

**IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF ILLINOIS
WESTERN DIVISION**

DIESEL TECHNOLOGIES LLC,

Plaintiff,

v.

CATERPILLAR, INC.,

Defendant.

Civil Action No. 3:25-cv-50026

JURY TRIAL DEMANDED

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Diesel Technologies LLC (“Diesel” or “Plaintiff”), for its Complaint against Defendant Caterpillar, Inc (referred to herein as “Caterpillar” or “Defendant”), alleges the following:

NATURE OF THE ACTION

1. This is an action for patent infringement arising under the Patent Laws of the United States, 35 U.S.C. § 1 *et seq.*

THE PARTIES

2. Plaintiff Diesel Technologies LLC is a limited liability company organized under the laws of the State of Delaware.

3. On information and belief, Caterpillar is a corporation organized under the laws of the State of Delaware with a place of business at 501 SW Jefferson Ave., Peoria, Illinois 61630. Caterpillar maintains corporate offices in this judicial district including at 540 West Madison, Chicago, Illinois 60661 and 3930 Cedar Creek Dr., Joliet, IL 60436.

4. Caterpillar lists additional “Key Offices” and “Technical Centers” in this judicial district in Aurora Illinois, Deerfield Illinois and LaGrange Illinois. (See Caterpillar U.S.

Locations, <https://www.caterpillar.com/en/company/global-footprint/americas/united-states.html#accordion-1bd183d3ed-item-fe2f7b0c44-button> (last visited December 27, 2024).)

5. On information and belief, Caterpillar regularly and systematically transacts business in the State of Illinois and in this judicial district.

6. On information and belief, Caterpillar sells, offers to sell, and/or uses products and services throughout the United States, including in this judicial district, and introduces infringing products and services into the stream of commerce knowing that they would be sold and/or used in this judicial district and elsewhere in the United States.

JURISDICTION AND VENUE

7. This is an action for patent infringement arising under the Patent Laws of the United States, Title 35 of the United States Code.

8. This Court has subject matter jurisdiction under 28 U.S.C. §§ 1331 and 1338(a).

9. Venue is proper in this judicial district under 28 U.S.C. § 1400(b).

10. This Court has personal jurisdiction over Caterpillar under the laws of the State of Illinois due at least to Defendant's substantial business in Illinois and in this judicial district, directly or through intermediaries, including: (i) at least a portion of the infringements alleged herein; and (ii) regularly doing or soliciting business, engaging in other persistent courses of conduct and/or deriving substantial revenue from goods and services provided to individuals in the State of Illinois.

BACKGROUND

The Invention

11. Walter Boegner and Andreas Hertzberg are the inventors of U.S. Patent No. 8,474,246 ("the '246 patent"). A true and correct copy of the '246 patent is attached as Exhibit A.

12. The '246 patent resulted from the pioneering efforts of Messrs. Boegner and Hertzberg (hereinafter "the Inventors") in the area of exhaust filtering and self-cleaning motor vehicle engines. These efforts resulted in the development of a method and apparatus for a "method of operating a particle filter in the exhaust system of a motor vehicle's internal combustion engine" around the year 2006. At the time of these pioneering efforts, the most widely implemented technology used to address the problem of complying with heightened Tier 4 emissions standards were Diesel Particulate Filters (a "DPF"), manufactured by various corporations in America and other countries. In these types of systems, the DPF typically uses a series of alternately blocked channels forcing the engine exhaust gas to flow through the channel walls where the particulate matter from the engine is captured by the DPF.

13. The Inventors conceived of the inventions claimed in the '246 patent as a way to periodically inject small amounts of fuel into the DPF system in order to automatically regenerate the filter, clearing the built-up ash and other particulate matter, regenerating the DPF and vastly extending the life of a filter, creating a cost savings and allowing for more cost effective compliance with increased motor vehicle emissions standards.

14. For example, the Inventors' developed a method of operating a DPF where it collects soot particles and ash, reconditioning the DPF in various intervals where the soot particles are cleared using a novel soot-burn off procedure, which utilizes a reducing-agent to further scrub the ash and particulate matter from the DPF, both reducing emissions and providing for the chemical conversion of this matter so the DPF can remove non-metallic constituent parts of the exhaust gas more cleanly and with less stress on the integrity of the DPF and the engine itself.¹

¹ See '246 patent at 1:60-2:3.

Advantage Over the Prior Art

15. The patented invention disclosed in the '246 patent, provides for a method for the operation of a particle filter in a motor vehicle engine while it is running enabling ash charge of the particle filter during the operation of the motor vehicle (*See* '246 at 1:42-56.)

