

**Keywords:** claim construction, claim differentiation

**General:** Under the doctrine of claim differentiation, an independent claim is broader than a claim that depends from it; thus, if a dependent claim reads on a particular embodiment, the corresponding independent claim must cover that embodiment as well.

*Littelfuse, Inc. vs. Mersen USA EP Corp.*

United States Court of Appeals, Federal Circuit

No. 2021-2013

Decided April 4, 2022

## I. Facts

Littelfuse, Inc. (“Littelfuse”) was issued U.S. Patent No. 9,564,281 (“the ‘281 patent”), directed to a fuse end cap for providing an electrical connection between a fuse and an electrical connector. Each described embodiment of the fuse end cap in the specification includes a “mounting cuff” that receives the body of a fuse and a “terminal” that receives an electrical connector. The specification describes a generic embodiment of the fuse end cap as well as three different embodiments: a “machined end cap,” a “stamped end cap,” and an “assembled end cap.” According to the specification, the machined end cap and the stamped end cap may be made from “a single piece of any suitable, electrically conductive material,” while the assembled end cap may be formed from “two separate pieces of any suitable, electrically conductive material.” With respect to the assembled end cap, the specification further notes that the terminal and the mounting cuff are formed from two separate pieces of material that are then joined together by press-fitting a fastening stem<sup>1</sup> of the mounting cuff into the cavity of the terminal or by other fastening means.

Independent claim 1 of the ‘281 patent recites<sup>2</sup>:

1. A fuse end cap comprising:
  - a mounting cuff defining a first cavity that receives an end of a fuse body, the end of the fuse body being electrically insulating;
  - a terminal defining a second cavity that receives a conductor, wherein the terminal is crimped about the conduct to retain the conductor within the second cavity; and

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<sup>1</sup> The fastening stem is only mentioned with respect to the third embodiment (i.e., the assembled end cap), and is not described nor shown in the FIGS. associated with the machined end cap or the stamped end cap.

<sup>2</sup> Independent claim 10 largely parallels claim 1.

a fastening stem that extends from the mounting cuff and into the second cavity of the terminal that receives the conductor.

Dependent claims 8 and 9 also play a significant role in this dispute<sup>3</sup>. They recite:

8. The fuse end cap of claim 1, wherein the mounting cuff and the terminal are machined from a single, contiguous piece of conductive material.

9. The fuse end cap of claim 1, wherein the mounting cuff and the terminal are stamped from a single, contiguous piece of conductive material.

During prosecution of the '281 patent, the Examiner issued a restriction requirement, noting that each of the three embodiments disclosed in the specification represented distinct species. Littelfuse elected to prosecute the species corresponding to the “assembled end cap” embodiment. Thereafter, the Examiner withdrew dependent claims 8, 9, 19, and 20 as being directed to the “machined end cap” and the “stamped end cap” embodiments.<sup>4</sup> After an initial rejection, claim 1 (and claim 10) was amended<sup>5</sup> to include the “fastening stem” limitation, which resulted in an allowance. In the Notice of Allowance, the Examiner concluded that dependent claims 8, 9, 19, and 20 require all of the limitations of the allowable claims and rejoined the dependent claims.

Littelfuse sued Mersen USA EP Corp. (“Mersen”) in the U.S. District Court for the District of Massachusetts for infringement of the claims of the '281 patent. During the course of litigation, the district court construed the term “fastening stem” to mean a stem that attaches or joins other components and construed the phrase “a fastening stem that extends from the mounting cuff and into the second cavity of the terminal that receives the conductor” to mean a stem that extends from the mounting cuff and into the second cavity of the terminal that receives the conductor, and attaches the mounting cuff to the terminal. In further clarifying its constructions, the district court made clear that independent claims 1 and 10 do not cover a single-piece apparatus, which was reemphasized in its order denying reconsideration of its claim constructions where the district court accepted Mersen’s argument that the fuse end cap described in claim 1 is of multi-piece construction. Accordingly, the parties stipulated to non-infringement based on an understanding that under the district courts’ constructions, claims 1 and 10 cover only a multi-piece apparatus. Littelfuse then appealed the district court’s claim constructions.

