

**UNITED STATES DISTRICT COURT
MIDDLE DISTRICT OF FLORIDA
TAMPA DIVISION**

**UNIVERSITY OF SOUTH FLORIDA
BOARD OF TRUSTEES,**

Plaintiff,

Case No.

v.

STRYKER CORPORATION,

Defendant.

_____ /

COMPLAINT AND DEMAND FOR JURY TRIAL

Plaintiff, University of South Florida Board of Trustees (“USF”), sues Defendant, Stryker Corporation (“Stryker”), for infringement of USF’s United States Patent Nos. 9,547,940 (the “‘940 Patent”) and 9,646,423 (the “‘423 Patent”) and alleges the following:

PARTIES

1. Plaintiff USF is the governing body for the University of South Florida, a public university of the State of Florida, having a principal place of business at 4202 E. Fowler Avenue, Tampa, Florida.

2. Stryker is a Michigan corporation that is registered to do business in the State of Florida. Stryker has at least one regular and

established place of business in Tampa, Florida, which is within the territorial jurisdiction of this Court.

JURISDICTION AND VENUE

3. This Court has subject matter jurisdiction over this action pursuant to 28 U.S.C. §§ 1331 and 1338(a) because USF's claims arise under the patent laws of the United States, codified at 35 U.S.C. § 101 et seq.

4. This Court has personal jurisdiction over Stryker and venue is proper in this Court because Stryker: (a) has committed acts of patent infringement in this judicial district by selling and offering to sell its products that infringe USF's '940 Patent and '423 Patent within this judicial district; and (b) has at least one regular and established place of business in Tampa, Florida, which is within this judicial district.

FACTUAL BACKGROUND

5. USF is the owner of the entire right, title and interest in the '940 Patent, entitled "SYSTEMS AND METHODS FOR PROVIDING AUGMENTED REALITY IN MINIMALLY INVASIVE SURGERY". A true and accurate copy of USF's '940 Patent is attached to this Complaint as Exhibit A.

6. USF is also the owner of the entire right, title and interest in the '423 Patent, entitled "SYSTEMS AND METHODS FOR PROVIDING AUGMENTED REALITY IN MINIMALLY INVASIVE SURGERY". A true and accurate copy of USF's '423 Patent is attached to this Complaint as Exhibit B.

7. USF's '940 Patent was duly and legally issued by the United States Patent and Trademark Office ("USPTO") on January 17, 2017.

8. USF's '423 Patent was duly and legally issued by the USPTO on May 9, 2017.

9. USF's '940 Patent and '423 Patent relate to the field of endoscopy, a medical procedure in which an instrument is introduced into the body to provide a view of its internal structures.

10. USF's '940 Patent and '423 Patent claim inventions that provide augmented reality in a minimally invasive surgery in connection with an endoscope.

11. Stryker manufactures, advertises for sale, and sells an "ENT navigation system" using what Stryker calls its "TGS®" solution. ("Stryker's TGS® System"). According to Stryker, TGS® stands for "target guided surgery".

12. Stryker's materials promoting Stryker's TGS® System describe it as "a next-generation solution for navigated Functional Endoscopic Sinus Surgery (FESS) that offers surgeons highly advanced image guidance and visualization capabilities in a single system." Those materials further represent that that Stryker's TGS® System provides surgeons using it with "Augmented Reality (AR) technology." A copy of Stryker's "ENT navigation system Product catalog" is attached as Exhibit C to this Complaint.

13. All conditions precedent to the maintenance of this action have been performed or have been excused or waived.

COUNT I
(Infringement of USF's '940 Patent)

14. USF incorporates the allegations in paragraphs 1 through 13 above as if fully set forth herein.

15. Within the past six years, Stryker has made, offered for sale, sold, and/or distributed products in the United States that practice the invention of USF's '940 Patent ("Stryker's Accused Products"), including the exemplary product known as Stryker's TGS® System.

16. Exemplary claim 1 of USF's '940 Patent is reproduced below:

1. A method for providing augmented reality in minimally invasive surgery, the method comprising:
 - capturing pre-operative image data of internal organs of a patient;
 - creating a first three-dimensional surface model based upon the captured pre-operative image data, the first three-dimensional surface model comprising a model of a surface of at least one of the internal organs;
 - capturing intra-operative image data of the internal organs with an endoscope during a surgical procedure;
 - creating a second three-dimensional surface model based on the captured intra-operative image data, the second three-dimensional surface model comprising a model of a surface of at least one of the internal organs;
 - registering the three-dimensional surface models in real time during the surgical procedure;
 - tracking the position and orientation of the endoscope during the surgical procedure; and
 - augmenting the intra-operative image data captured by the endoscope in real time with a rendering of at least a portion of an internal organ of the patient that is in registration with the real time intra-operative image data from the endoscope but outside of the field of view of the endoscope.

17. Stryker's Accused Products, including the exemplary product known as Stryker's TGS® System contains all the limitations of exemplary claim 1 of USF's '940 Patent, both literally and under the doctrine of equivalents as shown on Exhibit D to this Complaint.

