Federal Court  Cour fédérale

Date: 20220112

Docket: T-40-18

Citation: 2021 FC 1435

Fredericton, New Brunswick, January 12, 2022

PRESENT: Madam Justice McDonald

BETWEEN:

PAID SEARCH ENGINE TOOLS, LLC

Plaintiff/
Defendant by Counterclaim

and

GOOGLE CANADA CORPORATION,
GOOGLE LLC AND ALPHABET INC.

Defendants/
Plaintiffs by Counterclaim

PUBLIC JUDGMENT AND REASONS

(Confidential Judgment and Reasons were issued December 17, 2021)

Table of Contents

I. Overview

[1] Advertising on the internet is now ubiquitous, but in 2000 it was an emerging field of opportunity for advertisers. This is a case about a patent designed to support advertisers in managing their bids for online advertising space on paid search engines.

[2] The plaintiff, Paid Search Engine Tools, LLC (PSET) owns Canadian Patent No. 2,415,167 (167 Patent) titled "Paid Search Engine Bid Management" for an invention described as "management of advertising expenses in online media". PSET alleges that the defendants have infringed certain claims of their patent and they seek damages.

[3] The defendants deny any infringement, and by counterclaim seek a declaration that the patent claims are invalid on various grounds including anticipation, obviousness, insufficiency and inutility.

[4] This trial in this matter was conducted via videoconference pursuant to the *Remote Trial Protocol* Order of March 8, 2021.

[5] For the reasons that follow, after construing the asserted claims of the 167 Patent, I have concluded that the asserted claims at 28, 44, 59 and 75 (and the dependent claims) as well as claim 9 are invalid on the grounds that they are not sufficiently disclosed. I have also concluded that the asserted claims at 1 and 17 (and the dependent claims) are invalid as they are anticipated or obvious.

[6] I have also concluded that the defendants have not infringed the 167 Patent.

[7] In light of my findings, I decline to address the issue of damages.

II. Background

A. The Parties

[8] PSET is incorporated in the State of Ohio with a registered office in Hamilton, Ontario. The 167 Patent has a Canada filing date of July 5, 2001, and a publication date of January 10, 2002. The patent was issued on March 21, 2017 and expired July 5, 2021. The 167 Patent claims priority to US provisional patent application 60/215,976 (976 Patent) filed on July 5, 2000.

[9] Google Canada Corporation is incorporated in the province of Nova Scotia. Alphabet Inc. is incorporated in the State of Delaware, and was created in 2015 through a corporate restructuring in which Google Inc. became a subsidiary of Alphabet. In 2017, Google Inc. was converted into Google LLC. Unless the context requires otherwise, I will refer to the defendants collectively as "Google".

[10] Google owns the infrastructure that operates Google Ads and formerly AdWords. AdWords Select was launched in February 2002. AdWords Select was renamed to "AdWords" and became "Google Ads" in 2018. Unless the context requires otherwise, I will use the phrase "Google Ads" to refer to these products.

B. Patent Background

[11] In the early 2000s, with the increased use and popularity of the internet, advertisers were attempting to reach internet users by paying search engines to have their information or advertisements displayed in response to searches. In paid search engines, advertisers could pay to have their information appear in a certain position in the search engine's search result. This is described in the 167 Patent as follows:

> In a paid Internet search engine, content providers submit bids for each one or more keywords they desire to associate with their site. The paid search engine will respond to a user's request for sites with one or more keywords, by producing a list of links to those sites that have submitted bids on those keywords. The order in which links are identified is determined by the bid amounts provided by the sites – the site with the largest (cumulative) bid(s) for the keywords(s) identified by the user, appears first in the list of the sites presented to the user, followed by the site with the second largest (cumulative) bid(s) and so on.

[12] Cost-per-impression was one method by which advertisers were charged for this service, meaning advertisers paid an amount each time their advertisements appeared in response to a search query regardless of whether the searcher actually followed through on the advertisement and visited their website.

[13] In May 1999, the search engine GoTo.com (GoTo) introduced a new method for advertisers called sponsored search results. This new method was pay-per-click advertising, meaning that the advertiser was only charged for having their information appear in the search results when the searcher actually clicked on the advertiser's information (typically their URL website address). This was a more attractive model for advertisers as it meant they were only

paying for advertisements directed to those who actually showed some interest in their website. GoTo obtained a patent for its pay-per-click advertising model in July 2001.

[14] On GoTo, advertisers chose the amount of money (usually in cents) they were prepared to pay (the bid) to have their information displayed in response to the search of certain words or phrases (keywords). Advertisers who were vying for the top position in the search results had to be prepared to pay more for the chosen keywords in order to rank above competing advertisers.

[15] In February 2000, the named inventors of the 167 Patent – Juan Velez and Daren Murrer – met to discuss internet marketing. Mr. Velez was working in e-commerce and marketing. Mr. Murrer was involved in online businesses that used pay-per-click online advertising on GoTo.

[16] Mr. Murrer explained to Mr. Velez the challenges of managing as few as 10-12 keywords on GoTo, and how time consuming it was to have to manually change bids for each keyword in order to stay competitive. Mr. Murrer explained having to look at the keywords he bid on to determine his bid position and then having to change the bid to close the gap between his bid and the bids of other advertisers for that position. Mr. Velez told Mr. Murrer that he should be managing hundreds of keywords. According to the inventors, this discussion led to an all-day brainstorming session where they developed the idea that became the 167 Patent.

[17] Following this brainstorming session, Mr. Murrer and Mr. Velez contacted Mark Soper to work on computer code to implement their concept. Mr. Soper, who worked on the project over a weekend, developed code that could retrieve keyword search results from GoTo and arrange the results in a table. This table displayed the top 20 bids for a keyword, and showed the number of times the keyword was searched. This allowed advertisers to see if there was an "optimization opportunity", namely, a gap between their bid and the next high advertisers bid, which could then be collapsed (a bid collapse). For example, if Bidder A bids $0.05 and the next highest bidder, Bidder B, bids $0.08, the "optimization opportunity" is for Bidder B to reduce their bid to $0.06 while still remaining in the top position relative to other bidders in the search results.

[18] Mr. Velez and Mr. Murrer filed a provisional patent application on July 5, 2000 (referred to as the 976 Patent). They offered a commercial product known as the Keyword Bid Optimizer (KBO or KBO tool) which they operated from their website: PaidSearchEngineTool.com. The KBO tool worked by collecting information from GoTo (each night) on PSET customers' keywords and the bids on those keywords. These search results were then displayed in a report for PSET customers with columns showing: the keyword(s), the number of times it was searched (views), the top 20 bids for the keyword, and where the advertiser's bid (in red) ranked relative to others. This report shown below from the 976 Patent, is also Figure 4 of the 167 Patent:

Keyword report for www.gardens-alive.com

A yellow row indicates that www.gardens-alive.com was NOT found in the first 20 results for that keyword.

A Red $ indicates that www.gardens-alive.com was found in that position for that keyword.

Keyword	Views	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
beneficial insect	69	$0.06	$0.05	$0.05	$0.01	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
cover crop	43	$0.03	$0.01	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
earth friendly product	19	$0.05	$0.03	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
environment	6758	$0.65	$0.64	$0.62	$0.56	$0.55	$0.52	$0.47	$0.45	$0.43	$0.30	$0.26	$0.24	$0.22	$0.20	$0.20	$0.20	$0.16	$0.15	$0.14	$0.14
fertilizer	1518	$0.49	$0.48	$0.46	$0.45	$0.42	$0.37	$0.36	$0.35	$0.27	$0.25	$0.24	$0.23	$0.20	$0.18	$0.17	$0.15	$0.14	$0.10	$0.10	$0.07
flower gardening	473	$0.29	$0.29	$0.28	$0.27	$0.25	$0.23	$0.21	$0.17	$0.15	$0.15	$0.12	$0.08	$0.07	$0.06	$0.05	$0.05	$0.05	$0.02	$0.02	$0.02
garden	11233	$0.86	$0.85	$0.84	$0.82	$0.80	$0.77	$0.73	$0.68	$0.67	$0.66	$0.60	$0.53	$0.50	$0.39	$0.36	$0.35	$0.35	$0.35	$0.31	$0.30
garden alive	290	$0.02	$0.01	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
garden pest	438	$0.17	$0.16	$0.15	$0.15	$0.11	$0.10	$0.05	$0.02	$0.01	$0.01	$0.01	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
garden tip	131	$0.15	$0.14	$0.14	$0.13	$0.08	$0.05	$0.01	$0.01	$0.01	$0.01	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00

[19] From this report, the advertiser could see that they had the top position for the keyword "cover crop" with their bid of $0.03. However, they would also see an optimization opportunity to reduce their bid from $0.03 to $0.02 while maintaining this top position relative to the other bidders.

[20] According to the inventors, PSET started selling the KBO tool commercially and at one time had over 500 subscribers. During the three years that the KBO tool was sold, PSET reported revenues of: $56,000 in 2001, $43,000 in 2002 and $21,000 in 2003.

[21] In May 2001, GoTo and PSET entered into a 6-month agreement in which GoTo agreed to feed search results directly to PSET in exchange for PSET providing the URLs and historical account information of their customers. This agreement was not renewed.

[22] By June 2002, GoTo, who was now operating as Overture, introduced optimization tools directly on their website. According to PSET, these tools provided the same service and information as provided through their KBO product. According to Mr. Murrer, this move by Overture effectively put PSET out of business and by 2003 PSET stopped selling the KBO tool. PSET claimed that Overture used PSET's method and techniques. In October 2003, Overture was purchased by Yahoo.

[23] Mr. Murrer confirmed that the KBO tool did not automatically adjust bids, did not show the number of clicks on an ad, and did not display information about clickthrough rates (CTR, or how often an ad was displayed and clicked). The KBO tool was not itself a search engine and it did not run an auction to determine what ads would be displayed.

[24] Mr. Murrer claims that the 167 Patent discloses more than the KBO tool. The details of the 167 Canadian patent history was introduced into evidence (Exhibit 2).

[25] Mr. Murrer had limited knowledge of the 167 Patent proceedings in Canada but confirmed that PSET had two patent applications in the US that claimed priority to the 976 Patent – the 450 Patent and the 912 Patent. He also confirmed that PSET's patent infringement claims against Google (and Yahoo and Microsoft) in the US regarding these patents were dismissed (Exhibit 15).

[26] PSET's patent application to the European Patent Office, which also relied on the 976 Patent, was refused (Exhibit 24). On January 18, 2013 and September 25, 2014, the US Patent

and Trademark Office cancelled the claims pertaining to the 450 and 912 Patents (Exhibits 26 and 27).

III. Evidence

[27] The following is a brief summary of the witness evidence. I include this summary to provide an overall factual and contextual framework. Where relevant, I also note my general observations as to the reliability of the witnesses' evidence. The particulars of some of the witness evidence will be addressed in more detail in the analysis of the issue to which it relates.

A. PSET's Fact Witnesses

[28] **Juan Velez** is a co-inventor on the 167 Patent. He has a chemical engineering degree, and an MBA. He does not have a computer science background or a background in auctions. Mr. Velez gave evidence about the meeting he had with Daren Murrer in February 2000, when they developed the concept for the patent. He testified that he and Mr. Murrer also worked with Cotty England and Mark Soper to develop the patent, and consulted his professor, Jon Keel.

[29] Mr. Velez had limited knowledge of how the patent could work in practice as his involvement was focused on the marketing of the patent.

[30] **Daren Murrer** is the co-inventor on the 167 Patent and a founder of PSET. Mr. Murrer explained that PSET was also doing business as Earth Internet Services or Earth LLC in Ohio, before becoming its own LLC. Mr. Murrer has no formal education in computer science, online

marketing or auction design. He has experience with online sales through his other businesses where he created a website to sell products.

[31] He also testified about the brainstorming session with Mr. Velez in February 2000. He explained that the code created by Mr. Soper allowed for automatic bidding, but he was not comfortable implementing that step immediately due to liability concerns. He confirmed that when they launched the KBO tool, the automatic bid feature was not included. He explained that the KBO tool was used on various search engines including GoTo, Kanoodle, and Ah-ha.

[32] Mr. Murrer provided helpful contextual background, however, he claimed to lack knowledge on details of the patent filing history in Canada and PSET's patent litigation in the US.

[33] **Mark Soper** is a self-taught software programmer with no formal education in software programming or computer science. He testified about the code he wrote for PSET. He confirmed that this code did not identify bid gaps and did not do calculations, but it was capable of doing automatic bidding. He confirmed that ad quality and ad relevance were not assessed by the code he developed. Mr. Soper was a credible and straightforward witness.

[34] **Jon Keel** taught Mr. Velez in a course on internet marketing. He did some work for PSET and became a part owner in 2000. He described the process of managing bids prior to the use of the KBO tool. He was questioned about an email he sent to Planet Ocean Communications (Planet Ocean) where he provided them with the KBO tool (Exhibit 46).

[35] Patent Agent **Shauna Paul** testified about the prosecution of the 167 Patent, including the timing of the registration of the patent in Canada. She testified that she was taking instructions from PSET's US patent attorneys.

[36] **Daniel Boberg** worked at GoTo from 1999-2009. He described GoTo as the first sponsored or paid listing search engine. Mr. Boberg explained the bidding process on GoTo.com, GoTo's Direct Traffic Centre and the impact of PSET's KBO tool on GoTo.

B. PSET's Expert Witnesses

[37] **Jessie Stricchiola** was qualified on consent as an expert in search engine marketing, search engine optimization, paid search, digital marketing and web traffic analysis. She does not have any formal education in computer science, economics, or computer coding.

