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(71) Applicant: WYNWYN.COM, INC. [US/US]; 832 W. Superior, Suite 300, Chicago, IL 60622 (US).

(72) Inventor: LEAL, Fernando; 2112 North Dayton, Chicago, IL 60614 (US).

(74) Agent: RICHARDS, Marc, V.; Brinks Hofer Gilson & Lione, P.O. Box 10087, Chicago, IL 60610 (US).

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(54) Title: ONLINE BUSINESS DIRECTORY WITH THESAURUS AND SEARCH TEMPLATE

(57) Abstract: A method that enables the generation of enhanced electronic business listing databases and associated category search template and thesaurus for improved electronic yellow pages search systems is presented. The method can be used to generate an electronic database with enhanced information regarding businesses and the products and/or services they provide. The method generates category-specific templates that facilitate searching a business, registering a business, and providing detailed information about a business. The electronic search databases and the associated templates are created based on category-specific thesaurus terms. The electronic databases and the associated templates enable electronics and Internet yellow pages services to provide a service that allows consumers to find businesses that offer the specific products and services needed and allows businesses to advertise the products and services that they offer.

ONLINE BUSINESS DIRECTORY WITH THESAURUS AND SEARCH TEMPLATE

APPLICATION CONTINUING DATA

This application is a continuation-in-part application of application Serial No. 09/178,097, filed October 23, 1998, the contents of which are hereby incorporated herein by reference.

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FIELD OF THE INVENTION

This invention relates to business listing databases and more particularly to Internet Electronic Yellow Pages and Operator Assisted Yellow Pages databases that enable consumers to find relevant listings of businesses needed to fulfill their product and/or service needs.

BACKGROUND OF THE INVENTION

The printed Yellow Pages directories and other forms of printed advertising materials are useful for looking up telephone listings or other information by hand; however, the information found in these printed advertising materials, even when put on the Internet, are not linked together by a common advertising terminology to provide a unified and efficient searchable computerized database. Consumers must search through numerous printed Yellow Pages advertisements hoping to find the products and services needed. Consumers must remember which businesses

advertised what products and services, as well as the hours of operation, credit cards accepted and other criteria they seek.

Further, since each business uses its own terminology to advertise its products and/or services, consumers must interpret each business's use of certain advertising terms. In addition, since there is no standard advertising terminology, consumers have to guess the search terms and only hope that the search terms would match the advertising terms used by the advertising businesses. A thesaurus of Yellow Pages terms is not available to relate the equivalent terms businesses use in their printed or on-line Yellow Pages advertisements to each other and to the search terms that consumer use, leaving the consumers the difficult task of guessing search terms and interpreting various advertising terms.

There are no standard search menus or templates for the existing printed Yellow Pages or for the Internet Yellow Pages that guide the customers to efficiently search for their needs and guide the businesses to effectively advertise their products and/or services.

Consumers who search on the Internet for the information that is readily available in the printed Yellow Pages directories will often not find the information they seek. Internet Yellow Pages services commonly do not contain the information currently found in the printed Yellow Pages. Internet Yellow Pages services typically offer basic business listings having information such as business name, address, phone number, geographical, and business category information. There are relatively few enhanced listings on the Internet Yellow Pages databases that contain the same level of information as the printed Yellow Pages.

The overall market lacks on-line access to the same quality and content of information found in the printed Yellow Pages in a manner that is more easily searched than in the printed form. This same quality and content of information is not available from Internet Yellow Pages services either. A process is needed therefore that will enable the printed Yellow Pages and advertisement-based information to be transformed into a searchable computerized database. There is a need for a process that provides an

enhanced computerized database of business listings, search templates, and thesaurus terms that will make it easier for consumers to find the products and services that they need and for businesses to make their products and services better known to consumers.

BRIEF SUMMARY OF THE INVENTION

The present invention is defined by the following claims, and nothing in this section should be taken as a limitation on those claims. By way of introduction, one embodiment is a process that can be used to transform the information in the printed Yellow Pages into a searchable computerized database and to generate associated templates for each business category. In addition, a thesaurus of terms is generated by this process, which is used to relate the consumer's search criteria with search template terms and with terms found in enhanced business listings.

According to one aspect of the present invention, a method of providing thesaurus terms for electronic business listings includes: selecting a business category, receiving business information about businesses falling under the selected business category, codifying the business information, and deriving a hierarchy of business terms for the coded business information based on at least one equivalency relationship among the coded business information.

According to another aspect of the present invention, a method for providing an electronic search template for business listings includes extracting data from business listings appearing in advertising materials, providing a common business category attribute for the related business listings, deriving business information about businesses falling under a selected common business category attribute, codifying the business information, and assigning a hierarchy of business terms to the coded business information based on at least one equivalency relationship among the coded business information. The method provides a search template representative of the selected common business category attribute and a hierarchy of business terms such that an electronic search of the electronic

business listings is facilitated by using the hierarchy of business terms to identify at least one business in response to a search request. The method also provides an electronic business registration template representative of the selected common business category attribute and the hierarchy of business terms. The method further provides an electronic business information template for business listings representative of the selected common business category attribute and the hierarchy of business terms.

According to yet another aspect of the present invention, a method of registering a business for providing electronic business listings includes: allowing a business to select a business category under which the business wishes to register, providing a business registration template to the business, where the business registration template is provided based on the selected business category and a hierarchy of equivalent business terms assigned to business information related to the selected business category, and allowing the business to provide business information responsive to the business registration template

According to a further aspect of the present invention, a method for providing an electronic search database of business listings includes: extracting data from business listings appearing in advertising materials, providing a common business category attribute for the related business category attributes, receiving business information about the business listings under a selected common business category attribute, codifying the business information, and assigning a hierarchy of business terms to the coded business information based on at least one equivalency relationship among the coded business information. The method then associates the selected common category attribute, the coded business information, and the hierarchy of business terms assigned to the business listings in a search database such that an electronic search of the electronic business listings is facilitated by using the hierarchy of business terms to identify at least one business in response to a search request.

The invention thus provides a process for generating an enhanced business listing, templates for each major business category, and a thesaurus

that will convert information found in the printed Yellow Pages and other forms of advertising into a more searchable on-line database. When such products are used in conjunction with appropriate search tools, consumers can refine and target their search to find a qualified vendor of products/services in an electronic directory. This will enable the consumer to narrow down a list of potential businesses to those that have the highest relevancy matching the consumer's specific search criteria.

These and other features and advantages of the invention will become apparent upon review of the following detailed description of the presently preferred embodiments of the invention, taken in conjunction with the appended drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

The present invention is illustrated by way of example and not limitation in the accompanying figures. In the figures, like reference numbers indicate identical or functionally similar elements. Additionally, the left-most digit(s) of a reference number identifies the figure in which the reference number first appears.

Figure 1 illustrates a flow chart of an enhanced database building process;

Figure 2 illustrates a display screen for a tool used for extraction of enhanced data from the printed Yellow Pages;

Figure 3 illustrates a display screen showing a business category selection;

Figures 4(a) and 4(b) illustrate display screens for assigning codes to business information under a selected business category;

Figure 5 illustrates a display screen for defining and assigning thesaurus terms to business listing texts under a selected business category;

Figure 6 illustrates a display screen for an editorial tool used for customizing templates;

Figure 7 shows a printout of a customized search template; and

Figure 8 shows a printout of a search result screen.

DETAILED DESCRIPTION OF THE PRESENTLY PREFERRED EMBODIMENTS

Referring now to the drawings, Figure 1 shows a presentation of a process flow for transforming printed Yellow Pages and other forms of printed advertising materials into an electronic, searchable format, according to one embodiment of the present invention. In processes 101 and 102, data is captured from printed Yellow Pages ads. In processes 103 and 105 the data captured from each ad is assigned a Yellow Pages category . One or more Yellow Pages categories are aggregated into a common business category. The result of this aggregation process is recorded in the business category table 104. In processes 106 and 107 the captured data is matched with the previous ad texts and then coded.

In process 108, each line of ad text within a business category is assigned one or more thesaurus terms. In processes 109 and 110, each thesaurus term is assigned one set of display text for presentation in the vertical search guide 111, one set of display text for use in the business information or "w-page" template 112, and one set of display text for use in the business registration template 122. In process 113, all of the information created in the previous processes is combined to build a search database 114.

The search database 114 contains all of the data and indices necessary to search for a business by a business name, by a business category, by thesaurus terms using the vertical search guide 111, by a Yellow Pages category, or by proximity data. The search database also contains the tools necessary to display the detailed information about businesses found in a search, including information based on a printed Yellow Pages ad for a business. The detailed information about a business is provided by the w-page template 112.

The above processes are described in further detail below, which yields a process that will make it easier for consumers to find the products and services that they need and for businesses to make their products and services better known to consumers.

Data Entry Process 101

During the data entry process 101, printed business-advertising materials are converted into an electronic format so that they can be loaded into a relational database. A graphical user interface tool that may be used for data extraction process is shown in Figure 2. Figure 2 shows a data entry window 200.

The following assumptions are made about the input data to the data entry process: (1) the original data is either in printed hard copy, including Yellow Pages, or in electronic format; and (2) a machine-readable data file, including business listing, of information is captured from a printed source or reformatted from an original electronic format. When the original data is in printed hard copy format, data entry operators create a business listing by typing in the advertisement as it appears in the printed format using the terminology that the businesses have used in their advertisements. For each group of ads, these operators enter the book name 202 in which the ad is found and the Yellow Pages category 203. For each individual ad, the system generates an ad number 204. The data entry operators also enter a series of attributes 205, including business name, telephone number, and a line of text taken from the ad.

When entering the series of attributes 205, for each attribute 205, a code 206, preferably including N for business name, T for telephone number, R for other text from the ad, is entered in the first column 207 of the data entry window 200. For each code 206, a text 208, e.g., "Remove, clean & rehang latest styles in draperies" 210, "custom made draperies & blinds" 211, and "commercial" 212, is also entered in the corresponding row of the second column 209 of the data entry window 200. A preferred implementation of this process is provided in Appendix A.

