TOPICS: F–00 Novelty

F–01 Anticipation

O–00 Obviousness

SUJETS: F–00 Nouveauté

F–01 Antériorité

O–00 Évidence

DECISION OF THE COMMISSIONER OF PATENTS

Patent application number 2 791 271, having been rejected under subsection 30(3) of the *Patent Rules*, has subsequently been reviewed in accordance with paragraph 30(6)(*c*) of the *Patent Rules*. The recommendation of the Patent Appeal Board and the decision of the Commissioner are to refuse the application.

Agent for the Applicant:

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INTRODUCTION

[1]   This recommendation concerns the review of rejected patent application number 2 791 271, which is entitled "Breadcrumb filtering". The patent application is owned by Target Brands, Inc. The outstanding defects indicated by the Final Action (FA) are that the claims encompass previously disclosed subject matter, contrary to paragraph 28.2(1)(*b*) of the *Patent Act*, and define obvious subject matter, contrary to section 28.3 of the *Patent Act*. The Patent Appeal Board (the Board) has reviewed the rejected application pursuant to paragraph 30(6)(*c*) of the *Patent Rules*. As explained below, our recommendation is to refuse the application.

BACKGROUND

The application

[2]   Canadian patent application 2 791 271 was filed October 3, 2012 and published December 11, 2012.

[3]   The application relates to the use of breadcrumb trails in the navigation of web pages of search results organized according to a hierarchy of categories.

Prosecution history

[4]   On October 30, 2015, an FA was written pursuant to subsection 30(4) of the *Patent Rules*. The FA stated that the application is defective on two grounds: the claims on file (i.e. claims 1 to 23) comply with neither paragraph 28.2(1)(*b*) nor paragraph 28.3(*b*) of the *Patent Act*.

[5]   In a January 29, 2016 response to the FA (RFA), the Applicant submitted arguments for allowance. In particular, the Applicant contended that the subject matter defined by the claims is novel and not obvious.

[6]   As the Examiner considered the application not to comply with the *Patent Act*, the application was forwarded to the Board for review on July 5, 2016, pursuant to subsection 30(6) of the *Patent Rules*, along with a Summary of Reasons (SOR) maintaining the rejection of the application based on the defects in the claims on file indicated by the FA.

[7]   With a letter dated July 13, 2016, the Board sent the Applicant a copy of the SOR and offered the Applicant the opportunity to make further written submissions and to attend an oral hearing. With a telephone call on November 9, 2016, the Applicant

requested the review to proceed on the basis of the written record, without opting to request a hearing.

[8]   A Panel was formed to review the application under paragraph 30(6)(*c*) of the *Patent Rules* and to make a recommendation to the Commissioner as to its disposition. Following our preliminary review, we sent a letter on October 27, 2017 (the PR letter) presenting our analysis and rationale as to why, based on the record before us, the subject matter of claims 1 to 7 does not comply with paragraph 28.2(1)(*b*) of the *Patent Act* and the subject matter of claims 1 to 23 does not comply with paragraph 28.3(*b*) of the *Patent Act*.

[9]   In a November 24, 2017 response to the PR letter (RPR), the Applicant reiterated some of its arguments for novelty and non-obviousness of the claimed subject matter.

ISSUES

[10]   The two issues to be addressed by this review are:

- Whether the claims on file define subject matter that was not previously disclosed, thus complying with paragraph 28.2(1)(*b*) of the *Patent Act*; and
- Whether the claims on file define subject matter that would not have been obvious, thus complying with paragraph 28.3(*b*) of the *Patent Act*.

LEGAL PRINCIPLES AND PATENT OFFICE PRACTICE

Purposive construction

[11]   In accordance with *Free World Trust v. Électro Santé*, 2000 SCC 66, essential elements are identified through a purposive construction of the claims done by considering the whole of the disclosure, including the specification and drawings (see also *Whirlpool v. Camco*, 2000 SCC 67 at paragraphs 49(f) and (g) and 52). In accordance with the *Manual of Patent Office Practice*, revised June 2015 (CIPO) at §13.05, the first step of purposive claim construction is to identify the skilled person and his or her relevant common general knowledge (CGK). The next step is to identify the problem addressed by the inventors and the solution put forth in the application. Essential elements can then be identified as those required to achieve the disclosed solution as claimed.

