IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

FACET TECHNOLOGY CORP.,	)	
	)	
Plaintiff,	)	Civil Action No. 2:24-cv-00035
	)	
v.	)	
	)	**JURY TRIAL DEMAND**
GENERAL MOTORS LLC,	)	
	)	
Defendant.	)	

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Facet Technology Corp. ("Facet" or "Plaintiff") files this Complaint for Patent Infringement and Demand for Jury Trial against General Motors LLC ("GM" or "Defendant") for infringement of United States Patent Nos. 9,335,255 ("the '255 Patent") and 9,671,328 ("the '328 Patent") (collectively the "Patents-in-Suit").

THE PARTIES

1. Facet is a corporation organized and existing under the laws of Minnesota and located at 1044 Rosemary Circle, Chaska, MN 55318.

2. Upon information and belief, Defendant GM is a limited liability company existing under the laws of Delaware with its principal place of business located at 300 Renaissance Center, Detroit, MI 48265.

JURISDICTION AND VENUE

3. This is an action for patent infringement arising under the patent laws of the United States, Title 35, United States Code, including 35 U.S.C. §§ 154, 271, 281, and 283-285.

4. This Court has exclusive subject matter jurisdiction over this case for patent infringement under 28 U.S.C. §§ 1331 and 1338.

5. GM is subject to the general and specific personal jurisdiction of this Court, based upon its regularly conducted business in the State of Texas and in the Eastern District of Texas ("District"), including conduct giving rise to this action.

6. GM has conducted and does conduct business within the State of Texas.

7. GM has committed, and continues to commit, acts of infringement in this District, has conducted business in this District, has a place of business in this District, and has engaged in continuous and systematic activities in this District.

8. This Court has personal jurisdiction over GM at least because GM has made, used, offered to sell, sold, or put into service the accused products, systems, or services within the District, thus committing acts of infringement within the District, and placed infringing products, systems, or services into the stream of commerce knowing or understanding that such products, systems, or services would be used in the United States, including in the Eastern District of Texas. GM thus has committed and continues to commit acts of infringement in this District by, among other things, offering to sell, selling products and/or services, and/or using services that infringe the Asserted Patents.

9. This Court likewise has personal jurisdiction over GM at least because GM has committed acts within this District giving rise to this action and has established minimum contacts with this forum such that the exercise of jurisdiction over GM would not offend traditional notions of fair play and substantial justice.

10. This Court has specific personal jurisdiction over GM in this action pursuant to due process and the Texas Long Arm Statute because the claims asserted herein arise out of or are related to GM's voluntary contacts with this forum, such voluntary contacts including but not limited to: (i) at least a portion of the actions complained of herein; (ii) purposefully and voluntarily

placing one or more Accused Products into this District and into the stream of commerce with the intention and expectation that it will be purchased and used by customers in this District; or (iii) regularly doing or soliciting business, engaging in other persistent courses of conduct, or deriving substantial revenue from goods and services, including the Accused Products.

11. Venue is proper in this Court pursuant to 28 U.S.C. § 1400(b) for the following reasons:

12. GM is registered to do business in Texas, and upon information and belief, GM has transacted business in this District and has committed acts of direct and indirect infringement in this District.

13. GM has regular and established places of business in this District including at 301 Freedom Drive, Roanoke, Texas 76262.

14. GM offers its products and/or services, including those accused herein of infringement, to customers and potential customers located in Texas and in this District.

15. GM has previously consented to jurisdiction and venue in this District, for example, in *K.Mizra LLC. v. General Motors, LLC*, Case No. 2:21-cv-244-JRG (E.D. Tex. 2021).

THE ’255 PATENT

16. Facet is the owner by assignment from the inventors, James E. Retterath and Robert A. Laumeyer, of all right, title, and interest in and to United States Patent No. 9,335,255 (the “’255 Patent”) titled “System and Assessment of Reflective Objects Along a Roadway,” including the right to sue for all past, present, and future infringement. A true and correct copy of the ’255 Patent is attached to this Complaint at Exhibit A.

17. The ’255 Patent issued from U.S. Patent Application No. 14/512,735, filed on October 13, 2014.

18. The ’255 Patent is a continuation of application No. 14/025,614, filed on September 12, 2013.

19. The Patent Office issued the ’255 Patent on May 10, 2016, after a full and fair examination.

20. The ’255 Patent is valid and enforceable.

21. The ’255 Patent relates to a system for classifying different types of sheeting materials of road signs depicted in a videostream.

