

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.
Petitioner

v.

PAUL PONIATOWSKI
Patent Owner

Case No. IPR2024-00731
U.S. Patent No. 8,270,578

SUPPLEMENTAL DECLARATION OF BENJAMIN B. BEDERSON

I, Benjamin B. Bederson, hereby declare the following:

1. My name is Benjamin B. Bederson, Ph.D. and I am over 21 years of age and otherwise competent to make this Declaration. I make this Declaration based on facts and matters within my own knowledge and on information provided to me by others.

2. I submitted an initial declaration in support of Apple's petition for *Inter Partes* Review of U.S. Patent No. 8,270,578 ("the '578 Patent"). I understand the PTAB instituted the requested review and that the proceedings involve the full scope of the proposed grounds addressed in my initial declaration. I have been asked to address an additional issue arising in response to Patent Owner's Response (Paper ____). Specifically, I have been asked to consider whether the prior art relied on by Apple in its Petition—Wang, Dua, and Yong—are reasonably pertinent to problems that the inventor of the '578 Patent was facing at the time of his invention. As set forth below, it is my opinion that all three references are reasonably pertinent.

I. LEGAL FRAMEWORK

3. I am a technical expert and do not offer any legal opinions. However, counsel has informed me as to the relevant legal principle applicable to the issue on which Apple has asked for my opinions. I have applied those principles in performing my analysis and arriving at my technical opinions in this matter.

4. As stated in my initial declaration, I have been informed that for a prior art reference to be proper for use in an obviousness analysis, the reference must be

“analogous art” to the claimed invention. I have been informed that a reference is analogous art to the claimed invention if: (1) the reference is from the same field of endeavor as the claimed invention (even if it addresses a different problem); or (2) the reference is reasonably pertinent to the problem faced by the inventor (even if it is not in the same field of endeavor as the claimed invention). In order for a reference to be “reasonably pertinent” to the problem, it must logically have commended itself to an inventor’s attention in considering his problem. In determining whether a reference is reasonably pertinent, one should consider the problem faced by the inventor, as reflected either explicitly or implicitly, in the specification.

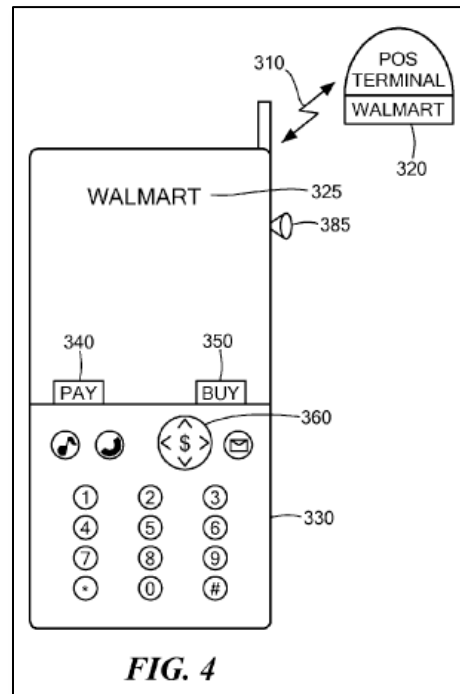
5. I have also been informed that to determine whether prior art is “reasonably pertinent,” the problems to which both the claimed invention and prior art relate must be identified and compared from the perspective of a person of ordinary skill in the art.

6. As I opined in my initial declaration, I believe each of Wang, Dua, and Yong are analogous to the ’578 Patent because each is within the ’578 Patent’s field of endeavor. That remains my opinion. However, it is also my opinion that each of Wang, Dua, and Yong are analogous to the ’578 Patent because each is reasonably pertinent to the problems that the inventor of the ’578 Patent was facing at the time of his invention.

II. Wang, Dua, and Yong are Reasonably Pertinent to the Problems that the Inventor of the ’578 Patent was Facing at the Time of his Invention.

7. In my opinion, the inventor of the ’578 Patent was concerned with problems arising from advancements in shopping technology. As I opined in my initial declaration,

the '578 Patent “describes commercial transactions conducted between a mobile device (e.g., a mobile phone) and a commercial establishment.” Ex. 1003, ¶ 30. An exemplary mobile phone for making purchases from a commercial establishment via a POS terminal within that establishment is shown in Figure 4 of the '578 Patent:



Id. To facilitate a commercial transaction, the mobile phone includes an optical scanner for scanning a product’s barcode, causing the price of the product to be added to a retail bill. *Id.* at ¶ 31. When the customer has finished shopping, the mobile phone includes a PAY icon, which switches the phone to PAY mode operation. *Id.* at ¶ 32 If the customer presses an OK icon that appears on the screen, the transaction proceeds and the customer is prompted to select a payment type, enter a PIN number, and press a “YES key” to finalize the transaction. *Id.*