Novelty

[12]   Subsection 28.2(1) of the *Patent Act* requires claimed subject matter to be new:

The subject-matter defined by a claim in an application for a patent in Canada (the "pending application") must not have been disclosed

(*a*)   more than one year before the filing date by the applicant, or by a person who obtained knowledge, directly or indirectly, from the applicant, in such a manner that the subject-matter became available to the public in Canada or elsewhere;

(*b*)   before the claim date by a person not mentioned in paragraph (*a*) in such a manner that the subject-matter became available to the public in Canada or elsewhere;

…

[13]   In *Apotex v. Sanofi-Synthelabo Canada*, 2008 SCC 61 [*Sanofi*] at paragraphs 25 to 29 and 49, the Supreme Court of Canada concluded that the issue of whether an invention is anticipated by the prior art requires that the Court have regard to two questions:

- Was the subject matter of the invention disclosed to the public by a single disclosure?
- If there has been such a disclosure, is the working of the invention enabled by that disclosure?

Obviousness

[14]   Section 28.3 of the *Patent Act* requires claimed subject matter to not be obvious:

The subject matter defined by a claim in an application for a patent in Canada must be subject matter that would not have been obvious on the claim date to a person skilled in the art or science to which it pertains, having regard to

(*a*)   information disclosed more than one year before the filing date by the Applicant, or by a person who obtained knowledge, directly or indirectly, from the Applicant in such a manner that the information became available to the public in Canada or elsewhere; and

(*b*)   information disclosed before the claim date by a person not mentioned in paragraph (*a*) in such a manner that the information became available to the public in Canada or elsewhere.

[15]   In *Sanofi* at paragraph 67, the Supreme Court of Canada stated that it is useful in an obviousness inquiry to follow the following four-step approach:

(1)(*a*) Identify the notional "person skilled in the art";
   (*b*) Identify the relevant CGK of that person;

(2)   Identify the inventive concept of the claim in question or if that cannot readily be done, construe it;

(3)   Identify what, if any, differences exist between the matter cited as forming part of the "state of the art" and the inventive concept of the claim or the claim as construed;

(4)   Viewed without any knowledge of the alleged invention as claimed, do those differences constitute steps which would have been obvious to the person skilled in the art or do they require any degree of invention?

ANALYSIS

Purposive construction

Terminology

[16]   In the language chosen by the application to describe a hierarchy of categories (e.g. paragraphs 20 and 27; figure 4), tiers of categories descend from the root; the lower a tier is in the hierarchy, the further it is from the root. A breadcrumb trail is a chain of categories from the root category to the lowest level category that the currently displayed items are found within. We adopt a similar wording in this recommendation to be consistent with the application.

The skilled person

[17]   In the PR letter, we accepted the identification in the FA of the notional skilled person as a team of information-technology professionals skilled in user interfaces and data search engines providing search result lists generated by the search engine based on user input.

[18]   Although the Applicant, in its RPR, expressed disagreement with the conclusions presented in the PR letter, the Applicant has not disputed this identification of the skilled person specifically. Therefore, we adopt it here.