22. The inventors of the ’255 Patent identified a critical problem in identifying and creating an accurate inventory of road and traffic signs along a given street or highway. The patent addresses the challenge of providing an automated, more accurate, and more efficient system for cataloguing the more than 58 million road and traffic signs in the United States.

23. The ’255 Patent provides several advantages over the prior art, such as determining the retroreflectivity and sheeting classification of traffic signs without the need to target individual signs.

24. The ’255 Patent describes and claims a system using an automated method of assessing reflective surfaces along a roadway. The patent details activating a light source to illuminate an area that includes the reflective surface of a road marker. The patent then describes an intensity sensor directed to cover a field of view that includes the area illuminated by the light source. The patent further describes the system as including a computer processing system that is configured to identify a portion of the light intensity value associated with one of the reflective surface of the road marker and to analyze the light intensity value to determine the reflective characteristic of the road marker.

25. Claim 12 of the ’255 Patent reads:

12. An automated method of assessing reflective surfaces disposed along a highway comprising:

(a) activating a light source as the light source is traversed along a roadway to illuminate an area that includes at least one reflective surface on a road marker, the road marker having a reflective characteristic;

(b) determining a plurality of light intensity values with at least one intensity sensor directed to cover a field of view which includes at least a portion of the area illuminated by the light source; and

(c) using a computer processing system configured to:

(i) identify a portion of at least one light intensity value of the plurality of light intensity values associated with one of the at least one reflective surface of the road marker; and

(ii) analyze the portion of the at least one light intensity value of the plurality of light intensity values to determine an assessment of the reflective characteristic of the road marker.

THE '328 PATENT

26. Facet is the owner by assignment from the inventors, James E. Retterath and Robert A. Laumeyer, of all right, title, and interest in and to United States Patent No. 9,671,328 ("the '328 Patent") titled "System and Assessment of Reflective Objects Along a Roadway," including the right to sue for all past, present, and future infringement. A true and correct copy of the '328 Patent is attached to this Complaint at Exhibit B.

27. The '328 Patent issued from U.S. Patent Application Serial No. 15/148,722, filed on May 6, 2016.

28. The '328 Patent claims the benefit of U.S. Patent Application Serial No. 14/512,735, filed on October 13, 2014.

29. The Patent Office issued the '328 Patent on June 6, 2017, after a full and fair examination.

30. The '328 Patent is valid and enforceable.

31. The '328 Patent relates to a system for classifying different types of sheeting materials of road signs depicted in a videostream.

32. The inventors of the ’328 Patent identified a critical problem in identifying and creating an accurate inventory of road and traffic signs along a given street or highway. The patent addresses the challenge of providing an automated system for cataloguing the more than 58 million such road and traffic signs in the United States that is more accurate and efficient than prior methods of doing so.

33. The ’328 Patent provides several advantages over the prior art, such as determining the retroreflectivity of a traffic sign without the need to target individual signs and automatically determining sheeting classification.

34. The ’328 Patent describes and claims a specific system that involves using an automated system to detect and determine the reflective surfaces along a roadway. The patent details capturing images along the roadway, using a light sensor to illuminate the roadway and measure light intensity, and a computer processing system connected to the image capture system and light sensor that can detect objects of interest within the field of view of the light source. The patent further describes that the computer processing system can determine the location, whether the object includes a reflective surface, the retroreflectivity of the surface, and whether the reflective surface is a road marker.

35. Claim 9 of the ’328 Patent reads:

> 9. An automated system for assessing reflective surfaces disposed along a roadway comprising:
> (a) an active light sensor that is traversed along a roadway that includes at least one reflective surface on a road marker, the road marker having a reflective characteristic, the active light sensor including:
> (i) a light source to illuminate an area that includes the at least one reflective surface; and
> (ii) a light sensor that measures a plurality of light intensity values within a field of view which includes at least a portion of the area illuminated by the light source and

(b) a computer processing system operably connected to the active light sensor and configured to detect objects of interest within the field of view for each object of interest:

(i) determine whether the object of interest includes at least one light intensity value associated with a reflective surface of a road marker in the field of view; and

(ii) analyze the at least one light intensity value to determine an assessment of a discrete location of the road marker within the field of view.

GM

36. GM is a multinational automobile manufacturing company. It is the largest automaker in the United States and the second largest in the world.

37. GM incorporates processing platforms that include Mobileye EyeQ3 and EyeQ4 Systems-on-Chip (SOCs). GM uses Mobileye software on cameras that support safety technologies such as forward collision alert and lane departure warning systems.

38. Upon information and belief, Mobileye was founded in 1999 by Prof. Amnon Shashua in Israel.

39. Upon information and belief, Mobileye developed the EyeQ series of SOCs, which are used in various categories of driver assistance systems.

