

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

Torchlight Technologies LLC,

Plaintiff,

v.

GENERAL MOTORS LLC, GENERAL
MOTORS HOLDINGS LLC, and GENERAL
MOTORS COMPANY,

Defendants.

Civil Action No. 22-cv-00752-VAC

JURY TRIAL DEMANDED

**FIRST AMENDED COMPLAINT FOR PATENT
INFRINGEMENT**

Plaintiff, Torchlight Technologies LLC (“Torchlight” or “plaintiff”), for its Complaint against General Motors LLC, General Motors Holdings LLC, and General Motors Company (collectively “Defendants”), states the following:

I. THE PARTIES

PLAINTIFF, TORCHLIGHT TECHNOLOGIES LLC

1. Plaintiff Torchlight Technologies LLC (“Torchlight” or “plaintiff”) is a Delaware limited liability company with its registered office located at Corporation Service Company, 251 Little Falls Drive, Wilmington, Delaware 19808, and with its principal place of business located at 767 Fifth Ave. Fl. 9, New York, NY 10153.

GM DEFENDANTS

2. Upon information and belief, General Motors LLC (“GM LLC”) is a Delaware limited liability company, with its registered office located at Corporation Service Company, 251 Little Falls Drive, Wilmington, Delaware 19808, and with its principal place of business located at 300 Renaissance Center, Detroit, Michigan.

3. Upon information and belief, GM LLC engages in business, including at least the advertising, marketing and sale of motor vehicles, in all 50 states, including Delaware.

4. Upon information and belief, General Motors Holdings LLC is the sole owner of GM LLC.

5. Upon information and belief, General Motors Holdings LLC (“GM Holdings”) is a Delaware limited liability company, with its registered office located at Corporation Service Company, 251 Little Falls Drive, Wilmington, Delaware 19808, and with its principal place of business located at 300 Renaissance Center, Detroit, Michigan’

6. Upon information and belief, GM Holdings engages in business, including at least the design and manufacture of motor vehicles that are sold in all 50 states, including Delaware, and the advertising, marketing and sale of motor vehicles in all 50 states, including Delaware.

7. Upon information and belief, General Motors Company is the sole owner of GM Holdings.

8. Upon information and belief, General Motors Company (“GM Company”) is a Delaware corporation, with its registered office located at Corporation Service Company, 251 Little Falls Drive, Wilmington, Delaware 19808, and with its principal place of business located at 300 Renaissance Center, Detroit, Michigan.

9. Upon information and belief, GM Company engages in business, including at least the design and manufacture of motor vehicles that are sold in all 50 states, including Delaware.

II. JURISDICTION AND VENUE

10. This is a civil action for patent infringement arising under the Patent Laws of the United States, 35 U.S.C. §§ 1 *et seq.*, including 35 U.S.C. §§ 271, 281, and 284-285.

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

12. This Court has personal jurisdiction over the Defendants because Defendants have minimum contacts within the State of Delaware and in the District of Delaware and they have purposefully availed themselves of the privileges of conducting business in the United States, and more specifically in Delaware and this District. Defendants have sought protection and benefit from the laws of the State of Delaware by placing infringing products into the stream of commerce through an established distribution channel with the awareness and/or intent that they will be purchased by consumers in this District.

13. This Court also has personal jurisdiction over Defendants because they regularly transact with entities and individuals in the State of Delaware including one or more dealerships located in the State of Delaware, and because they manufacture and distribute infringing motor vehicles and other infringing products that they purposefully direct into the State of Delaware, including this District, or at least place into the stream of commerce via established distribution channels with the knowledge and expectation that they will be sold in the State of Delaware and this District.

14. This Court also has personal jurisdiction over Defendants because they are incorporated in the State of Delaware.

15. On information and belief, Defendants have significant ties to, and presence in, this District, making venue in this District both proper and convenient for this action.

16. Venue is also proper in this District as to Defendants under 28 U.S.C. § 1400(b) because they were formed under the laws of the State of Delaware and therefore reside in this District.

III. BACKGROUND

17. On April 24, 2018 and August 19, 2022 respectively, U.S. Patent Nos. 9,955,551 B2 and 9,955,551 C1 (“together the ’551 patent”) entitled “Detector Controlled Illuminating System” was duly and legally issued. (See Exhibit 1, U.S. Patent Nos. 9,955,551 B2 and C1.)

18. Torchlight is the exclusive licensee of the '551 patent, with the right to enforce the '551 patent, and the right to sue Defendants for infringement and recover past damages.