Populate Relational Database Process 102 and Category Matching Process 103

At this stage, a relational database is built using the business information extracted from the original printed advertising materials. When

the data from the data entry process 101 is loaded into the relational database, spell checking, category assignment, and code assignment are preformed, as explained below. The Yellow Pages category 203, which is entered during data entry process 101, is matched in process 103 to a list of business categories maintained in the business category table 104. As shown in Figure 3, each business category 301 has a pre-assigned identification number 302, which is used in process105 to aggregate logically related Yellow Pages categories into a common business category.

The business categories 301 are sequentially numbered 302 for processing convenience. For example, the Yellow Pages categories that are associated with the common business category "Domestic Cleaning Services," have business category number "316" in each of their records in the Yellow Pages category table 126. One such Yellow Pages category is "Drapery & Curtain Cleaners" 203 (Figure 2). For each business category, a series of templates, including a vertical search guide, a business registration template, and a w-page template are built, as explained in connection with the following processes. A preferred implementation of these processes is provided in Appendices B and C.

Ad Text Matching Process 106

In process 106, the business information developed in process 101, is matched against previously developed business listing texts, maintained in the previous ads database125. This matching process is done to avoid duplicate data processing efforts, because those ad texts that have already appeared in the previous ad database 125, within the same business category, do not require further processing in processes 106, 107, and 108.

During this process, the business data developed in process 101 and the existing thesaurus database 124 are used to suggest texts for the coding process 107. This process is explained in reference to Figure 4(a). For each business category 402, each line of ad text in the ad details 405 is compared with the existing thesaurus terms stored in the thesaurus database 124. For each match, the longest string of consecutive matching words is selected and

placed in the ad text column 408 of the Suggestion window 406. For example, the ad text "custom made draperies & blinds" 417, after being compared with the existing thesaurus terms, shows a three-word match "custom made draperies," which is placed in the suggestion window 406 as ad text 418. Furthermore, the ad text "remove, clean & rehang latest styles in draperies & toppers" 419 shows a one-word match "draperies," which is also placed in the suggestion window 406 as ad text 420. A preferred implementation of this process is provided in Appendix D.

Coding process 107

This process is explained in reference to Figures 4(a) and 4(b). In process 107, each ad is reviewed for ad completeness as well as to "tag" the ad texts that were unmatched to previously developed texts in process 106. Book code 401 reminds operators of the source of the ad, and how the ad has been previously categorized under the business category 402 and Yellow Pages code 403. In the business profile window 409, the business profile information is reviewed for accuracy and completeness. The codes reviewed in this process preferably include : "N" for business name, "S" for business slogan, "T" for telephone number, "F" for fax number, "P" for pager number, "E" for email address, "W" for Internet address, "V" for accepted forms of payment, "I" for languages spoken, "H" for hours of operation, "Y" for years in business, and "M" for memberships and affiliations. The operator may correct any improperly coded business profile information in the business profile window 409.

An operator reviews the ad texts 405 relative to the ad texts 208 that were captured for each specific ad in process 101. The codes reviewed preferably include: "U" for general full ad text, "I" for heading text, "R" for bulleted text, and "B" for brands. The operator then builds the copy points 414 by reviewing each line of the ad text 405 and determining which text is factual and relevant to the business category 402 that the ad is attached to. The system automatically generates, in the copy points window 412, codes 413 and copy points 414 for "exact" matched texts that were found in process

106. For example, the ad text "commercial" 404, which is highlighted in Figure 4(a), is directly copied to the copy points column 414 in the copy points window 412. The operator may refer to the Suggestions window 406 to view codes 407 and texts 408 that were generated in process 106.

The extraction of copy points 414 may be done on complete text strings and/or groups of words. When an operator determines that an ad text 405 relates to services offered by a business, the operator uses it to populate the copy points window 412. The operator drags one or more words from either the ad text 408 in the Suggestions window 406, from the ad text 405 in the input window 400, or from both, to the copy points 414 in window 412. For example, the ad line " We clean up fire damage to drapes" 415 in the ad text 405 includes "fire damage" that relates to the business category "Domestic Cleaning Services" 402. The operator drags "fire damage" to window 412 as the copy point 416. The operator may use the keyboard to edit the ad texts 405 or create new ad text.

The purpose of the coding process is to normalize the way that services are described as much as possible. This process makes the thesaurus process, explained below in connection with process 108, more manageable and efficient, and also eliminates unnecessary information. A preferred implementation of this process is provided in Appendix E.

Thesaurus Process 108

In this process an operator assigns a plurality of thesaurus terms to the copy points 414 that have been developed in coding process 102. This process is explained in reference to Figure 5. In process 108, an operator "checks out" a business category for "normalization." The "checkout" process finds all the Yellow Pages codes that were assigned to the checked out business category in process 105, finds the ads that were entered under those Yellow Pages codes in process 101, and makes the ad text for those particular ads available for normalization. It also flags this business category as "checked out". Next, each ad text for the specified business category is "normalized" or "indexed" to a uniform set of thesaurus terms. In one

embodiment, the thesaurus terms include Level I 506 and Level II 507 terms although more terms may be used.

Figure 3 is an illustration of the display screen 300 for business category checkout. A business category may be selected by name 301 or identification number 302. When an operator selects a business category, e.g., "316-Domestic Cleaning Services" 511, the checkout process pulls the copy points 414 from the ads tied to the selected business category 511, including all Yellow Pages codes 403 that are tied to that business category and have completed the coding process, to the window 500. The checkout process also pulls all "indexed" texts, including Level I terms 506 and Level II terms 507, from the products and services thesaurus database 124 for the selected business category. The unmatched text from the coded ads and the category thesaurus texts are merged together and presented to the user for normalization. During the thesaurus process, one may "match" unmatched ad texts to their most closely related thesaurus Level I 506 and/or Level II 507 terms, preferably by marking 504.

The ad texts 502, including unmatched and un-normalized texts, are pulled into the Thesaurus window 500. The user may edit the ad texts 502. Such changes affect the ad details 405 and copy points 414, by changing the ads, in the same business category, that contain the same text. For each ad text 502, the screen 500 displays the number of times 503 that text has been found in business listing ads within the specified business category. The frequency of use count 503 assists the user in determining the importance of ad texts 502, and in proper assignment of high level search concepts, including Level I terms 506 and Level II terms 507.

Level I terms preferably represent the broadest business advertising concepts used by the businesses within a business category. Level II terms are preferably used to further define the Level I terms based on an "equivalency" relationship among these terms. For example, an ad text taken directly from a business listing is "We clean up fire damage to drapes" 415 for a business under the business category 511 "Domestic Cleaning Services". After codifying the ad text 415, in the coding process 107, the copy point "fire

damage" 416 appears as an ad text 514. An operator assigns a Level I term "specialty cleaning" 513 and a Level II term "fire damage" 512 to the ad text 514. Other equivalent Level II terms may be normalized under Level I term "specialty cleaning" 513, including "water damage," "animal damage," "violence clean up," and "water pumped out and mud removed." Level II term 512 is preferably used to further define what types of "specialty cleaning" are offered.

The operator assigns Level I 513 and Level II 512 terms to the products and services ad text 514, preferably by dragging the existing Level I 516 and Level II 515 terms from the right side Level I 508 and Level II 509 columns to the left side Level I 506 and Level II 507 columns. If there is no existing Level I 508 and Level II 509 terms for a given product and service ad text 502, the user creates new Level I and Level II terms.

When the operator has "normalized" the products and services ad texts 502, as explained above, the normalized data for the business category 511 is also made available to other processes and processes. This is accomplished by turning off the "checked out" flag that was set at the beginning of the thesaurus process. The normalized data is stored in the products and services thesaurus database 124 (Figure 1). A link remains from the thesaurus database 124 to the original business listing so that when a consumer searches for a business, using the available information in the thesaurus database 124, including ad texts 502, Level I terms 506, and Level II terms 507, the associated businesses are also retrieved. A preferred implementation of this process is provided in Appendix F.

Automatic Template Generation 109

In this process, the thesaurus terms generated in process 108 are used to create templates that facilitate searching of a business, registering a business, and providing detailed information about a business. Process109 creates the templates, preferably including a vertical search guide ("VSG") template 111, a business registration ("BR") template 122, and a "w-page" template 112 for a selected business category using the Level I and Level II

terms that were created for the selected business category . An example of the information defining the contents of these templates is shown in Figure 6. Figure 6 includes the Level I terms 603, Level I term count 604, VSG text selection 609, VSG text 611, BR text selection 610, BR text 612, and Web text 613. For a selected business category, the text that is associated with and appears in a search template field of the VSG template is created based on the thesaurus terms assigned to the selected business category. For example, under the business category "Domestic Cleaning Services" 601, the business listings that provide special cleaning are linked together by being assigned common Level I terms, including "specialty clean ups" 615. One search term that appears on the VSG template 111 and when selected retrieves the business listings that provide special cleaning is preferably "Do you need cleaning done for a particular reason?" 616.

When businesses wish to register and advertise their products and/or services, a business registration term that appears on the BR template 122 and when selected prompts the businesses to advertise the special cleaning services that they provide is preferably " Do you offer specialty cleaning?" 617.

When consumers wish to receive detailed business information about a business, a business information term that appears on the w-page template 112 and when selected provides the products and/or services that the business offers is preferably "specialty clean ups" 614.

For each of the VSG, BR and w-page templates, lower level template fields may be designed and displayed based on the lower level thesaurus terms, including Level II terms, that further define a Level I term. For example, . Under the VSG template field "Do you need cleaning done for a particular reason?" 616, lower level fields, preferably including "fire damage," "water damage," and "flood damage," may appear to further narrow the search for business that provide special cleaning services.

