

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte NOUR-EDDINE FELLAGUE, HARISH DUTT,
SEAN TIMOTHY RYAN, and PEYMAN AGHSSA

Appeal 2021-004358
Application 15/921,591
Technology Center 3600

Before JENNIFER D. BAHR, MICHAEL J. FITZPATRICK, and
LISA M. GUIJT, *Administrative Patent Judges*.

FITZPATRICK, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant, Ford Global Technologies, LLC,¹ appeals under 35 U.S.C. § 134(a) from the Examiner's final decision rejecting claims 1–12 and 16–20. We have jurisdiction under 35 U.S.C. § 6(b). An oral hearing was held January 24, 2022, a transcript of which will be entered in due course.

We reverse.

¹ “Appellant” refers to the applicant as defined in 37 C.F.R. § 1.42. Appellant identifies itself as sole the real party in interest. Appeal Br. 3.

STATEMENT OF THE CASE

The Specification

The Specification “relates generally to methods and systems for configuring a fuel delivery module with a helmet as a barrier to contact with other vehicle components.” Spec. 1:5–6.

The Claims

Claims 1–12 and 16–20 are pending and rejected. *See* Final Act. 1 (rejecting claims 1–20); Ans. 12 (withdrawing rejection of claims 13–15). Claim 1 is illustrative and reproduced below.

1. A hybrid vehicle, comprising:
 - an engine;
 - a motor, the engine and the motor each positioned at a front end of the hybrid vehicle;
 - a battery pack coupled to the motor, the battery pack positioned at a rear end of the hybrid vehicle;
 - a fuel tank with a fuel delivery module at least partially therein, the fuel tank positioned below the battery pack at the rear end of the hybrid vehicle, one or more electronic ports of the fuel delivery module arranged outside of the fuel tank and protruding from a top surface of the fuel tank; and
 - a protective cover surrounding the one or more electronic ports of the fuel delivery module and spaced away from the one or more electronic ports, the protective cover having a domed cap coupled to a straight vertical wall, a height of the domed cap at any point along the domed cap between a central point of the domed cap and the straight vertical wall less than the height at the central point and greater than a height of the straight vertical wall,
- wherein a floor of the hybrid vehicle at the rear end of the hybrid vehicle is configured to contact the domed cap at one or more contact points of the domed cap during select conditions, and the domed cap is configured to propagate

downward forces exerted at the one or more contact points as a compressive load to a corner where the domed cap couples to the straight vertical wall.

Appeal Br. 37.

The Examiner's Rejections

The following rejections, all pursuant to 35 U.S.C. § 103, are:

1. claims 1–5, 7, 8, 17, 18, and 20 as unpatentable over Claucherty,² Yoda,³ and Wood⁴ (Final Act. 2); and
2. claims 6 and 19 as unpatentable over Claucherty, Yoda, Wood, and Hedrick⁵ (*id.* at 7);
3. claims 9 and 10 as unpatentable over Claucherty (*id.* at 8);
4. claims 11 and 16 as unpatentable over Claucherty and Wood (*id.* at 9); and
5. claim 12 as unpatentable over Claucherty and Hedrick (*id.* at 11).

DISCUSSION

Rejection 1

Claims 1–5, 7, and 8

Claucherty discloses a “protective cover . . . for protecting a fuel transducer module mounted to a fuel tank.” Claucherty ¶15. The Examiner found that Claucherty teaches much of the subject matter of claim 1 but that

² US 2012/0187131 A1, published July 26, 2012 (“Claucherty”).

³ US 8,556,016 B2, issued Oct. 15, 2013 (“Yoda”).

⁴ US 4,880,134, issued Nov. 14, 1989 (“Wood”).

⁵ “Die Basics 101: Bending methods -- Wipe, coin relief, pivot, V bending,” available at <https://www.thefabricator.com/thefabricator/article/stamping/die-basics-101-bending-methods-wipe-coin-relief-pivot-v-bending> (August 8, 2007) (“Hedrick”).

it fails to disclose (1) its fuel system is for a hybrid vehicle, and the relative positioning of the fuel tank and battery within the vehicle, and (2) that the top surface of its protective cover descends from the central portion out to its side walls. Final Act. 2–3 (citing Claucherty Fig. 2).

For the hybrid vehicle and related aspects of the claim, the Examiner relies on a modification in view of Yoda. *Id.* at 3 (citing Yoda 5:62–65, Fig. 6). There is no dispute about this aspect of the rejection.

For the geometry of the domed cap, the Examiner relies on a further modification in view of Wood. *Id.* (citing Wood Fig. 5). There is no dispute that Wood teaches the following limitation of claim 1:

a domed cap coupled to a straight vertical wall, a height of the domed cap at any point along the domed cap between a central point of the domed cap and the straight vertical wall less than the height at the central point and greater than a height of the straight vertical wall.

There is a dispute, however, as to whether it would have been obvious to incorporate Wood’s domed cap into Claucherty’s fuel transducer module protective cover. Appeal Br. 13–19.

Wood’s cap is “for protecting the valved fitting of a pressurized fluid cylinder of the type provided with an externally threaded cap ring.” Wood, Abstract. Wood explains that “[t]his protection is critical since the fluid stored within the cylinder is under high pressure so that a rupturing of the fitting from severe impact during handling may result in serious injury to personnel or damage to property.” *Id.* at 1:29–33. The Examiner concluded that a person of ordinary skill in the art would have modified Claucherty’s cap by using “a rounded top as taught by Wood” in lieu of its flat top surface in order to provide a “maximum amount of clearance for the underlying elements.” Final Act. 3–4.