19. On January 19, 2021, U.S. Patent No. 10,894,503 ("the '503 patent") entitled "Detector Controlled Headlight System" was duly and legally issued. (*See* Exhibit 2, U.S. Patent No. 10,894,503.)

20. Torchlight is the exclusive licensee of the '503 patent, with the right to enforce the '503 patent, and the right to sue Defendants for infringement and recover past damages.

21. On December 28, 2021, U.S. Patent No. 11,208,029 ("the '029 patent") entitled "Adaptive Headlight System" was duly and legally issued. (*See* Exhibit 3, U.S. Patent No. 11,208,029.)

22. Torchlight is the exclusive licensee of the '029 patent, with the right to enforce the '029 patent, and the right to sue Defendants for infringement and recover past damages.

IV. COUNT I – INFRINGEMENT OF THE '551 PATENT BY GM LLC, GM HOLDINGS LLC, AND GM COMPANY

23. Torchlight realleges the preceding paragraphs as though set forth fully herein.

24. GM LLC, GM Holdings, LLC, and GM Company have infringed one or more claims of the '551 patent in violation of 35 U.S.C. § 271(a) by making, using, selling, and/or offering for sale in the United States, and/or importing into the United States, without authorization, certain vehicle illuminating devices including multiple light sources.

25. Such infringement is described below based on publicly available information with respect to example claim 1 and the example GM Premium Headlamp System (GM production code UWN) in which each headlamp has as many as 16 individually controlled LEDs (the "GM system"). (*See*, e.g., Exhibits G7 and G8.) On information and belief, GM has installed these devices in its vehicles and sold the vehicles to or through dealers throughout the U.S.

26. The preamble of Claim 1 refers to a device "for illuminating an area to be lit capable of automatically meeting specific illumination requirements of different sub-areas within

the area to be lit. . . .” On information and belief, GM vehicles equipped with the GM system include a device capable of illuminating an area to be lit and automatically meeting the specific illumination requirements of different sub-areas within the area to be lit as claimed. This capability exists in the accused vehicles regardless of whether the feature is activated or used. Infringement is evidenced, for example by the sources attached as Exhibits G1-G8 and <https://www.youtube.com/watch?app=desktop&v=u--g83ae5yY>. More specifically for example, Exhibit G5 provides the following:

[T]he XT6 can be equipped with a feature called Adaptive Driving Beam (ADB). . . . Here's how it works: the system detects an oncoming vehicle and it "shades" a specific area of the headlight to prevent glare in the eyes of the other driver.

As another example, Exhibit G6 provides the following:

One other feature that customers can opt for upgrades the standard LED headlamps with a 16 LED projector system that is capable of operating full-time in bright mode. It automatically dims the LEDs that would aim into the face of oncoming traffic or the mirror of a vehicle close in front.

27. Claim 1 further requires, “a multiplicity of independently controllable light sources, including at least two light sources of directional light output, such that each said source substantially illuminates a different sub-area within the area to be lit, the light sources having at least one of controllable light intensity and spectral light distribution. . . .” On information and belief, the GM system has a multiplicity of independently controllable light sources, those being the independently controllable LEDs. Further, on information and belief, the GM system includes at least two of those LED light sources arranged to provide directional light output, such that each of those LED light sources substantially illuminates a different sub-area within the area to be lit, the light sources having at least one of controllable light intensity and spectral light distribution. . . .” This is evidenced, for example by the sources attached as Exhibits G1-G8 and <https://www.youtube.com/watch?app=desktop&v=u--g83ae5yY>. More specifically for example, and in addition to the Exhibits quoted in the preceding paragraph of this complaint, Exhibit G1

provides: “The optional lighting system, meanwhile, is referred to as the Premium Headlamp System and features three LED projector beams with 16 individually controlled LED light segments.”

28. Claim 1 further requires, “a controller for adjusting at least one of a light intensity and light spectrum of the light sources. . . .” On information and belief, the GM system has a controller for adjusting at least the light intensity of the LED light sources. This is evidenced, for example, by the sources attached as Exhibits G1-G8 and <https://www.youtube.com/watch?app=desktop&v=u--g83ae5yYM1-M5>.

29. Claim 1 further requires “one or more detectors for sensing at least one of objects, surfaces and beings within the area to be lit including the specific sub-area location information and of passing the sensed information to the controller. . . .” On information and belief, the GM system includes at least a camera detector for sensing traffic and other road users within the area to be lit, including specific sub-area location information, and passing that information to a controller. This is evidenced, for example by the sources attached as Exhibits G1-G6, <https://www.youtube.com/watch?app=desktop&v=u--g83ae5yY>, and <https://www.youtube.com/watch?app=desktop&v=zjv4gFOdbuY>. More specifically, for example, Exhibit G4 provides the following:

[T]he XT6 can be upgraded to three-element LED projectors capable of adaptive lighting function, which selectively dims portions of the high beams' light around camera-detected vehicles. This should allow drivers to keep their high beams on without dazzling oncoming cars.