[38] Ms. Stricchiola has worked in the field of search engine optimization since 1998. Her company, Alchemist Media, works in strategy, implementation and management of various digital marketing efforts by clients involving search engine optimization, paid search engine advertising, website analytics and related areas. She is the co-author of *The Art of SEO: Mastering Search Engine Optimization.* Ms. Stricchiola is a cofounder of SEMPO, the Search Engine Marketing Professional Organization, and served on the board of directors for two years.

[39] Ms. Stricchiola prepared the following reports, marked as Exhibits 31, 32, and 33:

Report on Infringement, dated January 29, 2021 (Stricchiola First Report)

Report on Validity, dated April 7, 2021 (Stricchiola Second Report)

Responding Report, dated May 7, 2021 (Stricchiola Third Report).

[40] Overall, her evidence was helpful. However, her evidence lacked particularity with respect to claims construction and infringement. I would describe it as generalized. Further, her reliance on selected Google marketing material over Google technical information impacts the objectiveness of her opinion on infringement.

[41] **Dr. Stephen Becker** is an economist with expertise in corporate financial analysis and the evaluation of economic damages, including intellectual property damages and patent infringement damages. Dr. Becker provided two reports marked as Exhibits 44 and 45 as follows:

Report on Reasonable Royalty, dated January 29, 2021

Report on Apportionment and Non-Infringing Alternatives, dated May 7, 2021.

[42] **Dr. Ernan Haruvy** was qualified on consent as an economist with expertise in auction theory, auction design, procurement, online advertising, and quantitative and qualitative methods for data analysis, including financial analysis and predictive analysis. Dr. Haruvy has a PhD in economics from the University of Texas at Austin (1999) and completed a post-doctorate fellowship at Harvard Business School (2000-2001). He is the Cleghorn Faculty Scholar (Full) Professor of Marketing at McGill University. He is also affiliated with the University of Texas at Dallas. Dr. Haruvy provided three reports marked as Exhibits 54, 56, and 58, as follows:

Report on Revenues and Profits, dated January 29, 2021 (Haruvy First Report)

Report on Validity, dated April 7, 2021 (Haruvy Second Report)

Responding Report on Remedies, dated May 7, 2021 (Haruvy Third Report).

C. Google's Fact Witnesses

[43] **Dr. Eric Veach** holds a PhD in Computer Science from Stanford University. In 2000, he joined Google and worked with the online advertising team. Dr. Veach explained the ad system used by Google in the early 2000s and described the development of Google's AdWords in July 2000. According to Dr. Veach, by November 2000, Google began to consider ways to improve AdWords. In May 2001, Google began building the program that became AdWords Select, which was launched in February 2002. AdWords Select focused on pricing and ranking, and incorporated ad quality considerations. According to Dr. Veach, Google used a second price auction. He also explained Google's Smart Ad Selection System (SmartASS) which uses machine-learning technology.

[44] **Gerald Dischler** is the VP and General Manager of Ads at Google. He previously worked with Google's ads team on the back-end technology of search advertising. Mr. Dischler now leads product management, engineering and design for the advertising team at Google. Mr. Dischler testified about Google's products and Google's ad system, as well as Google's ad quality. Mr. Dischler's evidence at trial differed from his discovery evidence on some material points. Where there were discrepancies, I prefer his discovery evidence or the documentary evidence.

[45] **Salar Kamangar** began working at Google in 1999. He worked on ads at Google in 2000, including Google's in-house ad product called Premium Sponsorships. Mr. Kamangar gave evidence about Google AdWords and AdWords Select from a high-level design standpoint.

[46] **Thomas Iljic** joined Google in 2015 and is currently the product manager for the text and shopping auction. In this capacity, Mr. Iljic deals with ads auctions and shopping ads auctions for Google.com. Mr. Iljic provided evidence on Google Ads from the perspective of an advertiser. He explained how ads are selected, ranked and priced.

[47] **Joshua Moser** leads Google's search bidding product team. Mr. Moser has been with Google since 2013. Mr. Moser explained Google Ads Help Centre and Google Ads bidding system.

[48] **Dr. Eric Schmidt** is the former Executive Chairman and CEO of Google Inc. He gave evidence on the Google advertising system model beginning in 2001 and he explained how the auction-based system evolved. Dr. Schmidt also explained the impact of Google Ads on Google's revenues. He confirmed that in the early 2000s, Google implemented financial restrictions. While PSET placed significant emphasis on Mr. Schmidt's statements made during an interview, I accord these statements little evidentiary value as I view them more as public relations statements rather than statements of the inner workings of Google.

[49] **Desmond Keane** is the senior engineering director responsible for the site reliability engineering team at YouTube, which is a part of Google. In 2004, Mr. Keane started with Google as a systems administrator. In 2007, Mr. Keane managed a team of systems administrators and software engineers responsible for internal business applications and core internal infrastructure systems. In 2015, he was the engineering director for all of the Ads site reliability engineering teams. Mr. Keane gave evidence on Google's infrastructure and confirmed that AdWords is accessible in Canada. He provided helpful detail on Exhibit 111, which provides a high-level overview of Google's infrastructure – from the boundary of things that run in Google data centres (including the Google Ads system) to the end user interacting with Google's home page from their phone or computer.

[50] **Jessie Brader** was a part owner of Planet Ocean – a company that published a digital newsletter regarding search engine information in the early 2000s. Ms. Brader gave testimony on Planet Ocean's operations as well as an email exchange with Jon Keel about the KBO tool (Exhibit 46). She testified that this email was typical of the type of communications received by Planet Ocean in the early 2000s.

[51] **Kevin Lee** started Did-It in 1996. He explained that Did-It was an organic search technology company that evolved into a company that assisted marketers in monitoring their positions in search engines. He explained pay-per-click advertising in the late 1990s through the early 2000s. Did-It used GoTo as a search engine as noted in Exhibit 112. According to Mr. Lee, there were a number of companies in the early 2000s focusing on the bid search and

management business. His evidence was that this was a busy area of development with a number of companies building similar products at the same time.

[52] **Neela Morrison** is senior corporate counsel at Google LLC. She gave evidence on the corporate structure of Google LLC, Alphabet Inc., and Google Canada.

[53] **James Maccoun** is patent counsel at Google who explained Google's patent licensing agreements.

[54] **Amrit Nandan** is Director of Finance with the Ads Business Unit at Google. He provided financial information regarding Google's product areas.

[55] **Buck Farmer** is a senior finance business intelligence analyst with Google who provided evidence on Google's financial allocation system.

D. Google's Expert Witnesses

[56] **Dr. David Parkes** is a professor of computer science at Harvard University. Dr. Parkes has a Master's Degree in Engineering and Computing Science from Oxford University and a PhD in Computer and Information Science from the University of Pennsylvania. Dr. Parkes was qualified as an expert in relation to computer science, auctions, market design, search engines, machine learning, artificial intelligence, e-commerce and internet advertising, including search engine marketing. He has provided two reports marked as Exhibits 122 and 123 as follows:

Report on Patent Claim Construction and Validity, dated January 29, 2021 (Parkes First Report)

Responding Report, dated April 7, 2021 (Parkes Second Report).

[57] On claims construction, Dr. Parkes occasionally took a literal approach to the claims language rather than a purposive approach. Likewise, his skilled person possesses significant academic credentials which is not reflective of those who would be using the online advertising products in the early 2000s. However, subject to these comments, I generally preferred Dr. Parkes' evidence and his claims construction.

[58] **Michael Grehan** was qualified on consent as an expert in relation to search engines, search engine marketing, and digital marketing. Mr. Grehan authored the book *Search Engine Marketing: The Essential Practice Guide* and was the Chair of SEMPO. He authored a report dated April 7, 2021. However, as I have concerns about the objectiveness and independence of Mr. Grehan's opinions, I do not accord his opinion much weight.

[59] **Steven Tadelis** was qualified as an expert economist with expertise in the economics of institutions, economic analysis for business decisions, including those related to digital advertising and marketing strategies, contract theory, strategic sourcing and pricing, online auctions and pricing structures. Dr. Tadelis provided one report dated April 7, 2021. I have concerns about the objectivity of his report, as it was revealed in his oral evidence that a consulting firm – Analysis Group – was heavily involved in the preparation of his report. He was also selective in the Google information he relied upon.

[60] **Christopher Bakewell** was qualified on consent as an expert on intellectual property valuation and licensing related issues, including economic issues related to the determination of a reasonable royalty. Mr. Bakewell provided a report dated April 7, 2021. I have concluded that Mr. Bakewell's approach to the royalty analysis was too narrow and relied upon unsupported assumptions. If I had assessed damages, I would not have afforded his report much weight.

[61] **Errol Soriano** was qualified on consent as an expert in assessing, analyzing, and quantifying financial damages and profits; the evaluation of business interests; and forensic accounting, including in the context of intellectual property disputes like patent infringement disputes. Mr. Soriano provided one report dated April 7, 2021.

IV. The 167 Patent

[62] The patent describes the advertisers' burden of managing keyword bids on paid search engines as paid search engines became increasingly popular. As bidding on keywords increased, bid rankings changed more frequently, and managing positions became an inefficient and time-consuming task. The patent states:

> To foster competition, paid search engines have provided facilities for bidders to monitor certain statistics, such as a daily count of "hits" on particular keywords, and reports of current bids on a given single keyword. However, paid search engines have not, to date, made such competitive information readily accessible. For example, a bidder can only view current bid positions of one keyword at a time, and has no mechanism for quickly identifying large gaps in bid amounts indicative of an opportunity for bid optimization. For a content provider managing tens or hundreds of keyword bids, the burden of evaluating each keyword individually can be substantial.

[63] The patent sought to address this inefficiency. First, the patent describes a process for accumulating customers' account and keyword information (FIG. 1) and generating a keyword report (FIG. 2):

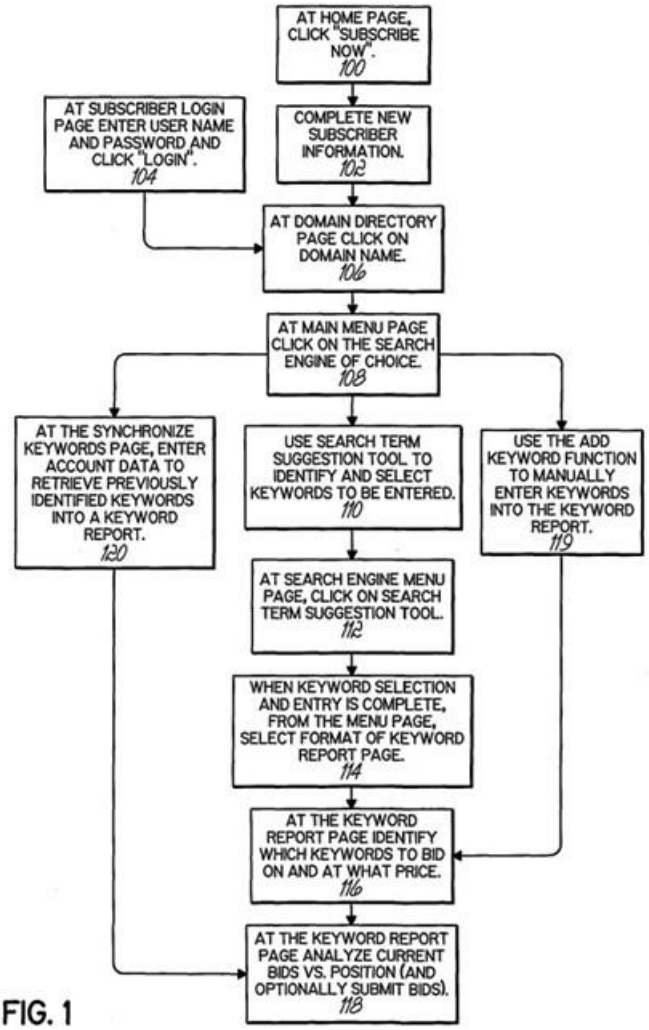


FIG. 1

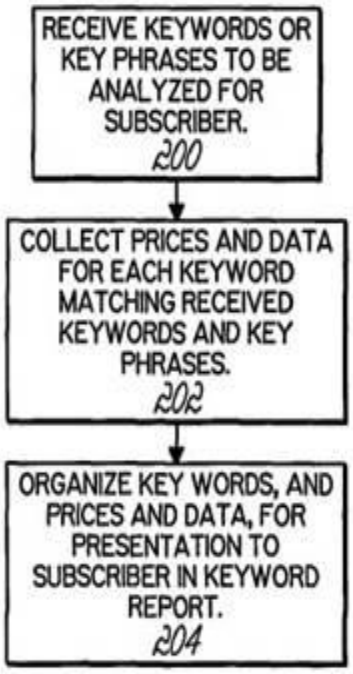


FIG. 2

[64] The patent also describes a method for identifying opportunities for customers to optimize their keyword bids:

> A method and apparatus for improving efficiencies in the current paid search engine keyword bidding market and optimizing use of use of such engines. The system accumulates bid amounts for a plurality of target keywords at one or more paid search engines and presents bid amounts to a user enabling the user to evaluate

> and optimize bids on those keywords. Bid amounts of keywords of interest are highlighted (302). Differential bids can be identified to optimize bids. Keyword bid changes are monitored to identify changes of interest to a potential bidder (306).

