

UNITED STATES DISTRICT COURT  
EASTERN DISTRICT OF VIRGINIA  
NORFOLK DIVISION

I/P ENGINE, INC.

Plaintiff,

v.

AOL, INC., *et al.*,

Defendants.

Civil Action No. 2:11-cv-512

**DECLARATION OF BARTHOLOMEW FURROW**

I, Bartholomew Furrow, declare and state as follows:

1. I am a staff software engineer at Google Inc. (“Google”), working as part of the Ads Quality Team. The matters referred to in this declaration are based upon my personal knowledge, and if called as a witness I could testify competently to those matters.
2. I have been a software engineer at Google since September 2006. Among other things, I have had significant responsibilities related to Google’s Smart Ad Selection System (“Smart Ads”), including writing source code and reviewing source code written by others. At Google, I have worked in the Smart Ads and Thresholds teams which are part of the Ads Quality team.
3. During my time working within the Ads Quality team, I have become intimately familiar with the operation of the AdWords system.
4. In this lawsuit, I understand that Plaintiff has accused aspects of AdWords, AdSense for Search and AdSense for Mobile Search of patent infringement. I am familiar with these products and their operations as described in this declaration.
5. Google offers a variety of services that can be accessed by anyone with an Internet connection and an Internet browser. A user accessing [www.google.com](http://www.google.com) may input a

search query, and Google will return links to web pages. Additionally, for some queries, Google serves targeted advertisements to the right of (or sometimes above or below) search results.

6. AdWords is the online advertising auction system used to determine the advertisements that appear next to search results on [www.google.com](http://www.google.com). Some third-party and Google-owned websites (e.g., Google Maps, and the search function for the online auction site eBay) show advertisements provided by a Google system called AdSense For Search ("AFS"). Those websites typically show AFS-provided ads on the "result" page for a search function. AdSense For Mobile Search ("AFMS") provides similar results for websites shown on mobile devices.

7. Each time an end user enters a search query on Google.com, AdWords runs an auction for the ad space available on the search results page displayed to the end user. To enter the auction, advertisers submit an advertisement, supply targeting information such as keywords they wish to associate with the advertisement, and can provide their bid: the maximum cost-per-click, which indicates the maximum price the advertiser is willing to pay if an end-user clicks on the ad.

8. As part of the Quality-Based Bidding (QBB) system, a predicted clickthrough rate or pCTR (sometimes called a "QBB pCTR") is computed for each ad in advance of that ad being considered for display to the user. Previously, the QBB pCTR was used to determine a Minimum Cost-Per-Click (CPC) price for each candidate advertisement. Ads whose bids did not at least meet the Minimum CPC were disqualified from the auction. This functionality was termed "QBB disabling."

9. Neither AdWords, AdSense for Search, nor AdSense for Mobile Search presently use QBB disabling. That is, advertisements are no longer disqualified from the auction if their bids do not meet a Minimum CPC set by the QBB pCTR. QBB disabling was removed from AdWords on November 5, 2012, from AdSense for Search on February 14, 2013, and from AdSense for Mobile Search on January 28, 2013. [REDACTED]

11. Previously, AdWords, AdSense for Search, and AdSense for Mobile Search used LTV scores to disable ads prior to their participation in the auction ("Mixer disabling"). Advertisements with a "right-hand-side LTV" score greater than zero were eligible to participate in the "right-hand-side" auction. AdWords, AdSense for Search, and AdSense for Mobile Search also used LTV scores to determine eligibility of the ads that could be considered for the "top" auction ("Promotion"). More specifically, advertisements with a "top LTV" score greater than zero were eligible to participate in the "top" auction.

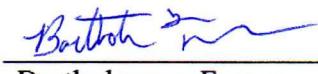
12. Google has modified the accused AdWords, AdSense for Search, and AdSense for Mobile Search so that we no longer use the functionality described in the previous paragraph. The code was completed on May 1, 2013 and was launched on May 11, 2013.

13. After using the modified system to serve over a billion real user queries, we have seen no statistically significant impact on revenue due to ceasing the aforementioned "Mixer disabling" and "Promotion" functionality in AdWords, AdSense for Search, and AdSense for Mobile Search.

I do not expect

there to be any incremental cost increase exclusively attributable to no longer using the ad disabling and ad promotion functionality in AdWords, AdSense for Search, and AdSense for Mobile Search.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct to the best of my knowledge. Executed this 11 day of May, 2013.

  
\_\_\_\_\_  
Bartholomew Furrow

DATED: May 13, 2013

/s/ Stephen E. Noona

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## **CERTIFICATE OF SERVICE**

I hereby certify that on May 13, 2013, I will electronically file the foregoing with the Clerk of Court using the CM/ECF system, which will send a notification of such filing (NEF) to the following:

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