40. Upon information and belief, Mobileye is a Tier 1 component supplier to GM, including the EyeQ3 and EyeQ4 SOCs, which GM uses to implement its LDW and LKA technologies in the Accused Products.

41. GM has had knowledge of the Patents-in-Suit since as early as 2016. Beginning in 2016, Facet began a test project with GeoDigital (formerly Ushr and now DMP) for automating HD mapping per a statement of work directing that Facet would use its existing tools to convert LIDAR data to pavement markings. Facet converted the GeoDigital LIDAR data collected from Michigan roads that GeoDigital had already used to manually create pavement markings in the

HD maps. GM compared the HD maps derived from manually created pavement locations by GeoDigital with automated pavement marking locations created by Facet for some roads. During the course of this test project, the licensing of the Facet patents, including the Patents-in-Suit, was discussed on November 28, 2016 with Mary L. Mayer, PHD MBA who was the director of Technology Commercialization for GM.

42. On February 20, 2020, counsel for Facet sent notice to GM that it was infringing the ’328 Patent. On March 2, 2020, David S. Willoughby, IP Counsel for GM, responded that GM was in receipt of Facet’s notice and that it would respond in due course.

43. GM sells vehicles that incorporate the EyeQ3 and EyeQ4 SOCs to implement Lane Keep Assist (“LKA”) and Lane Departure Warning (“LDW”) technology (the “Accused Products”).

44. Automated safety technologies, such as the GM Accused Products, are essential for competiveness in today’s vehicle marketplace.

45. GM’s implementation of the Accused Products has, on information and belief, significantly contributed to its efficiency and profitability.

46. Upon information and belief, GM has been aware of Facet and the Patents-in-Suit since at least as early as 2016 and at least as early as February 20, 2020, when Facet sent GM notice of its infringement of the ’328 Patent, but likely since the 2016 pilot project described above.

47. The financial gains accrued by GM through the use of Facet’s patented technology have been substantial, providing GM with competitive advantages in the retail market.

48. The benefits reaped by GM through the exploitation of Facet’s intellectual property have resulted in corresponding harm to Facet. This harm includes but is not limited to lost business opportunities, revenue, and diminution of the value of its patented technology.

49. This case is filed to address and seek redress for the unauthorized use of Facet's patented technology by GM in its vehicles, which has led to significant commercial gains for GM at the expense of Facet's proprietary rights and investments.

COUNT I

(DIRECT PATENT INFRINGEMENT OF THE '255 PATENT)

50. Facet repeats, realleges, and incorporates by reference, as if fully set forth herein, the allegations of the preceding paragraphs, as set forth above.

51. GM has made, used, offered for sale, and sold in the United States, products and systems that directly infringe at least Claim 12 of the '255 Patent, including the LKA and LDW technology of the Accused Products.

52. The Accused Products provide a method of assessing reflective surfaces disposed along a highway, specifically through GM's LKA and LDW systems which incorporate Mobileye's EyeQ3 and EyeQ4 SOCs.

53. The Accused Products activate a light source as the light source travels along a roadway to illuminate an area that includes at least one reflective surface on a road marker that has a reflective characteristic. The Mobileye system relies on headlights to function properly at night.

54. The Accused Products determine a plurality of light intensity values with at least one intensity sensor directed to cover a field of view which includes at least a portion of the area illuminated by the light source. The Mobileye SOCs used in GM vehicles for LKA and LDW rely on a forward looking camera module that acts as the intensity sensor.

55. The Accused Products use a computer processing system. GM's vehicles have electronic control units (ECUs) that are computer processing systems configured to perform various functions including for LKA and LDW.

56. The computer processing systems of the Accused Products identify a portion of at least one light intensity value of the plurality of light intensity values associated with one of the at least one reflective surface of the road marker. GM's LKA and LDW systems detects road markers at night based on reflected light intensity.

57. The computer processing systems of the Accused Products analyze the portion of the at least one light intensity value of the plurality of light intensity values to determine an assessment for the reflective characteristic of the road marker.

58. GM's infringing activities are and have been without authority or license under the '255 Patent.

59. As a direct and proximate result of GM's infringement of the '255 Patent, Facet has suffered and will continue to suffer damage.

60. Facet is informed and believes, and on that basis alleges, that GM has been aware of the '255 Patent and its infringement thereof due to the business relationship between GM and GeoDigital in 2016, but at least since GM's receipt of Facet's notice of infringement in 2020. Despite this knowledge, GM has continued to use the Accused Products.