The VSG, BR, and w-page templates may be customized as explained in connection with process 110 below. A preferred implementation of this process is provided in Appendix F.

Editorial Process - Template modification 110

Figure 6 shows the display screen 600 that can be used for editing and customizing the VSG 111, BR 122, and w-page 112 templates. The customization process includes selecting what information should be displayed on VSG 111, BR 122 and w-page 112 templates. For example, under the business category 601, "316- Domestic Cleaning Services," and the Level I term 615 "specialty clean ups," VSG text selection 609 should be marked for the VSG text 616 "Do you need cleaning done for a particular reason?" to be shown in the VSG template 111. Figure 7 shows a display of the customized VSG template, according to one embodiment. Figure 7 shows the VSG template field 701 based on the above-customized VSG text 616. Similarly, for the BR text 617 "Do you offer specialty clean ups?" to appear on BR template 122, BR text selection 610 should be marked.

A preferred implementation of this process is provided in Appendix F.

Search Database Building Process 113

In process 113, a comprehensive list of businesses, including business name, address, latitude, longitude, telephone number, and Yellow Pages code, is obtained from the basic listings 117 provided by a third party specializing in this type of data. Specific ads that were coded in process 107 are matched with the third party basic listings 117 based on telephone numbers. Information from these ads, including the Level I 506 and Level II 507 terms that were assigned in process 108 to the products and services ad texts 502 advertised in these ads, is appended to the third party basic listings 117. For example, a Yellow Pages ad for a business N has the phone number T. The business N has the ad text "fire damage" in its ad. As a result, the Level I term "specialty cleaning" 513 and the Level II term "fire damage" 512 have been assigned to the text in the ad for the business N during the thesaurus process 108. Using the business phone number T, the third party basic listings 117 is accessed to obtain other information about the business N including name, address, latitude and longitude.

As a result of the matching process based on phone number T, information relating to the business N is now in one place. The information includes the information from the third party basic listings 117, the information entered from the printed Yellow Pages ad, and the information added in the thesaurus process, including Levels I 513 and II 512 terms. The information is placed in the search database 114 using the business phone number T as the key to the listing for business N. Indices are built using the business category and the Level I and Level II terms for the business N. The index entries for the business category 511 "Domestic Cleaning Services" and Level I term "specialty cleaning" 513 and Level II term "fire damage" 512 point to the business N.

Other information is also copied into the search database 114 for reference purposes, but may not be directly linked to a specific business listing. For example, The w-page template information 112 is copied into the search database 114 so that Level I and Level II terms that were indexed to a specific business are displayed in the desired format as specified in the editorial process of process 110. Also, the information from the vertical search guide 111 is copied into the search database 114 so that the search criteria associated with the Level I and Level II terms can be displayed as specified in the editorial process 110. A preferred implementation of this process is provided in Appendix G.

Businesses Registration Process 115

Once the databases and templates have been built, businesses are prompted to provide their basic business information, including name, address, telephone number, contact person, email, and web address. Businesses are presented with a business category list. A business selects a business category, preferably from the list in Figure 3, under which the business wishes to register. As a result of the business category selection, the business is presented with the business registration template 122 that prompts the user to provide the products and services that the business offers. The business registration template 122 presented to the user is based

on the business information in the selected business category and the thesaurus terms assigned to the business information in selected business category, as specified in connection with process 110. The latitude and longitude of the business are determined from either the third party basic listings 117 or when necessary, from a third party geo-coding provider 116 that provides latitude and longitude based on the business address. The information gathered about the business is written into a temporary database 118. A preferred implementation of this process is provided in Appendix H.

Business Verification 119

This is a manual process to determine that the information submitted in process 115 is valid. A customer care representative verifies the phone number given using the printed Yellow Pages and, if required, a local phone company's information service. Using the verified phone number, the customer care representative calls a business and verifies that the business did enter the information and that the business confirms the authenticity and accuracy of the information. After this verification and confirmation process, the business information is marked valid and eligible for processing in process 120. The information is posted in the permanent business registration database 121. A preferred implementation of this process is provided in Appendix I.

Search Databases Update Process 120

In process 120, the information collected in process 113 and placed in the search database 114 is updated when a new business registers. This update is done by accessing the search database 114, preferably using the phone numbers that a business has provided, and deleting existing information in the search database 114 related to these phone numbers. Then, for each phone number the business has provided, the basic information for the business, including business name, address, latitude and longitude is entered. Each of these entries is also indexed preferably by the selected business category and the thesaurus terms provided for the business during business registration of process 115.

Search Process 123

The businesses recorded in the search database 114 have longitude and latitude coordinates associated with them. When a consumer wishes to search for a business, the consumer may specify the location from which the consumer is searching, by specifying the zip code, City and State, or complete postal address. The consumer may also specify a radius in miles. The data provided by the consumer defines a geographic search area. The consumer may choose to search by a business name or a business category. For searches by a business name, the businesses that match the name and are within the specified geographic search area are displayed to consumer. For searches by category, a list of business categories is displayed to consumer. Figure 3 shows a display of one preferred list of business categories 301. For example, if the user specifies the category name "Cleaning," the related business categories, including the business category "Domestic Cleaning Services," are displayed. When the user selects "Domestic Cleaning Services", the vertical search guide for the business category "Domestic Cleaning Services" is displayed. The search process analyzes all the "Domestic Cleaning Services" businesses in the specified geographic search area and determines those business that relate to the thesaurus process, including Level I and Level II terms, that have been assigned to the business category "Domestic Cleaning Services." The Level I and Level II terms are then used in presenting a customized VSG template to the consumer.

Accordingly, only those template fields 701 (Figure 7) that correspond to the businesses that are within the geographic search area specified by the consumer are displayed in VSG template 700. This has the effect of giving the consumer a customized search template, e.g., vertical search guide 700, for a particular search. For example, when a consumer checks the VSG fields 701 and 702, the search hits at least one business in the consumer-specified geographic search area that provides "specialty clean ups" for "water damage". Figure 8 shows business listings 802 within the specified search area of 50 miles 804, according to one embodiment. When there are

more businesses that meet the criteria that the consumer has specified on the Vertical Search Guide, multiple businesses are listed, and the consumer may sort the business listings by business name or by distance from the consumer's location. A preferred implementation of this process is provided in Appendix H.

Therefore, the processes disclosed herein provide an enhanced computerized database of business listings, search templates, and thesaurus terms that will make it easier for consumers to find the products and services that they need and for businesses to make their products and services better known to consumers.

It will be appreciated that a wide range of changes and modifications to the enhanced business directory with thesaurus and search template generation with database population are contemplated. Accordingly, while preferred embodiments have been shown and described in detail by way of examples, further modifications and embodiments are possible without departing from the scope of the invention as defined by the examples set forth. It is therefore intended that the invention be defined by the appended claims and all legal equivalents.

I CLAIM:

1. A method for providing an electronic search template for business listings comprising:

(a) extracting data from business listings appearing in advertising materials, said data including at least one business category attribute for each one of said business listings;

(b) providing at least one common business category attribute for related ones of said at least one business category attribute;

(c) deriving business information about businesses falling under a selected one of said at least one common business category attribute, said business information including: name, address, phone, hours of operation, brands, slogans, and information on products and services offered by said businesses;

(d) codifying said business information;

(e) assigning a hierarchy of business terms to a coded business information based on at least one equivalency relationship among said coded business information; and

(f) developing at least one search template field representative of said selected one of said at least one common business category attribute and said hierarchy of business terms such that an electronic search of said businesses is facilitated by using said hierarchy of business terms to identify at least one business in response to a search request.

2. A method for providing an electronic business registration template comprising:

(a) extracting data from business listings appearing in advertising materials, said data including at least one business category attribute for each one of said business listings;

(b) providing at least one common business category attribute for related ones of said at least one business category attribute;

(c) deriving business information about businesses falling under a selected one of said at least one common business category attribute, said business information including: name, address, phone, hours of operation, brands, slogans, and information on products and services offered by said businesses;

(d) codifying said business information;

(e) assigning a hierarchy of business terms to a coded business information based on at least one equivalency relationship among said coded business information; and

(f) developing at least one business registration template field representative of said selected one of said at least one common business category attribute and said hierarchy of business terms.

3. A method for providing an electronic business information template for business listings comprising:

(a) extracting data from business listings appearing in advertising materials, said data including at least one business category attribute for each one of said business listings;

(b) providing at least one common business category attribute for logically related ones of said at least one business category attribute;

(c) deriving business information about businesses falling under a selected one of said at least one common business category attribute, said business information including: name, address, phone, hours of operation, brands, slogans, and information on products and services offered by said businesses;

(d) codifying said business information;

(e) assigning a hierarchy of business terms to a coded business information based on at least one equivalency relationship among said coded business information; and

(f) developing at least one business information template field representative of said selected one of said at least one common business category attribute and said hierarchy of business terms.

4. The method of claim 1 further including:

(g) modifying said at least one search template field based on new business registration information.

5. The method of claim 1 further including:

(g) allowing said businesses to modify said at least one search template field.

6. The method of claim 1 wherein said developing at least one search template field is further representative of a geographical location of said businesses.

7. The method of claim 1 wherein said developing at least one search template field is further representative of a geographical location of a consumer.

8. A method of registering a business for providing electronic business listings comprising:

(a) allowing said business to select at least one business category under which said business wishes to register;

(b) providing a business registration template to said business, said business registration template being provided based on a selected business category and a hierarchy of equivalent business terms assigned to business information related to said selected business category;

(c) allowing said business to provide business information responsive to said business registration template, said business information including the product and services that said business provides under said selected business category.

9. The method of claim 8 further comprising:

(d) allowing said business to provide geographical information about said business.

10. The method of claim 9 further comprising:

(e) verifying said business information and said geographical information.

11. The method of claim 10 further comprising:

(f) maintaining said selected business category, said business information, and said geographical information in a business registration database.

12. The method of claim 11 further including:

(g) modifying said business registration database based on new business registration information.