## **II. Issue**

Did the district court err in construing independent claims 1 and 10 to only cover a multi-piece apparatus?

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<sup>3</sup> Dependent claims 19 and 20 largely parallel dependent claims 8 and 9, respectively.

<sup>4</sup> The withdrawn dependent claims were subject to reinstatement if a generic claim was found to be allowable.

<sup>5</sup> Initially, claim 1 only recited the “mounting cuff” and “terminal” limitations.

### III. Discussion

Yes. As a preliminary matter, the Federal Circuit (“the court”) disagreed with the district court’s determination that claims 1 and 10 only cover a multi-piece apparatus. The court noted that a claim term is generally given the meaning as understood by a person of ordinary skill in the art at the time of the invention, and that the manner in which the term is used in the claims and specification provide strong evidence of how a person of ordinary skill would understand the term. The court found the structure of the claims enlightening, with independent claims 1 and 10 reciting a fuse end cap comprising three elements: a mounting cuff, a terminal, and a fastening stem, and dependent claims 8, 9, 19, and 20 further limiting claims 1 and 10 by requiring that the end cap be formed from a single, contiguous piece of conductive material.

The court noted that by definition, an independent claim is broader than a claim that depends from it, so if a dependent claim reads on a particular embodiment of the claimed invention, the corresponding independent claim must cover that embodiment as well. *See Baxalta Inc. v. Genentech, Inc.*, 972 F.3d 1341, 1346 (Fed. Cir. 2020). Otherwise, the dependent claims would have no scope and thus be meaningless, which is generally disfavored. *See Intellectual Ventures I LLC v. T-Mobile USA, Inc.*, 902 F.3d 1372, 1378. Accordingly, the court held that the recitation of a single-piece apparatus in dependent claims 8, 9, 19, and 20 was persuasive evidence that claims 1 and 10 also cover a single piece apparatus.

The court also called attention to the fact that the presumption of differentiation in claim scope is not a hard and fast rule and that any presumption created by the doctrine of claim differentiation can be overcome by a contrary construction dictated by the written description or prosecution history.<sup>6</sup> However, the court found that Littelfuse’s construction was supported by the specification<sup>7</sup> and further noted that Mersen’s construction<sup>8</sup> would not merely render the dependent claims superfluous, but would result in those claims having no scope at all.

Furthermore, the court commented on the district court’s determination that the Examiner’s rejoinder of the dependent claims was based on a misunderstanding of those claims.<sup>9</sup> The court noted that in rejoinder of the claims, the Examiner observed that those dependent claims require all of the limitations of the allowable claims. The court also noted that while the specification refers to a “fastening stem” only with respect to the “assembled end cap” embodiment, courts should not limit “the claimed invention to preferred embodiments or specific examples in the specification.” *Teleflex, Inc. v. Ficoso N. Am. Corp.*, 299 F.3d 1313, 1328 (Fed. Cir. 2002). In reviewing the specification, the court determined that nothing in the specification stated that a fastening stem cannot be present in a single-piece apparatus.

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<sup>6</sup> Mersen relied on cases that stood for the proposition that, notwithstanding the doctrine of claim differentiation, a construction that renders certain claims superfluous need not be rejected if that construction is consistent with the teachings of the specification.

<sup>7</sup> The court also noted that Littelfuse consistently argued that claims 1 and 10 covered both a single-piece and a multi-piece apparatus.

<sup>8</sup> The independent claims only cover a multi-piece apparatus.

<sup>9</sup> The district court recognized the inconsistency between its conclusion that claims 1 and 10 cover only a multi-piece apparatus and the recitation of a single-piece apparatus in claims 8, 9, 19, and 20 and inferred that the Examiner misunderstood those claims and made a mistake.