The CGK

[19]   The PR letter identified the following references as relevant:

- D1:   US 2011/0106834   May 5, 2011   Blackwell et al.
- D2:   US 2009/0083164   March 26, 2009   Hull et al.
- D3:   US 2011/0218845   September 8, 2011   Medina
- D4:   US 2008/0052275   February 28, 2008   Kantak et al.
- D5:   "Amazon.com", represented by the three archived web pages:
  - (Amazon.com, December 20, 2011), archived online: Amazon.com: iphone <https://web.archive.org/web/20111220015222/http://www.amazon.com/s?ie=UTF8&rh=i%3Aaps%2Ck%3Aiphone&page=1>;
  - (Amazon.com, December 26, 2011), archived online: Amazon.com: iphone - Cell Phones & Accessories <https://web.archive.org/web/20111226115127/http://www.amazon.com:80/s?ie=UTF8&keywords=iphone&rh=n%3A2335752011%2Ck%3Aiphone&page=1>; and
  - (Amazon.com, December 20, 2011), archived online: Amazon.com: iphone Unlocked Cell Phones <https://web.archive.org/web/20111220125338/http://www.amazon.com:80/s?ie=UTF8&keywords=iphone&rh=n%3A2407749011%2Ck%3Aiphone&page=1>.
- D6:   US 2006/0123361   June 8, 2006   Sorin et al.

[20]   Based on these references and on the application's description of the state of the art, the FA identified the following relevant CGK. We accepted these concepts as CGK in the PR letter and the Applicant has not disputed them. We adopt them again here:

- Use of breadcrumb trails to indicate a user's current location within a collection of items grouped into a hierarchy;
- Use of breadcrumb trails to permit users to return to any category within the hierarchy by selecting the appropriate category breadcrumb;
- Use of computer systems, databases, searching based on keywords; and
- User interface design, including design of web pages allowing for the display of multiple items, entering of search terms and selection of displayed items or listed categories.

The problem to be solved

[21]   The FA identified the problem as being the lack of seamless integration between the two main ways of searching for items in hierarchical systems providing breadcrumb trails (i.e. between keyword searching and using the breadcrumb trail), and we accepted it as such in the PR letter.

[22]   Although the description does not explicitly identify the problem, it proposes an improved user interface that is consistent with the above identification. Since the Applicant has not submitted any arguments for identifying the problem differently, we adopt that identification here as well.

The proposed solution

[23]   As explained in the PR letter, the application (paragraphs 1, 2, 19 to 21 and 38; figure 1) acknowledges that it is known to provide breadcrumb trails as a means for navigating a hierarchical collection of items, and proposes an improved user interface that provides both this known navigation functionality and like navigation functionality for a collection of search results. That is, breadcrumb trails are provided to permit a user to navigate a hierarchically categorized collection of results from an entered search query, and if no search query is entered, the breadcrumb trails permit navigation of all items in the collection as usual.

[24]   In the PR letter, we identified this improvement to the functionality controlling navigation of website content as the solution. A user would be able to navigate to certain collections of search results without losing entered search criteria and using fewer steps than while using known interfaces.

[25]   The RPR did not contain any arguments for identifying the solution differently, so we adopt the above identification again here.

The essential elements

[26]   For convenience, claims 1, 8 and 15 are provided below as representatives of the claims:

1.   A computer storage medium having computer executable instructions that then executed by a processor cause the processor to perform steps comprising:

displaying a first search result page comprising a plurality of items and a hierarchical list of categories, the hierarchical list of categories such

that each of the plurality of items falls within one of the categories in the hierarchical list of categories, the plurality of items comprising only items that match a search criteria entered in a search box;

receiving an indication that a category in the hierarchical list of categories has been selected;

in response to the category being selected, displaying a second search result page comprising a second plurality of items that fall within the selected category, wherein the second plurality of items comprise only items that match the search criteria and wherein at least one of the second plurality of items was not displayed in the first search result page.

8. A method comprising:

receiving an indication that a guest has selected a category in a displayed breadcrumb trail, the breadcrumb trail describing a chain of categories that descend from a root category;

determining whether the displayed breadcrumb trail was displayed on a page providing results of a search query using a processor;

if the breadcrumb trail was not displayed on the page providing results of the search query, displaying items that fall within the selected category without reference to a search query; and

if the breadcrumb trail was displayed on the page providing results of the search query, displaying only items that fall within the selected category and that satisfy the search query.