13. A method for providing an electronic search database of business listings comprising:

(a) extracting data from business listings appearing in advertising materials, said data including at least one business category attribute for each one of said business listings;

(b) providing at least one common business category attribute for related ones of said at least one business category attribute;

(c) receiving business information about said business listings under a selected one of said at least one common business category attribute, said business information including name, address, phone, hours of operation, brands, slogans, and information on products and services offered by said business listings;

(d) codifying said business information;

(e) assigning a hierarchy of business terms to a coded business information based on at least one equivalency relationship among said coded business information.

(f) associating said selected one of said at least one common category attribute, said coded business information, and said hierarchy of business terms to said business listings in a search database such that an electronic search of said businesses is facilitated by using said hierarchy of business terms to identify at least one business in response to a search request.

14. The method of claim 13 further including:

(g) modifying said search database based on new business registration information.

15. A method of providing thesaurus terms for electronic business listings comprising:

(a) selecting a business category;

(b) receiving business information about businesses falling under said business category, said business information including products and services offered by said businesses;

(c) codifying said business information;

(d) deriving a hierarchy of business terms for a coded business information based on at least one equivalency relationship among said coded business information.

16. The method of claim 15 further including:

(e) updating said hierarchy of business terms in response to new business registration information.

17. The method of claim 16 further including:

(f) updating said hierarchy of business terms in response to new business listing information.

18. A method of registering a business comprising :

(a) allowing said business to select a business category under which said business wishes to register;

(b) receiving business information from said business responsive to a hierarchy of inquiries related to a selected business category.

19. The method of claim 18 wherein said hierarchy of inquiries is based on at least one equivalency relationship among said business information related to said selected business category.

20. A method of searching for an electronic business listing comprising:

(a) allowing a consumer to select a business category under which said consumer wishes to search for a business listing;

(b) receiving search information from said consumer responsive to a hierarchy of inquiries related to a selected business category.

(c) providing at least one business listing in response to said search information.

21. The method of claim 20 wherein said hierarchy of inquiries is based on at least one equivalency relationship among business information related to said selected business category.

22. The method of claim 21 wherein said hierarchy of inquiries is in response to said search information.

23. The method of claim 21 wherein said hierarchy of inquiries is in response to a geographical location of said consumer.

24. A method of providing business information about a business comprising:

(a) allowing a consumer to select a business for which said consumer wishes to receive business information;

(b) providing said business information about said business based on a hierarchy of business terms assigned to said business information.

25. The method of claim 24 wherein said hierarchy of business terms is based on at least one equivalency relationship among said business information.

FIG. 1

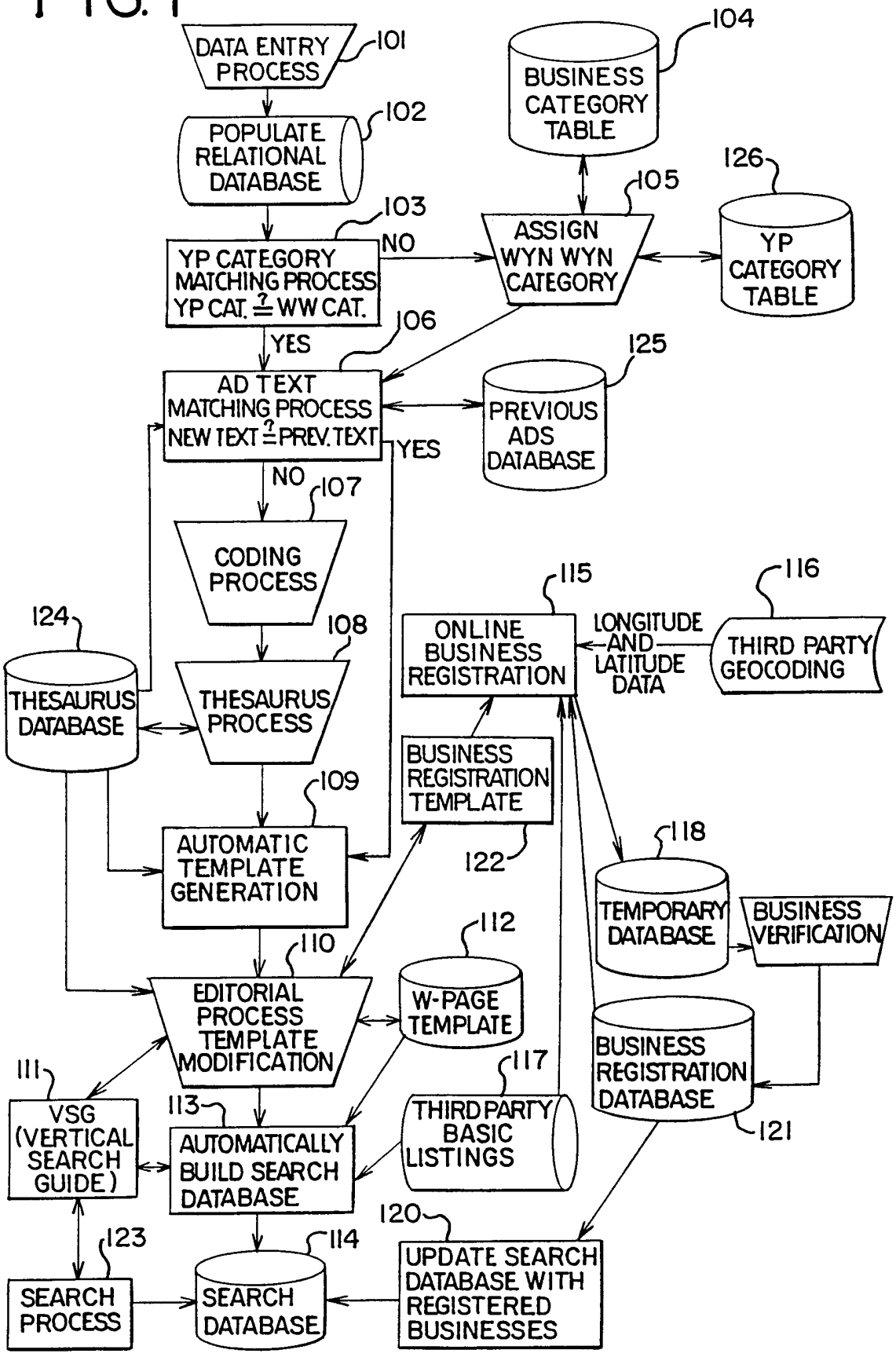
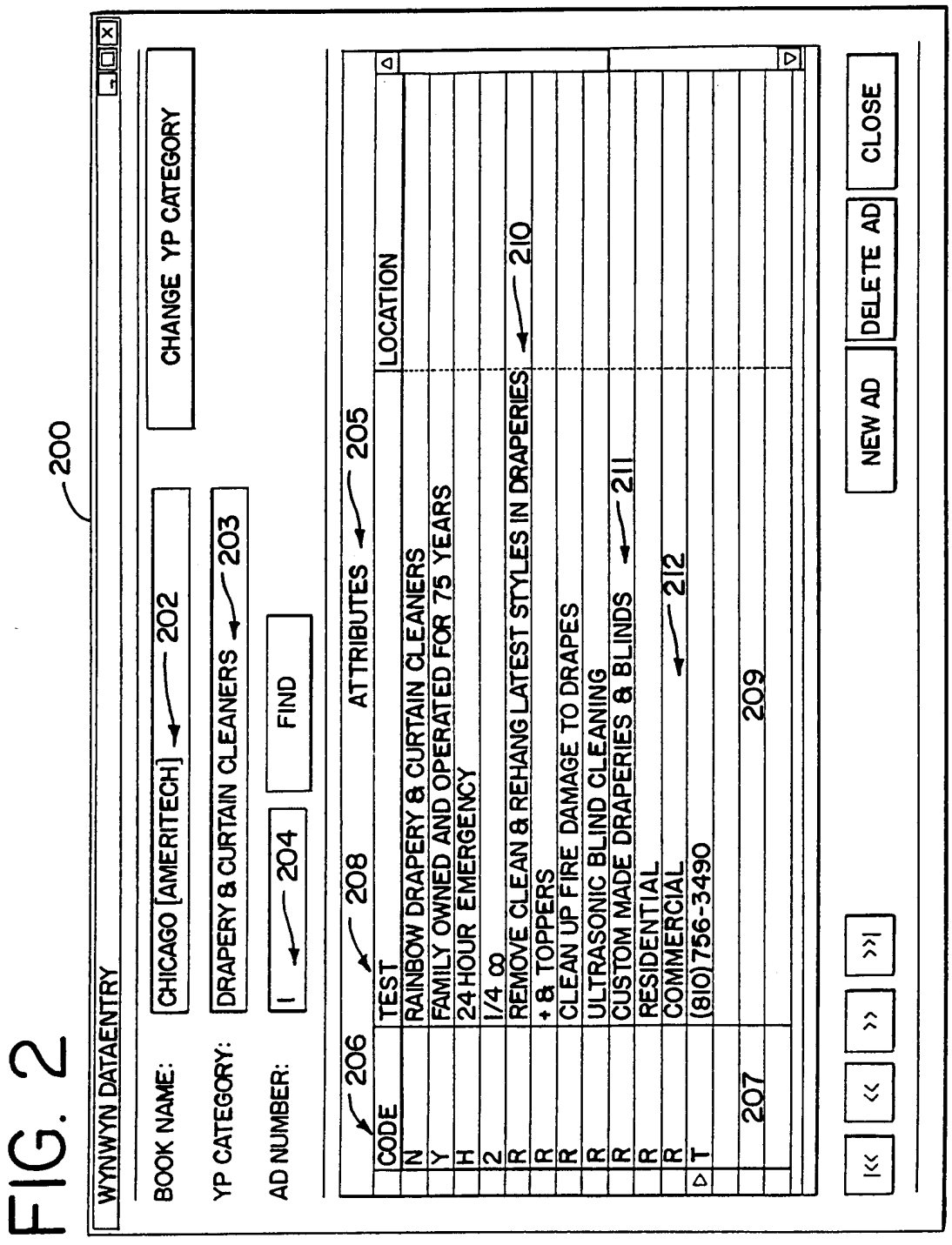