[65] This method of keyword bid monitoring is illustrated below in FIG. 3:

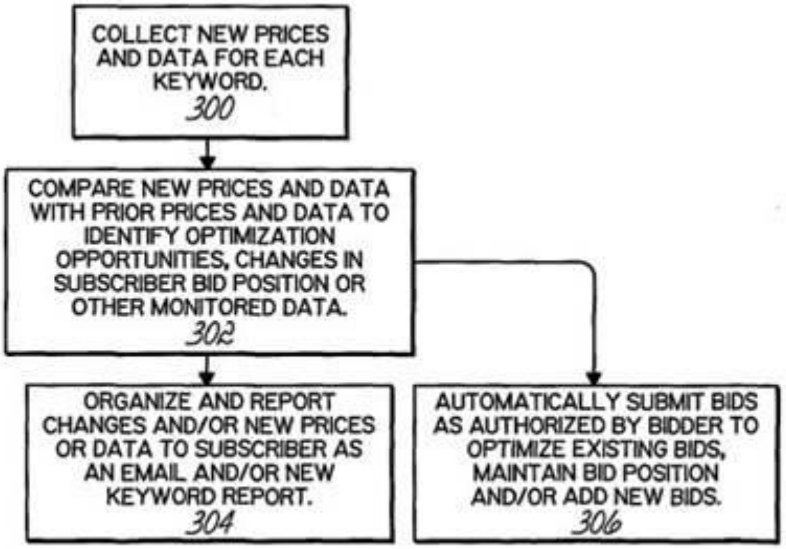


FIG. 3

V. Claims Construction

A. Legal Principles

[66] The Supreme Court in *Whirlpool Corp v Camco Inc*, 2000 SCC 67 [*Whirlpool*] states at paragraph 45 that "[t]he key to purposive construction is therefore the identification by the court, with the assistance of the skilled reader, of the particular words or phrases in the claims that describe what the inventor considered to be the 'essential' elements of his invention."

[67] The Supreme Court also stated in *Free World Trust v Électro Santé Inc*, 2000 SCC 66 [*Free World Trust*] at paragraph 44 that "[t]he courts have traditionally protected a patentee from the effects of excessive literalism."

[68] The relevant date for the purposes of claims construction is the publication date (*Whirlpool* at para 55). Here the publication date is January 10, 2002.

[69] The principles of claim construction are well summarized by Justice Fothergill in *dTechs EPM Ltd v British Columbia Hydro and Power Authority*, 2021 FC 190 at para 113 [*dTechs*] as folllows:

> The canons of claim construction are found in the Supreme Court of Canada's decisions in *Consolboard Inc v MacMillan Bloedel (Saskatchewan) Limited*, [1981] 1 SCR 504 at 520, *Whirlpool* at paragraphs 49 to 55, and *Free World Trust v Électro Santé Inc*, 2000 SCC 66 [*Free World Trust*] at paragraphs 44 to 54. They are the following:
>
> (a) the words of the claims must be read in an informed and purposive way with a mind willing to understand, viewed through the eyes of the person of ordinary skill in the art [PSA] as of the date of publication having regard to the PSA's common general knowledge;
>
> (b) the *Patent Act* promotes adherence to the language of the claims. This allows the claims to be read in the manner the inventor is presumed to have intended, and in a way that is sympathetic to accomplishing the inventor's purpose, which promotes both fairness and predictability;
>
> (c) the whole of the patent's specification should be considered to ascertain the nature of the invention, and the claim construction must be neither benevolent nor harsh, but should instead be reasonable and fair to both the patentee and the public. The focus of the analysis is on the claims; specifications will be relevant only where there is ambiguity in the claims (*AstraZeneca Canada Inc v Apotex Inc*, 2017 SCC 36 at para 31); and

(d) claim construction must be the same for the purpose of validity and for the purpose of infringement.

B. Person of Skill in the Art (PSA)

[70] As noted in *Whirlpool* at paragraph 53:

> … the patent specification is not addressed to grammarians, etymologists or to the public generally, but to skilled individuals sufficiently versed in the art to which the patent relates to enable them on a technical level to appreciate the nature and description of the invention [citations omitted].

[71] The PSA has "common knowledge in the trade" (*Whirlpool* at para 70) and "is thought to be reasonably diligent in keeping up with advances in the field to which the patent relates" (*Whirlpool* at para 74).

[72] The parties disagree on the knowledge and skills of the PSA.

[73] Google's expert Dr. Parkes says that the skilled person has "a university degree in computer science or a degree in a related field with approximately 2-5 years of experience in internet technologies generally", as well as "at least 2 years of experience with online marketing, and knowledge of search engine marketing". His skilled person would also know market design, including auction design, through a university degree or 3-6 years working on online market systems (Parkes First Report at para 24).

[74] Although both PSET's experts Ms. Stricchiola and Dr. Haruvy claim to rely upon Dr. Parkes' skilled person, they nonetheless provided their own opinions on the attributes of the skilled person which differ from Dr. Parkes on key aspects.

[75] Ms. Stricchiola says the skilled person requires "a general understanding of the structure and function of the internet as a whole" and would be familiar with "web browsers, websites, webpages, website URLs, domain names, clicks, users, and hyperlinks, and/or links". She says the skilled person would be familiar with "paid search advertising within search engines", and would be familiar with "target keywords, bidding, CPC or PPC (cost per click and pay per click, respectively), clickthrough rates (CTR), impressions, landing pages, campaign management and optimization, budget, maximum bids, rankings, results, positions, competitor keywords, user demographics, search and query volume, keyword research, and related topics" (Stricchiola First Report at para 49-52).

[76] In her opinion, the skilled person would need to have access to a web developer and/or a computer programmer/coder.

[77] Dr. Haruvy says that the skilled person would have experience and familiarity with the internet search industry and would have experience or familiarity with basic concepts in bidding. He agrees that the skilled person would include or have access to a coder. Dr. Haruvy says that the skilled person would be "a manager or executive at a portal, ISP/IAP, search engine, or advertiser tasked with making strategic pricing decisions in respect to paid search engine advertising". Further "[t]he familiarity required with (1) internet search concepts, (2)

bidding concepts, and (3) access to a coder, means that the manager described here is more likely to come from a high tech business background which would often involve college education with related exposure" (Haruvy Second Report at para 61-64).

[78] Dr. Haruvy states that there is nothing in the 167 Patent that requires much familiarity with specialized auction formats (Haruvy Second Report at para 65).

[79] I agree with Ms. Stricchiola that the skilled person would have a general understanding of the structure and function of the internet as a whole and an understanding of search engines and general search engine functionality, including from both a user and advertiser perspective. I agree that this understanding would include how to perform a search, what search results are, the difference between paid and non-paid search results, and how and where advertisers can appear within search results.

[80] I do not agree with Dr. Parkes that a degree in computer science would be necessary. I note, although not determinative, that the named inventors did not have such degrees. Furthermore, Mr. Soper – the coder for the 167 Patent – does not have a formal education in software programming.

[81] The issue that arose in cross-examination was whether the PSA personally had computer coding skills or had access to someone with those skills. Although this is an area where the experts appear to diverge, they all agree that some coding is necessary to put the 167 Patent into practice. Accordingly, coding knowledge or access to that knowledge was necessary for the

PSA. However, as noted by Dr. Haruvy, the relevant computer coding skills in the early 2000s were comparatively basic. Therefore, the skilled person would be someone with at least 2 years of coding experience or access to someone with at least 2 years of coding experience. The skilled person may therefore be a team.

[82] In my view, Dr. Parkes overstates the skilled person attributes. I do not agree that the skilled person requires a university degree as that was not reflective of the skill set of those working with paid search engines in the early 2000s. I do not reach this conclusion based upon the profile of the co-inventors, but rather based upon the state of the relevant technological development at the relevant time.

C. Common General Knowledge (CGK)

[83] In *Apotex Inc v Sanofi-Synthelabo Canada Inc,* 2008 SCC 61 [*Sanofi*] the Court noted that "[c]ommon general knowledge means knowledge generally known by persons skilled in the relevant art at the relevant time" (at para 37). The relevant time for assessing CGK is the publication date (*Eli Lilly Canada Inc v Mylan Pharmaceuticals ULC,* 2020 FC 816 at para 187 [*Eli Lilly*]).

[84] The publication date of the 167 Patent is January 10, 2002.

[85] Although the experts are not in complete agreement on what would make up the CGK, I would characterize their disagreement as more in relation to the depth of knowledge the PSA would possess, rather than the areas of knowledge.

[86] Based upon the above, in my view, the PSA would have knowledge of the following concepts:

a) Advertising on the internet, including banner ads on webpages.

b) How paid search engines like GoTo functioned.

c) Online pricing models for advertising including: cost-per-mille (CPM – a cost per thousand impressions); cost-per-click (CPC – a cost per clickthrough); and cost-per-action (CPA – where the advertiser is charged each time a user takes a predefined action).

d) Web browsers such as Netscape's Navigator and Microsoft's Internet Explorer.

e) Web scraping by fetching webpages and parsing out particular information from that web page.

f) The major search engines and web directories, including Google, Yahoo!, AltaVista, Lycos and AskJeeves.

g) Web crawling, which involved the parsing of Internet webpages to produce an index of webpages such that each webpage could be associated with search terms.

h) How to use keywords (individual words, word combinations, or short phrases) with a search engine, and understanding the association of keywords with webpage meta tags.

i) Search engine optimization (SEO), being the process of optimizing a webpage to achieve better results (higher rankings) on search engines.

j) Online auctions, including various types of auctions (like eBay), types of bidding, and auction participant behaviors including proxy bidding and the use of automatic bidding agents.

[87] On the issue of auctions, I find that Dr. Parkes' CGK is broader in scope than the field of the invention. The advanced technical aspects of auction theory and market design fields that Dr. Parkes describes would not be part of the relevant common knowledge of the skilled person at the relevant time.

[88] Dr. Haruvy also disagrees with Dr. Parkes' CGK regarding auctions. Dr. Haruvy states:

> I agree that the Parkes Skilled Person would know, as part of their common general knowledge, that bidding agents on eBay and similar sites had the potential for "bid-snipers" […]. The Parkes Skilled Person, however, would also know that unlike the single-item auctions on eBay, "winning" in the context of a paid search engine is fundamentally different from winning on eBay. Whereas "winning" on eBay or Yahoo! Auctions means taking home the prized item, winning on a paid search engine using CPC pricing is measured by a different metric - a user clickthrough. Being listed first in search engine results page is not a "win" if users do not actually click through on the displayed advertisement. Similarly, not obtaining the first position (which would clearly be a "loss" in an eBay auction), may still be a "win" in a paid search engine if it nevertheless results in a user click through (Haruvy Second Report at para 82).

[89] I conclude that a detailed understanding of auction theory is not required to understand the technical area of the 167 Patent. The PSA would have the following general knowledge of auction concepts:

- The difference between an "open" auction where all participants (bidders) know the bids of other parties, and a "closed" or sealed auction where bidders do not know the bids of others;

- First price auctions (like GoTo), where the winner pays their bid amount. In a first price closed auction, this means the winner is the highest bidder; and,

- Second price auctions (sometimes called Vickrey auctions) are auctions where the winner pays the amount of the second-highest bid. A second price auction allows bidders to bid their true value knowing that they will not be paying more than necessary.

D. Claim Terms Needing Construction

[90] In their statement of claim, PSET is asserting 6 independent claims (in bold) and the following dependent claims:

a. **Claim 1** and dependent claims 2-5, 7-9
b. **Claim 17** and dependent claims 18, 19, 22, 24, 25, 27
c. **Claim 28** and dependent claims 29-34, 36, 37, 39-43
d. **Claim 44** and dependent claims 45, 46, 55-58
e. **Claim 59** and dependent claims 60-65, 67, 70, 72-74
f. **Claim 75** and dependent claims 76-81, 83, 86, 88 and 89.

[91] Dr. Parkes construed all the claims and provided a claims chart.

[92] Ms. Stricchiola and Dr. Haruvy did not construe each asserted claim in their reports, stating that it was not necessary to do so where the claims would be understood by the skilled person according to their ordinary meaning. Ms. Stricchiola and Dr. Haruvy did not construe the following claims: 4, 5, 7, 18, 22, 24, 25, 27, 31, 33, 34, 36, 37, 39, 40, 41, 42, 43, 45, 46, 55, 56, 57, 58, 60, 61, 62, 63, 64, 65, 67, 70, 72, 73, 74, 76, 77, 78, 79, 80, 81, 83, 86, 88, and 89.

[93] Overall, I prefer the claims construction of Dr. Parkes to that of Ms. Stricchiola and Dr. Haruvy. Dr. Parkes provided a fulsome and objective approach to construction and he individually construed each claim, even when he acknowledged that is was difficult to do so.

[94] In addition to not addressing each of the asserted claims, I would describe Ms. Stricchiola's claims construction as not fully comprehensive and often lacking in detail and substance. Her approach was more aspirational rather than practical. Dr. Haruvy's construction was less comprehensive, and was more of a critique of Dr. Parkes' construction.

Claim 1 (paragraph lettering added)

1. A method of managing a bidder's bid to pay for the use of a bidder-supplied Internet link, the bid identifying a target keyword and an amount the bidder is willing to pay to a search engine when the search engine presents the bidder-supplied link as one of a plurality of search results in response to a search using the target keyword and the link is then used by a recipient of the search results, comprising:

   (a) retrieving a web page used to supply and gather information on the bidder's bids made to the search engine, the web page presenting one or more keywords and information on the bidder's bids relating to those keywords;

   (b) entering into the web page a target keyword and the amount the bidder is willing to pay when the bidder-supplied Internet link is presented in a list with other search results in response to a search using the target keyword and the bidder-supplied Internet link is used by a recipient of the search results;

> (c) authorizing an automatic reduction of the entered bid amount to a lower amount that will not change the position of the bidder-supplied Internet link relative to the other search results presented in the list of search results; and
>
> (d) retrieving a web page reporting at least one previously authorized automatic reduction in the amount bid and paid for a use of the bidder-supplied Internet link.