15. A computing system, the computing system comprising:

a memory storing images;

a processor serving web pages to a client by:

serving a first web page to the client, the first web page comprising instructions to display a chain of categories and items that satisfy a search query and that are categorized in a lowest category in the chain of categories;

receiving a request for a second web page, wherein the request for the second web page is generated in response to the selection of a category in the chain of categories;

> identifying items that satisfy the search query and that are categorized within the selected category; and
>
> serving the second web page to the client, the second web page comprising instructions to display a second chain of categories that ends with the selected category and items that satisfy the search query and that are categorized in the selected category.

[27]   The skilled person, based on the problem, solution and claim wording, would understand the essential elements of claims 1 to 7 to be:

- displaying a first search result page comprising a plurality of items and a hierarchical list of categories, such that each of the plurality of items falls within one of the categories in the hierarchical list of categories, the plurality of items comprising only items that match a search criteria entered in a search box;
- receiving an indication that a (different and non-descendent) category in the hierarchical list of categories has been selected; and
- in response to the category being selected, displaying a second search result page comprising a second plurality of items that fall within the selected category, wherein the second plurality of items comprise only items that match the search criteria and wherein at least one of the second plurality of items was not displayed in the first search result page.

[28]   The skilled person would understand the essential elements of claims 8 to 14 to be:

- receiving an indication that a guest has selected a category in a displayed breadcrumb trail, the breadcrumb trail describing a chain of categories that descend from a root category;
- determining whether the displayed breadcrumb trail was displayed on a page providing results of a search query using a processor;
- if the breadcrumb trail was not displayed on the page providing results of the search query, displaying items that fall within the selected category without reference to a search query; and
- if the breadcrumb trail was displayed on the page providing results of the search query, displaying only items that fall within the selected category and that satisfy the search query.

[29] The skilled person would understand the essential elements of claims 15 to 23 to be:

- serving a first web page to the client, the first web page comprising instructions to display a chain of categories and items that satisfy a search query and that are categorized in a lowest category in the chain of categories;
- receiving a request for a second web page, wherein the request for the second web page is generated in response to the selection of a category in the chain of categories;
- identifying items that satisfy the search query and that are categorized within the selected category; and
- serving the second web page to the client, the second web page comprising instructions to display a second chain of categories that ends with the selected category and items that satisfy the search query and that are categorized in the selected category.

[30] This is how the essential elements were presented in the PR letter. It is also how they were presented in the FA except for the PR letter's additional specification for claims 1 to 7 that the subsequently selected category must be different from, and not a descendent of, the category in which fall the plurality of items shown on the first search result page. If this subsequently selected category were not so, it would be impossible for it to contain any items not already among the first plurality of items.

[31] The Applicant did not explicitly dispute the identification of the essential elements in the PR letter, but its arguments in the RPR regarding obviousness and the "incremental inventions" of certain of the dependent claims imply that the Applicant would include additional essential elements for these claims.

[32] These arguments regarding obviousness were included in more detail in the RFA and we referred to them in the PR letter. We consider the wording differences between the dependent claims and the independent claims to reflect different embodiments of the same set of essential elements, in the cases where it is not simply that the dependent claims recite something inherent in the essential elements of the independent claims. Thus, claims 1 to 7 share one set of essential elements, claims 8 to 14 share a second set and claims 15 to 23 share a third set.

Novelty

[33] As explained in the PR letter, the web pages of D5 exhibit certain functionality when one reads them and interacts with them. Starting with the *unlocked cell phones* web page of D5, we see a page showing a list of items matching the search criteria "iphone" and fitting within the category of "unlocked phones". The page also shows a hierarchical list of categories in the side bar. Upon selection of the "cell phones & accessories" category from the hierarchical list, the *cell phones & accessories* web page of D5 is displayed, showing items matching the search criteria and fitting within this selected category. This page displays items that did not appear on the previous page. This is the functionality of claims 1 to 7. Thus, the hierarchical list of categories in the side bar of the web pages of D5 anticipates the hierarchical list of categories of claims 1 to 7.