DATA ENTRY PROCESS
101
POPULATE RELATIONAL DATABASE
102
YP CATEGORY MATCHING PROCESS YP CAT. ? = WW CAT.
103
NO
YES
BUSINESS CATEGORY TABLE
104
ASSIGN WYN WYN CATEGORY
105
YP CATEGORY TABLE
126
AD TEXT MATCHING PROCESS NEW TEXT ? = PREV. TEXT
106
YES
NO
PREVIOUS ADS DATABASE
125
CODING PROCESS
107
THESAURUS DATABASE
124
THESAURUS PROCESS
108
ONLINE BUSINESS REGISTRATION
115
LONGITUDE AND LATITUDE DATA
THIRD PARTY GEOCODING
116
BUSINESS REGISTRATION TEMPLATE
122
AUTOMATIC TEMPLATE GENERATION
109
TEMPORARY DATABASE
118
BUSINESS VERIFICATION
EDITORIAL PROCESS TEMPLATE MODIFICATION
110
W-PAGE TEMPLATE
112
BUSINESS REGISTRATION DATABASE
121
VSG (VERTICAL SEARCH GUIDE)
111
AUTOMATICALLY BUILD SEARCH DATABASE
113
THIRD PARTY BASIC LISTINGS
117
SEARCH PROCESS
123
SEARCH DATABASE
114
UPDATE SEARCH DATABASE WITH REGISTERED BUSINESSES
120

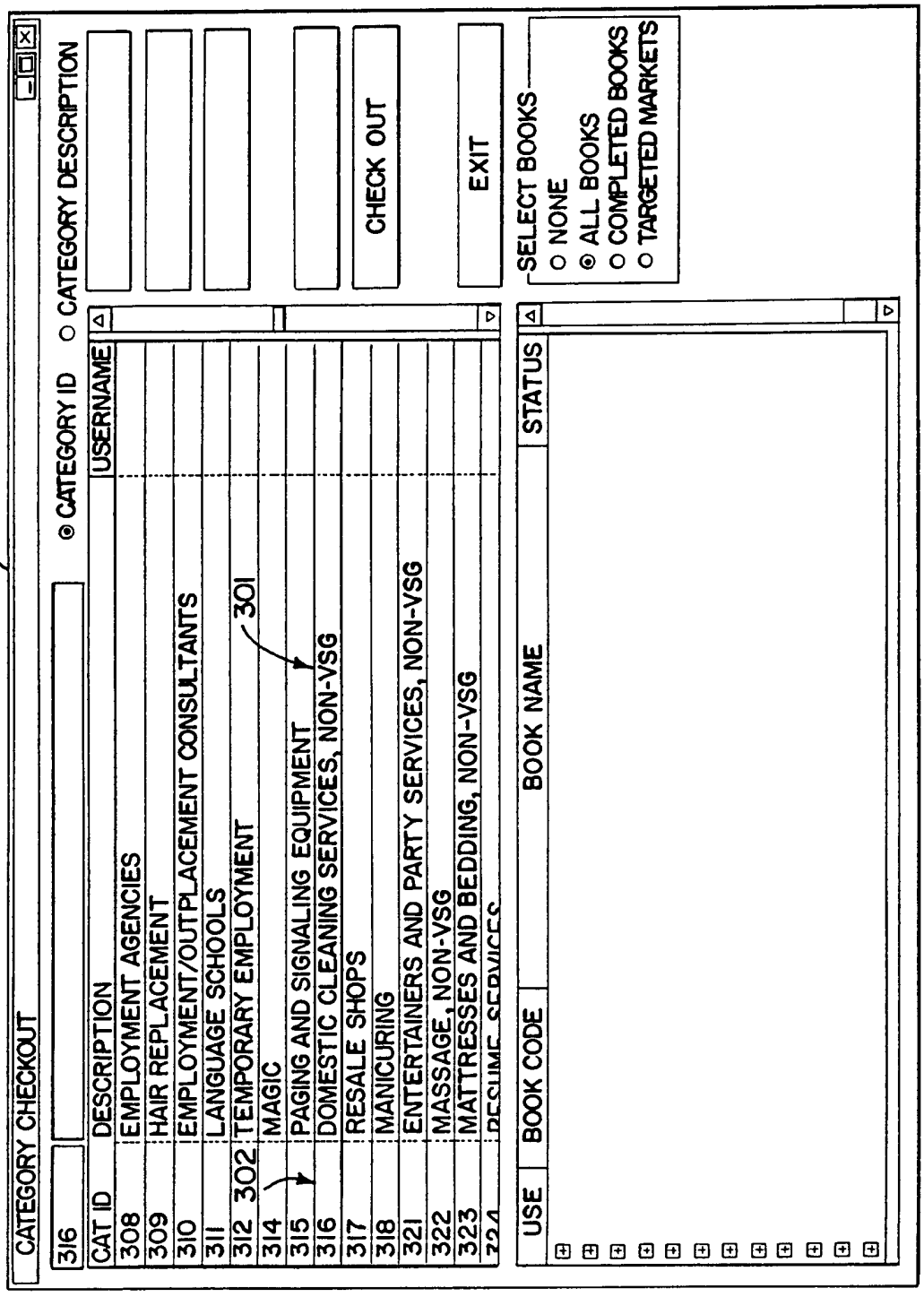
FIG. 2



SUBSTITUTE SHEET (RULE 26)

SUBSTITUTE SHEET (RULE 26)

FIG. 3


300
CATEGORY CHECKOUT
316
CAT ID
DESCRIPTION
USERNAME
308 EMPLOYMENT AGENCIES
309 HAIR REPLACEMENT
310 EMPLOYMENT/OUTPLACEMENT CONSULTANTS
311 LANGUAGE SCHOOLS
312 302 TEMPORARY EMPLOYMENT
301
314 MAGIC
315 PAGING AND SIGNALING EQUIPMENT
316 DOMESTIC CLEANING SERVICES, NON-VSG
317 RESALE SHOPS
318 MANICURING
321 ENTERTAINERS AND PARTY SERVICES, NON-VSG
322 MASSAGE, NON-VSG
323 MATTRESSES AND BEDDING, NON-VSG
CATEGORY ID
CATEGORY DESCRIPTION
CHECK OUT
EXIT
SELECT BOOKS
NONE
ALL BOOKS
COMPLETED BOOKS
TARGETED MARKETS
USE
BOOK CODE
BOOK NAME
STATUS

