list.

After database **402** and image bank **405** have been populated, it is possible for a user, such as user **101**, to perform a search. Service provider **121** is contacted via an appropriate URL, resulting in a page being returned to user **101** and being displayed on display unit **101a**, as shown in *Figure 8*. The user is invited to type a keyword at position **801** and then return the information back to the service provider **121**.Thus, for example, a user may return the keyword "cars" resulting in a search being performed to return campaign related information for the keyword "cars" presented in a ranking determined by bid values established by suppliers.

In order to perform the search, table **502** is re-indexed as shown in *Figure 9*. In table **502**, field **521** defining the campaign identification is the primary key and the table is ordered in an ascending fashion with the campaign identifications being place in numerical order, starting from the lowest and extending to the highest. This ordering is merely a reflection of the order in which the entries are created and does not assist in terms of the searching operation.

In order to perform a search, the table is re-indexed with the keyword entry at **523** establishing the main filtering term and may therefore be considered as the primary entry as shown at **923** in *Figure 9*. The query also includes the bid value at **924** and the campaign unique identification at **921**. For the purposes of this query, the supplier entry is not required and is therefore not included in the query.

Thus, the query results in a table being produced in which the keywords are presented alphabetically. A filtering operation is now performed in order to select campaigns that relate to the specific keyword. Thus, the filtering operation results in a list being produced of all campaigns concerning the keyword "cars". The operation now refers to the second field **924** concerning bids and organises the listing in accordance with bid values in descending order. Thus, the campaign with the highest bid value is placed at the top of the list, followed by the next and continuing until the least highest bid. For bids of equal value, further ordering may

be exercised in terms of campaign ID, such that the longest running campaigns are placed towards the top or in accordance with any other criteria.

Thus, as a consequence of the searching operation, all campaigns relating to the particular keyword have been selected and then placed in bid order. This results in a list of campaign identifications which is used to relate to display table **503** and is used to relate to image table **504**. Thus, each identified campaign results in its specific title, description and URL being read from display table **503** while maintaining the ranking established by the query shown in *Figure 9*. In addition, an image is read from image table **504**. The particular image read is determined by the campaign identification and is also determined by an indication of the nature of the equipment available to the requesting user. The appropriate graphical information is then associated with the textural information, a page of entries is assembled by image conversion process **404** and then the page of information is sent to the server process **403** allowing it to be despatched to the user in the appropriate format.

The user request described with respect to *Figure 8* was initiated from a user's personal computer. As a result of this search, the search results are returned back to the user's computer and displayed on monitor **101a** as illustrated in *Figure 10*. Thus, the searched information consists of a plurality of entries **1001**, **1002**, **1003** and **1004** etc. Each entry such as entry **1001**, includes a textural component **1011**, read from database **402** and a graphical logo **1012** read from image bank **405**. Similarly, entry **1002** includes a textural component **1013** and a logo **1014**. Entry **1003** includes a textural component **1015** and a logo **1016**. Similarly, entry **1004** includes a textural component **1017** and a logo **1018**. Through advertising a marketing, logos **1012**, **1014**, **1016** and **1018** will have attained a significant degree of recognition and goodwill. Consequently, users are encouraged to make swift selections based on the easily recognisable graphical representations, thereby enhancing the service provided by the service provider.

The image shown in *Figure 10* has been read from file **608** for display on a conventional web browser executed by a personal computer. Alternatively, the information may be accessed by a web television **1101** as illustrated in *Figure 11*. Television sets have a lower definition than most modern computer monitors,

therefore the amount of information contained within a single window is less. However, for the same search, the same textural information is displayed. Thus, if viewing on a web television as shown in *Figure 11* textural information **1102** is derived from display table **503** and the exact same locations are read as would have been the case had the information been displayed on a computer system as shown in *Figure 10*. However, for the computer system shown in *Figure 10*, the graphical information is derived from file **608** whereas for the web television, in order to achieve a similar effect, the image information is read from file **609**.

Other graphical display devices are shown in the form of a WAP enabled mobile telephone in *Figure 12A* and a hand held computer in *Figure 12B*. Again, graphical information **1201** is shown on the WAP enabled mobile phone. However, whereas the textural information **1202** is derived from exactly the same source as textural information **1102**, the graphical image is derived from file **610** and then combined with the textural information by the image conversion process **404**. Similarly, the hand held computer shown in *Figure 12B* displays graphical information **1211** with textural information **1212**. The textural information is derived from exactly the same place as the textural information **1202** and **1102** but on this occasion the graphical information is read from file **611**.

It is to be appreciated that the term 'graphical image' as used throughout the specification is not limited to logos. Rather, it can be any image which is used as a trademark and as such could even be a stylised word identifying a particular supplier.

Having described a particular preferred embodiment of the present invention, it is to be appreciated that the embodiment in question is exemplary only and that variations and modifications such as will occur to those possessed of the appropriate knowledge and skills may be made without departure from the spirit and scope of the invention as set forth in the appended claims.

THE EMBODIMENTS OF THE INVENTION IN WHICH AN EXCLUSIVE PROPERTY OR PRIVILEGE IS CLAIMED ARE DEFINED AS FOLLOWS:

1. Searching apparatus configured to identify commercial suppliers in response to a specified keyword, the apparatus comprising:

input means arranged to receive an input keyword;

searching means configured to search a database indexed with respect to specified keywords to identify displayable text items related to said input keyword, each item regarding one of said commercial suppliers;

image storage means arranged to store graphical images, each graphical image identifying or associated with a commercial supplier;

linking means configured to link each stored graphical image with a respective one of the displayable text items to form a respective stored results entry, the stored results entry in use being arranged to present the text item and graphical image for simultaneous display; and

output means configured to supply data defining a displayable list of said stored results entries formed by said linking means, such that a desired commercial supplier can readily be identified from the list of stored results entries, when displayed, based upon the graphical image of each stored results entry.

2. Apparatus according to claim 1, wherein said input means is a computer, a web enabled television, a mobile telephone or a hand held computer.

3. Apparatus according to claim 1 or 2, wherein said searching means includes a relational database with a plurality of related tables.

4. Apparatus according to any of claims 1 to 3, wherein said image storage means is arranged to store representations of logos.

5. Apparatus according to claim 4, wherein said image storage means is arranged to store logos in a plurality of formats.

6. Apparatus according to claim 5, wherein said formats are appropriate for a personal computer, a web television, a mobile phone or a hand held computer or any combination of the aforesaid formats.

7. Apparatus according to any of claims 1 to 6, wherein said output means combines graphical images with textual data of a type compatible with equipment of the requesting user.

8. Apparatus according to any of claims 1 to 7, including means for recording a charge to a supplier in response to a user making contact with a supplier in response to receiving details of a search.

9. Apparatus according to any of claims 1 to 8, including means for ranking searched entries with respect to a bid value associated with a stored keyword.

10. Apparatus according to claim 9, including means for allowing suppliers to specify and amend bid values.

11. A method of searching for details of commercial suppliers, the method comprising:

receiving an input keyword;

searching an index of keywords to identify said input keyword and textural items associated therewith;

linking a stored displayable graphical image identifying or associated with a commercial supplier to a respective one of the identified textural items so as to form a stored results entry, the stored results entry in use being arranged to present the text item and graphical image for simultaneous display; and

producing a displayable output list of said stored results entries formed by said linking step, such that a desired commercial supplier can readily be identified from the list of result entries, when displayed, based upon the graphical image of each stored results entry.

12. A method according to claim 11, wherein an input keyword is received from a computer, a web enabled television, a mobile telephone or a hand-held computer.

13. A method according to claim 11 or 12, wherein said index of keywords is searched on a relational database.

14. A method according to any of claims 11 to 13, wherein said displayable graphical image takes the form of a logo.

15. A method according to claim 14, wherein said logos are stored in a plurality of formats.

16. A method according to claim 15, wherein said formats are appropriate for a personal computer, a web television, a mobile phone or a hand-held computer or any combination thereof.