[34] In the RPR, the Applicant submitted that D5 does not constitute an enabling disclosure because it does not provide any direction on how the displayed functionality is to be implemented on a computer system; D5 provides no description of the underlying functionality.

[35] As stated above, D5 exhibits the functionality defined by claims 1 to 7. Implementation of this functionality would be well within the skilled person's capacity, given the CGK. D5 thus constitutes an enabling disclosure; further disclosure of the website's underlying functionality is unnecessary. It is also noted that the focus of, and level of detail in, the application (e.g. paragraphs 19 to 38; figure 1) do not suggest any particular challenges in implementation.

[36] Claims 8 to 23, on the other hand, define a chain of categories or breadcrumb trail. Although the web pages of D5 display a breadcrumb trail, selecting a category from this part of the page will take the user to a web page displaying items from the selected category but not restricted to the search results. To access a web page displaying items from a desired category and restricted to the search results, the user must select one of the categories from the hierarchical list in the side bar.

[37] We are of the view that this hierarchical list in the side bar is not the same as the breadcrumb trail describing a chain of categories descending from a root category (encompassed by claims 8 to 14) or the same as the chain of categories, the lowest category of which contains the items on the web page (encompassed by claims 15 to 23). The description (paragraph 20) defines this chain of categories as the hierarchical list of categories along the path from the root category to the lowest

level category in which the current displayed items are found. Thus, D5 does not completely disclose the essential elements of claims 8 to 23.

[38]   Likewise, both D1's description of the prior art (paragraphs 4 to 5) and D2's disclosure (paragraphs 33 to 36; figures 5A to 5B) show the display of search results and a hierarchical list of categories where the results may be limited by both the search query and by the selection of one of the categories. Such functionality logically requires that different items will be displayed depending on the category selected, and these references thus anticipate claims 1 to 7. Neither reference explicitly discloses the functionality of claims 8 to 23, however: that selection of a breadcrumb with a search query will show the search results so limited and that selection of a breadcrumb with no search query will show all items in the associated category.

[39]   Thus, our view is that the subject matter of claims 1 to 7 is anticipated by each of D5, D1 and D2, and that these claims do not comply with paragraph 28.2(1)(*b*) of the *Patent Act*. Our view is that the subject matter of claims 8 to 23 is not anticipated by any of D5, D1 or D2, and that these claims comply with paragraph 28.2(1)(*b*) of the *Patent Act*.

Obviousness

Identify the notional person skilled in the art and the relevant CGK

[40]   The above identifications of the notional skilled person and relevant CGK are considered to be applicable for the purpose of assessing obviousness.

Identify the inventive concept of the claim in question or if that cannot readily be done, construe it

[41]   In the PR letter, we took the construction of the claims as also representing their inventive concept; we again adopt that approach here. Accordingly, the inventive concept is not considered to include any features or elements beyond those identified above as part of the purposively construed essential elements.

Identify what, if any, differences exist between the matter cited as forming part of the "state of the art" and the inventive concept of the claim or the claim as construed

[42]   As explained in the PR letter, we have limited the obviousness analysis to having D5, D1 and D2 as its basis. We have done this because these references appear to

be the most relevant references (given the above construction of the claims) and because we consider the claimed subject matter to be obvious in view of these references, as shown below.

[43] As explained above, notwithstanding the submission of the RPR on this matter, there are no differences between any of D5, D1 or D2 and the inventive concept for claims 1 to 7.

[44] Even if the RPR's submission that dependent claims 2 and 7 added details to the inventive concept defined for claims 1 to 7 were accepted, there would still be no differences between the cited references and the inventive concepts for these claims.

[45] Regarding the reference in claim 2 to an initial search result page and a root category, the *iphone* web page of D5 shows such an arrangement. The listed items include items from different categories (e.g. "electronics", "cell phones & accessories", etc.). Regarding the reference in claim 7 to the display of a category page that lists at least one item not included in the previous display of a category page, the web pages of D5 exhibit such behaviour, as explained above.