8. As I opined in my initial declaration, prior to the '578 Patent, a number of prior art references described similar mobile devices, each aiming to simplify or improve the experience of shopping with a mobile device. *Id.* at ¶¶ 38–43. In fact, each provided features similar to those described in the '578 Patent. Swartz “describes a system for transferring data between a centrally located site and a portable communications terminal having a look-up table containing data records correlating to items disposed at a retail establishment.” *Id.* at ¶ 39. Similarly, Ogasawara describes “a purchase transaction program stored on a wireless telephone with an external bar code reader to facilitate the selection of items to be purchased is described.” *Id.* at ¶ 40. Another, Singhal, “describes a payment system with which a customer may conduct a private and secure transaction with a retail merchant at the merchant’s site using a wireless device.” *Id.* at ¶ 41. Skowronek, which relates to the use of touch-screen icons in mobile devices like the iPhone, “expressly envisions that a user initiates a transaction between the mobile device and an NFC sensor in proximity to the device by selecting a payment button[.]” *Id.* at ¶ 42. Finally, Hammond “describes systems and methods of conducting payment transactions using mobile phones and includes the steps of receiving transaction information at the mobile phone from a merchant to an issuer” and “expressly envisions that the payment processing network may require the consumer to enter a PIN number before the transaction will be received by the payment processing network.” *Id.* at 43.

9. In my opinion, each of the systems and methods described in these prior art references sought to improve upon the existing experience of shopping using a mobile device. Indeed, Swartz, Ogasawara, Singhal, Skowronek, and Hammond all expressly identify problems with the existing mobile device-based shopping experience before explaining their respective improvements aiming to solve or minimize those problems. *See generally*, Exs. 1010, 1012–1015.

10. While the '578 Patent does not expressly describe the problems its inventor was facing, the collective teachings of the above prior art inform and support my opinion that the inventor was facing problems arising from advancements in shopping technology at the time of the invention. Like the prior art, the '578 Patent describes a mobile device capable of wirelessly facilitating a commercial transaction with a commercial establishment. Indeed, as reflected in the Challenged Claims and the supporting disclosure in the specification, the claimed invention focused on many of the same types of improvements or solutions to those very problems: a dedicated button for facilitating the purchase of goods, an optical scanner for scanning product barcodes and retrieving the price of the products, and communicating with the retail establishment to exchange information in furtherance of the transaction. For at least these reasons, it is my opinion that the inventor was facing problems arising from advancements in shopping technology at the time of the invention.

11. It is also my opinion that each of Wang, Dua, and Yong are reasonably pertinent to problems arising from advancements in shopping technology at the time of the invention. Wang and Dua are each broadly concerned with security concerns arising from the increasing reliance on mobile devices to facilitate commercial transactions. Wang, [0002]; Dua, [0014]. As demonstrated in the prior art, performing commercial transactions wirelessly, like the mobile device described in the '578 Patent does, had known security risks. *See* Ex. 1014, 1015. Thus, in my opinion, both Wang and Dua—which describe solutions to existing security issues in mobile device-based transactions—would have been reasonably pertinent to the problems facing the inventor of the '578 Patent, and a POSITA would have reasonably consulted both Wang and Dua.

12. Wang's device also streamlined the shopping experience by allowing customers to scan product barcodes using an optical scanner, rather than require the manual entry of that information. *Pet.*, 32–35. The lack of efficiency, too, was a demonstrated problem with the mobile phone-device shopping experience prior to the invention. *See* Ex. 1012, 1013. This further supports my opinion that Wang—which describes a solution, i.e., an optical scanner for obtaining product information, that simplifies and streamlines the mobile device-based shopping experience—would have been reasonably pertinent to the problems facing the inventor of the '578 Patent, and a POSITA would have reasonably consulted it.

13. Dua also addressed arising from mobile devices' reliance on RFID communication to perform commercial transactions within an establishment, e.g., ensuring financial information remains secure. Dua, [0014]. The prior art describing known security risks arising from mobile device-based transactions specifically recognize that ensuring the security of financial information during such transactions was a known concern. *See* Ex. 1014, 1015. This further supports my opinion that Dua—which describes an improved device with new functionality, i.e., its dedicated button, for minimizing financial fraud or theft—would have been reasonably pertinent to the problems facing the inventor of the '578 Patent, and a POSITA would have reasonably consulted it.

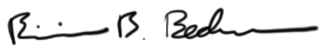
14. Yong is concerned with reducing the cost associated with enabling mobile devices to retrieve product information, i.e., every product requiring an RFID tag. Yong, 1. Cost, too, was a known concern of mobile device-based shopping. *See* Ex. 1012, Ex. 1013. Thus, it is my opinion that Yong—which describes a solution to reduce such costs, i.e., allowing mobile devices to access a store database, mooted the need for dedicated RFID tags for every product—would have been reasonably pertinent to the problems facing the inventor of the '578 Patent, and a POSITA would have reasonably consulted it.

III. CONCLUSION

15. I declare that all statements made herein of my knowledge are true, and that all statements made on information and belief are believed to be true, and that these

statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

Date: April 1, 2025

By: 
Dr. Benjamin B. Bederson