16. An advantage of the patented invention, beyond the aforementioned enabling of particle filtering while the motor vehicle engine is running is soot removal and engine regeneration, lowering the load on DPF and particulate matter filtration systems (*See* '246 at 5:33 – 6:67.)

17. Another advantage of the patented invention is the method contemplated by the '246 patent results in the steep reduction in non-metallic harmful exhaust chemicals, largely replacing them with hydrogen, which further enhances the reduction of reducing ash decomposition. (*See* '246 patent at 7:7-26.)

18. Because of these significant advantages that can be achieved through the use of the patented invention, Diesel believes that the '246 patent presents significant commercial value for companies like Caterpillar. Indeed, the cost advantages that can be realized over time through the method contemplated by the '246 patent reduce DPF replacement costs, enable more effective compliance with the recent drastic increases in emissions standards such as those promulgated in Europe and the United States, and increased value to Caterpillar, along with other vehicle manufacturers and consumers.

Technological Innovation

19. The patented invention disclosed in the '246 patent resolves technical problems related to vehicle emissions compliance, particularly problems related to the utilization of DPF systems in construction vehicles and other motor vehicles, particularly the problem of the DPF accumulating particulate matter and the necessity of regularly replacing the system. As the '246

patent explains, one of the limitations of the prior art was significantly less efficient particulate matter removal, making it more difficult for a DPF system to comply with emerging emissions standards. Major drawbacks of the prior art included the need for frequent replacement of the DPF system combined with significantly higher rates of stress and an inability to provide filtering while a vehicle's engine was not running (*See* '246 at 1:42-56).

20. In addition, the claims of the '246 patent recite inventive concepts that improve the functioning of DPF systems particularly through the significant improvement in the life of the DPF filter by providing a less-maintenance-intensive method for performing soot-burn off procedures. (*See, e.g.*, '246 patent at 8:10-51.)

21. Moreover, the claims of the '246 patent recite inventive concepts that are not merely routine or conventional use of a DPF. Instead, the patented invention disclosed in the '246 patent provides a new and novel solution to specific problems related to improving both the emissions standards compliance role of a DPF along with drastically extending its longevity.

22. Accordingly, the claims in the '246 patent recite a combination of elements sufficient to ensure that the claim in substance and in practice amounts to significantly more than a patent-ineligible abstract idea.

COUNT I – INFRINGEMENT OF U.S. PATENT NO. 8,474,246 B2

23. The allegations set forth in the foregoing paragraphs 1 through 22 are incorporated into this First Claim for Relief.

24. On July 2, 2013, the '246 patent, entitled "METHOD OF OPERATING A PARTICLE FILTER IN THE EXHAUST SYSTEM OF A MOTOR VEHICLE'S INTERNAL COMBUSTION ENGINE" was duly and legally issued by the United States Patent and Trademark Office.

25. Plaintiff is the assignee and owner of the right, title and interest in and to the '246 patent, including the right to assert all causes of action arising under said patents and the right to any remedies for infringement of them, including all past infringement.

26. The Inventions of the '246 patent resolve technical problems related to the removal of particulate matter build-up in motor vehicle engines. For example, the inventions allow parties to more easily and efficiently comply with emissions standards and enable parties to utilize a reducing agent that reacts with engine ash deposits to decompose them and carry the neutralized and cleaned matter out of the DPF through the engine exhaust gas.

27. Accordingly, each claim of the '246 patent recites a combination of elements sufficient to ensure that the claim in practice amounts to significantly more than a patent on an ineligible concept.

28. On information and belief, each Defendant has and continues to directly infringe at least claims 1-4, and 7 of the '246 patent by making, using, selling, offering to sell, importing and/or providing and causing to be used products that contain an Exhaust After-Treatment System (EATS) including a Diesel Particulate Filter (DPF) in the Caterpillar C9.3 ACERT Tier 4 Engine ("Accused Instrumentalities"). Additionally, other products that may fall under the Accused Instrumentalities contain the Caterpillar C13 ACERT, C15 ACERT, and C18 ACERT Tier 4 Engine, as they also provide same functionality as that described for C9.3 ACERT Tier 4 Engine.

29. Claim 1 of the '246 patent recites a method of operating a particle filter in an exhaust system of a motor vehicle internal combustion engine in which the filter collects soot and ashes and is reconditioned in intervals by a burn off procedure, the method comprising reducing the mass of the ash in the filter by heating the filter and supplying to the filter along with the

exhaust gas of the engine a reducing agent to chemically convert the ash such that parts of the converted ash are carried out by the exhaust gas.