[95] Claim 1 is a method claim that outlines various steps.

[96] All experts agree that **bidder** is a reference to the advertiser or their representative who provided the advertisement and who will be charged by the paid search engine when users click on its advertisement.

[97] The **bidder's bid** is the amount of money that the advertiser is willing to pay for a click on their hyperlink and/or to maintain a specific ranking or position for that hyperlink.

[98] I construe the step in 1(a) **retrieving a web page used to supply and gather information on the bidder's bids made to the search engine** to mean that the bidder obtains a webpage that presents the information on the bidder's bids and allows the bidder to input information. The phrase **the web page presenting one or more keywords and information on the bidder's bids relating to those keywords** refers to the webpage displaying the bidder's keywords, the current bids on those keywords and information, such as the URL.

[99] For step 1(b), I construe **entering into the web page a target keyword** as the step when the bidder inputs a keyword that is the target of its advertising and the **amount the bidder is willing to pay** is the entered bid amount. The **bidder-supplied internet link is used**

by a recipient of the search results is the advertiser's (bidder)'s ad containing a hyperlink to their website.

[100] The experts disagree on the construction of 1(c) which states **authorizing an automatic reduction of the entered bid amount to a lower amount that will not change the position of the bidder-supplied Internet link relative to the other search results presented in the list of search results.**

[101] Dr. Haruvy states that 1(c) would be understood to incorporate: "(1) a generalized second price mechanism; (2) automation of a possible bid reduction; and (3) optimization" (Haruvy Second Report at para 111).

[102] He goes on to define a generalized second price auction (GSP auction):

> A generalized second-price mechanism ("GSP") is not explicitly referred to by that name in the patent but is a mechanism nevertheless clearly described in the patent. It refers to an auction mechanism for multiple items, where in the present case the multiple items are the different ranks/slots in the search results. Each bidder places a bid. The highest bidder gets the first slot, the second-highest, the second slot and so on. The highest bidder pays for a click through at the price bid by the second-highest bidder plus some minimum bid increment (i.e., $0.01), the second-highest pays for a click through the price bid by the third-highest plus the minimum bid increment, and so on (Haruvy Second Report at para 112).

[103] Dr. Haruvy also highlighted that second price auctions and GSP auctions "have little in common in terms of auction properties" (Haruvy Second Report at para 94). Ms. Stricchiola also construes claim 1 to incorporate a GSP auction.

[104] I agree that 1(c) makes reference to the automation of a bid reduction. However, I do not accept a construction of claim 1(c) that introduces an auction mechanism as it does not disclose or support a construction that it is a stand-alone or self-supporting method for an auction. Claim 1(c) states that it is designed to function within a paid search engine.

[105] I adopt Dr. Parkes' construction of 1(c) to mean a bid collapse. The words **will not change the position of the bidder-supplied Internet link relative to the other search results presented in the list of search results** means that the amount submitted to the paid search engine will not change the position or rank of the bidders link in the search results list relative to the other search results even though the bidder's bid amount has been lowered.

[106] For step 1(d) Ms. Stricchiola construes **amount bid and paid** as being different amounts. She says the amount bid is the bidder's bid and the amount paid is the final amount charged by the search engine, which may be lower than the amount bid as a result of the authorized automatic reduction (Stricchiola First Report at para 61). Dr. Haruvy agrees that the bid amount is not necessarily the amount paid (Haruvy Second Report at para 123).

[107] Dr. Parkes says that the **amount bid and paid** refers to one amount only. He says that it means the bid submitted to the paid search engine is the amount paid for a click on the link (Parkes First Report, pg 58). He claims this is how the mechanism of a first price auction as used on GoTo.com and other paid search engines worked.

[108] I adopt Dr. Parkes' construction of 1(d) being a reference to one amount. This is consistent with the words chosen to describe the claim and is consistent with the intention that the patent is designed to function on then existing search engines. While bidding and paying may happen in two steps, the structure of the words used only supports an interpretation of it being a reference to one amount of money. It does not say "amount bid and amount paid" which would be suggestive of different amounts. Nor does it refer to "amounts". Ms. Stricchiola and Dr. Haruvy's construction of 1(d) would invite the possibility of multiple changes in the "amount". However, the inventors chose the singular "amount" and not "amounts". As well, there is no reference to the "final amount" if the phrase is intended to reference changes made throughout or during the bidding process.

Claim 2

2. The method of claim 1 further comprising retrieving one or more web pages that present statistic data on activity relating to the target keyword at the search engine.

[109] I construe **statistic data** to be a reference to statistics of the target keyword including the number of times a particular keyword was searched or used at the search engine.

Claim 3

3. The method of claim 2 wherein the statistic data comprises one or more of:
   the rate of use of a target keyword by users of the search engine;
   demographics of users of the target keyword;
   demographics or commercial information regarding bidders on the target keyword;
   identification of additional keywords used in conjunction with the target keywords by searches of a Internet search engine; and
   identification of additional keywords bid upon by bidders on the target keyword.

[110] This is a method that relates to the statistic data referred to in claim 2. The information referred to here is gathered from the search engine(s) and is made up of search (query) volume of a target keyword or topics related to the target keyword.

[111] I do not agree with Ms. Stricchiola and Dr. Haruvy who state that CTRs would be a rate of use. CTRs were part of the CGK and if the inventors intended to include that function here it would have been specified.

[112] Dr. Parkes states the **rate of use of a target keyword by users of the search engine** means the frequency of searches of the target keyword at the paid search engine, and points to the "view" column in the sample report at Figure 4 of the 167 Patent as an example (Parkes First Report, pg 59).

[113] Neither Ms. Stricchiola nor Dr. Haruvy construed the remaining terms of claim 3.

[114] The **demographics of users of the target keyword** means the information on users of the paid search engine who have searched using that keyword and would include gender, age, and location (Parkes First Report, pg 59).

[115] The **demographics or commercial information regarding bidders on the target keyword** would mean the information about the entities that are bidding on the target keyword on the paid search engine and such information might include the business sector or size of a business.

[116] I construe **identification of additional keywords used in conjunction with the target keywords by searchers of a Internet search engine** to mean the words used in the search string alongside the target keywords by searchers of an Internet search engine. I construe **identification of additional keywords bid upon by bidders on the target keyword** to mean other keywords bid on by the bidders who also bid on the target keyword (Parkes First Report, pg 60).

Claim 4

4. The method of claim 1 wherein the authorized automatic reduction is constrained by a minimum currency amount.

[117] This limits claim 1 such that the automatic reduction does not occur when the difference between the "entered amount" and the lower amount is smaller than a minimum currency amount (Parkes First Report, pg 60).

Claim 5

5. The method of claim 4 wherein the minimum currency amount is one cent.

[118] This limits claim 4 and claim 1 to a minimum bid of one cent.

Claim 7

7. The method of claim 1 wherein the authorized automatic reduction is a result of a change in a bid of another party.

[119] I construe this to mean that any authorized reduction because of a change in a bid at the paid search engine of another bidder on the target keyword.

Claim 8

8. The method of claim 1 wherein the authorized automatic reduction is performed in response to bids of other parties and other data.

[120] I agree with Dr. Parkes' construction that **other data** is a reference to non-bid data such as changes in keyword bid position, or an increase or decrease in the use of the keyword by users of the paid search engine. This is supported by Figure 4, which provides for reporting of keyword views data to a bidder (Parkes First Report, pg 61).

Claim 9

9. The method of claim 8 wherein the authorized automatic reduction is based on demographic information pertaining to searchers of the target keyword.

[121] As I have construed claim 8 in relation to keywords, I adopt Dr. Parkes' construction that **demographic information pertaining to searchers of the target keyword** to mean the demographics of the searchers of the target keyword(s) on the paid search engine and would include information like the age, gender, or location of a user.

Claim 17 (paragraph lettering added)

17. A method of managing an offeror's offer for a keyword made to a search engine, said offer identifying an amount said offeror will pay upon a searcher's use of an offeror-supplied reference located upon the keyword within said search engine, comprising

(a) receiving an authorization from said offeror,

(b) after receipt of said authorization, monitoring keyword offers at one or more Internet search engines to identify a change in said offeror's offer of interest to said offeror, and

(c) implementing said change in said offeror's offer on behalf of said offeror based upon the previously received authorization without further intervention of said offeror.

[122] Claim 17 is a method claim with various steps.

[123] Both Ms. Stricchiola and Dr. Haruvy construe the phrase **offeror's offer** as being broader than a "bidder's bid" (Stricchiola First Report at para 66; Haruvy Second Report at para 132).

[124] Dr. Parkes construes **offeror's offer** to means a bidder's bid and **identifying an amount said offeror will pay upon a searcher's use of an offeror-supplied reference** as meaning the money amount the bidder will pay the paid search engine when a searcher clicks their URL or hyperlink (Parkes First Report, pg 62).

[125] I adopt the construction that the offeror's offer is the bidder's bid.

[126] The step at 17(a) refers to the receiving the authorization for the offer.

[127] Ms. Stricchiola construes 17(b) **change in said offeror's offer of interest to said offeror** to be "contemplating that the offeror may be willing to offer different amounts for a clickthrough based on various criteria 'of interest' to them. This element does not specifically limit the types of information or criteria that may be of interest to an offeror, other than that they relate to offers at one or more (paid) search engines" (Stricchiola First Report at para 66). I find this construction is vague and does not provide guidance to the PSA on how to put this element into practice.

[128] I adopt Dr. Parkes' construction of 17(b) **monitoring keyword offers at one of more Internet search engines**, to mean repeatedly checking keyword bids at one or more paid search

engines, where monitoring can be done either automatically or manually (Parkes First Report, pg 63). He construes **identify a change in said offeror's offer of interest to said offeror** to mean "using the values of the monitored keyword bids to identify changes of interest" and either increasing a bid to recapture the bidder position or decreasing a bid where there is a bid gap (Parkes First Report, pg 63).

[129] The phrase at 17(c) – **implementing said change in said offeror's offer on behalf of said offeror based upon the previously received authorization without further intervention of said offeror** is construed by Ms. Stricchiola as referring to the automated function of changing the offer as a result of prior authorization by the advertiser (Stricchiola First Report at para 66). Dr. Haruvy adopts a similar construction (Haruvy Second Report at para 138).

[130] I adopt a construction of 17(c) that means making the change of interest to the offeror's offer and submitting the changed offer to the paid search engine.

[131] I do not agree that an automated function is specifically called out in claim 17(c) in relation to implementing the authorized change. The change is referenced in relation to the authority to do so, rather than an automatic function. Therefore the "change" called out in claim 17(c) may be done manually. This claim speaks to the authority to make the change – not the process by which the change is implemented.

Claim 18

18. The method of claim 17 wherein the identified change creates a differential in offers meeting certain criteria.

[132] I agree with Dr. Parkes that the skilled person would understand this to mean that "the identified change of interest creates a differential in the bids on a keyword meeting a certain criteria, for example, creating a differential of more than $0.01, or some other amount" (Parkes First Report, pg 64).

Claim 19

19. The method of claim 18 wherein said criteria identify differentials in offers characteristic of optimization opportunities.

[133] This claim relates back to claim 18 and speaks to the change being in relation to optimization opportunities (meaning closing a bid gap).

Claim 22

22. The method of claim 17 wherein the change comprises increasing an offer to obtain a rank position.

[134] I construe this to mean an increase in a bid to capture or recapture a desired position.

Claim 24

24. The method of claim 17 wherein the change is identified as a result of an increase or decrease in the use of a keyword by searchers of the search engine.

[135] This means, in relation to claim 17, a change that is promoted by the frequency of which a keyword is searched on a paid search engine.

Claim 25

25. The method of claim 17 wherein the change is identified as a result of a change in an offer of another party.

[136] I construe this to mean a change that is prompted by a change made by another user.

Claim 27

27. The method of claim 17 wherein said change is generated in response to offered prices and other data.

[137] I construe this to mean a change that is made in response to monetary and keyword information.

Claim 28 (paragraph lettering added)

28. A method that manages pay-per-click advertising, by determining an amount to be charged in response to a click of a hyperlink associated with a target keyword, comprising

(a) accessing with a computer processor, a particular amount a first advertiser is willing to be charged in response to a click of a hyperlink associated with said first advertiser;

(b) accessing with a computer processor, a statistic of relevance to said first advertiser and a statistic of relevance to a second advertiser, said statistics being related to one or more of rate of use by users, number of times a hyperlink was viewed, data that relates to an increase or decrease in the use of a keyword by users, demographics of users associated with a keyword, or demographics of advertisers associated with a keyword;

(c) without human intervention, determining with a computer processor, an amount to be charged to said second advertiser in response to a click of a hyperlink associated with said target keyword and said second advertiser; and

> (d) wherein said amount to be charged to said second advertiser is determined using said particular amount, and is also determined using said statistic of relevance to said first advertiser and said statistic of relevance to said second advertiser.

[138] Ms. Stricchiola construes claim 28 as a new method that is different from claim 1, and is "directed to determining the actual amount to be charged (the price) for a click to an advertiser's ad, by accessing various other information beyond the bidder's bid […]." She construes this as being accomplished with "steps for accessing statistics related to the measurement of an advertiser's ad's 'relevance' to a searcher's (user's) search for a target keyword" (Stricchiola First Report at paras 67-69).