The Examiner's reasoning lacks rational underpinning because the proposed modification would reduce, not maximize, clearance for the underlying elements relative to the unmodified cap disclosed by Claucherty. To understand why, we must assume, as the Examiner concedes (*see* Ans. 15), that Claucherty's protective cover (as modified in view of Yoda for a hybrid vehicle application) is already fully taking advantage of all available vertical space. More specifically, in the Answer, the Examiner states:

The examiner should have done a better job in describing that "maximizing" the clearance would necessarily be conditioned on the fact that maximizing a portion of a vehicle component is taken to mean "for a given vehicle footprint" in the rejection itself. . . . The examiner maintains that the motivation statement was written in a manner that a skilled practitioner would understand the implicit conditions related to maximizing the clearance of a vehicle subcomponent (i.e., that the component must still fit within a given space).

Ans. 15.

With that understanding, using a domed or rounded top instead of a flat ceiling results in less clearance, not more clearance, for the structures being protected underneath the cap. *See* Reply Br. 5 (Plaintiff's annotation of Claucherty Figure 2 illustrating the reduction in clearance).

Appellant has shown error in the rejection of claim 1. Accordingly, we reverse the rejection of claim 1, as well as that of claims 2–5, 7, and 8, which ultimately depend from claim 1. *See In re Fine*, 837 F.2d 1071, 1076 (Fed. Cir. 1988) ("Dependent claims are nonobvious under section 103 if the independent claims from which they depend are nonobvious.").

Claims 17, 18, and 20

Claim 17 is independent but similarly requires “a domed cap” that curves from a central point to an outer circumference. Appeal Br. 41. The Examiner’s rejection of claim 17 relies on the same proposed, but inadequately supported, modification of Claucherty in view of Wood, as discussed above. Thus, for essentially the same reason, we reverse the rejection of claim 17, as well as that of claims 18 and 20, which depend from claim 17.

Rejection 2

This rejection is against claims 6 and 19, which ultimately depend from claims 1 and 17, respectively. Final Act. 7. The rejection relies on Hedrick for teaching the additional limitations added by claims 6 and 19. *Id.* However, the Examiner does not rely on Hedrick in a manner that could cure the deficiency in the rejection of claims 1 and 17 discussed above. Thus, for essentially the same reason, we reverse the rejection of claims 6 and 19.

Rejection 3

This rejection is against claims 9 and 10. Final Act. 8. Claim 9 is independent and claim 10 depends from claim 9. Appeal Br. 39. Claim 9 is directed to a protective cover that includes, among other things, “a domed cap.” *Id.* Unlike independent claims 1 and 17, independent claim 9 lacks further limitations directed to the curvature or changing height of the dome from its center to its periphery. The Examiner’s rejection attempts to capitalize on this somewhat broader claim scope by asserting that Claucherty itself discloses “a domed cap.” Final Act. 8. Specifically, the Examiner relies on “the inwardly running top 102 in Fig. 2 that tapers radially

inwardly from the vertical lower portions of legs 104 to define a dome shape above the fuel unit.” *Id.* Figure 2 of Claucherty is reproduced below.

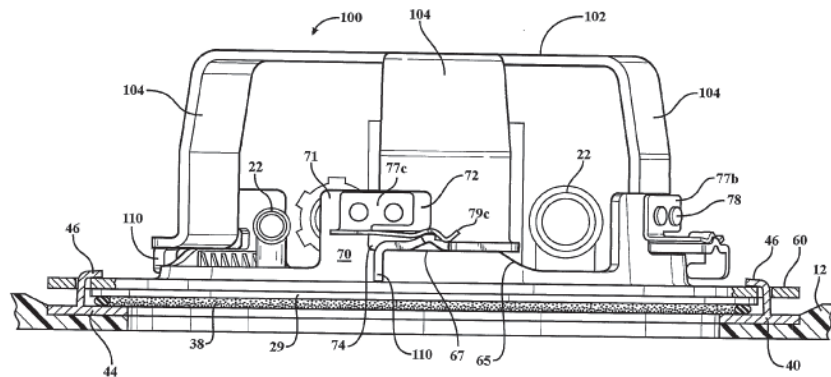


FIG. 2

Figure 2 of Claucherty, reproduced above, shows a side view of protective cover 100. Claucherty ¶¶20, 34. Although the upper halves of legs 104 are angled slightly inward, top surface 102 is planar. The Examiner’s construction of “a domed cap” as reading on the structure illustrated above is unreasonable. Claucherty does not disclose “a domed cap” within the meaning of the claim, as argued by Appellant. Appeal Br. 26.

Appellant has shown error in the rejection of claim 9. Accordingly, we reverse the rejection of claim 9, as well as that of claim 10, which depends from claim 9.

Rejections 4 and 5

These rejections are against claims 11, 12, and 16, which depend from claim 9. Final Act. 9, 11. The rejections rely on a secondary reference, either Wood or Hedrick, for teaching the additional limitations added by claims 11, 12, and 16. *Id.* However, the Examiner does not rely on Wood or Hedrick in a manner that could cure the deficiency in the rejection of claim 9 discussed above. Thus, for essentially the same reason, we reverse the rejections of claims 11, 12, and 16.

DECISION SUMMARY

In summary:

Claims Rejected	35 U.S.C. §	References/Basis	Affirmed	Reversed
1–5, 7, 8, 17, 18, 20	103	Claucherty, Yoda, Wood		1–5, 7, 8, 17, 18, 20
6, 19	103	Claucherty, Yoda, Wood, Hedrick		6, 19
9, 10	103	Claucherty		9, 10
11, 16	103	Claucherty, Wood		11, 16
12	103	Claucherty, Hedrick		12
Overall Outcome				1–12, 16–20

REVERSED