30. The Accused Instrumentalities infringe claim 1 of the '246 patent by making, using, selling, offering to sell and/or importing DPF filters in an EATS system, the Accused Instrumentalities, as set forth in detail in the attached claim chart provided in Exhibit B. (*See Ex. B, at 2-33.*)

31. Claim 2 of the '246 patent recites the method of claim 1 wherein a reducing agent, a fuel, is used for operating the engine is employed or the reducing agent is produced from the fuel on board of the motor vehicle.

32. The Accused Instrumentalities infringe claim 2 of the '246 patent by making, using, selling, offering to sell and/or importing DPF filters in an EATS system, the Accused Instrumentalities, as set forth in detail in the attached claim chart provided in Exhibit B. (*See Ex. B at 34-35.*)

33. Claim 3 of the '246 patent recites a method of claim 1 in which the reducing agent is added to the exhaust gas upstream of the particle filter.

34. The Accused Instrumentalities infringe claim 3 of the '246 patent by making, using, selling, offering to sell and/or importing DPF filters in an EATS system, the Accused Instrumentalities, as set forth in detail in the attached claim chart provided in Exhibit B. (*See Ex. B at 35-37.*)

35. Claim 4 of the '246 patent recites a method of claim 3 in which the reducing agent is added to the exhaust gas by a fuel injection.

36. The Accused Instrumentalities infringe claim 4 of the '246 patent by making, using, selling, offering to sell and/or importing DPF filters in an EATS system, the Accused

Instrumentalities, as set forth in detail in the attached claim chart provided in Exhibit B. (*See Ex. B at 37-39.*)

37. Claim 7 of the '246 patent recites a method of claim 1 in which an ash reducing procedure is performed in connection with a soot-burn-off procedure.

38. The Accused Instrumentalities infringe claim 7 of the '246 patent by making, using, selling, offering to sell and/or importing DPF filters in an EATS system, the Accused Instrumentalities, as set forth in detail in the attached claim chart provided in Exhibit B. (*See Ex. B at 39-42.*)

39. On information and belief, these Accused Instrumentalities are used marketed, provided to, and/or used by or for Defendant's partners, clients, customers and end users across the country and in this District.

40. Defendant was made aware of the '246 patent and its infringement thereof at least as early as the filing of this Complaint.

41. On information and belief, since at least the time Defendant received notice, Defendant has induced and continues to induce others to infringe at least one claim of the '246 patent under 35 U.S.C. § 271(b) by, among other things, and with specific intent or willful blindness, actively aiding and abetting others to infringe, including but not limited to Defendant's partners, clients, customers, and end users, whose use of the Accused Instrumentalities constitutes direct infringement of at least one claim of the '246 patent.

42. In particular, Defendant's actions that aid and abet others such as its partners, customers, clients, and end users to infringe include advertising and distributing the Accused Instrumentalities and providing instruction materials, training, and services regarding the Accused Instrumentalities. On information and belief, Defendant has engaged in such actions with specific

intent to cause infringement or with willful blindness to the resulting infringement because Defendant has had actual knowledge of the '246 patent and knowledge that its acts were inducing infringement of the '246 patent since at least the date Defendant received notice that such activities infringed the '246 patent.

43. Since receiving notice of this Complaint, Defendant's infringement has been willful.

44. The Accused Instrumentalities infringed and continue to infringe claims 1-4 and 7 of the '246 patent during the pendency of the '246 patent.

45. Diesel has been harmed by Caterpillar's infringing activities.

JURY DEMAND

Pursuant to Rule 38 of the Federal Rules of Civil Procedure, Diesel demands a trial by jury on all issues triable as such.

PRAYER FOR RELIEF

WHEREFORE, Diesel demands judgment for itself and against Caterpillar as follows:

- A. An adjudication that Caterpillar infringed the '246 patent;
- B. An award of damages to be paid by Caterpillar adequate to compensate Diesel for Caterpillar's past infringement of the '246 patent, and any continuing or future infringement through the date such judgment is entered, including interest, costs, expenses and an accounting of all infringing acts including, but not limited to, those acts not presented at trial;
- C. A declaration that this case is exceptional under 35 U.S.C. § 285, and an award of Diesel's reasonable attorneys' fees; and
- D. An award to Diesel of such further relief at law or in equity as the Court deems just and proper.

Dated: January 17, 2025

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