[139] According to Ms. Stricchiola's construction, the phrase at 28(b) **statistic of relevance** would include "relevance-related measurements, including but not limited to a 'statistic on a rate of use of a keyword' (such as query volume), clickthrough rate (CTR), and other advertiser-based statistics" (Stricchiola First Report at para 69).

[140] Ms. Stricchiola construes 28(d) – **determined using said particular amount, and is also determined using said statistic of relevance to first advertiser and said statistic of relevance to second advertiser** – to "broadly describ[e] a general process by which the search engine determines the actual amount to charge an advertiser for a click to their ad whereby a statistic of relevance for two or more competing ads is used to determine the cost of a click to an ad" (Stricchiola First Report at para 69).

[141] Dr. Parkes construes claim 28 as calling out a method to manage pay-per-click advertising with steps to determine the amount to charge for pay-per-click advertising in an auction (Parkes First Report, pg 65).

[142] Dr. Parkes construes **an amount to be charged in response to a click of a hyperlink associated with a target keyword** to be the amount that is charged to the advertiser when the hyperlink is clicked (i.e. the cost or price per click). He states "a 'target keyword' would be understood to mean a particular word, combination of words or short phrase that a bidder is bidding on in relation to pay-per-click advertising, such as pay-per-click advertising at a paid search engine" (Parkes First Report, pg 66).

[143] Dr. Parkes also states that the skilled person would understand 28(a) **accessing with a computer processor, a particular amount a first advertiser is willing to be charged in response to a click of a hyperlink associated with said first advertiser** to mean "using a computer that is determining the price, and reading from somewhere a bid amount of a 'first advertiser'. The Skilled Person would understand this bid amount to be a bid on the target keyword" (Parkes First Report, pg 66).

[144] Claim 28(b) **rate of use by users** is construed by Dr. Parkes to mean "the rate of use of a target keyword by users of a paid search engine" (Parkes First Report, pg 66). Ms. Stricchiola and Dr. Haruvy did not construe this term.

[145] Dr. Parkes states that the skilled person would understand 28(b) **accessing with a computer processor, a statistic of relevance to said first advertiser and a statistic of relevance to a second advertiser, said statistics being related to one or more of** to mean "using a computer and reading from somewhere a 'statistic of relevance' to the 'first advertiser' and a 'statistic of relevance' to a 'second advertiser'" where these are two distinct advertisers (Parkes First Report, pg 66).

[146] Dr. Parkes construes 28(c) **without human intervention, determining with a computer processor, an amount to be charged to said second advertiser in response to a click of a hyperlink associated with said target keyword and said second advertiser** to mean a computer automatically determining the pay-per-click amount to the second advertiser when their is a click of their hyperlink associated with the target keyword (Parkes First Report, pg 67).

[147] Contrary to Ms. Stricchiola's construction that **statistic of relevance** relates to the advertisement itself, Dr. Parkes interprets **statistic of relevance** to relate to the advertiser.

[148] I agree with Dr. Parkes and construe **statistic of relevance** to be a reference to the statistics relevant to the advertiser in relation to keywords. Nowhere does the patent nor the specifications speak to the assessment of the advertisement itself. The consistent theme throughout the patent is the activity of other advertisers relative to keywords. This is consistent with the language of the claims and the overall invention of the patent – that is, to improve the efficiencies in online marketing and address competition among advertisers.

[149] For claim 28, I adopt Dr. Parkes' construction.

Claim 29

29. The method of claim 28 wherein at least one said statistic comprises a statistic on the rate of use of a keyword.

[150] This would be understood to mean that the rate of use of a keyword by users is a statistic of relevance.

Claim 30

30. The method of claim 28 wherein at least one said statistic is related to a number of times a link to an advertiser's web site is produced by a paid search engine over a period of time.

[151] The skilled person would understand this to be a reference to the number of times an advertiser's hyperlink was viewed over a period of time at a paid search engine.

Claim 31

31. The method of claim 28 further comprising accessing additional keywords related to the target keyword.

[152] This would be understood to be a step of obtaining other keywords that have been used in conjunction with the target keyword (Parkes First Report, pg 68).

Claim 32

32. The method of claim 28 further comprising providing at least one said statistic for display on a single display screen to a user.

[153] I adopt Dr. Parkes' construction that '**a user**' means a searcher on the paid search engine and that this claim refers to a display of at least one of the statistics accessed (Parkes First Report, pg 68).

Claim 33

33. The method of claim 32 further comprising providing said amount for display on said single display screen.

[154] This relates back to claim 32, and would be understood to be the amount to be charged for the advertiser's hyperlink on the display screen.

Claim 34

34. The method of claim 28 further comprising providing said amount for display on a single display screen to a user.

[155] Dr. Parkes states that the skilled person would understand this to be "adding an additional step to claim 28 of providing for display on a single display screen to 'a user' the 'amount to be charged to said second advertiser', where 'a user' means a searcher on the paid search engine, i.e., displaying the cost per click amount of an advertiser's hyperlink in the paid search results" (Parkes First Report, pg 69).

[156] I adopt Dr. Parkes' construction.

Claim 36

36. The method of claim 28 wherein said determining step is performed by a computer responsible for making decisions on said second advertiser's use of pay-per-click marketing.

[157] I adopt Dr. Parkes' construction that this claim is "limiting claim 28 such that the computer determining 'an amount to be charged to said second advertiser' (i.e. determining the cost per click) is the same computer that is 'responsible for making decisions on said second advertiser's use of pay-per-click marketing'". Dr. Parkes also construes **computer responsible for making decisions on said second advertiser's use of pay-per-click marketing** to mean "the computer managing the use of the pay-per-click marketing for the advertiser, i.e., the computer responsible for managing the bid of the second advertiser" (Parkes First Report, pg 69).

Claim 37

37. The method of claim 36 further comprising sending said amount from said computer responsible for making decisions.

[158] I agree with Dr. Parkes' construction that the skilled person would understand this claim to be "adding an additional step to claim 36 in which the computer that determines an amount to be charged sends the amount to be charged somewhere. For example, the computer determines and then emails the amount to the second advertiser, or sends it to another computer" (Parkes First Report, pg 69).

Claim 39

39. The method of claim 28 wherein said amount meets pre-identified requirements of said second advertiser

[159] I construe this to mean that the amount referenced in claim 28 is determined by requirements as set by the second advertiser.

Claim 40

40. The method of claim 28 wherein determining the amount includes the use of a minimum currency amount.

[160] This limits the method of claim 28 to a minimum amount of money.

Claim 41

41. The method of claim 28 further comprising identifying keywords that have been used in conjunction with the keyword.

[161] This phrase would be understood to be a reference to the identification of other keywords that have been used in conjunction with the submitted keyword.

Claim 42

42. The method of claim 28 wherein one of said statistics comprises a statistic on the rate of use of a keyword and the other of said statistics is related to a number of times a link to an advertiser's web site is produced by the paid search engine over a period of time.

[162] I adopt Dr. Parkes' construction that the skilled person would understand this claim to be "limiting claim 28 to when the two statistics of relevance are 'a statistic on the rate of use of

a keyword' and a statistic 'related to a number of times a link to an advertiser's web site is produced by the paid search engine over a period of time'" (Parkes First Report, pg 70).

Claim 43

43. The method of claim 28 wherein said hyperlink associated with said first advertiser is ranked below said hyperlink associated with said second advertiser.

[163] This would be understood to be a reference to the position of first and second advertisers' hyperlinks in a paid search engine's results page.

Claim 44

44. A method that manages pay-per-click advertising, by determining an amount to be charged in response to a click of a hyperlink associated with a target keyword, comprising

    accessing with a computer processor, a particular amount a first advertiser is willing to be charged in response to a click of a hyperlink associated with said first advertiser,

    accessing with a computer processor, first and second different statistics related to one or more of a rate of use by users, number of times a hyperlink was viewed, data that relates to an increase or decrease in the use of a keyword by users, demographics of users associated with a keyword or demographics of advertisers associated with a keyword, and

    without human intervention, determining with a computer processor, an amount to be charged to a second advertiser in response to a click of a hyperlink associated with said target keyword and said second advertiser,

    wherein said amount to be charged to said second advertiser is determined using said particular amount, and is also determined using said first and second statistics.

[164] The experts agree that claim 44 and claim 28 are identical except that claim 44 refers to "statistics" whereas claim 28 refers to "statistics of relevance".

[165] Ms. Stricchiola construes "statistics" in claim 44 to mean something broader than (but including) the "statistics of relevance" from claim 28. She states that the difference is to whom the statistics apply (Stricchiola First Report at para 70). In my view, this construction is vague and does not promote an understanding of the language used in the claim.

[166] Dr. Parkes construes differences between claim 44 and claim 28 as follows:

> (i) In claim 28, the two statistics used to determine the amount to be charged to the second advertiser are "of relevance" to the first and second advertisers, respectively. In claim 44, there is no requirement that the statistics be relevant to the first and second advertisers.
>
> (ii) In claim 28, the two statistics used to determine the amount to be charged to the second advertiser can be the same statistic, but of relevance to each of the first and second advertisers. For example, in claim 28, both statistics could be the "rate of use by users". In contrast, in claim 44, the two statistics used to determine the amount to be charged to the second advertiser must be "different" statistics within the list of identified statistics (Parkes First Report at para 144).

[167] As I adopted Dr. Parkes' claims 28 construction, I also adopt his construction of claim 44.

[168] Further, the claims construction of the claims dependent on claim 44 will refer back to the corresponding dependent claims of claim 28.

Claim 45

45. The method of claim 44 wherein the statistic on a rate of use comprises a statistic on rate of use of a keyword.

[169] This is construed the same as claim 29 above.

Claim 46

46. The method of claim 44 wherein the statistic on a rate of use is related to a number of times a link to an advertiser's web site is produced by the paid search engine over a period of time.

[170] This is construed the same as claim 30 above.

Claim 55

55. The method of claim 44 further comprising determining a position of a hyperlink associated with an advertiser-specified Internet address relative to other hyperlinks associated with the keyword.

[171] I construe this to mean the advertiser understanding the position of their hyperlink relative to other hyperlinks in response to a keyword search.

Claim 56

56. The method of claim 44 wherein determining the amount includes the use of a minimum currency amount.

[172] Like claim 40 above, this is a reference to a minimum amount of money.

Claim 57

57. The method of claim 44 further comprising identifying keywords related to the target keyword.

[173] Like claims 31 and 41, this would be understood to be a reference to the identification of other keywords that have been used in conjunction with the submitted keyword.

Claim 58

58. The method of claim 44 wherein said hyperlink associated with said first advertiser is ranked below said hyperlink associated with said second advertiser identifying keywords related to the target keyword.

[174] Dr. Parkes construes the first part of claim 58 consistently with the construction of the same words in claim 43. However, he says that the additional phrase **identifying keywords related to the target keyword** is a typographical error (Parkes First Report, pg 74).

[175] I agree with and adopt Dr. Parkes' construction.

Claim 59

59. A computer system that manages pay-per-click advertising, by determining an amount to be charged in response to a click of a hyperlink associated with a target keyword, comprising

a memory, and

processing hardware configured to:

access from memory a particular amount a first advertiser is willing to be charged in response to a click of a hyperlink associated with said target keyword and associated with said first advertiser,

access from memory a statistic of relevance to said first advertiser and a statistic of relevance to a second advertiser, said statistics being related to one or more of rate of user by users, number of times a hyperlink was viewed, data that related to an increase or decrease in the use of a keyword by users, demographics of users associated with a keyword, or demographics of advertisers associated with a keyword, and

> without human intervention, determine an amount charged to a second advertiser in response to a click of a hyperlink associated with said target keyword and said second advertiser,
>
> wherein said amount to be charged to said second advertiser is determined using said particular amount, and is also determined using said statistic of relevance to said first advertiser and said statistic of relevance to said second advertiser.

[176] Claim 59 includes the same elements as claim 28 except that it refers to a computer system that manages pay-per-click advertising.

[177] Ms. Stricchiola states, "[c]laim 59 is conceptually similar to claim 28 with the exception that the claim is directed to a computer system rather than a method" (Stricchiola First Report at para 72). Dr. Haruvy agrees (Haruvy Second Report at para 146).

[178] Dr. Parkes agrees that claim 59 is very similar to claim 28, and the skilled person would have the same technical understanding of claim 59 as claim 28. For claim 59, "the Skilled Person would know that they require a computer (or 'a computer system') to have a memory and processing hardware configured to access that memory" (Parkes First Report at para 149).

[179] I agree that claim 59 is similar to claim 28, and adopt Dr. Parkes' construction of the essential elements as described in claim 28.

Claims 60, 61, 62, 63, 64, 65, 67, 70, 72, 73, 74

[180] I construe these claims in the same manner as the similarly worded claims 29, 30, 31, 32, 33, 34, 36, 39, 41, 42 and 43.

Claim 75

75. A computer system that manages pay-per-click advertising, by determining an amount to be charged in response to a click of a hyperlink associated with a target keyword, comprising

a memory, and

processing hardware configured to:

access from memory a particular amount a first advertiser is willing to be charged in response to a click of a hyperlink associated with said first advertiser,

access from memory first and second different statistics related to one or more of a rate of use by users, number of times a hyperlink was viewed, data that relates to an increase or decrease in the use of a keyword by users, demographics of users associated with a keyword or demographics of advertisers associated with a keyword, and

without human intervention, determine an amount, to be charged to a second advertiser in response to a click of a hyperlink associated with said target keyword and said second advertiser,

wherein said amount to be charged to said second advertiser is determined using said particular amount, and is also determined using said first and second statistics.

[181] I adopt Dr. Parkes' construction of claim 75 as being similar to claim 44 except that it refers to a computer system and not a method. Otherwise, in all other respects the claims are identical (Parkes First Report, pg 76).