17. A method according to any of claims 11 to 16, wherein a graphical image is combined with textual data, said combined graphical image being compatible with equipment of a requesting user.

18. A method according to any of claims 11 to 17, wherein a charge to a supplier is recorded in response to a user making contact with a supplier in response to receiving details of a search.

19. A method according to any of claims 11 to 18, wherein entries in a search are ranked with respect to a bid value.

20. A method according to claim 19, wherein suppliers specify and amend bid values.

21. A computer-readable medium having computer-readable instructions executable by a computer such that, when executing said instructions, a computer will perform the steps of:

receiving an input keyword;

searching an index of keywords to identify said input keyword and textural items associated therewith;

linking a stored displayable graphical image identifying or associated with a commercial supplier to a respective one of the identified textural items so as to form a stored results entry, the stored results entry in use being arranged to present the text item and graphical image for simultaneous display; and

producing a displayable output list of said stored results entries formed by said linking step such that a desired commercial supplier can readily be identified from the list of results entries, when displayed, based upon the graphical image of each stored results entry.

22. A computer-readable medium having computer-readable instructions according to claim 21, such that when executing said instructions, a computer will also perform the step of processing information received from a remote computer, a web enabled television, a mobile telephone or a hand-held computer.

23. A computer-readable medium having computer-readable instructions according to claim 21 or 22, such that when executing said instructions, a computer will also perform the step of searching keywords in an index of a relational database.

24. A computer-readable medium having computer-readable instructions according to any of claims 21 to 23, such that when executing said instructions, a computer will also perform the step of generating displayable graphical image data in the form of a logo.

25. A computer-readable medium having computer-readable instructions according to any of claims 21 to 24, such that when executing said instructions, a computer will also perform the step of storing said logos in a plurality of formats.

26. A computer-readable medium having computer-readable instructions according to claim 25, such that when executing said instructions, a computer will also perform the step of storing graphical information representing a logo in a format appropriate for a personal computer, a web television, a mobile phone or a hand-held computer or any combination thereof.

27. A computer-readable medium having computer-readable instructions according to any of claims 21 to 26, such that when executing said instructions, a computer will also perform the step of combining a graphical image with a textual image such that the combined graphical image is compatible with equipment of a requesting user.

28. A computer-readable medium having computer-readable instructions according to any of claims 21 to 27, such that when executing said instructions, a computer will also perform the step of recording a charge to a supplier in response to a user making contact with a supplier in response to receiving details of a search.

29. A computer-readable medium having computer-readable instructions according to any of claims 21 to 28, such that when executing said instructions, a computer will also perform the step of ranking searched entries with respect to a bid value.

30. A computer-readable medium having computer-readable instructions according to claim 29, such that when executing said instructions, a computer will also allow suppliers to specify and amend bid values.