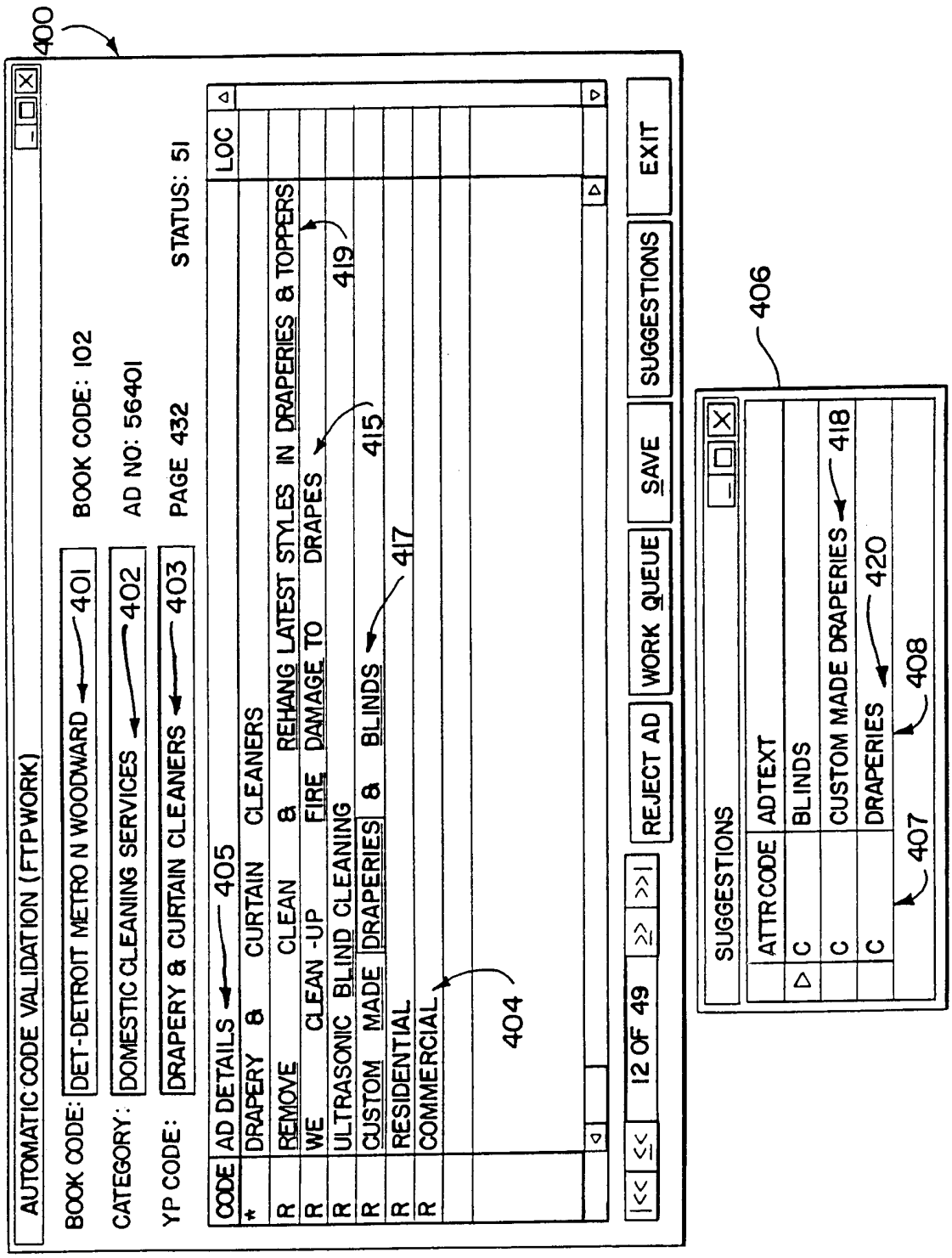
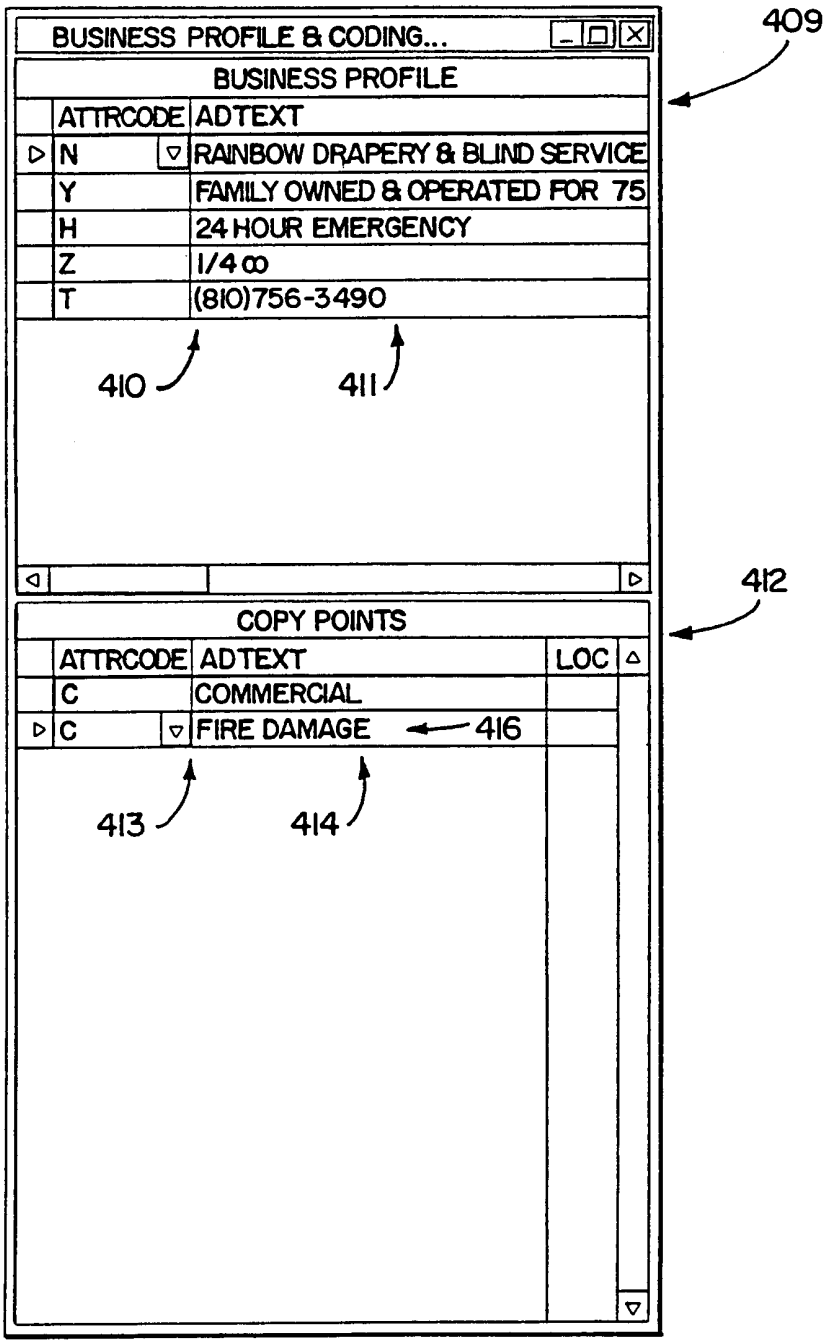

400
AUTOMATIC CODE VALIDATION (FTPWORK)
BOOK CODE: DET-DETROIT METRO N WOODWARD
401
BOOK CODE: 102
CATEGORY: DOMESTIC CLEANING SERVICES
402
AD NO: 56401
YP CODE: DRAPERY & CURTAIN CLEANERS
403
PAGE 432
STATUS: 51
CODE
AD DETAILS
405
LOC
* DRAPERY & CURTAIN CLEANERS
R REMOVE CLEAN & REHANG LATEST STYLES IN DRAPERIES & TOPPERS
R WE CLEAN -UP FIRE DAMAGE TO DRAPES
419
R ULTRASONIC BLIND CLEANING
R CUSTOM MADE DRAPERIES & BLINDS
415
417
R RESIDENTIAL
R COMMERCIAL
404
<< < 12 OF 49 > >>
REJECT AD
WORK QUEUE
SAVE
SUGGESTIONS
EXIT
406
SUGGESTIONS
ATTR CODE
ADTEXT
C BLINDS
C CUSTOM MADE DRAPERIES
418
C DRAPERIES
420
407
408

FIG. 4(a)

FIG. 4(b)


BUSINESS PROFILE & CODING...
409
BUSINESS PROFILE
ATTRCODE
ADTEXT
N
RAINBOW DRAPERY & BLIND SERVICE
Y
FAMILY OWNED & OPERATED FOR 75
H
24 HOUR EMERGENCY
Z
1/4 ∞
T
(810)756-3490
410
411
412
COPY POINTS
ATTRCODE
ADTEXT
LOC
C
COMMERCIAL
C
FIRE DAMAGE
416
413
414