Claims 76, 77, 78, 79, 80, 81, 83, 86, 88, 89

[182] I construe these claims in the same manner as the similarly worded claims 45, 46, 39, 32, 33, 34, 36, 55, 57, and 43.

VI. Validity

[183] Google raises a number of validity issues with the 167 Patent. Once a patent is issued, it is presumed to be valid (*Patent Act*, RSC 1985, c P-4 [*Patent Act*], s. 43(2)). Accordingly, Google bears the burden of proof.

[184] Below I will address the validity issues that are determinative of this action.

A. Sufficiency

[185] Google alleges that claims 8, 9, 24, 27, 28, 44, 59 and 75 are not valid as they are not sufficiently disclosed.

Legal Principles

[186] Subsection 27(3) of the *Patent Act* requires that the specification of a patent correctly and fully describe the invention and the operation or use of the invention as contemplated by the inventor.

[187] The test for sufficiency was set out in *Teva Canada Ltd v Pfizer Canada Inc*, 2012 SCC 60 [*Teva*] at paragraph 90: "the relevant question is whether the disclosure was sufficient as of the date of filing." The Court asks:

1) What is the invention;
2) How does it work; and,
3) Having only the specification, can a POSITA successfully produce the invention using only the instructions contained in the disclosure (*Teva* at paras 70-71).

[188] Sufficiency has two requirements: disclosure and enablement. As described by Justice Stratas, "the details published by the inventor in the disclosure must permit a person skilled in the art to recreate the invention as claimed" (*Hershkovitz v Tyco Safety Products Canada Ltd*, 2010 FCA 190 at para 14).

[189] A mere conception is not an invention unless the idea is also set into a practical shape (*Apotex Inc v Wellcome Foundation Ltd*, 2000 CanLII 16270 (FCA) at para 31).

[190] Further, as noted by Justice Binnie in *Free World Trust* at para 32:

> The claims cannot be stretched to allow the patentee to monopolize anything that achieves the desirable result. It is not legitimate, for example, to obtain a patent for a particular method that grows hair on bald men and thereafter claim that *anything* that grows hair on bald men infringes [emphasis in original].

Analysis

[191] The invention of the 167 Patent is a method and apparatus to ease the burden for advertisers managing keyword bids on paid search engines. The 167 Patent does not disclose the operation of a paid search engine and it does not disclose an auction. It is a method designed to work on the pricing formats (auctions) used on the existing paid search engines.

[192] Ms. Stricchiola's evidence – both in her testimony and in her expert report – was that the 167 Patent is a "concept" that requires a "further step" to put the invention into practice (Stricchiola Second Report at para 118).

[193] Both Ms. Stricchiola and Dr. Haruvy claim that the patent discloses a GSP auction, but state that the patent is not bound by a specific logic or algorithm. Dr. Haruvy states that a skilled person would be able to use non-bid data by virtue of their knowledge of multi-dimensional auctions. This, however, is in contrast to his opinion that the PSA does not require in-depth knowledge of auction design.

[194] As noted in my construction of claim 1 of the patent, I do not construe the claims language to disclose a GSP auction. The patent claims, the specifications, and the embodiments do not disclose the workings of a GSP auction or detail steps or methods to achieve that process.

B. Sufficiency of Claims 8, 9, 24 and 27

[195] Google's expert, Dr. Parkes, states that dependent claims 8, 9, 24 and 27 are not sufficiently disclosed.

[196] Dr. Parkes says that claims 8 and 9 lack sufficient disclosure or direction on how use the information from "other data" (claim 8) and/or "demographic information" (claim 9) to modify a bid amount (Parkes First Report at paras 193-197).

[197] Dr. Parkes also says that claim 24 does not provide any direction on how to modify a bid in a meaningful way based upon the increase or decrease in the use of a keyword by searchers (Parkes First Report at para 200).

[198] On claim 27, Dr. Parkes says that the reference to "offered prices" and "other data" is missing any direction or instruction on how put this information to use in practicing the patent.

[199] On claim 9, I agree that there is no disclosure of how the PSA is to authorize an automatic reduction of a bid based on the demographic information of searchers. For example, accepting that "demographic information" would include information like the age, gender, or location of a user, the patent does not enable the PSA to understand how to determine whether to reduce their bid if the searchers of their target keyword (i.e. "Christmas cards") are determined to be mainly comprised of 25-35 year-olds in Ontario.

[200] Regarding claims 8, 24, and 27, I am satisfied that the PSA with the CGK would be able to put these claims into use when these claims are considered in the context of the full patent, including the specifications and the embodiments.

[201] I therefore conclude that dependent claims 8, 24 and 27 are sufficiently disclosed.

C. Sufficiency of Claims 28, 44, 59 and 75

[202] The experts agree that independent claims 28, 44, 59 and 75 of the 167 Patent teach a different method and process from those disclosed in claims 1-27. Specifically, claims 28 and higher claim methods and systems for the management of pay-per-click advertising with a computer system (claim 59 and 75) and a computer processor (claim 28 and 44) with reference to statistics of relevance (claims 28 and 59) and statistics (claim 44 and 75).

[203] The patent language, the specifications and the embodiments do not provide any further direction on the function or operation of the pay-per-click advertising process itself. The 167 Patent is silent on technical direction on how to put the pay-per-click advertising process into practice on a computer system or a computer processor. There is no code or algorithm on how to put the claims into practice. The specifications and the embodiments also fail to disclose a methodology or code to be used in order to put the pay-per-click advertising functions into practice on a search engine.

[204] The patent also fails to explain or disclose how to make use of the statistical information referenced in these claims. The claims, specifications, and embodiments provide no direction

or information on how the statistics are compiled, or how to use this information once compiled within the computer system or computer processor. Even accepting that the relevant statistical information will differ among advertisers, the PSA must nonetheless be able to take the patent and put the patent into use based upon the claims language, specifications and embodiments. There is an absence of information in the specifications on how to compile the statistical information and how to put that information to use for the purpose of bidding.

[205] Despite the absence of information in the specifications on how or what the PSA is to do with the statistics, I recognize that the Court must endeavor to give a purposive construction to the claims. However, the Court cannot rewrite the claims and must assess the claims based on the language used. The PSA would possess knowledge of advertising on the internet and some coding ability, however, I am not satisfied that the PSA would possess the technical knowledge necessary to put these claims into practice even with the use of the broad applicable CGK.

[206] I therefore conclude that claims 28, 44, 59 and 75 (and the dependent claims) which are largely stand-alone claims within the 167 Patent, are not sufficiently disclosed and cannot be enabled. Therefore they are not valid.

[207] Having concluded that claims 9, 28, 44, 59 and 75 are not valid they will not be considered under the anticipation or obviousness analysis.

D. Priority Date

[208] The applicable filing date is relevant for the anticipation and obviousness analysis.

[209] The application for the 167 Patent was filed on July 5, 2001, and claims priority to the 976 Patent that was filed on July 5, 2000.

[210] The legal test governing priority claims to an earlier filed application is set out in subsection 28.1(1) of the *Patent Act*, which requires that the priority patent disclose the subject-matter defined by the asserted claims.

[211] In *Hospira Healthcare Corporation v Kennedy Trust for Rheumatology Research*, 2020 FCA 30 [*Hospira*] at para 63, the Court confirmed that the question of priority affects which prior art may be relevant for the purposes of the attack on the validity of the patent.

[212] In the 976 Patent application, the invention is titled "Paid Search Engine Bid Management" and the inventors are Jon Keel, Juan Velez, and Daren Murrer. The field of invention states: "[t]he present invention relates to the management of advertising expenses in online media." The 976 Patent discloses the following under the heading 'benefit'":

> Function 1 = get knowledge (Vs information) to make informed decisions about marketing using Paid Search Engines
> Element 11 = Compile the information
> Element 12 = Organize the information
> Function 2 = Monitor changes and opportunities
> Element 21 = Compile the information
> Element 22 = Compare the information
> Element 23 = Get opportunities and changes to the people or computer who make the decision about how to use the Paid Search Engines

[213] The parties agree that priority date considerations apply only to claims 1-27 of the 167 Patent, as claims at 28 and higher are different. For the priority date to apply, the 976 Patent must disclose claims 1 to 27 of the 167 Patent.

[214] Google's expert Dr. Parkes argues that the 976 Patent is limited to the KBO bid monitoring tool, and since claims 1-27 of the 167 Patent relate to a bid management tool, the 976 Patent does not disclose these claims (Parkes First Report at para 157). There is no dispute that the KBO bid monitoring tool disclosed in the 976 Patent (Exhibit 4) is the same as Figure 4 of the 167 Patent.

[215] I would characterize the main area of difference among the experts in comparing the 976 Patent and the 167 Patent, is the issues of the automatic bidding function.

[216] PSET's expert, Ms. Stricchiola, states that claims 1-27 of the 167 Patent are reasonably inferable from language of the 976 Patent. In support, she relies upon Element 23 of the 976 Patent (above) which states: "Get opportunities and changes to the people or computer who make the decision about how to use the Paid Search Engines". She argues that this is a reference to automatic bidding as outlined in the 167 Patent. Similarly, Dr. Haruvy states that in Element 23, a computer making decisions would be understood to be doing so automatically (Haruvy Second Report at para 185).

[217] Similarly, both Ms. Stricchiola and Dr. Haruvy state that "Function 2 = Monitor changes and opportunities" involves active bid management. Ms. Stricchiola argues that an automatic function inference can also be drawn from this language.

[218] There is no direct reference to an automated process in the 976 Patent, nor is there a reference to an automated process in this phrase, and I do not agree that this can reasonably be interpreted to refer to an automated step. The automation step in the 167 Patent – which is one of the core inventive steps – would need to be more clearly and obviously disclosed in the 976 Patent in order to support the priority date claim. While the word "automatic" need not necessarily appear, the PSA must ultimately be able to read the 976 Patent and logically conclude that the language speaks to automation. Here, I do not see how the PSA would be led to that conclusion.

[219] Furthermore, the use of non-bid data in the automatic reduction step is not referenced in the 976 Patent. Nor does it speak to monitoring and implementing changes as referenced in claim 17 of the 167 Patent. The 976 Patent at Function 2 only references monitoring changes and opportunities.

[220] PSET relies upon *Astrazeneca AB v Apotex Inc*, 2007 FC 688, to argue that the claim to priority is met if an "inference" can be drawn that the 976 Patent discloses the 167 Patent. However, in my view, PSET misstates the finding of the Court. It is clear that the Court was looking for an actual disclosure where it states at para 63:

> The specific issue is whether the first Swedish priority application **disclosed** the use of omeprazole and clarithromycin as a

> combination therapy. If it did not, then Logan is clearly citable art [emphasis added].

[221] The word "disclose" appears in various sections of the *Patent Act*. I do not accept that a different meaning should apply to disclosure as it is used in subsection 28.1(1) such that disclosure is achieved merely if an inference can be drawn. The priority application must disclose the patent. The 976 Patent only speaks to bid monitoring. There is no reference to management tools to assist with the bidding process, nor does it reference any automatic bidding features. Therefore, the 976 Patent does not disclose the 167 Patent.

[222] As a result, I conclude that the relevant date for assessing whether claims 1-27 were obvious or anticipated is the filing date of July 5, 2001.

E. Anticipation

[223] Google argues that the 167 Patent is invalid for anticipation, or lack of novelty. Google bears the burden of proof on a balance of probabilities standard (*Bell Helicopter Textron Canada Limitée v Eurocopter, société par actions simplifiée*, 2013 FCA 219 at para 105).

Legal Principles

[224] A patent is invalid if it is not new and the invention had been previously disclosed (*Patent Act*, s. 28.2(1)). Pursuant to paragraph 28.2(1)(b), the subject matter defined by the claim must not have been disclosed before the claim date in such a manner that it became available to the public.

[225] As described by Justice Rothstein in *Sanofi* at para 26, there are two requirements to prove anticipation: disclosure and enablement.

[226] The disclosure requirement means that "the prior art, as of the claim date, must disclose subject-matter, which if performed, would necessarily result in an infringement of the patent" (*Eli Lilly* at para 241; *Sanofi* at para 25).

[227] With respect to enablement, the Court asks "whether a [person of skill in the art] would have been able to perform the invention" (*Eli Lilly* at para 241; *Sanofi* at para 26).

[228] It is the essential elements of the claimed invention that must be enabled (*Hospira* at para 74).

[229] Enablement must come from a disclosed single prior art reference (*Eli Lilly* at para 241) with a clear direction such that "a skilled person reading and following it would in every case and without possibility of error be led to the claimed invention" (*Beloit Canada Ltd v Valmet Oy*, [1986] FCJ No 87 at para 29 [*Beloit*]; *Seedlings Life Science Ventures, LLC v Pfizer Canada ULC*, 2020 FC 1 at para 109).

[230] Justice Rothstein outlined a non-exhaustive list of factors to be considered with respect to enablement (*Sanofi* at para 37):

> 1. Enablement is to be assessed having regard to the prior patent as a whole including the specification and the claims. There is no reason to limit what the skilled person may consider in the prior patent in order to discover how to perform or make

> the invention of the subsequent patent. The entire prior patent constitutes prior art.
>
> 2. The skilled person may use his or her common general knowledge to supplement information contained in the prior patent. Common general knowledge means knowledge generally known by persons skilled in the relevant art at the relevant time.
>
> 3. The prior patent must provide enough information to allow the subsequently claimed invention to be performed without undue burden. When considering whether there is undue burden, the nature of the invention must be taken into account. For example, if the invention takes place in a field of technology in which trials and experiments are generally carried out, the threshold for undue burden will tend to be higher than in circumstances in which less effort is normal. If inventive steps are required, the prior art will not be considered as enabling. However, routine trials are acceptable and would not be considered undue burden. But experiments or trials and errors are not to be prolonged even in fields of technology in which trials and experiments are generally carried out. No time limits on exercises of energy can be laid down; however, prolonged or arduous trial and error would not be considered routine.
>
> 4. Obvious errors or omissions in the prior patent will not prevent enablement if reasonable skill and knowledge in the art could readily correct the error or find what was omitted.