31. The apparatus according to claim 1, wherein said searching means is an internet based search engine.

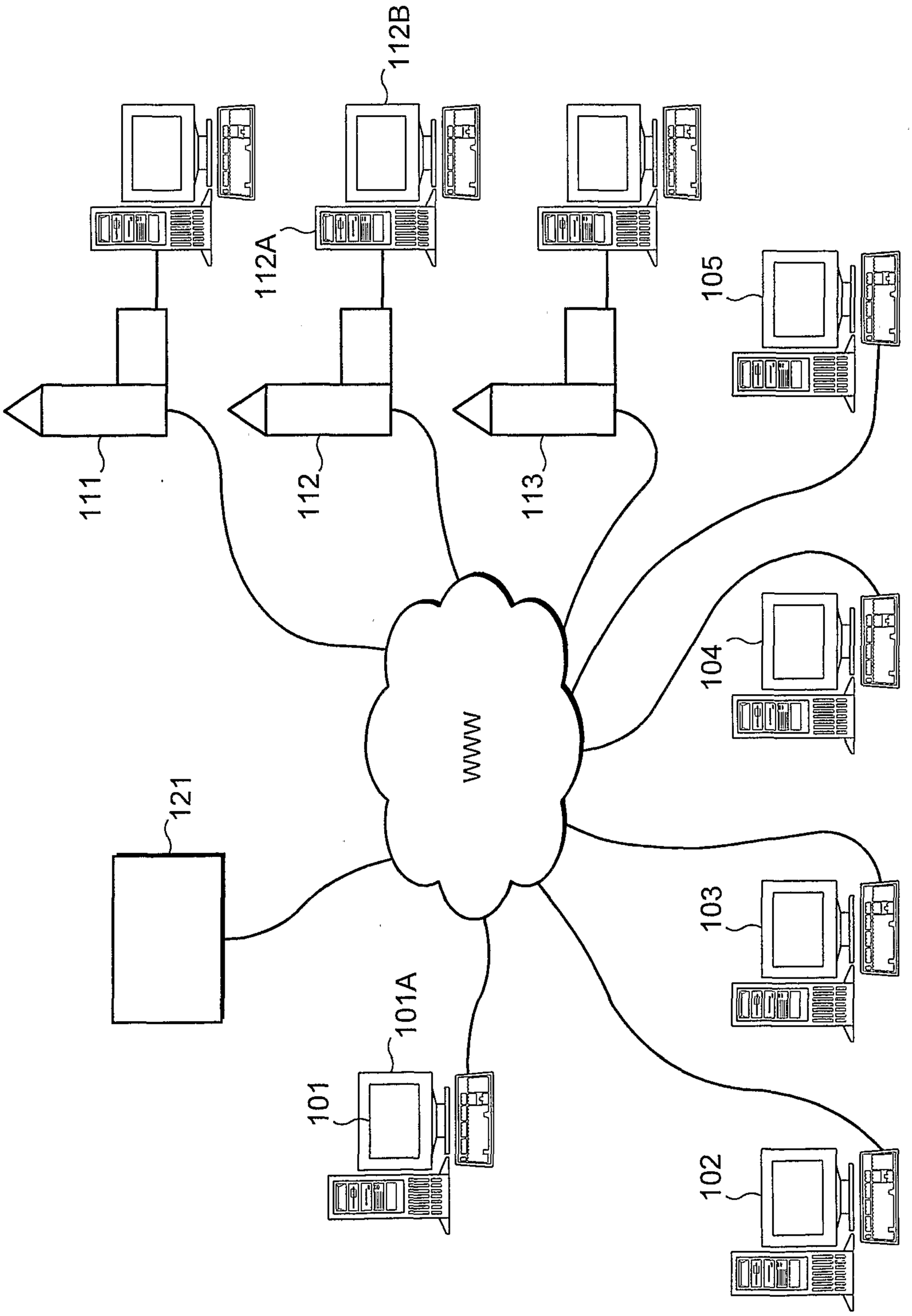


FIG. 1

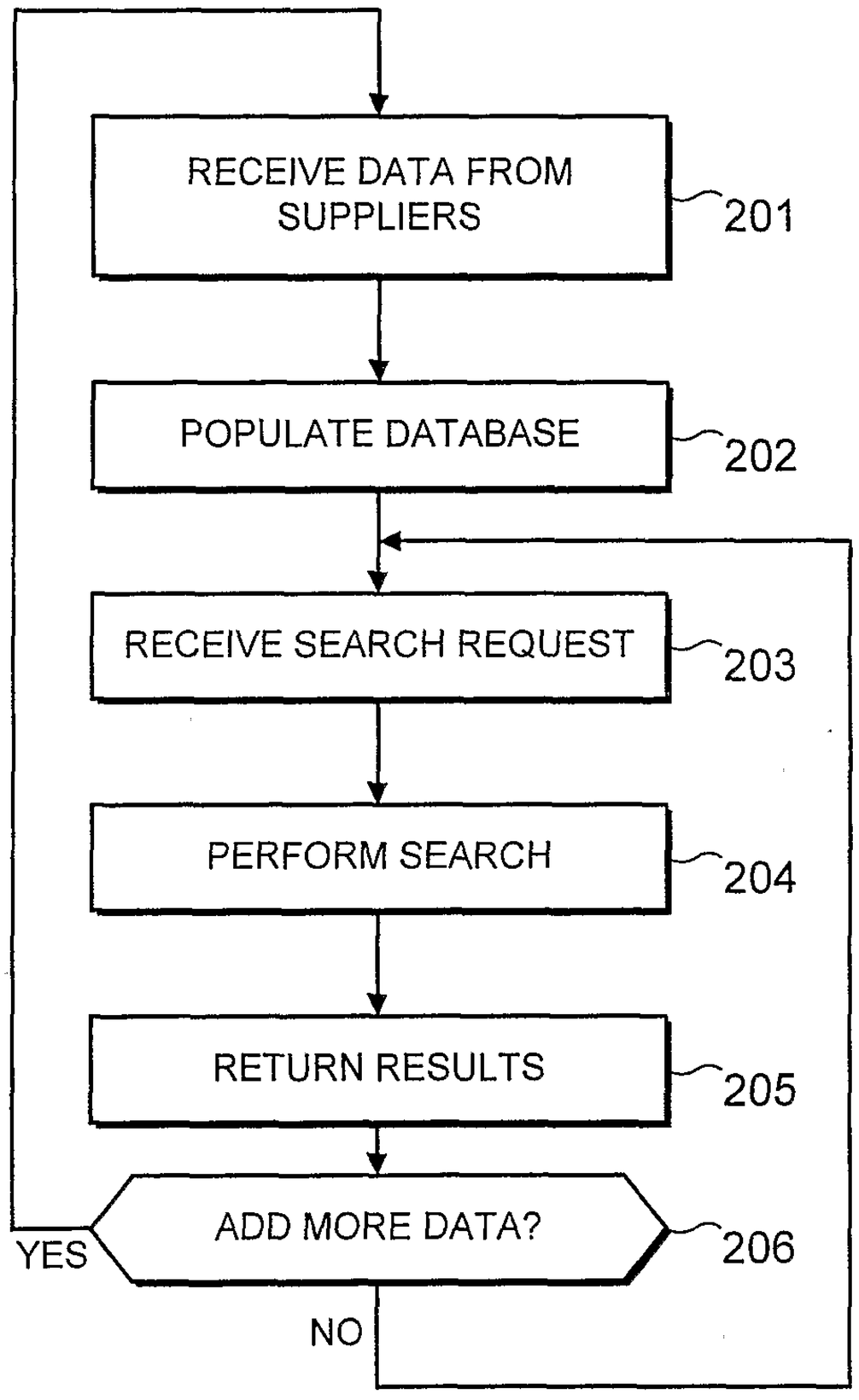

RECEIVE DATA FROM SUPPLIERS
201
POPULATE DATABASE
202
RECEIVE SEARCH REQUEST
203
PERFORM SEARCH
204
RETURN RESULTS
205
ADD MORE DATA?
206
YES
NO