30. Claim 1 ends by requiring “a processor for processing the sensed information and determining illumination requirements of the at least one of objects, surfaces and beings using at least one of artificial intelligence, pattern recognition, video analytics, and look-up tables and for directing the controller to adjust the light source for that sub-area to meet the specific illumination requirement.” On information and belief, the GM system includes a processor for processing the sensed information and determining the illumination requirements of an object (such as another vehicle), surface, or being using at least one of artificial intelligence, pattern

recognition, video analytics, and look-up tables and for directing the controller to adjust the light source for that sub-area to meet a specific illumination requirement. This is evidenced, for example by the sources attached as Exhibits G1-G8, <https://www.youtube.com/watch?app=desktop&v=u--g83ae5yY>, and <https://www.youtube.com/watch?app=desktop&v=zjv4gFOdbuY>.

31. This infringement of the '551 patent has caused damage to Torchlight, and Torchlight is entitled to recover damages sustained as a result of the infringement.

V. COUNT II – INFRINGEMENT OF THE '503 PATENT BY GM LLC, GM HOLDINGS LLC, AND GM COMPANY

32. Torchlight realleges the preceding paragraphs as though set forth fully herein.

33. GM LLC, GM Holdings, LLC, and GM Company have infringed one or more claims of the '503 patent in violation of 35 U.S.C. § 271(a) by making, using, selling, and/or offering for sale in the United States, and/or importing into the United States, without authorization, certain vehicle illuminating devices including multiple light sources.

34. Such infringement is described below based on publicly available information with respect to example claim 59 and the example GM Premium Headlamp System (GM production code UWN) in which each headlamp has as many as 16 individually controlled LEDs (the "GM system"). (See, e.g., Exhibits G7 and G8.)

35. For example, such infringement is described below based on publicly available information with respect to exemplary claim 59 as to the GM Premium Headlamp System having 16 individually controlled LEDs ("GM system"). On information and belief, GM has installed these devices in its vehicles and sold the vehicles to or through dealers throughout the U.S.

36. The preamble of Claim 59 refers to "A vehicle headlight system. . . ." GM vehicles equipped with the GM system include a vehicle headlight system. This is confirmed, for example by at least the sources attached as Exhibits G1-G6 and <https://www.youtube.com/watch?app=desktop&v=u--g83ae5yY>.

37. Claim 59 then requires “one or more headlamps affixed to a first vehicle, each headlamp including at least three directional light sources having different aimings relative to the first vehicle. . . .” On information and belief, the GM system includes headlamps affixed to a vehicle with each headlamp including at least three light sources, such as three or more of the LEDs, the light from which is aimed at different angles relative to the vehicle. This is made clear by descriptions of the GM system being capable of, whether before or after being enabled, turning off light sources including one or more LEDs whose lights would otherwise shine directly on an oncoming car and potentially dazzle its driver while the rest of the LEDs continue to illuminate the surrounding areas. This is evidenced, for example by the sources attached as Exhibits G1-G6 and <https://www.youtube.com/watch?app=desktop&v=u--g83ae5yY>. More specifically for example, Exhibit G5 provides the following:

[T]he XT6 can be equipped with a feature called Adaptive Driving Beam (ADB). . . . Here's how it works: the system detects an oncoming vehicle and it "shades" a specific area of the headlight to prevent glare in the eyes of the other driver.

As another example, Exhibit G6 provides the following:

One other feature that customers can opt for upgrades the standard LED headlamps with a 16 LED projector system that is capable of operating full-time in bright mode. It automatically dims the LEDs that would aim into the face of oncoming traffic or the mirror of a vehicle close in front.

38. Claim 59 then requires “the light sources having one or more controllable illumination characteristics. . . .” On information and belief, GM LED light sources have controllable illumination characteristics, whether before or after being enabled, such that they can be individually dimmed or turned off. This is evidenced, for example by the sources attached as Exhibits G1-G8 and <https://www.youtube.com/watch?app=desktop&v=u--g83ae5yY>. More specifically for example, and in addition to the Exhibits quoted in the preceding paragraph of this complaint, Exhibit G1 provides: “The optional lighting system, meanwhile, is referred to as the

Premium Headlamp System and features three LED projector beams with 16 individually controlled LED light segments.”