Analysis

[231] PSET's experts, Dr. Haruvy and Ms. Stricchiola, agree with Dr. Parkes that claims 17, 18, 19, 22, and 25 are anticipated if the claim date is July 5, 2001 (Haruvy Second Report at paras 273, 281; Stricchiola Second Report at paras 172, 174-175, 178).

[232] The remaining claims on which the experts disagree are claim 1 (and dependent claims 2-5, 7, 8), claim 24, and claim 27.

976 Patent

[233] The first prior art to be considered is the 976 Patent, which discloses the KBO bid-monitoring tool that operated by gathering bid and keyword data from GoTo.com, and providing reports on this data. The reports displayed the bid amounts of other bidders on keywords, and notified users of opportunities to raise or lower bids. Based upon these features, the 967 Patent is very similar to the 167 Patent. However, as noted in my analysis regarding the priority date, the KBO tool did not, and the 976 Patent does not, disclose the function of automatic bid reductions as disclosed in claim 1 of the 167 Patent.

[234] On May 26, 2000, Mr. Keel sent an email to Jessie Brader at Planet Ocean (Exhibit 46), where he states he is providing "information on the new paid search engine tool". This email explains the features of the KBO tool and provides a username and password to Planet Ocean to allow them to evaluate the tool. In the email, Mr. Keel explains how the KBO tool works, and describes its features as follows as:

> *Shows the first 20 goto.com bid positions for keywords including current bid amounts
>
> *Analyzes the top 20 goto.com positions for an unlimited number of keywords
>
> *Shows your present top 20 keyword bid positions in red – your competitors' bid positions and bid amounts are shown in yellow
>
> *Automatically updates each night the bid positions and bid amounts for all keywords you've entered
>
> *Conveniently formats for easy reading and printing right from your browser
>
> *Shows you the previous month's goto.com search counts for each keyword you've entered

> *Allows you easy access to your account via a user name and password
>
> *Arranges your keywords alphabetically
>
> *Lets you easily add new keywords to track using the real time "add a keyword" feature
>
> *Daily notifies you by email of changes in your bid position and opportunities you may have to raise or lower your bid amounts
>
> *Gives you the option of managing keywords and key phrases for multiple domains.

[235] The issue is whether this email was a public disclosure of the KBO tool and therefore anticipates the 167 Patent. Although Mr. Keel claimed that this communication was confidential, there is no reference in the email to the information being provided in confidence. This was also contradicted by Ms. Brader who testified that this type of communication was common at that time. She noted that a username and password were provided, suggesting that there was no expectation that the information would be treated confidentially. This public disclosure is only relevant to this analysis if the 976 Patent fully anticipates the 167 Patent.

[236] As noted in the sufficiency analysis above, the 976 Patent does not include an automatic reduction feature, which is an essential element of claim 1 of the 167 Patent.

[237] Given this, I do not conclude that the PSA could have performed or enabled the teachings of the 167 Patent via the 976 Patent, even with the benefit of the CKG and trial and error. In my view, there are additional steps that would be necessary beyond trial and error to get to an automated process.

[238] Therefore, I am not satisfied that the 976 Patent fully anticipates the 167 Patent.

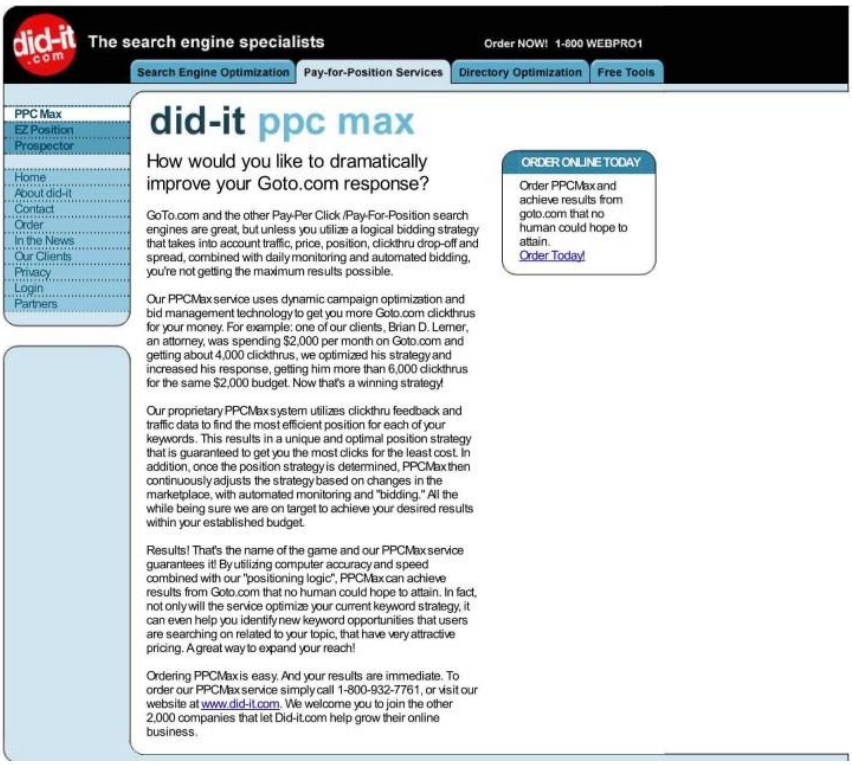
Other Prior Art

[239] Ms. Stricchiola agrees that as of the July 2001 claim date, the following prior art was available: ClickPatrol, ManageBid, Did-It, and goClick. Although Google's expert, Dr. Parkes, refers to additional prior art in his report, for this analysis it is sufficient to consider the prior art that both Ms. Stricchiola and Dr. Parkes agree was available as of July 2001.

[240] Did-It was a commercial bid management service that submitted, monitored, and maintained bids. Web archives show the service was advertised as being able to "optimize your current keyword strategy" and "help you identify new keyword opportunities." Did-It provided three services: PPC Max, EZ Position, and Prospector. PPC Max was an automated bid management tool, which monitored ongoing auctions at GoTo.com and collapsed bid gaps on behalf of users using "positioning logic". Prospector was a bid reporting service, which allowed users to check keywords and prices at various search engines, while EZ position was a bid monitoring service, which notified users of opportunities to lower their bids while maintaining their position.

[241] The Court heard direct evidence from Mr. Lee who worked at Did-It. He testified that in 1999, Did-It started building automation tools internally to manage bids for pay-per-click advertising, and eventually released a suite of tools to the public. These tools worked on GoTo, as well as other search engines like FindWhat, Kanoodle, and Sprinx. Mr. Lee explained the various tools offered by Did-It, including PPC Max, EZ Position, and Prospector, and stated

they were all released as publicly available tools by 2001. The Did-It PPC Max functions are described in the following (Exhibit 115):



[242] The description of the Did-It PPC Max service covers the essential elements of claim 1 and claim 17 of the 167 Patent by: retrieving a webpage, entering a target keyword and the amount including the maximum amount, authorizing an automatic reduction, and generating reports

[243] In addition to Did-It, the other prior art that was available is summarized as follows:

a. **ClickPatrol** was a free, online bid management tool that submitted, monitored, and maintained bids on paid search engines like GoTo.com. Internet Archives show that its purpose was to “buy and manage ads” on a pay-per-click search engine. The interface

allowed users to view and change their bids, increase balances, and add new keywords, URLs and bid amounts for a paid search engine. ClickPatrol also had a "MoneySaver" feature, which would automatically monitor for bid gaps, such that if there was a gap between a user's bid and the next ranked bid, the service would drop the user's bid to save money while still maintaining their position.

b. **ManageBid** was a commercial bid management tool that submitted, monitored, and maintained bids at paid search engines. Users would select the search engines they wished to place bids in, and input keywords, the ranking they wished to achieve, and the maximum price they wished to pay for a keyword. ManageBid would generate a list of keywords, and return a matrix of the bids a user needed to make to achieve the desired ranking for each keyword. ManageBid could also be used to "generate lists of keywords/phrases similar to those you already know" and modify bids. Users could also set "auto-pilots" to maintain their ranking while keeping their bids optimized.

c. **goClick** was a pay-per-click search engine which used a tool called "BidMaster" to monitor and adjust bids and positions automatically. As described on the website, the "Auto-BidMaster tool adjusts your bid amounts for you once a day automatically, ensuring that you stay on top of the search results and eliminating the need to keep logging in to adjust your bids."

[244] This prior art discloses the following functionality:

- bidding for position was practiced;
- bid collapsing was practiced;
- the process of monitoring and tracking bid positions was known and practiced; and,

- there were automated bidding products available.

[245] Based on my conclusions, individually Did-it, ClickPatrol, ManageBid or goClick anticipate the essential elements of claims 1 and 17 (and the dependent claims) of the 167 Patent.

F. Obviousness

Legal Principles

[246] A patent is not valid if it is not inventive or if the invention it claims would have been obvious to the skilled person (*Patent Act*, s. 28.3). Obviousness and anticipation can be distinguished as follows:

> […] obviousness is an attack on a patent based on its lack of inventiveness. The attacker says, in effect, "Any fool could have done that." Anticipation, or lack of novelty, on the other hand, in effect assumes that there has been an invention but asserts that it has been disclosed to the public, prior to the application for the patent. The charge is: "Your invention, though clever, was already known" (*Beloit* at para 12).

[247] A patent claim will be invalid if, based upon the information that was available to the public before the claim date, the subject matter would have been obvious to the PSA.

[248] An obviousness inquiry follows a 4 step approach – the *Windsurfing* approach – as restated by the Supreme Court of Canada in *Sanofi*:

> (1) (a) Identify the notional "person skilled in the art";

> (b) Identify the relevant common general knowledge 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 (at para 67).

[249] If an "obvious to try" test is warranted, additional factors should be considered at the fourth step (*Sanofi* at para 69). These factors include:

> 1. Is it more or less self-evident that what is being tried ought to work? Are there a finite number of identified predictable solutions known to persons skilled in the art?
>
> 2. What is the extent, nature and amount of effort required to achieve the invention? Are routine trials carried out or is the experimentation prolonged and arduous, such that the trials would not be considered routine?
>
> 3. Is there a motive provided in the prior art to find the solution the patent addresses?

[250] The proper approach to considering the *Sanofi* inventive concept factor has been addressed in a number of cases. Recently, in *Western Oilfield Equipment Rentals Ltd v M-I LLC*, 2021 FCA 24, the Court said at para 109 that *Sanofi* is one way to assess obviousness but it is not mandatory. The Court also warned against an overly rigid approach to the obviousness inquiry.

Analysis

[251] The PSA and the CGK addressed above apply to this analysis. The inventive concept is derived from the claim construction exercise, and the Court may have regard to the patent specification where it is not possible to determine the inventive concept from the claims alone (*Apotex Inc v Shire LLC*, 2021 FCA 52 at para 67).

[252] In my view, regardless of the approach taken to assessing the inventiveness concept, it is easily arrived at here. Claims 1 and 17 (and their dependents) is a system for bidding on multiple keywords that tracks, collects and displays information for advertisers to identify opportunities to adjust bids on paid search engines. This would enable advertisers to stay competitive with other advertisers and avoid overpaying for a keyword relative to what other advertisers were paying for that same keyword. The impetus behind this invention was that paid search engines were not making this competitive information readily accessible.

[253] The 167 Patent also discloses the potential of automatic bidding. While Mr. Soper confirmed that the code he wrote for the patent enabled automatic bidding, this feature was never enabled for customers of PSET. Nonetheless, this function is called out in the patent.

[254] As noted noted, the prior art (reviewed above) demonstrates there were other products on the market at the relevant time (July 2001) that were offering the same features and functions for assistance with online marketing, including ClickPatrol, ManageBid, Did-It, and goClick.

[255] PSET raised objections to some of the prior art references on the basis that it was located by legal counsel for Google and not by Google's expert. They argued that the PSA would not have found the art after a reasonable search. However, the Court in *Hospira* states that "it is an error to exclude from consideration prior art that was available to the public at the relevant date simply because it would not have been located in a reasonably diligent search" (at para 86).

[256] Further, considering the particular field of invention – online advertising – I am satisfied that the PSA with familiarity with online research would have been able to locate these prior art references without difficulty.

[257] Considering this, there is no discernable difference between ClickPatrol, ManageBid, goClick and Did-It and the functions of claims 1 and 17 of the 167 Patent. For example, Did-It's PPC Max tool that was available by July 2001 offers the same services as those detailed in the 167 Patent.

[258] A further relevant consideration is whether "the inventor and his or her team reached the invention quickly, easily, directly and relatively inexpensively, in light of the prior art and common general knowledge" (*Sanofi* at para 71). This statement is particularly relevant in this case where the inventors testified that they reached the claimed invention after a short brainstorming session.

[259] In applying the *Sanofi* test, I conclude that even if there were any differences between claims 1 and 17 of the 167 Patent and the prior art, they are differences that would be overcome by the PSA in light of the CGK.