FIG. 2

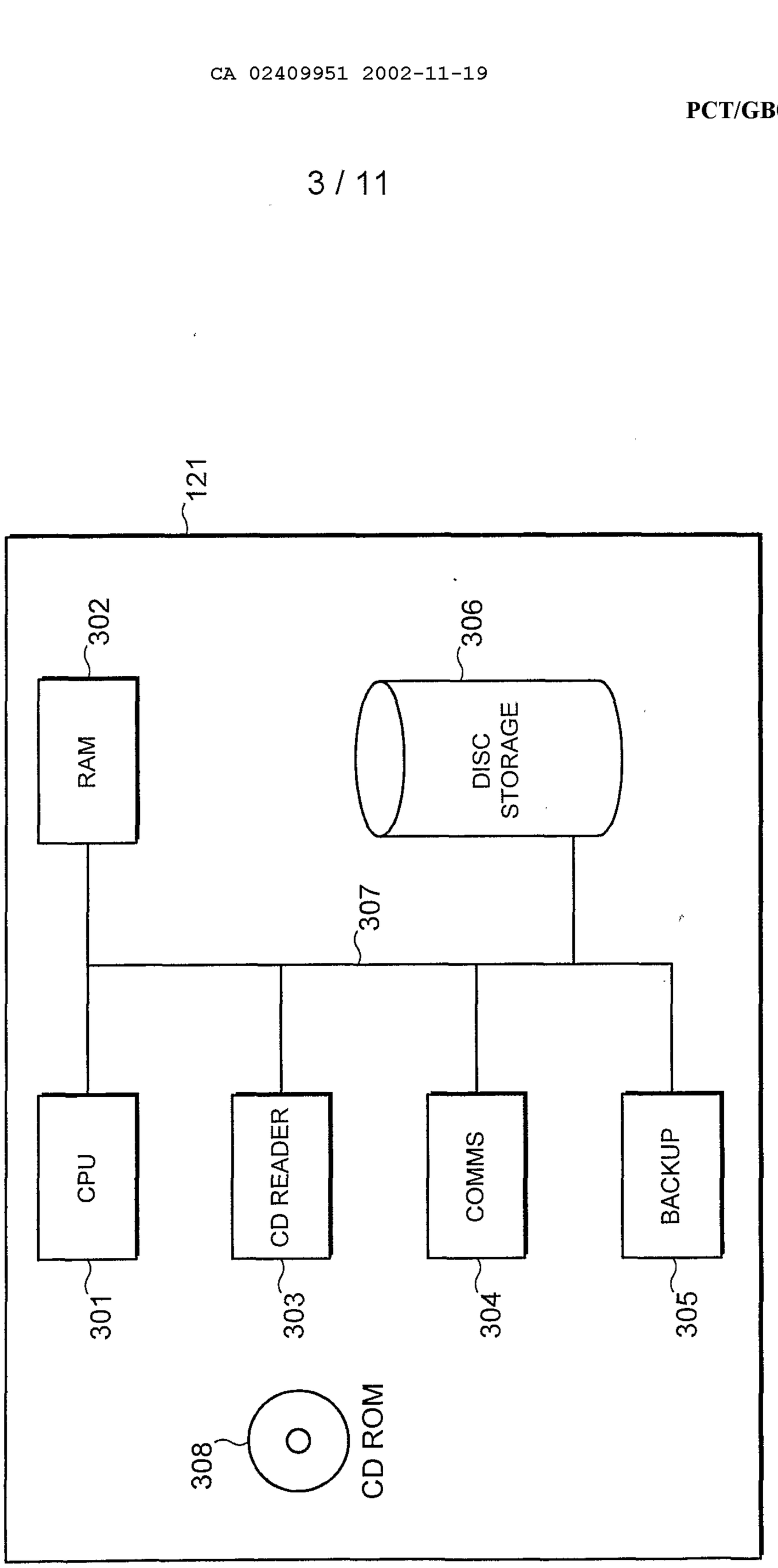

121
302
RAM
306
DISC
STORAGE
307
CPU
CD READER
COMMS
BACKUP
301
303
304
305
308
CD ROM

FIG. 3

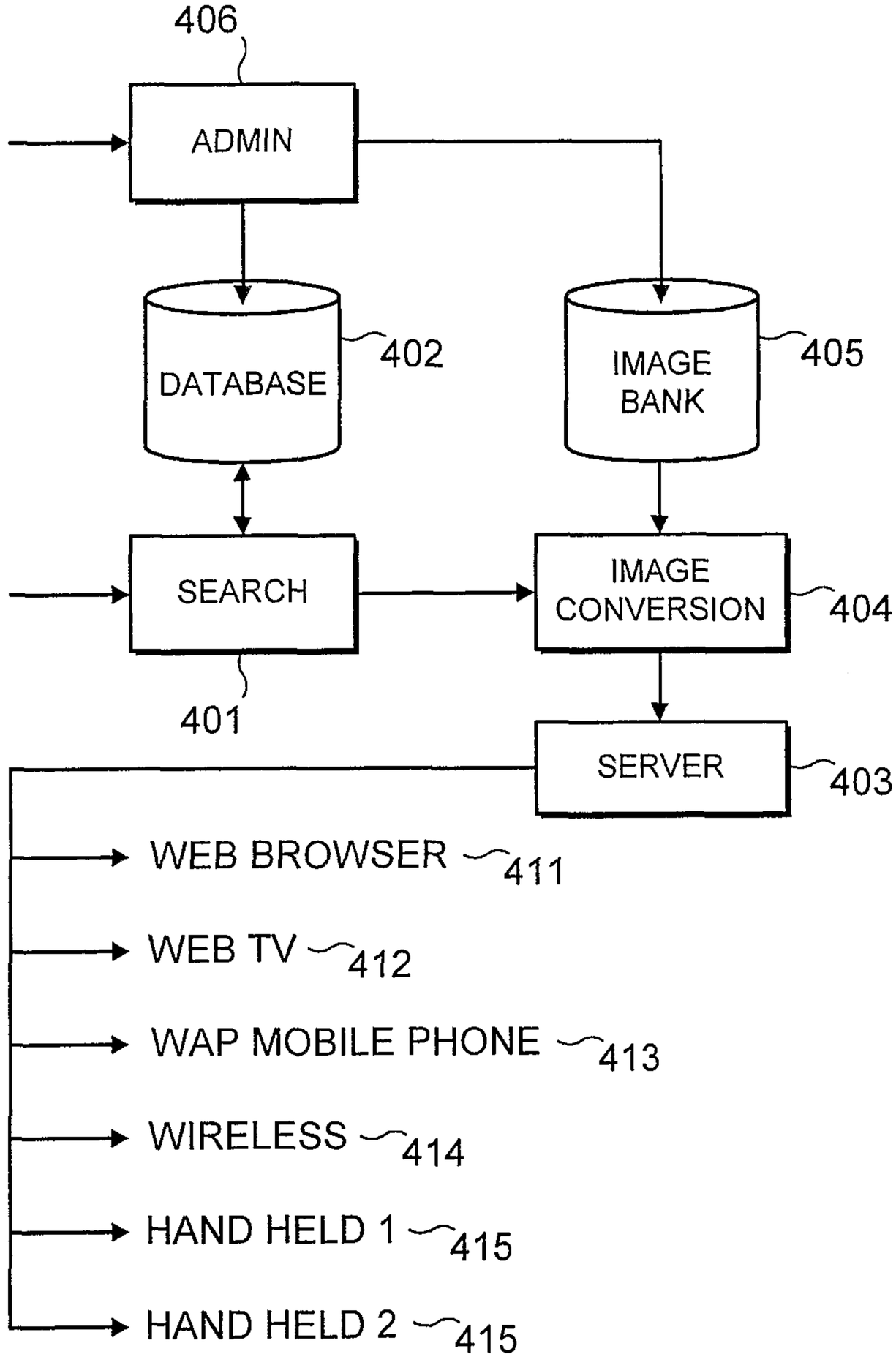

406
ADMIN
DATABASE
402
IMAGE BANK
405
SEARCH
IMAGE CONVERSION
404
401
SERVER
403
WEB BROWSER
411
WEB TV
412
WAP MOBILE PHONE
413
WIRELESS
414
HAND HELD 1
415
HAND HELD 2
415

FIG. 4

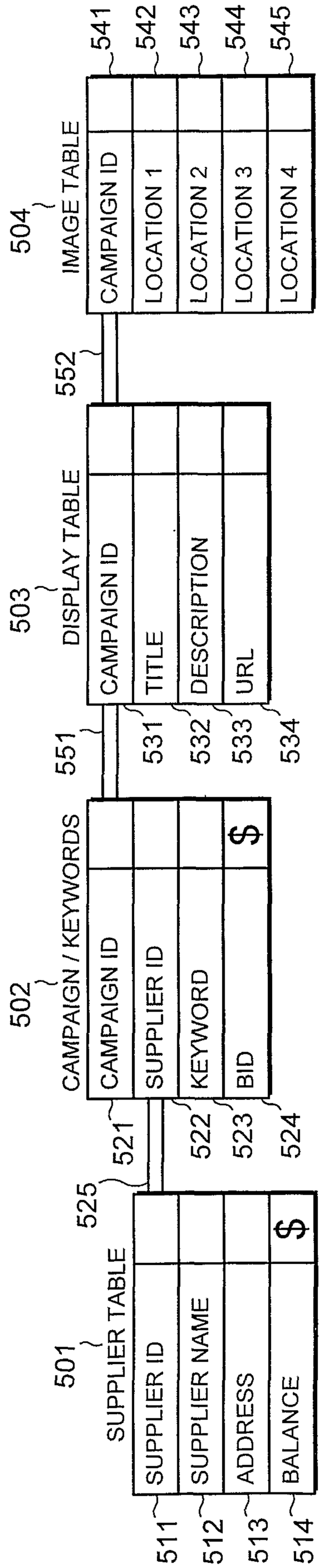

501
SUPPLIER TABLE
SUPPLIER ID
SUPPLIER NAME
ADDRESS
BALANCE
$
511
512
513
514
525
502
CAMPAIGN / KEYWORDS
CAMPAIGN ID
SUPPLIER ID
KEYWORD
BID
$
521
522
523
524
551
503
DISPLAY TABLE
CAMPAIGN ID
TITLE
DESCRIPTION
URL
531
532
533
534
552
504
IMAGE TABLE
CAMPAIGN ID
LOCATION 1
LOCATION 2
LOCATION 3
LOCATION 4
541
542
543
544
545

