

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

3SHAPE A/S,)	
)	
Plaintiff,)	C.A. No. 1:18-cv-00697-LPS
v.)	
)	JURY TRIAL DEMANDED
ALIGN TECHNOLOGY, INC.,)	
)	
Defendant.)	

FIRST AMENDED COMPLAINT

Plaintiff 3Shape A/S (“Plaintiff” or “3Shape”), by and through its undersigned counsel, for its complaint against Defendant Align Technology, Inc. (“Defendant” or “Align”), hereby alleges and states the following:

PARTIES

1. Plaintiff 3Shape is a Danish corporation with a principal place of business at Holmens Kanal 7, 1060 Copenhagen K, Denmark.
2. Plaintiff is the owner by assignment of the entire right, title and interest in and to U.S. Patent No. 9,962,244 (“the '244 patent”) entitled “Focus Scanning Apparatus Recording Color,” a copy of which is attached hereto as Exhibit A.
3. Upon information and belief, Defendant Align Technology, Inc. is a United States corporation organized and existing under the laws of Delaware, with a principal place of business at 2820 Orchard Parkway, San Jose, California 95134.
4. Upon information and belief, Defendant makes, uses, sells and offers for sale in the United States and/or imports into the United States products called “iTero Element Scanner,”

“iTero Element 2 Scanner” and “iTero Element Flex Scanner” (collectively “the iTero Element Scanners”), which each embody a focus scanner.

JURISDICTION AND VENUE

5. This is an action for patent infringement arising under the patent laws of the United States, Title 35, United States Code, § 100 *et seq.*

6. This Court has subject matter jurisdiction over this action pursuant to 28 U.S.C. §§ 1331 and 1338(a).

7. This Court has personal jurisdiction over Defendant because it has, directly or through its agents and/or intermediaries, committed acts within Delaware giving rise to this action and/or Defendant has established minimum contacts with Delaware such that the exercise of jurisdiction would not offend traditional notions of fair play and substantial justice.

8. Upon information and belief, Defendant regularly conducts business in Delaware, and purposefully avails itself of the privileges of conducting business in Delaware. In particular, upon information and belief, Defendant and/or its agents and/or intermediaries, make, use, import, offer for sale, sell and/or advertise their products and affiliated services in Delaware, including the iTero Element Scanners, sufficient to give rise to jurisdiction.

9. Defendant has also purposely availed itself of the courts of this venue, having brought actions against Plaintiff in the federal courts of the District of Delaware, including the pending 17-cv-1646, -1647, -1648, and -1649 actions. The use of the courts of this jurisdiction is sufficient to give rise to jurisdiction over Align.

10. Upon information and belief, and as further described herein, Defendant has infringed and continues to infringe and/or contributorily infringe the '244 patent in Delaware, which has led to foreseeable harm and injury to Plaintiff. Upon information and belief,

Defendant derives substantial revenue from the sale of infringing products distributed within Delaware and/or expects or should reasonably expect its actions to have consequences in Delaware. In addition, upon information and belief, Defendant knowingly induces, and continues to knowingly induce, infringement of the '244 patent within Delaware by offering for sale, selling, and/or contracting with others to market infringing products with the intent to facilitate infringing use of the products by others within Delaware and by creating and/or disseminating product information and other materials providing instruction for infringing use.

11. Venue is proper in this District pursuant to 28 U.S.C. § 1391(b), (c) and/or (d), and 28 U.S.C. § 1400(b).

THE '244 PATENT AND ALIGN'S INFRINGEMENT

12. The '244 patent was duly and lawfully issued by the United States Patent and Trademark Office ("USPTO") on May 8, 2018 to listed inventors Bo Esbech, Christian Romer Rosberg, Mike van der Poel, Rasmus Kjaer, Michael Vinther, and Karl-Josef Hollenbeck.

13. Evidence of the assignment of the '244 patent to 3Shape is recorded with the USPTO at Reel/Frame 037689/0346. Plaintiff is listed on the face of the '244 patent as assignee.

14. The '244 patent is entitled "Focus Scanning Apparatus Recording Color" and is directed to a focus scanner for recording surface geometry and surface color of an object.

15. 3Shape sells an industry-leading intraoral scanner under the name TRIOS®. The TRIOS® system incorporates embodiments of the patented technologies of the '244 patent.

16. Defendant is a competitor of 3Shape in the field of intraoral scanners.

17. Defendant makes, uses, offers to sell, sells, imports, promotes and/or demonstrates versions of its iTero Element Scanners, including the wand, cart, and/or related software, and other related products ("Accused Products") in the United States.

18. Defendant has been and is now directly infringing, literally and/or under the doctrine of equivalents, and/or indirectly infringing, at least claim 1 of the '244 patent.

19. Each of Defendant's iTero Element Scanners is a focus scanner for recording surface geometry and surface color of an object.

20. Upon information and belief, each of the iTero Element Scanners comprises a multichromatic light source configured for providing a multichromatic probe light for illumination of an object and a color image sensor comprising an array of image sensor pixels for capturing one or more 2D images of light received from said object.

21. Upon information and belief, each of the iTero Element Scanners is configured to operate by translating a focus plane along an optical axis of the focus scanner and capturing a series of 2D images, each 2D image of the series being at a different focus plane position such that the series of captured 2D images forms a stack of 2D images.

22. Upon information and belief, each of the iTero Element Scanners comprises a data processing system configured to derive surface geometry information for a block of said image sensor pixels from the 2D images in the stack of 2D images captured by said color image sensor.

23. Upon information and belief, the data processing system of each of the iTero Element Scanners is also configured to derive surface color information for the block of said image sensor pixels from at least one of the 2D images used to derive the surface geometry information.

24. Upon information and belief, the data processing system of each of the iTero Element Scanners is configured to combine a number of subscans to generate a digital 3D representation of the object, and determine object color of a least one point of the generated

digital 3D representation of the object from sub-scan color of the sub-scans combined to generate the digital 3D representation, such that the digital 3D representation expresses both geometry and color profile of the object, wherein determining the object color comprises computing a weighted average of subscan color values derived for corresponding points in overlapping sub-scans at that point of the object surface.

25. These features of each of the iTero Element Scanners in paragraphs 19 to 24 above correspond to those recited and claimed in at least claim 1 of the '244 patent.

26. For example, upon information and belief, Defendant describes its iTero Element Scanner on an online webpage entitled "Products | iTero Intraoral Scanner," a copy of which is attached hereto as Exhibit B. The webpage contains text and an image describing and showing the iTero Element Scanner and that it embodies the focus scanner recited in at least claim 1 of the '244 patent. *See* Products | iTero Intraoral Scanner (2016), http://www.itero.com/en-us/products/itero_element (last visited May 4, 2018) (the "Products | iTero Intraoral Scanner" webpage). The "Products | iTero Intraoral Scanner" webpage illustrates that a focus scanner is configured for recording surface geometry and surface color of an object, as recited in claim 1 of the '244 patent. *See* the "Products | iTero Intraoral Scanner" webpage ("Color scanning gives you a significant leap forward in visualization. The color sensor is integrated in the iTero Element scanner, and the patented dual-aperture lens system is designed to simultaneously capture 2D images in color with highly accurate 3D laser scanning."). Next to the above-cited text is the following image, illustrating aspects of a scanned image showing surface geometry and surface color of an object:

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