61. Facet is informed and believes that GM knew or was willfully blind to the patented technology of the '255 Patent. Despite this knowledge or willful blindness, GM has acted with blatant disregard for Facet's patent rights with an objectively high likelihood of infringement.

62. Facet is informed and believes that GM has made no efforts to avoid infringement of the '255 Patent, despite its knowledge and understanding that its products and systems infringe the '255 Patent.

63. Therefore, GM's infringement of the '255 Patent is willful and egregious, warranting an enhancement of damages.

64. As such, GM has acted and continues to act recklessly, willfully, wantonly, deliberately, and egregiously in infringement of the ’255 Patent, justifying an award to Facet of increased damages under 35 U.S.C. § 284, and attorneys’ fees and costs incurred under 35 U.S.C. § 285.

COUNT II

(INDUCED PATENT INFRINGEMENT OF THE ’255 PATENT)

65. Facet repeats, realleges, and incorporates by reference, as if fully set forth herein, the allegations of the preceding paragraphs, as set forth above.

66. GM is liable for indirect infringement under 35 U.S.C. § 271(b) of at least one claim of the ’255 Patent, at least as early as the filing of this Complaint, because it knowingly induced, aided, and directed others to use the Accused Products in a manner that infringes the ’255 Patent.

67. As detailed above, GM has had knowledge of Facet and its patents at least since receiving notice of infringement in 2020, but likely since the joint test project in 2016 described above.

68. GM’s use of the Accused Products demonstrates specific intent to induce infringement of the ’255 Patent. GM encouraged, directed, aided, and abetted the use and operation of the Accused Products in a manner that infringes the ’255 Patent.

69. GM’s knowledge of the ’255 Patent, combined with its ongoing use of the Accused Products, demonstrates GM’s knowledge and intent that the Accused Products be used in a manner that infringes the ’255 Patent.

70. GM’s actions and the manner in which the Accused Products are used in GM vehicles, consistent with GM’s promotions and instructions, demonstrate GM’s specific intent to induce infringement of the ’255 Patent.

71. Facet is informed and believes, and on that basis alleges, that GM knew or was willfully blind to the fact that it was inducing others, including its customers and staff, to infringe by practicing, either themselves or in conjunction with GM, one or more claims of the ’255 Patent.

72. As a direct and proximate result of GM’s induced infringement of the ’255 Patent, Facet has suffered and will continue to suffer damage.

73. Facet is entitled to recover from GM compensation in the form of monetary damages suffered as a result of GM’s infringement in an amount that cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court.

COUNT III

(DIRECT PATENT INFRINGEMENT OF THE ’328 PATENT)

74. Facet repeats, realleges, and incorporates by reference, as if fully set forth herein, the allegations of the preceding paragraphs, as set forth above.

75. GM has made, used, offered for sale, and sold in the United States, products and systems that directly infringe at least Claim 9 of the ’328 Patent, including the LKA and LDW technology of the Accused Products.

76. The Accused Products provide an automated system for assessing reflective surfaces disposed along a roadway, specifically through GM’s LKA and LDW systems which incorporate Mobileye’s EyeQ3 and EyeQ4 SOCs.

77. The Accused Products have an active light sensor, through use of a forward looking camera, that travels along a roadway containing at least one reflective surface on a road marker, the road marker having a reflective characteristic.

78. In the Accused Products, the active light sensor includes a light source to illuminate an area that includes at least one reflective surface. For example, GM's vehicles contain headlights that serve as a light source to illuminate an area that includes, for example, lane markers.

79. In the Accused Products, the active light sensor includes a light sensor that measures a plurality of light intensity values within a field of view which includes at least a portion of the area illuminated by the light source.

80. In the Accused Products, the active light sensor includes a computer processing system operably connected to the active light sensor and configured to detect objects of interest within the field of view. For example, GM's vehicles contain ECUs operably connected to the active light sensor. In addition, GM's LKA and LDW systems detect objects of interest such as lane markers.

81. In the Accused Products, for each object of interest, the Accused Products determine whether the object of interest includes at least one light intensity value associated with a reflective surface of a road marker in the field of view, such as when detecting a lane marking.

82. In the Accused Products, for each object of interest, the Accused Products analyze the at least one light intensity value to determine an assessment of a discrete location of the road marker within the field of view such as when determining the location of a lane marking.

83. GM has directly infringed the '328 Patent in violation of 35 U.S.C. § 271(a) by making, using, offering for sale, selling, and/or operating the Accused Products that embody the patented inventions of at least Claim 9 of the '328 Patent.