FIG. 5

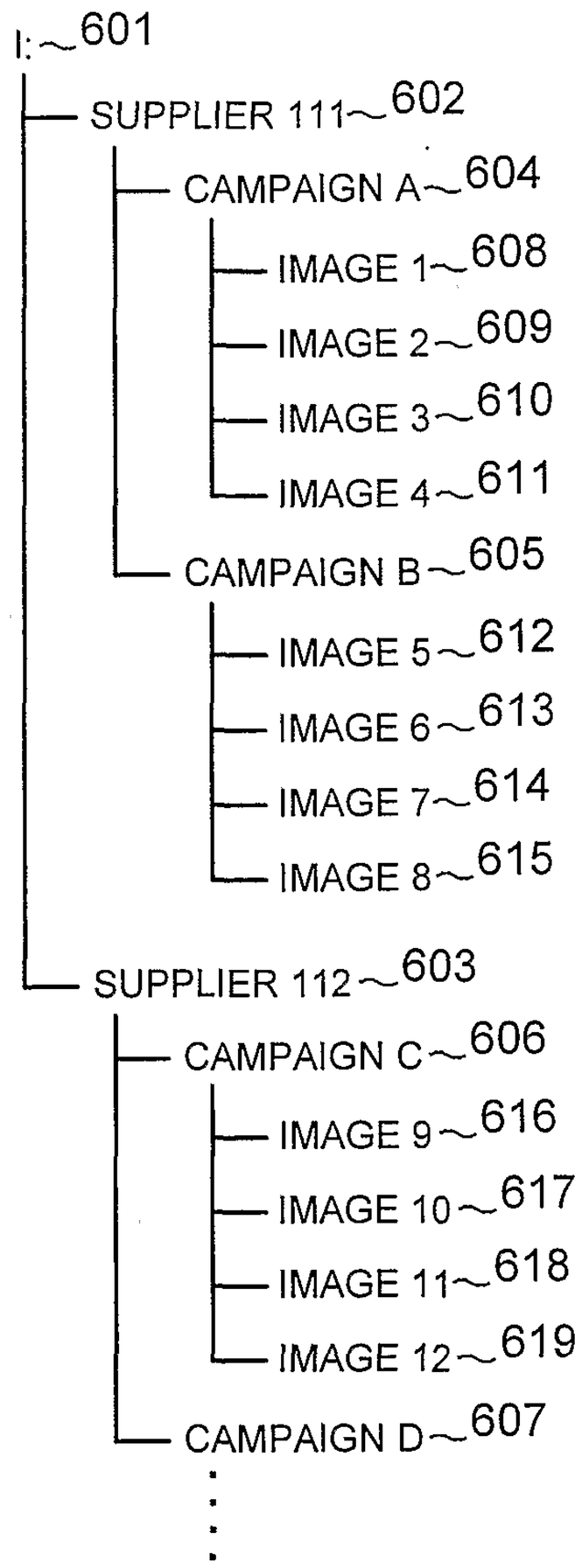

601
SUPPLIER 111
602
CAMPAIGN A
604
IMAGE 1
608
IMAGE 2
609
IMAGE 3
610
IMAGE 4
611
CAMPAIGN B
605
IMAGE 5
612
IMAGE 6
613
IMAGE 7
614
IMAGE 8
615
SUPPLIER 112
603
CAMPAIGN C
606
IMAGE 9
616
IMAGE 10
617
IMAGE 11
618
IMAGE 12
619
CAMPAIGN D
607

FIG. 6

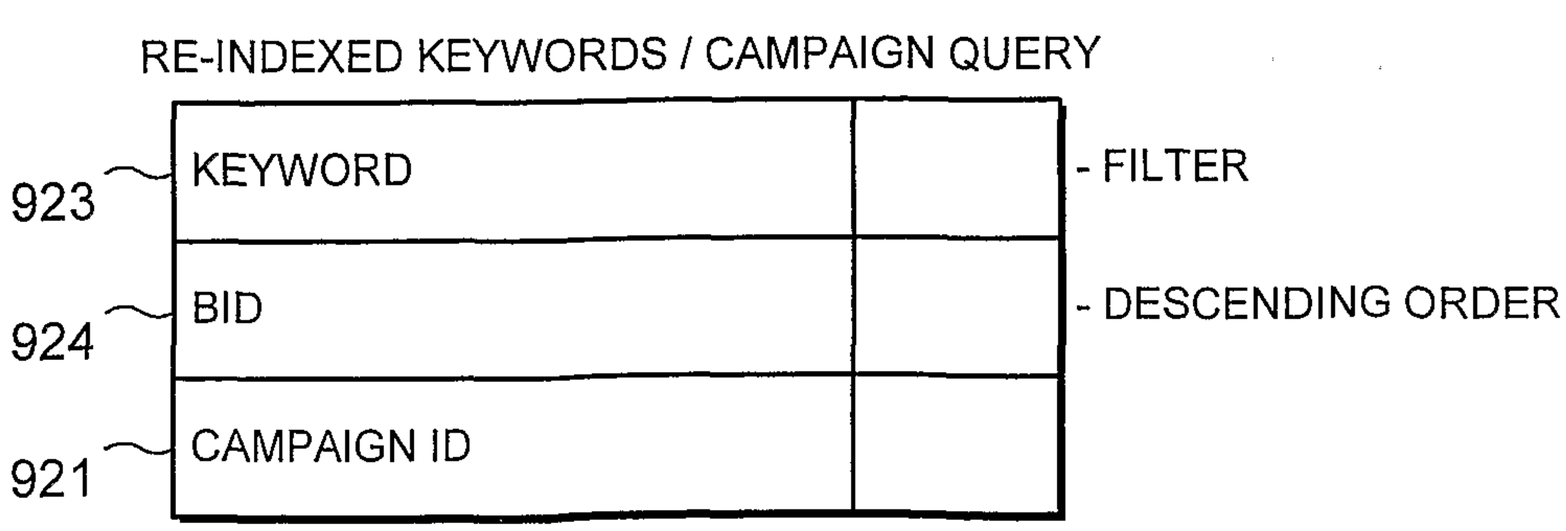

RE-INDEXED KEYWORDS / CAMPAIGN QUERY
923
KEYWORD
- FILTER
924
BID
- DESCENDING ORDER
921
CAMPAIGN ID

FIG. 9

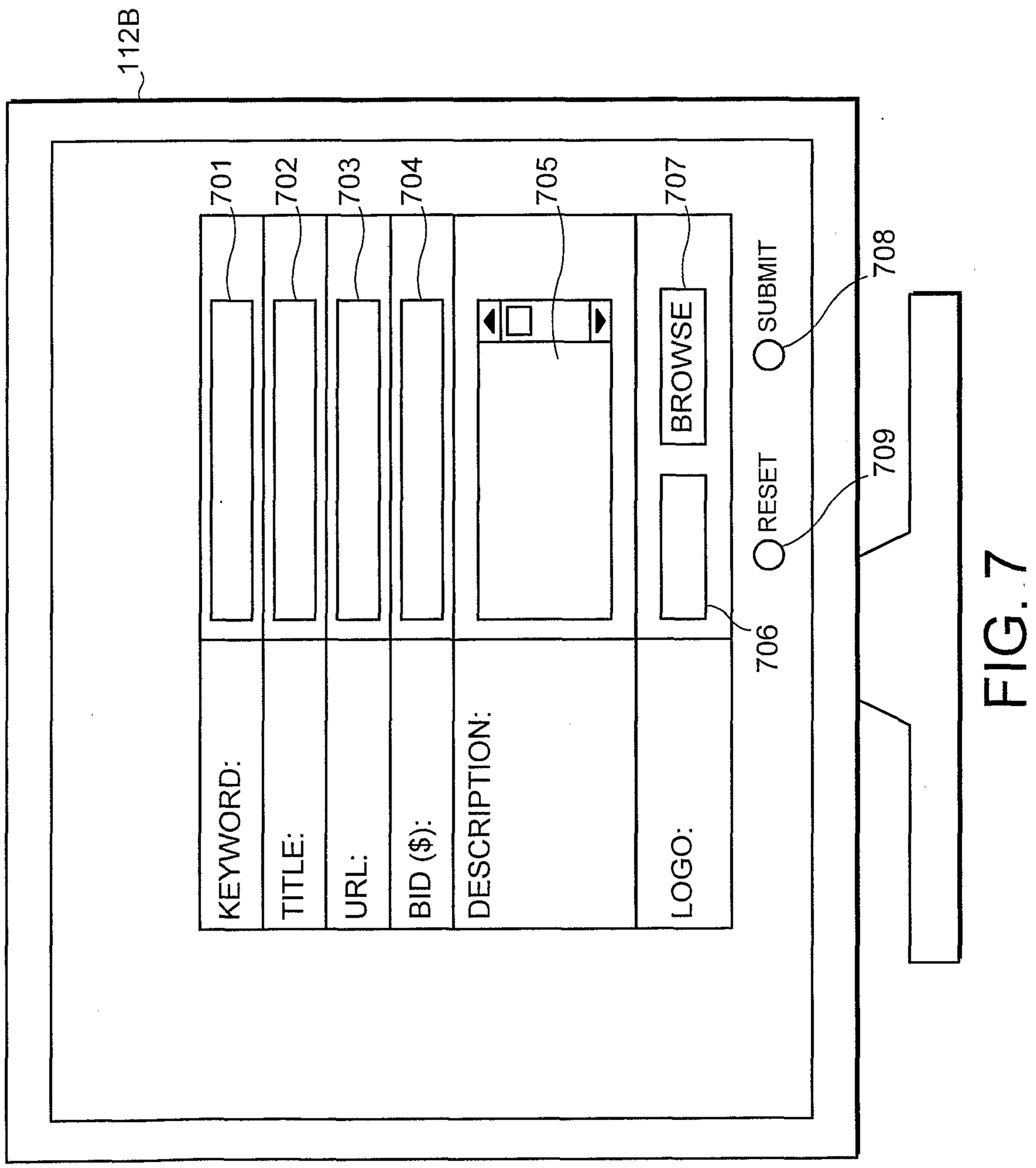

702B
701
702
703
704
705
707
BROWSE
SUBMIT
708
RESET
709
706
KEYWORD:
TITLE:
URL:
BID ($):
DESCRIPTION:
LOGO:

FIG. 7

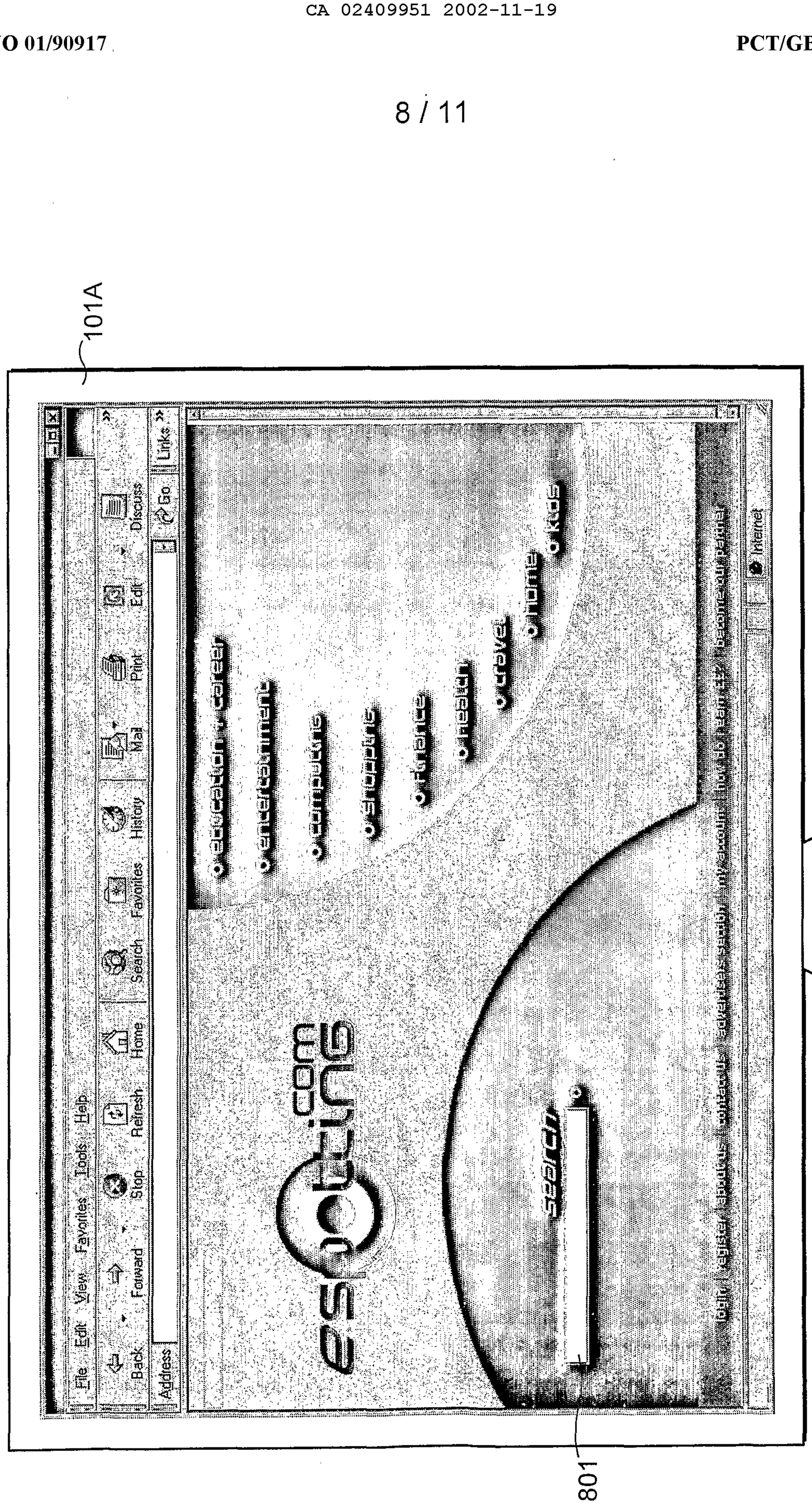

801
Internet
Home
Search
Favorites
Stop
Refresh
Back
Forward
Address
File
Edit
View
Favorites
Tools
Help
Mail
Print
Discuss
Links
Go
History