[260] This is not a case where the application of the obviousness analysis strains credulity. The evidence is clear that even on a rigid application of the obviousness considerations there were multiple other commercial products that performed the same essential features, and in some cases more, as those described in claims 1 and 17 of the 167 Patent.

[261] As evidenced by the prior art, a number of other companies were offering the same products as PSET. As described by Mr. Lee, in the early 2000s there were a lot of companies focusing on the bid and search management business and there was rapid development.

[262] I conclude that claims 1 and 17 (and their dependents) are invalid for obviousness.

G. Other Invalidity Grounds

[263] Google also argues that the 167 Patent is invalid on the grounds of overbreadth, utility, and non-patentable subject matter. However, given my findings on sufficiency, anticipation and obviousness, it is not necessary to address these grounds.

VII. Infringement

[264] Although I have concluded that all of the asserted claims are invalid, I will nonetheless address the infringement allegations.

[265] In their Further Amended Statement of Claim, PSET claims that Google infringes the 167 Patent in using, offering for sale and selling search engine advertising inventory to customers in Canada through its AdWords method and computer system. It is PSET's position that the 167 Patent covers core elements of the Google Ads system – including Google Ads' use of a second price auction – as well as its use of ad quality and user demographics data in the ranking of ads and in the pricing of clicks to those ads.

[266] The evidence is that Google Ads has evolved into a complicated machine driven system, however, the question on infringement is if the foundation of the Google Ads system infringes the 167 Patent. I would further note that the focus of this inquiry starts back in the early 2000s when Google was an emerging technology company and not the tech giant it is today.

A. Legal Principles

[267] The applicable legal principles are described in *dTechs* as follows:

> Section 42 of the *Patent Act* grants the patent holder the exclusive right, privilege and liberty of making, constructing and using the invention and selling it to others to be used. A patent is infringed by any act that interferes with the patentee's full enjoyment of the monopoly granted […].
>
> Pursuant to s 55(1) of the *Patent Act*, any person who infringes a patent is liable for all damages sustained by the patentee after the grant of the patent by reason of infringement. The burden of

> proving infringement rests with the party that alleges it […] (at paras 162-163).

[268] There is no infringement if an essential element is different or omitted (*Free World Trust* at para 31). If an independent claim is not infringed, then no infringement of the dependent claims is established.

[269] The six independent claims of the 167 Patent for consideration are: 1, 17, 28, 44, 59, and 75. Claims 1, 17, 28, and 44 are method claims whereas claims 59 and 75 are systems claims. To infringe a method claim, "an alleged infringer must carry out the claimed method" (*dTechs* at para 177).

[270] The burden to establish infringement rests on PSET. The question for the Court is whether Google practices the essential elements of the asserted claims. The parties take the position that all elements of all claims are essential. The analysis on infringement flows from the construction of the 167 Patent.

Analysis

[271] In support of its position on infringement, PSET relies upon the opinion of Ms. Stricchiola who states as follows in her First Report at paras 13 and 14:

> Google Ad and AdSense for search infringe the asserted claims of the 167 Patent.
>
> The 167 Patent broadly covers core elements of the Google Ads system, including Google Ads' use of a second price auction, as

> well as it use of ad quality and user demographics data in the ranking of ads and in the pricing of clicks to those ads.

[272] The foundation of Ms. Stricchiola's infringement opinion is that the 167 Patent discloses a GSP auction. This is her construction opinion and the opinion of Dr. Haruvy. I do not construe the 167 Patent as disclosing an auction format. The 167 Patent does not mention or discuss auction formats. The only reference to an auction is the reference to the GoTo search engine which was known to be operating an open first price auction. On this ground alone, Ms. Stricchiola's infringement opinion is flawed as it is premised upon a foundational assumption that I do not accept. Although this is in my view determinative of the infringement claim, I will nonetheless consider the independent claims.

[273] I will first provide an overview of the alleged infringing product.

B. Google's Alleged Infringing Products

[274] Google sells advertising on its various internet platforms. Dr. Veach, who has been with Google since July 2000, explained that the advertising offered by Google at that time was called Adwords and it was a self-service system for advertisers. He explained that there were issues with ad quality and monetizing this system.

[275] He worked on a system to optimize advertising and in February 2002, AdWords Select was launched. It differed from the early version of AdWords because it used an auction model, and advertisers were only charged when a user clicked on an ad (cost-per-click) rather than

being charged each time an ad was displayed. This system was dynamic in that the ad that was displayed to a user and the price the advertiser had to pay was determined at the time of the search itself, on a search-by-search basis.

[276] According to Dr. Veach, AdWords Select works in a closed auction system, meaning the bids of advertisers are sealed and not known to each other. The cost an advertiser would have to pay per click was determined by calculating the bid the advertiser would have to submit to obtain the same score as the runner up bidder, and rounding up. There was also an option to have advertiser's bids adjusted if they had opted to use automated bidding strategies.

[277] In AdWords Select, ads were ranked based upon two criteria: the bid and the predicted clickthrough rate (pCTR). Dr. Veach described CTRs as being a measure of ad quality. As the process was explained by Dr. Veach, if Advertiser A was bidding $1, and Advertiser B was bidding $0.25, but Advertiser B received a higher pCTR, they could be ranked above Advertiser A, despite Advertiser A bidding a higher amount.

[278] Dr. Veach described Google Ads as a complicated and continually evolving system that now uses machine learning technology.

[279] Google employees, Mr. Moser and Mr. Iljic testified that currently Google Ads runs [redacted] on every search results page generated by each user query. Auction positions are based on LTV (long term value) scores which incorporates machine learning prediction models, the context of the specific search,

[redacted], and the bid. Google also offers automated bidding strategies, which allow advertisers to interact with the ads system through automated bidding agents – which are separate from the auction.

[280] The evidence of Mr. Iljic was that Google Ads is not an open auction and not a first price auction. The auction results are not ordered by bid amount and there is no ongoing auction. He also explained that at the time of the development of AdWords Select, the focus was on the end user – being the searcher rather than the advertiser. This is consistent with Google's corporate focus on "search".

[281] Mr. Iljic was Google's witness on the auction process used by Google. He was not cross-examined about Google's auctions by PSET's lawyers. Accordingly, his direct evidence on the operation and function of Google Ads is accepted as largely uncontradicted.

Claim 1

[282] Ms. Stricchiola's opinion is that claim 1 of the 167 Patent is infringed by Google Ads because:

- Google Ads provides performance reports which provide advertisers with detailed reporting on their Max CPC for a keyword (the amount bid) and on the subsequent actual CPC (the price) the advertiser paid for a clickthrough (Stricchiola First Report at para 119);

- The second price auction in Google Ads automatically reduces the advertiser's entered bid amount to a lower amount that will not change their position (Stricchiola First Report at para 125); and,

- Advertisers authorize Google to perform an automatic reduction of their bid (Stricchiola First Report at para 127).

[283] Based upon my construction of claim 1 of the 167 Patent, it does not disclose an auction mechanism. It discloses: retrieving a webpage, entering a target keyword and the amount including the maximum amount, authorizing an automatic reduction, and generating reports. The claim 1 steps are directed to an advertiser. Bid collapsing is the target of claim.

[284] Google's evidence is that Google Ads does not report on any individual bidding results to advertisers. As well, Google Ads is premised upon an auction format but has a different focus from Claim 1. Google Ads focuses on searchers of the internet. The 167 Patent focuses on advertisers.

[285] Finally, Google Ads auction does not perform the function of reducing bid amounts (collapsing) and it does not report to advertisers any reductions in bid amounts. These steps are essential elements of Claim 1 of the 167 Patent.

Claim 17

[286] Ms. Stricchiola claims that claim 17 is infringed by Google at para 150 of her First Report as follows: "Google Ads allows advertisers to authorize the Google Ads system to automatically perform offer adjustments that increase or decrease an advertiser's offer based on certain criteria […]".

[287] Claim 17 is a method claim with three steps: receiving authorization, monitoring keyword offers and, implementing an identified change. I construed the phrase "offeror's offer" to mean the "bidders bid". I did not construe claim 17 as calling out the automatic adjustment of bids as the word automatic is not used in claim 17, unlike claim 1, which specifically calls out the automatic function. Claim 17 operates on a first price auction (such as GoTo).

[288] The evidence is that Google Ads do not operate on a first price auction. Further, Google's automated bidding system, as explained by Mr. Moser, does not include the element of monitoring of bids. I accept the evidence of Mr. Moser on this point over the generalizations and assumptions of Ms. Stricchiola.

[289] Based upon the construction of claim 17, monitoring is an essential element. Without it, there is no infringement.

[290] As Google Ads does not monitor bids, I conclude that there is no evidence of infringement with respect to claim 17.

Claims 28, 44, 59, 75

[291] These claims were added to the 167 Patent many years after the patent was initially filed. This presumably accounts for the fact, as acknowledged by Ms. Stricchiola, Dr. Haruvy and Dr. Parkes, that these claims differ from claims 1-27. However, the infringement analysis will be done regardless of the motivation or reason for the late addition of these claims.

[292] In her infringement analysis, Ms. Stricchiola contends that "statistics of relevance" and "statistics" referred to in claims 28, 44, 59 and 75 are equivalent to Google's CTR or pCTR.

[293] I have construed the references in the 167 Patent to statistics and statistics of relevance as being statistics in relation to keywords only, and providing information for example on the frequency of searches of a keyword, or how often an advertisement was displayed.

[294] CTRs are explained in a Google document relied upon by Ms. Stricchiola titled *AdWords Basics* as a way to get an ad to show in a higher position. As the document describes: "The Clickthrough Rate component of the ordering rules rewards advertisers that have well-targeted ads that are appealing and relevant to searchers" (Exhibit 39).

[295] The evidence establishes that Google ads systems have always focused on the quality of the advertisements as one of the key metrics assessed. Although Ms. Stricchiola attempts to draw a correlation between "statistics" as used in the 167 Patent and Google ad quality assessments, I do not agree that such a correlation can be made. The 167 Patent was not concerned with the advertisers' advertisements – it was concerned with the advertisers'

keywords and bids. It does not call out any steps or methods to assess or consider the nature or type of advertisement sought to be displayed or promoted.

[296] I accept Dr. Parkes' opinion on this issue as noted in his second report at para 284:

> The Skilled Person would not understand the click through rate (CTR) of an advertisement to be a "statistic" of claim 28 in the context of the 167 Patent. All of the "statistics" disclosed in the 167 Patent relate to the keywords, or the number of impressions of a hyperlink. The Skilled Person would not understand CTR to be a statistic "related to" impressions as claimed by Ms. Stricchiola. The Skilled Person would understand that statistics "related to" impressions would tell you something about the impressions (such as the number of impressions per week or month). This is not the case with CTR. Knowing the CTR of an advertisement does not tell you anything about the number of impressions of the advertisement (let alone of a hyperlink). The CTR of an advertisement is the number of clicks divided by the number of impressions, and without knowing the number of clicks, the CTR does not tell you anything about the number of impressions.

[297] Ms. Stricchiola attempts to draw a correlation between the statistics referred to in claims 28, 44, 59 and 75 and CTRs used by Google. However, as confirmed by Mr. Iljic, [redacted]. On this issue, I accept the evidence of Mr. Iljic's over the opinion of Ms. Stricchiola.

[298] I am satisfied that Google Ads does not consider statistics in the manner called out in claims 28, 44, 59 and 75 of the 167 Patent, therefore, there is no infringement of these claims or their dependent claims.

C. Conclusion – Infringement

[299] Based upon the above analysis, PSET has simply not met its evidentiary burden to establish infringement.

[300] In their infringement claims, PSET is claiming a second price auction, the use of ad quality, ranking of ads, and pricing the clicks on the ads. When this claim is considered against the 167 Patent, there are no claims or embodiments that capture these concepts or support such an interpretation. In fact, during cross-examination, the inventors candidly admitted under questioning that they did not know how a second price auction worked.

[301] In their closing submissions, PSET raised the issue of inducement. As this ground was not pleaded by PSET in their Statement of Claim, it is not appropriate to consider this as a ground to support their infringement argument. In any event, as infringement has not been established, it does not require further consideration.

[302] Overall, I conclude that even if the asserted claims were valid, there is no evidence to support the infringement allegations.

VIII. Territory

[303] Google raised the issue of whether its activities – which occur outside of Canada, but relate to online services – can result in the infringement of a Canadian patent. They argue that

patents are territorial and Canadian patents cannot be infringed outside of Canada. Given my findings above it is not necessary for me to address this issue.

IX. Remedies

[304] As I have concluded that all of the asserted claims in issue are invalid and there is no infringement, it is not necessary to address the issue of remedies and I decline to do so.

X. Conclusion

[305] PSET's action will be dismissed with costs payable to Google. If the parties are unable to agree on costs they can make written submissions to the Court within 30 days of the date of this Judgment.

[306] These Reasons are being issued to the parties on a confidential basis. They have 15 days after the date hereof to advise the Court whether there is a requirement to redact any confidential information.

JUDGMENT IN T-40-18

THIS COURT'S JUDGMENT IS that:

1. The action is dismissed.

2. The counterclaim is granted: Claims 1 and 17 and the dependent claims are invalid as they are anticipated or obvious; Claims 28, 44, 59, and 75 and the dependent claims and Claim 9 are invalid for lack of sufficiency.

3. The defendants have not infringed any of the 167 Patent claims.

4. Google is entitled to its costs.

5. If the parties are unable to agree upon costs, they may make written submissions not exceeding 10 pages within 30 days of the date of this Judgment. Responding submissions not exceeding 5 pages may be made within 10 days thereafter.

"Ann Marie McDonald"
Judge

FEDERAL COURT

SOLICITORS OF RECORD

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