39. Claim 59 then requires “one or more sensors configured to sense information, at least a portion of the sensed information indicating a second vehicle, and communicate sensor data reflecting the sensed information to at least one processor. . . .” On information and belief, the GM system includes at least a camera sensor configured, whether before or after the GM systems is enabled, to sense information indicating a second vehicle and to communicate that information to at least one processor. This is evidenced, for example by the sources attached as Exhibits G1-G6, <https://www.youtube.com/watch?app=desktop&v=u--g83ae5yY>, and <https://www.youtube.com/watch?app=desktop&v=zjv4gFOdbuY>. More specifically, for example, Exhibit G4 provides the following:

[T]he XT6 can be upgraded to three-element LED projectors capable of adaptive lighting function, which selectively dims portions of the high beams' light around camera-detected vehicles. This should allow drivers to keep their high beams on without dazzling oncoming cars.

40. Claim 59 then requires “wherein the at least one processor is configured to: process the sensor data to identify a first subsection, of a field of view, that includes at least a portion of the second vehicle; determine light output for the headlight system that aims illumination at the first subsection, the illumination aimed at the first subsection substantially resulting in light below a first predefined illuminance in the first subsection, and that aims illumination at one or more second subsections of the field of view to either side of the first subsection, the illumination aimed at the one or more second subsections substantially resulting in light above the first predefined illuminance in the one or more second subsections; and instruct adjustment of one or more of the light sources to achieve the determined output.” On information and belief, the GM system includes at least one processor configured to process the sensor data to identify a first subsection of a field of view that includes at least a portion of the second vehicle and to determine and instruct a light output such that illumination aimed at the

first subsection results in light below a first predefined illuminance, and that aims illumination to either side of the first subsection resulting in light above the first predefined illuminance. This capability exists in the accused vehicles regardless of whether the feature is activated or used. Infringement is evidenced, for example by the sources attached as Exhibits G1-G8, <https://www.youtube.com/watch?app=desktop&v=u--g83ae5yY>, and <https://www.youtube.com/watch?app=desktop&v=zjv4gFOdbuY>. More specifically for example, <https://www.freep.com/story/money/cars/2022/02/16/headlight-technology-nhtsa/6805091001/> illustrates the following:



Cadillac XT6 headlamp— The adaptive matrix headlight system available on XT6 provides optimal lighting via intelligent adjustment of its 28 LED segments and cornering lamp functionality. *Provided By General Motors*

41. This infringement of the '503 patent has caused damage to Torchlight, and Torchlight is entitled to recover damages sustained as a result of the infringement.

VI. DEMAND FOR RELIEF

WHEREFORE, Plaintiff respectfully requests that this Court enter judgment against Defendants as follows:

- A. Declaring that Defendants have infringed United States Patent No. 9,955,551 B2 and C1, United States Patent No. 10,894,503, and U.S. Patent No. 11,208,029 in violation of 35 U.S.C. § 271;
- B. Awarding damages to Torchlight arising out of this infringement, including enhanced damages pursuant to 35 U.S.C. § 284 and prejudgment and post-judgment interest;
- C. Awarding Torchlight its costs and expenses in this action;
- D. Declaring that this case is exceptional, and that Torchlight is entitled to its reasonable attorneys' fees pursuant to 35 U.S.C. § 285; and
- E. Awarding such other and further relief the Court deems just and proper, including any relief that the Court may deem appropriate under 35 U.S.C. § 285.

VII. DEMAND FOR JURY TRIAL

Plaintiff, Torchlight, respectfully demands a trial by jury of any and all issues triable of right by a jury in this action.

Dated: August 26, 2022

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COMPLAINT EXHIBIT LIST

GM LLC, GM HOLDINGS, LLC, AND GM COMPANY

G1 <https://gmauthority.com/blog/2019/08/these-are-the-two-headlight-configurations-for-the-2020-cadillac-xt6/>

G2 <https://gmauthority.com/blog/2020/04/cadillac-xt6-offers-highly-advanced-lighting-system-but-you-cant-have-it/>

G3 <https://cadillacsociety.com/2020/04/25/cadillac-xt6-lights-have-a-high-tech-feature-thats-disabled-in-america/>

G4 <https://www.cnet.com/roadshow/reviews/2020-cadillac-xt6-preview/>

G5 <https://carbuzz.com/news/one-of-cadillac-xt6s-coolest-features-is-illegal-in-america>

G6 <https://www.thedetroitbureau.com/reviews/first-drive-2020-cadillac-xt6/>

G7 [2022 XT6 AWD Sport, Vehicle Details](#)

G8 <https://cadillacsociety.com/2019/07/28/2020-cadillac-xt6-offers-two-different-headlamp-configurations/>