FIG. 8

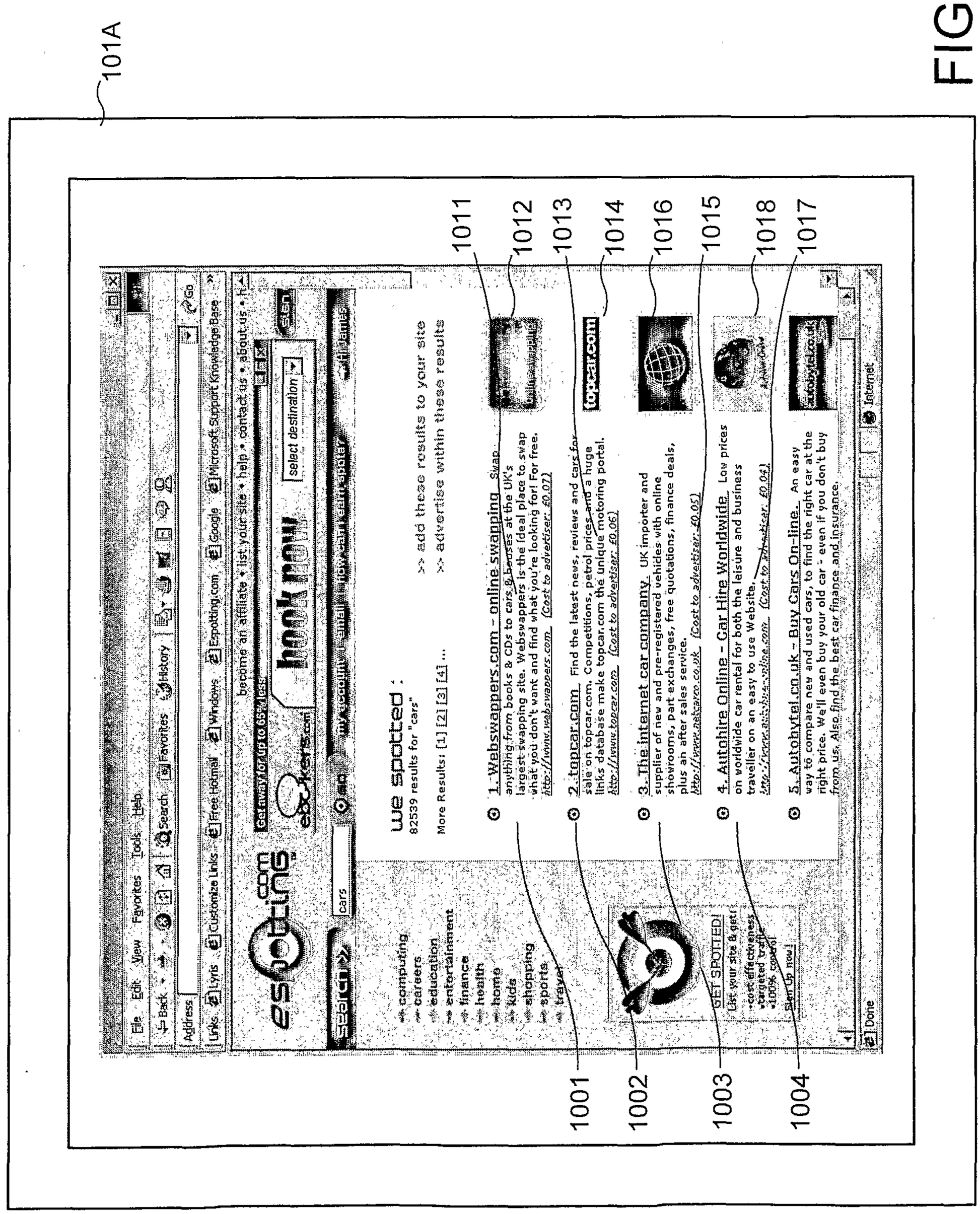

1011
1012
1013
1014
1016
1015
1018
1017
1001
1002
1003
1004
1
2
3
4
1000
1001
1002
1003
1004

FIG. 10

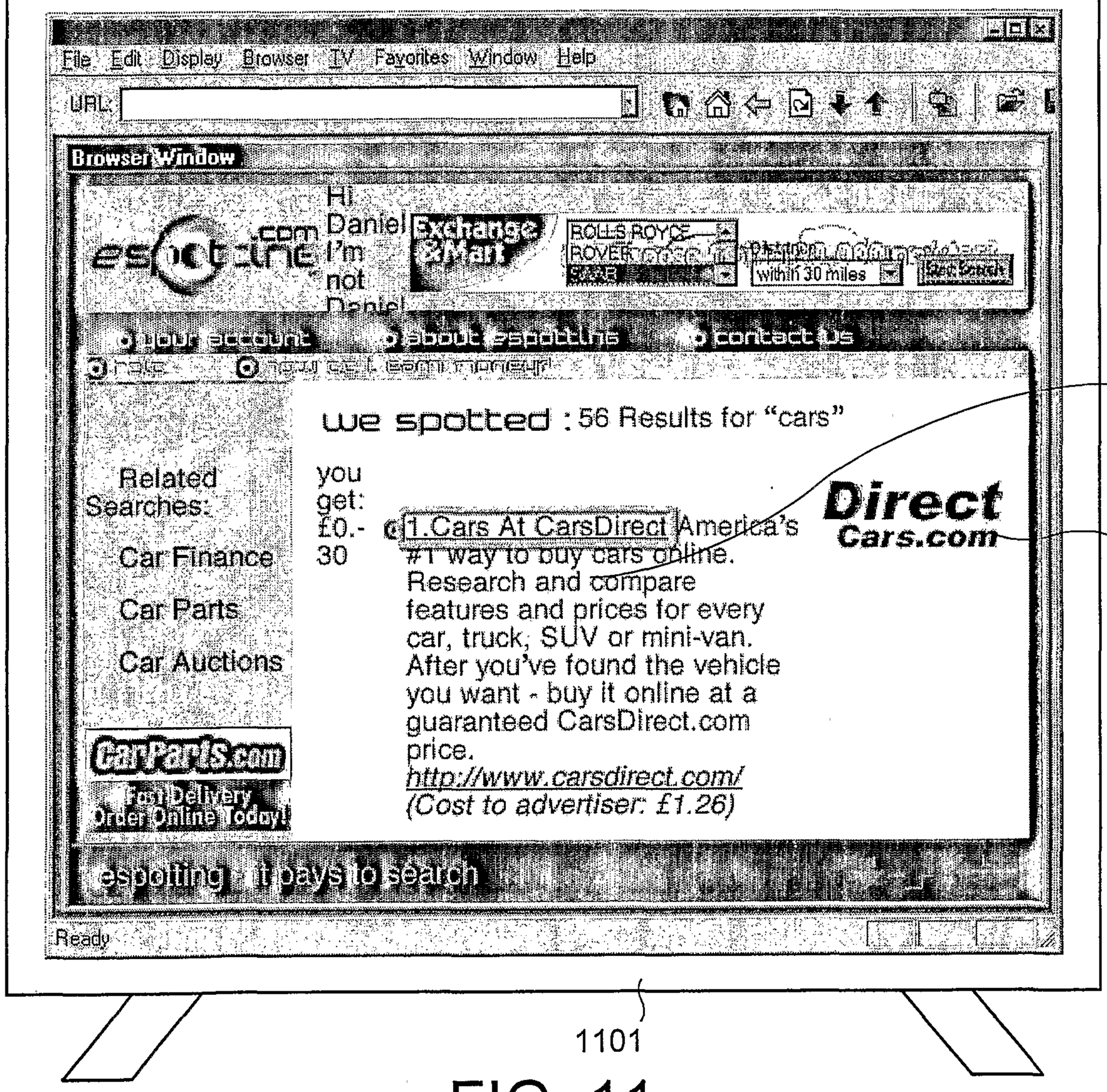

File Edit Display Browser TV Favorites Window Help
URL:
Browser Window
Hi Daniel I'm not Daniel!
Exchange & Mart
ROLLS ROYCE
ROVER
within 30 miles
Your account
about espotting
contact us
we spotted : 56 Results for "cars"
Related Searches:
Car Finance
Car Parts
Car Auctions
you get: £0.-
30
1.Cars At CarsDirect America's #1 way to buy cars online. Research and compare features and prices for every car, truck, SUV or mini-van. After you've found the vehicle you want - buy it online at a guaranteed CarsDirect.com price.
http://www.carsdirect.com/
(Cost to advertiser: £1.26)
Direct Cars.com
CarParts.com
Fast Delivery
Order Online Today!
espotting - it pays to search
Ready
1102
1103
1101