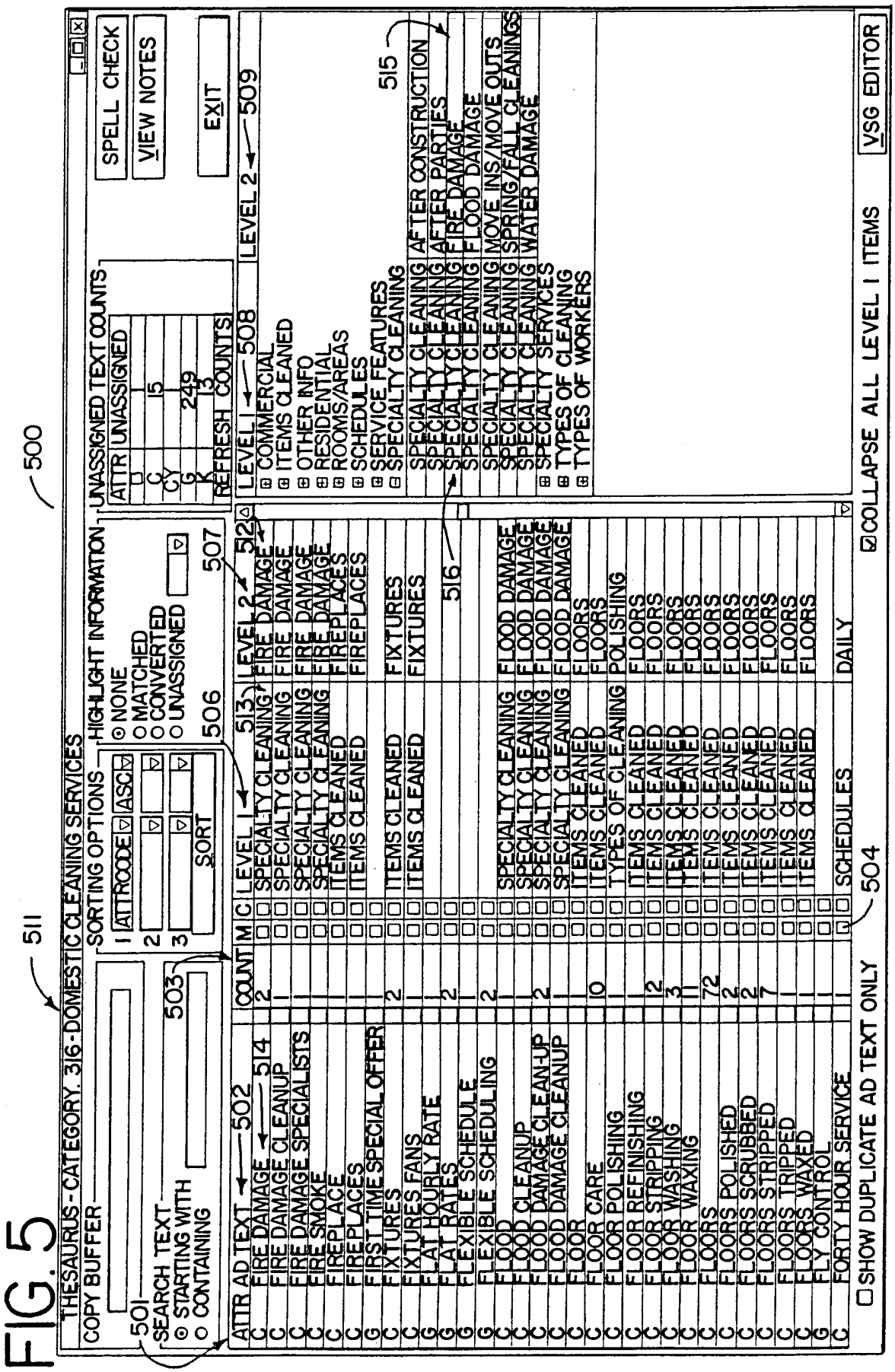

500
511
THESAURUS - CATEGORY. 316 - DOMESTIC CLEANING SERVICES
COPY BUFFER
SEARCH TEXT
STARTING WITH
CONTAINING
501
503
SORTING OPTIONS
ATTRCODE
ASC
SORT
HIGHLIGHT INFORMATION
NONE
MATCHED
CONVERTED
UNASSIGNED
506
507
UNASSIGNED TEXT COUNTS
ATTR
UNASSIGNED
15
249
13
REFRESH COUNTS
SPELL CHECK
VIEW NOTES
EXIT
ATTR AD TEXT
502
COUNT
M
C
LEVEL 1
513
LEVEL 2
512
LEVEL 1
508
LEVEL 2
509
514
515
516
504
FIRE DAMAGE
FIRE DAMAGE CLEANUP
FIRE DAMAGE SPECIALISTS
FIRE SMOKE
FIREPLACE
FIREPLACES
FIRST TIME SPECIAL OFFER
FIXTURES
FIXTURES FANS
FLAT HOURLY RATE
FLAT RATES
FLEXIBLE SCHEDULE
FLEXIBLE SCHEDULING
FLOOD
FLOOD CLEANUP
FLOOD DAMAGE CLEAN-UP
FLOOD DAMAGE CLEANUP
FLOOR
FLOOR CARE
FLOOR POLISHING
FLOOR REFINISHING
FLOOR STRIPPING
FLOOR WASHING
FLOOR WAXING
FLOORS
FLOORS POLISHED
FLOORS SCRUBBED
FLOORS STRIPPED
FLOORS TRIPPED
FLOORS WAXED
FLY CONTROL
FORTY HOUR SERVICE
SPECIALTY CLEANING
ITEMS CLEANED
FIREPLACES
FIXTURES
FLOOD DAMAGE
TYPES OF CLEANING
POLISHING
SCHEDULES
DAILY
COMMERCIAL
OTHER INFO
RESIDENTIAL
ROOMS/AREAS
SCHEDULES
SERVICE FEATURES
SPECIALTY CLEANING
AFTER CONSTRUCTION
AFTER PARTIES
FIRE DAMAGE
FLOOD DAMAGE
MOVE INS/MOVE OUTS
SPRING/FALL CLEANINGS
WATER DAMAGE
SPECIALTY SERVICES
TYPES OF CLEANING
TYPES OF WORKERS
SHOW DUPLICATE AD TEXT ONLY
COLLAPSE ALL LEVEL 1 ITEMS
VSG EDITOR

FIG. 5

FIG. 6

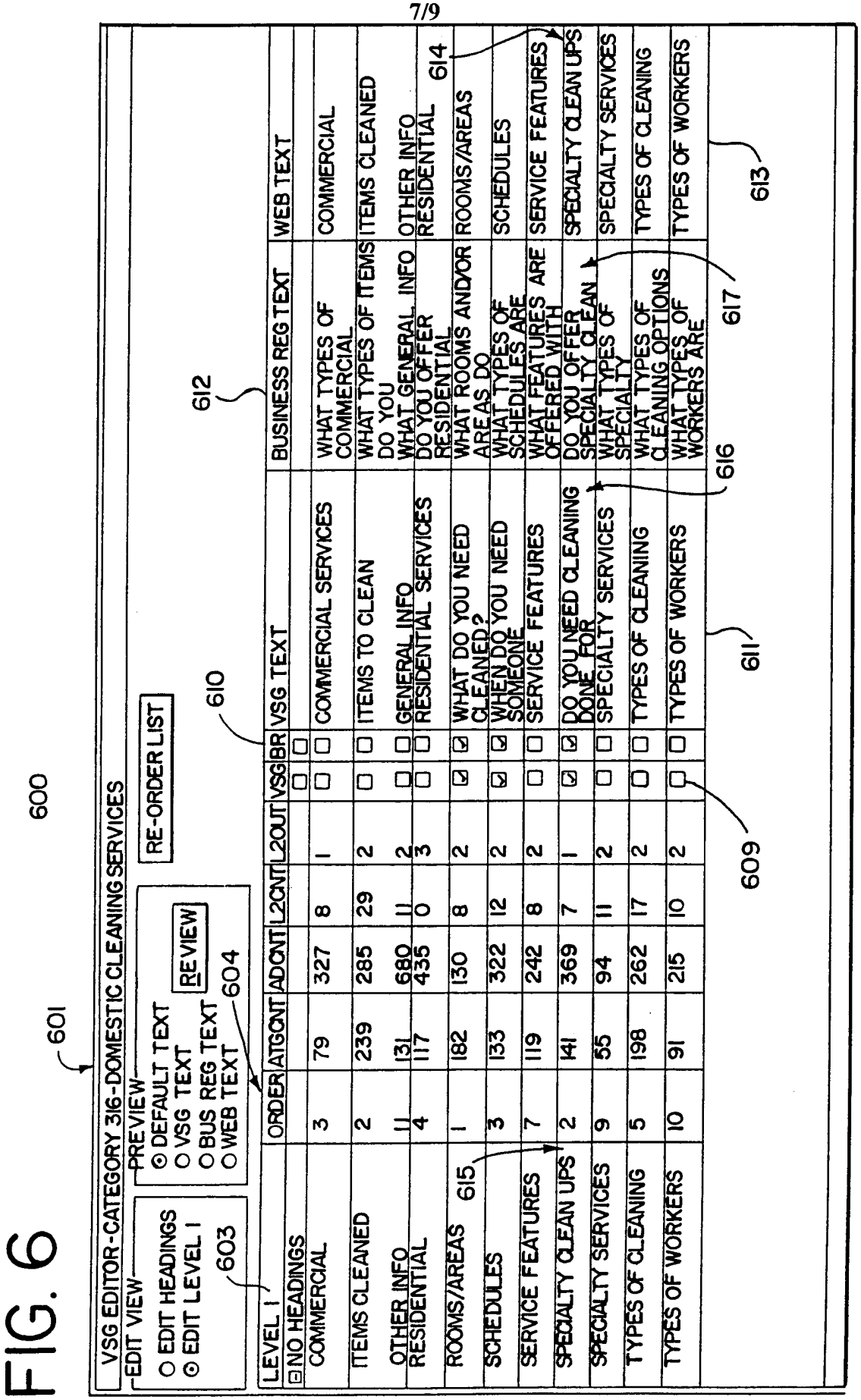

600
601
VSG EDITOR-CATEGORY 316-DOMESTIC CLEANING SERVICES
EDIT VIEW
○ EDIT HEADINGS
⊙ EDIT LEVEL 1
603
PREVIEW
⊙ DEFAULT TEXT
○ VSG TEXT
○ BUS REG TEXT
○ WEB TEXT
REVIEW
604
RE-ORDER LIST
610
612
614
615
616
617
609
611
613
LEVEL 1
ORDER
ATGCNT
ADCNT
L2CNT
L2OUT
VSG
BR
VSG TEXT
BUSINESS REG TEXT
WEB TEXT
NO HEADINGS
COMMERCIAL 3 79 327 8 1 COMMERCIAL SERVICES WHAT TYPES OF COMMERCIAL COMMERCIAL
ITEMS CLEANED 2 239 285 29 2 ITEMS TO CLEAN WHAT TYPES OF ITEMS DO YOU WHAT GENERAL INFO ITEMS CLEANED
OTHER INFO 11 131 680 11 2 GENERAL INFO OTHER INFO
RESIDENTIAL 4 117 435 0 3 RESIDENTIAL SERVICES DO YOU OFFER RESIDENTIAL RESIDENTIAL
ROOMS/AREAS 1 182 130 8 2 WHAT DO YOU NEED CLEANED? WHAT ROOMS AND/OR AREAS DO ROOMS/AREAS
SCHEDULES 3 133 322 12 2 WHEN DO YOU NEED SOMEONE WHAT TYPES OF SCHEDULES ARE SCHEDULES
SERVICE FEATURES 7 119 242 8 2 SERVICE FEATURES WHAT FEATURES ARE OFFERED WITH SERVICE FEATURES
SPECIALTY CLEAN UPS 2 141 369 7 1 DO YOU NEED CLEANING DONE FOR DO YOU OFFER SPECIALTY CLEAN SPECIALTY CLEAN UPS
SPECIALTY SERVICES 9 55 94 11 2 SPECIALTY SERVICES WHAT TYPES OF SPECIALTY SPECIALTY SERVICES
TYPES OF CLEANING 5 198 262 17 2 TYPES OF CLEANING WHAT TYPES OF CLEANING OPTIONS TYPES OF CLEANING
TYPES OF WORKERS 10 91 215 10 2 TYPES OF WORKERS WHAT TYPES OF WORKERS ARE TYPES OF WORKERS