#### IV. Conclusion

The court ruled that the district court erred in construing the claims of the '281 patent.<sup>10</sup> Specifically, the court concluded that the claim construction of the “fastening stem” limitation most consistent with the claims, specification, and prosecution history does not confine claims 1 and 10 to embodiments formed from multiple pieces of material. Accordingly, the court vacated the district court’s judgement and remanded the case for the district court to adopt a new construction of the “fastening stem” limitation that allows for the independent claims to cover both single-piece and multi-piece embodiments.

#### V. Appendix

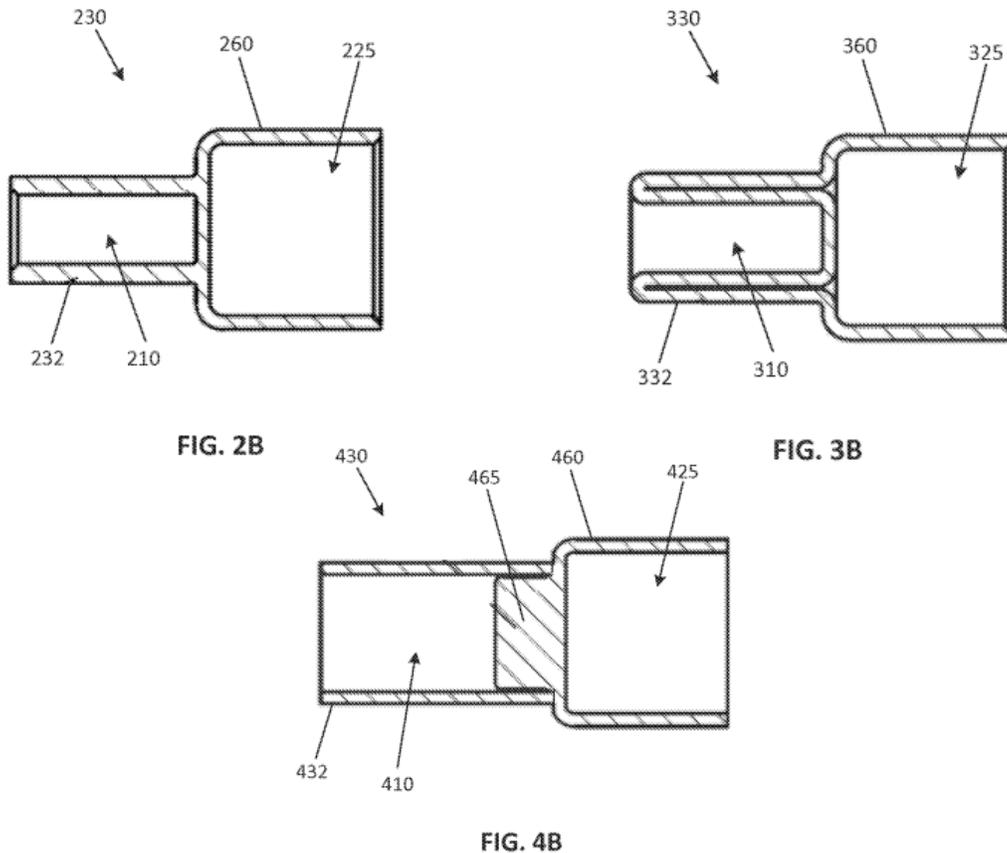


FIG. 2B corresponds to the machined end cap embodiment, FIG. 3B corresponds to the stamped end cap embodiment, and FIG. 4B corresponds to the assembled end cap embodiment.

<sup>10</sup> The court did note that the district court was correct in seeking to give meaning to the term “fastening stem” by looking to the meaning of the words “fastening” and “stem” as used in the patent. Specifically, the court noted that the district court reasonably found that the plain language of the claims suggests that the fastening stem is a stem that attaches or joins. However, because claims 1 and 10 are not limited to a multi-piece apparatus, the fastening stem is not required to attach the mounting cuff to the terminal, and to that extent, the district court’s construction was incorrect.