FIG. 11

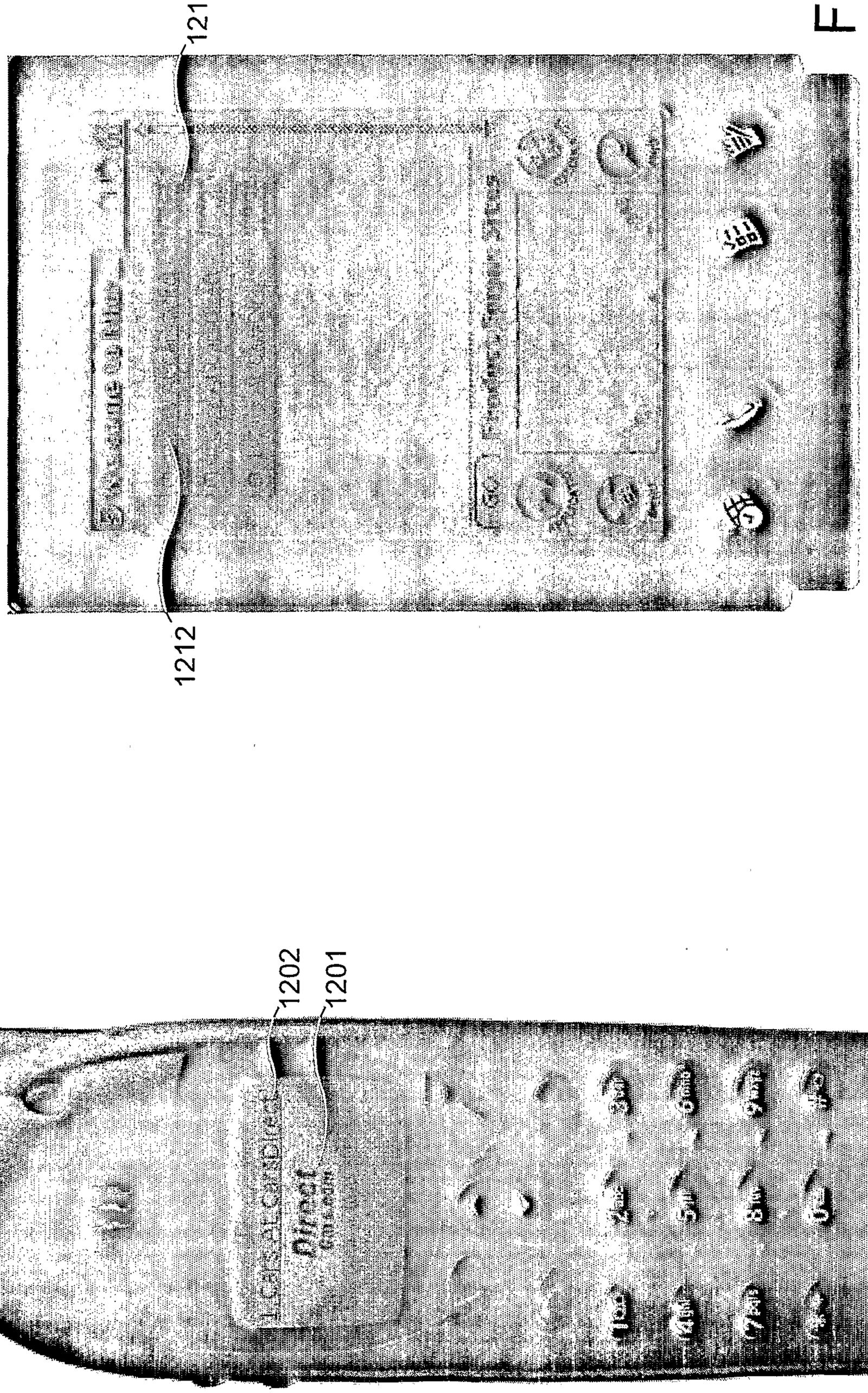
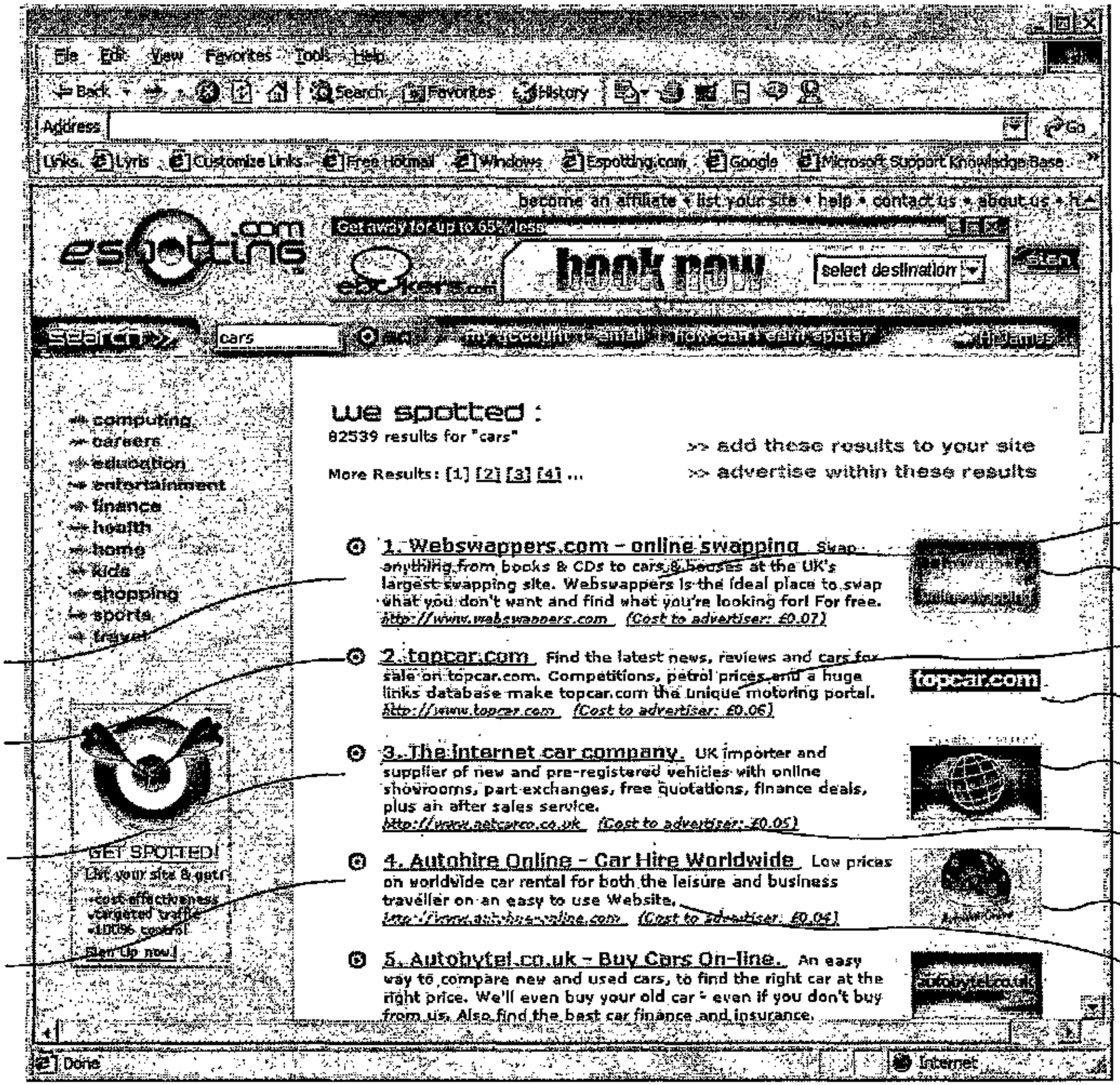


FIG. 12A

FIG. 12B


101A
File Edit View Favorites Tools Help
Back Search Favorites History
Address
Go
Links Lynx Customize Links Free Hotmail Windows Espotting.com Google Microsoft Support Knowledge Base
become an affiliate • list your site • help • contact us • about us • h
espotting.com
Get away for up to 65% less
ebookers.com
book now
select destination
Search
cars
computing
careers
education
entertainment
finance
health
home
kids
shopping
sports
travel
we spotted :
82539 results for "cars"
>> add these results to your site
>> advertise within these results
More Results: [1] [2] [3] [4] ...
1. Webswappers.com - online swapping Swap anything from books & CDs to cars & houses at the UK's largest swapping site. Webswappers is the ideal place to swap what you don't want and find what you're looking for! For free.
http://www.webswappers.com (Cost to advertiser: £0.07)
2. topcar.com Find the latest news, reviews and cars for sale on topcar.com. Competitions, petrol prices and a huge links database make topcar.com the unique motoring portal.
http://www.topcar.com (Cost to advertiser: £0.06)
topcar.com
3. The internet car company. UK importer and supplier of new and pre-registered vehicles with online showrooms, part exchanges, free quotations, finance deals, plus an after sales service.
http://www.netcarco.co.uk (Cost to advertiser: £0.05)
4. Autohire Online - Car Hire Worldwide Low prices on worldwide car rental for both the leisure and business traveller on an easy to use Website.
http://www.autohire-online.com (Cost to advertiser: £0.04)
5. Autohytel.co.uk - Buy Cars On-line. An easy way to compare new and used cars, to find the right car at the right price. We'll even buy your old car - even if you don't buy from us. Also find the best car finance and insurance.
autohytel.co.uk
GET SPOTTED!
List your site & get:
-cost effectiveness
-targeted traffic
-100% control
Sign up now!
Done
Internet
1001
1002
1003
1004
1011
1012
1013
1014
1015
1016
1017
1018