FIG. 7

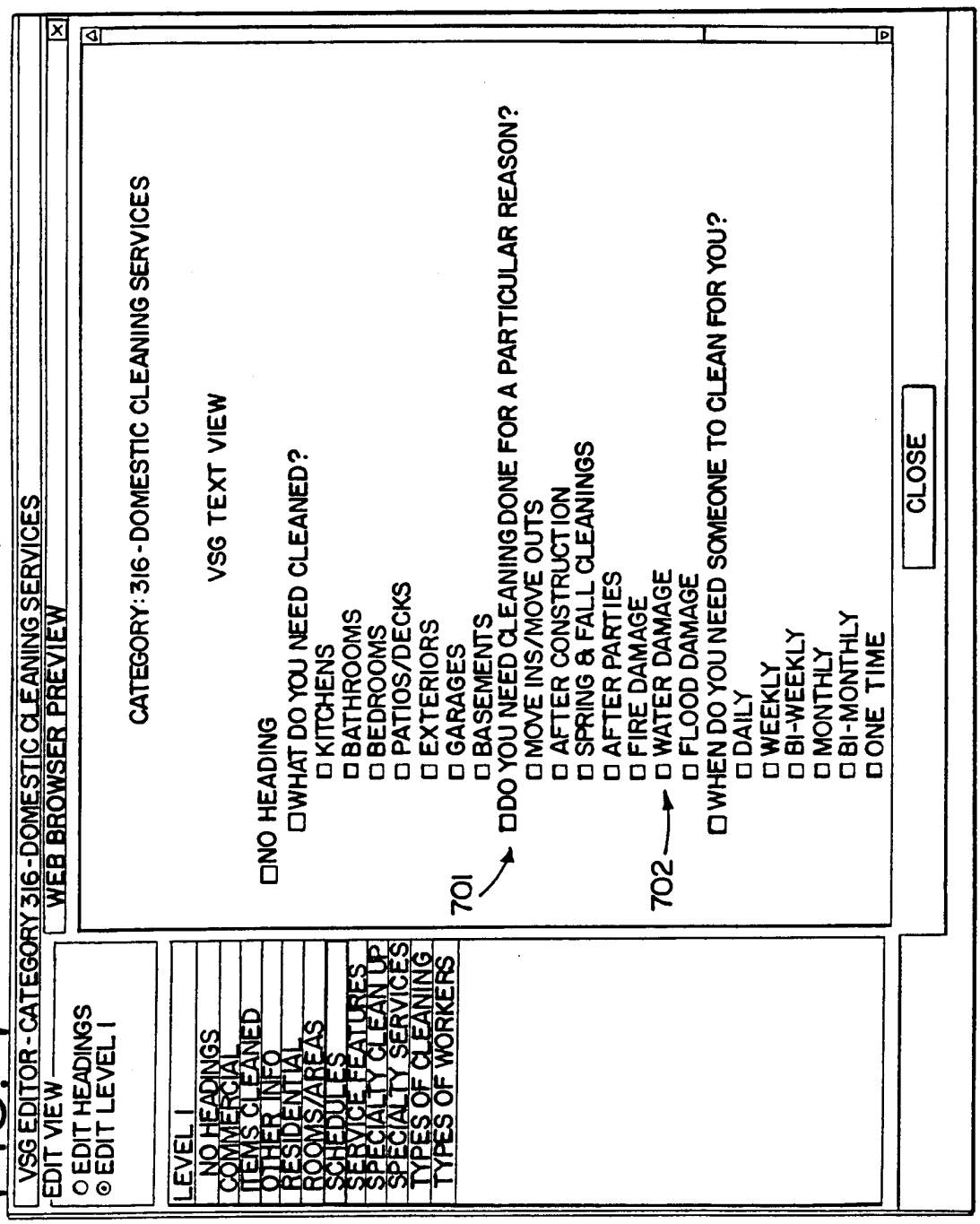
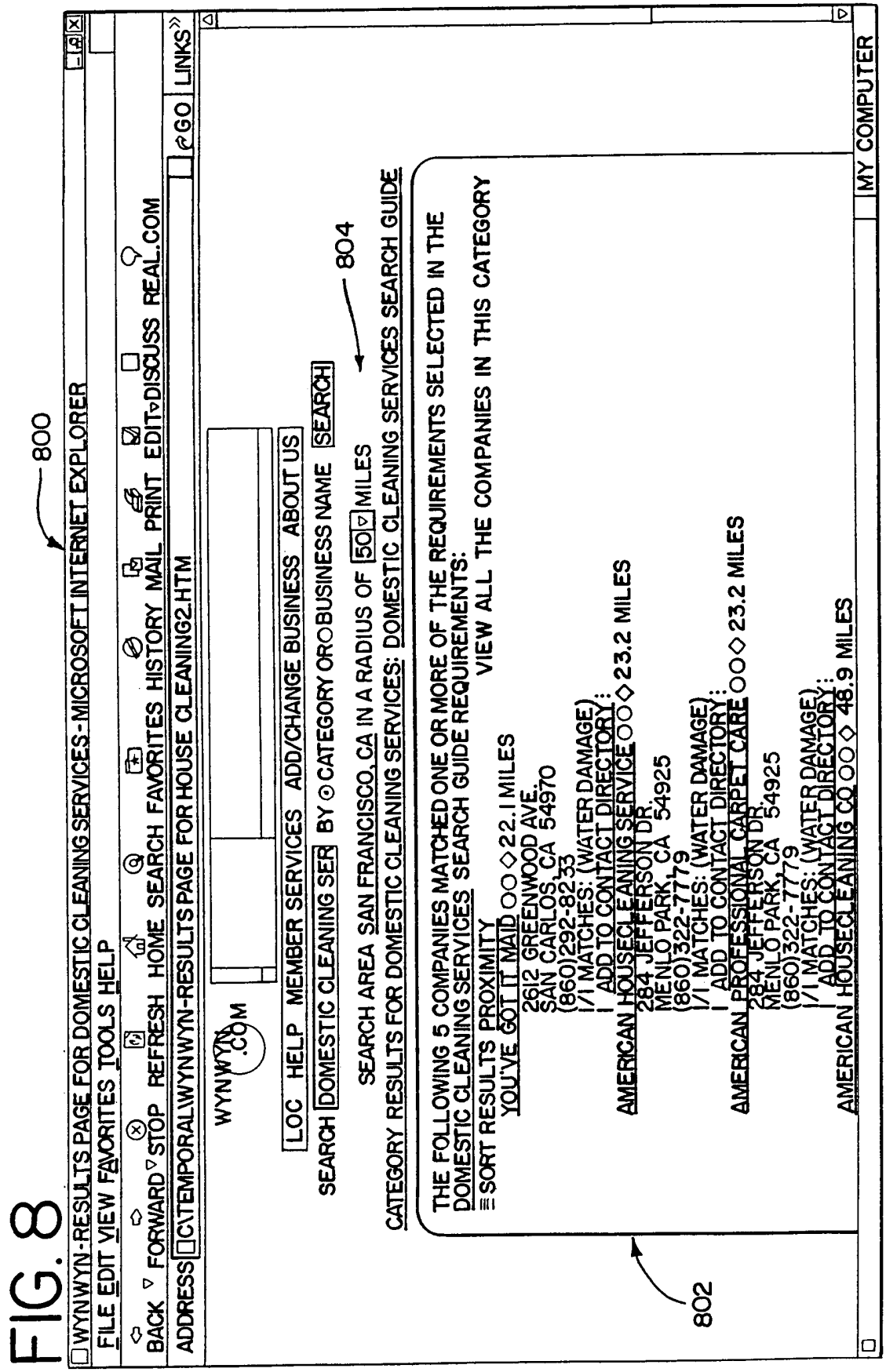

700
VSG EDITOR - CATEGORY 316 - DOMESTIC CLEANING SERVICES
EDIT VIEW
EDIT HEADINGS
EDIT LEVEL I
WEB BROWSER PREVIEW
LEVEL I
NO HEADINGS
COMMERCIAL
ITEMS CLEANED
OTHER INFO
RESIDENTIAL
ROOMS/AREAS
SCHEDULES
SERVICE FEATURES
SPECIALTY CLEAN UP
SPECIALTY SERVICES
TYPES OF CLEANING
TYPES OF WORKERS
CATEGORY: 316 - DOMESTIC CLEANING SERVICES
VSG TEXT VIEW
NO HEADING
WHAT DO YOU NEED CLEANED?
KITCHENS
BATHROOMS
BEDROOMS
PATIOS/DECKS
EXTERIORS
GARAGES
BASEMENTS
701
DO YOU NEED CLEANING DONE FOR A PARTICULAR REASON?
MOVE INS/MOVE OUTS
AFTER CONSTRUCTION
SPRING & FALL CLEANINGS
AFTER PARTIES
FIRE DAMAGE
WATER DAMAGE
FLOOD DAMAGE
702
WHEN DO YOU NEED SOMEONE TO CLEAN FOR YOU?
DAILY
WEEKLY
BI-WEEKLY
MONTHLY
BI-MONTHLY
ONE TIME
CLOSE

FIG. 8


800
WYNWYN-RESULTS PAGE FOR DOMESTIC CLEANING SERVICES - MICROSOFT INTERNET EXPLORER
FILE EDIT VIEW FAVORITES TOOLS HELP
BACK FORWARD STOP REFRESH HOME SEARCH FAVORITES HISTORY MAIL PRINT EDIT DISCUSS REAL.COM
ADDRESS C:\TEMPORAL\WYNWYN-RESULTS PAGE FOR HOUSE CLEANING2.HTM
GO LINKS
WYNWYN .COM
LOC HELP MEMBER SERVICES ADD/CHANGE BUSINESS ABOUT US
SEARCH DOMESTIC CLEANING SER BY CATEGORY OR BUSINESS NAME SEARCH
804
SEARCH AREA SAN FRANCISCO, CA IN A RADIUS OF 50 MILES
CATEGORY RESULTS FOR DOMESTIC CLEANING SERVICES: DOMESTIC CLEANING SERVICES SEARCH GUIDE
THE FOLLOWING 5 COMPANIES MATCHED ONE OR MORE OF THE REQUIREMENTS SELECTED IN THE DOMESTIC CLEANING SERVICES SEARCH GUIDE REQUIREMENTS:
VIEW ALL THE COMPANIES IN THIS CATEGORY
SORT RESULTS PROXIMITY
YOU'VE GOT IT MAID ○○◇ 22.1 MILES
2612 GREENWOOD AVE.
SAN CARLOS, CA 54970
(860)292-8233
1/1 MATCHES: (WATER DAMAGE)
| ADD TO CONTACT DIRECTORY:
AMERICAN HOUSECLEANING SERVICE ○○◇ 23.2 MILES
284 JEFFERSON DR.
MENLO PARK, CA 54925
(860)322-7779
1/1 MATCHES: (WATER DAMAGE)
| ADD TO CONTACT DIRECTORY:
AMERICAN PROFESSIONAL CARPET CARE ○○◇ 23.2 MILES
284 JEFFERSON DR.
MENLO PARK, CA 54925
(860)322-7779
1/1 MATCHES: (WATER DAMAGE)
| ADD TO CONTACT DIRECTORY:
AMERICAN HOUSECLEANING CO ○○◇ 48.9 MILES
802
MY COMPUTER