84. The Accused Products satisfy each and every element of the asserted claim of the '328 Patent either literally or under the doctrine of equivalents.

85. GM's infringing activities are and have been without authority or license under the '328 Patent.

86. As a direct and proximate result of GM's infringement of the '328 Patent, Facet has suffered and will continue to suffer damage.

87. Facet is informed and believes, and on that basis alleges, that GM has been aware of the '328 Patent and its infringement thereof due to the business relationship between GM and GeoDigital in 2016 and at least since GM's receipt of Facet's notice of infringement in 2020. Despite this knowledge, GM has continued to use the Accused Products.

88. Facet is informed and believes that GM knew or was willfully blind to the patented technology of the '328 Patent. Despite this knowledge or willful blindness, GM has acted with blatant disregard for Facet's patent rights with an objectively high likelihood of infringement.

89. Facet is informed and believes that GM has made no efforts to avoid infringement of the '328 Patent, despite its knowledge and understanding that its products and systems infringe the '328 Patent.

90. Therefore, GM's infringement of the '328 Patent is willful and egregious, warranting an enhancement of damages.

91. As such, GM has acted and continues to act recklessly, willfully, wantonly, deliberately, and egregiously in infringement of the '328 Patent, justifying an award to Facet of increased damages under 35 U.S.C. § 284, and attorneys' fees and costs incurred under 35 U.S.C. § 285.

COUNT IV

(INDUCED PATENT INFRINGEMENT OF THE '328 PATENT)

92. Facet repeats, realleges, and incorporates by reference, as if fully set forth herein, the allegations of the preceding paragraphs, as set forth above.

93. GM is liable for indirect infringement under 35 U.S.C. § 271(b) of at least one claim of the '328 Patent , at least as early as the filing of this Complaint, because it knowingly induced, aided, and directed others to use the Accused Products in a manner that infringes the '328 Patent.

94. As detailed above, GM has had knowledge of Facet and its patents since receiving notice of infringement in 2020.

95. GM's use of the Accused Products demonstrates specific intent to induce infringement of the '328 Patent. GM encouraged, directed, aided, and abetted the use and operation of the Accused Products in a manner that infringes the '328 Patent.

96. GM's knowledge of the '328 Patent, combined with its ongoing use of the Accused Products, demonstrates GM's knowledge and intent that the Accused Products be used in a manner that infringes the '328 Patent.

97. GM's actions and the manner in which the Accused Products are used, consistent with GM's promotions and instructions, demonstrate GM's specific intent to induce infringement of the '328 Patent.

98. Facet is informed and believes, and on that basis alleges, that GM knew or was willfully blind to the fact that it was inducing others, including its customers and staff, to infringe by practicing, either themselves or in conjunction with GM, one or more claims of the '328 Patent.

99. As a direct and proximate result of GM's induced infringement of the '328 Patent, Facet has suffered and will continue to suffer damage.

100. Facet is entitled to recover from GM compensation in the form of monetary damages suffered as a result of GM's infringement in an amount that cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court.

JURY DEMAND

Facet hereby demands a trial by jury of all issues so triable pursuant to Rule 38 of the Federal Rules of Civil Procedure.

PRAYER FOR RELIEF

WHEREFORE, Facet prays for relief against GM as follows:

(A) An entry of judgment that GM has infringed and is directly infringing one or more claims of each of the Patents-in-Suit;

(B) An entry of judgment that GM has infringed and is indirectly infringing one or more claims of each of the Patents-in-Suit;

(C) An order pursuant to 35 U.S.C. § 283 permanently enjoining GM, its officers, agents, servants, employees, attorneys, and those persons in active concert or participation with it, from further acts of infringement of the Patents-in-Suit;

(D) An entry of judgment that the Patents-in-Suit are valid and enforceable;

(E) An order awarding damages sufficient to compensate Facet for GM's infringement of the Patents-in-Suit, but in no event less than a reasonable royalty, together with interest and costs;

(F) A determination that GM's infringement has been willful, wanton, deliberate, and egregious;

(G) A determination that the damages against GM be trebled or for any other basis within the Court's discretion pursuant to 35 U.S.C. § 284;

(H) A finding that this case against GM is "exceptional" and an award to Facet of its costs and reasonable attorneys' fees, as provided by 35 U.S.C. § 285;

(I) An accounting of all infringing sales and revenues of GM, together with post-judgment interest and prejudgment interest from the first date of infringement of the '255 Patent, and the '328 Patent; and

(J) Such further and other relief as the Court may deem proper and just.

Dated: January 22, 2024

Respectfully submitted,

/s/ *Christopher E. Hanba*

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