18. In addition to Stryker's TGS® System, Stryker introduced a system for spinal surgeries referred to as a "Scopis Holographic Navigation Platform" (the "Scopis HNP System"), which incorporates Microsoft's

HoloLens mixed reality system. Although USF currently lacks sufficient information regarding Stryker's Scopis HNP System to determine if it infringes USF's '940 Patent, USF reasonably believes that this system may also infringe USF's '940 Patent.

19. Stryker's infringement of USF's '940 Patent has caused, and is causing, USF to suffer injury and economic damages, including depriving USF of its statutory right to exclusively control the importing, manufacture, offering for sale, sale, and use of products practicing the invention claimed in the USF's '940 Patent and to enjoy the financial benefits of that right.

20. Upon information and belief, Stryker's infringement of USF's '940 Patent will continue unless enjoined by this Court.

21. Stryker's infringement of USF's '940 Patent is causing and will continue to cause USF irreparable harm unless such infringing activities are enjoined by this Court and USF lacks an adequate remedy at law to prevent injuries it is suffering from Stryker's infringement.

22. Given Stryker's clear and direct infringement of USF's patent rights, USF is substantially likely to prevail upon the merits of this action.

23. The balance of hardships and the public interest requires that Stryker immediately cease its infringing activities.

WHEREFORE, USF respectfully requests this Court to

- (A) enter judgment in favor of USF and against Stryker;
- (B) grant USF permanent injunctive relief barring the activities of Stryker that infringe upon USF's rights in its '940 Patent;
- (C) award USF its damages under 35 U.S.C. § 284;
- (D) award USF pre- and post-judgment interest, costs, and expert fees; and
- (E) grant to USF all other relief this Court deems just and appropriate.

COUNT II
(Infringement of USF's '423 Patent)

24. USF incorporates the allegations in paragraphs 1 through 13 above as if fully set forth herein.

25. Within the past six years, Stryker has made, offered for sale, sold, and/or distributed products in the United States that practice the invention of USF's '423 Patent ("Stryker's Accused Products"), including the exemplary product known as Stryker's TGS® System.

26. Exemplary claim 1 of USF's '423 Patent is reproduced below:

- 1. A method for providing augmented reality in minimally invasive surgery, the method comprising:

- capturing pre-operative image data of internal organs of a patient;
- capturing intra-operative image data of the internal organs with an endoscope during a surgical procedure;
- registering the pre-operative image data and the intra-operative data in real time during the surgical procedure;
- tracking the position and orientation of the endoscope during the surgical procedure; and
- augmenting the intra-operative image data captured by the endoscope in real time with a rendering of at least a portion of an internal organ of the patient that is in registration with the real time intra-operative image data from the endoscope but outside of the field of view of the endoscope.

27. Stryker's Accused Products, including the exemplary product known as Stryker's TGS® System contains all the limitations of exemplary claim 1 of USF's '423 Patent, both literally and under the doctrine of equivalents as shown on Exhibit E to this Complaint.

28. In addition to Stryker's TGS® System, Stryker introduced a system for spinal surgeries referred to as a "Scopis Holographic Navigation Platform" (the "Scopsis HNP System"), which incorporates Microsoft's HoloLens mixed reality system. Although USF currently lacks sufficient information regarding Stryker's Scopsis HNP System to determine if it infringes USF's '423 Patent, USF reasonably believes that this system may also infringe USF's '423 Patent.

29. Stryker's infringement of USF's '423 Patent has caused, and is causing, USF to suffer injury and economic damages, including depriving USF of its statutory right to exclusively control the importing, manufacture, offering for sale, sale, and use of products practicing the invention claimed in the USF's '423 Patent and to enjoy the financial benefits of that right.

30. Upon information and belief, Stryker's infringement of USF's '423 Patent will continue unless enjoined by this Court.

31. Stryker's infringement of USF's '423 Patent is causing and will continue to cause USF irreparable harm unless such infringing activities are enjoined by this Court and USF lacks an adequate remedy at law to prevent injuries it is suffering from Stryker's infringement.

32. Given Stryker's clear and direct infringement of USF's patent rights, USF is substantially likely to prevail upon the merits of this action.

33. The balance of hardships and the public interest requires that Stryker immediately cease its infringing activities.

WHEREFORE, USF respectfully requests this Court to

- (A) enter judgment in favor of USF and against Stryker;
- (B) grant USF permanent injunctive relief barring the activities of Stryker that infringe upon USF's rights in its '423 Patent;

- (C) award USF its damages under 35 U.S.C. § 284;
- (D) award USF pre and post-judgment interest, costs, and expert fees; and
- (E) grant to USF all other relief this Court deems just and appropriate.

DEMAND FOR JURY TRIAL

USF hereby demands a jury trial on all issues so triable.

Dated: September 7, 2023

Respectfully submitted,

s/Richard E. Fee
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