[46] The difference between either of D5 or D2 and the inventive concepts for the remaining claims 8 to 23 is that D5 and D2 do not show the selection of a category from a breadcrumb trail (as defined by claims 8 to 14) or the selection of a category from a displayed *chain* of categories (behaving as defined by claims 15 to 23) on a page displaying search results, leading to a page displaying search results limited by the search query and the selected category. Instead, D5 and D2 show such a response from selecting a category from the hierarchical list of categories in the side bar of the page.

[47] A difference between D1 and the inventive concepts for claims 8 to 23 is that D1 only suggests, not explicitly discloses, that selection of a category from a breadcrumb trail on a page displaying search results will lead to a page displaying search results limited by the search query and the selected category. Regarding the inventive concept for claims 8 to 14, D1 also does not explicitly discuss the use of breadcrumb trails to navigate web pages not limited to search query results.

[48] As explained above, notwithstanding the submission of the RPR on this matter, we see no further differences between the state of the art and the inventive concepts for claims 8 to 23.

[49]   The RPR refers to details of independent claims 8 and 15 that have been identified above as part of the respective inventive concepts and addressed accordingly. Also, even if the RPR's submission that dependent claims 11, 16 and 19 added details to the defined inventive concepts were accepted, there would still be no differences between the cited references and the inventive concepts for these claims.

[50]   Regarding the references in claims 11 and 16 to the display of a category page that lists at least one item not included in the previous display of a category page, the web pages of D5 exhibit such behaviour, as explained above. Regarding the reference in claim 19 to the user's selection of an additional category and the display of a third page, this is simply the repetition of function already shown to be exhibited by the web pages of D5.

Viewed without any knowledge of the alleged invention as claimed, do those differences constitute steps which would have been obvious to the person skilled in the art or do they require any degree of invention

[51]   Regarding the differences between any of D5, D1 or D2 and the inventive concepts for claims 8 to 23, given the purpose of breadcrumb trails to serve as navigational aids relative to a user's current page, and given the context of a user viewing a search results page, it would be obvious to adapt the functionality of the breadcrumb trail to permit filtering of search results by category. D5 and D2 both explicitly show the concept of selecting a category from a displayed hierarchical list to filter search results and D1 suggests the concept of selecting a category from a displayed breadcrumb trail to do so.

[52]   As for the additional difference between D1 and the inventive concept for claims 8 to 14, the use of breadcrumb trails to navigate web pages not limited to search query results is CGK.

[53]   Accordingly, as stated in the PR letter, we do not see any differences between the cited matter and the inventive concepts that would require any degree of invention.

Conclusion on obviousness

[54]   The subject matter of claims 1 to 7 would have been obvious to the skilled person in view of D5, D1 and D2, and the subject matter of claims 8 to 23 would have been obvious in view of any of D5, D1 and D2, and the CGK. Therefore, these claims do not comply with paragraph 28.3(*b*) of the *Patent Act*.

RECOMMENDATION OF THE BOARD

[55]   In view of the above, the Panel recommends that the application be refused on the basis that:

- Claims 1 to 7 define subject matter that was previously disclosed and thus do not comply with paragraph 28.2(1)(*b*) of the *Patent Act*; and
- Claims 1 to 23 define subject matter that would have been obvious as of the claim date and thus do not comply with paragraph 28.3(*b*) of the *Patent Act*.

Leigh Matheson   Lewis Robart   Andrew Strong
Member   Member   Member

DECISION OF THE COMMISSIONER

[56]   I concur with the findings of the Board and its recommendation to refuse the application. Claims 1 to 7 do not comply with paragraph 28.2(1)(*b*) of the *Patent Act* and claims 1 to 23 do not comply with paragraph 28.3(*b*) of the *Patent Act*.

[57]   Accordingly, I refuse to grant a patent for this application. Under section 41 of the *Patent Act*, the Applicant has six months to appeal my decision to the Federal Court of Canada.

Johanne Bélisle
Commissioner of Patents
Dated at Gatineau, Quebec,
this 5th   day of March, 2018