

The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ROBERT M. BRAY

Appeal No. 2006-1669
Application No. 10/476,257
Technology Center 3600

Heard: July 11, 2006

Before FRANKFORT, BAHR and FETTING, *Administrative Patent Judges*.
BAHR, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal from the examiner's rejection of claims 1-18, 20, 21 and 23-26.

We AFFIRM.

BACKGROUND

The appellant's invention relates to a winglet. A copy of the claims under appeal is set forth in the appendix to the appellant's brief.

The examiner relies upon the following as evidence of unpatentability:

Lavelle	2,557,829	Jun. 19, 1951
Allen	5,988,563	Nov. 23, 1999

The following rejections are before us for review.

Claims 24 and 25 stand rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification so as to convey to one of ordinary skill in the art that, at the time the application was filed, the appellant was in possession of the invention now claimed.

Claims 1-7, 11-15, 20, 21, 23, 25 and 26 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Allen.

Claims 8-10 and 16-18 stand rejected under 35 U.S.C. § 103 as being unpatentable over Allen in view of Lavelle.

Claim 24 stands rejected under 35 U.S.C. § 103 as being unpatentable over Allen.

Rather than reiterate the conflicting viewpoints advanced by the examiner and the appellant regarding this appeal, we make reference to the examiner's answer (mailed March 24, 2006) for the examiner's complete reasoning in support of the rejection and to the appellant's brief (filed August 24, 2005) and reply brief (filed January 12, 2006) for the appellant's arguments thereagainst.

OPINION

In reaching our decision in this appeal, we have given careful consideration to the appellant's specification and claims, to the applied prior art, and to the respective positions articulated by the appellant and the examiner. As a consequence of our review, we make the following determinations.

We turn our attention first to the rejection of claims 24 and 25 under the first paragraph of 35 U.S.C. § 112. The test for determining compliance with the written description requirement is whether the disclosure of the application as originally filed reasonably conveys to the artisan that the inventor had possession at that time of the later claimed subject matter, rather than the presence or absence of literal support in the specification for the claim language. *See Vas Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64, 19 USPQ2d 1111, 1116-17 (Fed. Cir. 1991) and *In re Kaslow*, 707 F.2d 1366, 1375, 217 USPQ 1089, 1096 (Fed. Cir. 1983).

In this case, it is true that the appellant's specification does not expressly state that the winglet 12 is "fixed." Further, while a person of ordinary skill in the art might readily envisage a winglet as a structure fixed to the wing, as discussed in more detail *infra*, we find no evidence in this record indicating that a winglet is necessarily fixed or that one of ordinary skill in the aircraft art would consider a fixed relationship to the wing to be a required element of a winglet. After reviewing the original specification in its entirety, however, we conclude that one of ordinary skill in the art would infer from the description therein that the winglet 12 discussed therein is fixed because, if the winglet were moveable, the control surfaces which are the subject of the appellant's invention would not appear to be necessary, as the orientation of the winglet could presumably be altered to reduce the lift during maneuvers.

In light of the above, we will not sustain the rejection under the first paragraph of 35 U.S.C. § 112, first paragraph.

We turn next to the rejection of claims 1-7, 11-15, 20, 21, 23, 25 and 26 as being anticipated by Allen. The appellant's brief does not separately argue any of the claims included

in this rejection separately from the other claims so included. In accordance with 37 CFR § 41.37(c)(1)(vii), we have selected claim 1 as the representative claim from the appellant's grouping of claims to decide the appeal on this rejection. Claims 2-7, 11-15, 20, 21, 23, 25 and 26 shall stand or fall with representative claim 1 (*see In re Young*, 927 F.2d 588, 590, 18 USPQ2d 1089, 1091 (Fed. Cir. 1991); *In re Wood*, 582 F.2d 638, 642, 199 USPQ 137, 140 (CCPA 1978)).

Allen describes an airplane having “a pair of wings 11 having at their outboard ends a pair of foldable winglets 12 and 14” (col. 2, ll. 60-61). Allen teaches that

[t]he present invention relates generally to the concept of airplanes having folding winglets, and more particularly, to winglet assemblies which can be extended during cruise to increase span and automatically/passively retracted to an upright position as needed to reduce the wing bending moment and aircraft weight when subjected to large loads at conditions such as dive [col. 1, ll. 4-10].

Allen discusses prior art fixed winglets and foldable wing tips and points out that it was known in the prior art that having an aircraft's winglets extend at an angle to the remaining portion of the wing can affect the flight characteristic of the aircraft (col. 1, ll. 27-29) and that commercial aircraft employing foldable wing tips were known in the prior art (col. 1, ll. 40-55). Allen then goes on to explain that none of the discussed prior art employs a wing including a foldable winglet that can be folded while the aircraft is in flight and that, as a result, none of the discussed prior art can take advantage of the extended winglets during cruise and folded winglets during severe load conditions (col. 1, ll. 56-60).

In light of the above discussion, it appears clear that Allen's invention is directed to an improvement to the fixed winglet arrangement wherein the inventive winglet is moveable during flight. In accordance with Allen's control system, whether it be a button depressed by the flight crew or a load sensor 28 energizing the winglet actuator 24, the winglet assumes its retracted or folded position when on the ground at airports where size restrictions require the winglets to be

retracted, its extended position 12a or 14a during cruise, and its retracted position when the aircraft is undergoing severe flight loads.

The examiner considers Allen's winglet to correspond to the "winglet" recited in claim 1 and the aileron illustrated thereon in Figure 1 but not numbered or discussed by Allen to be a control surface meeting the limitations of the "air flow control arrangement ..." limitation of claim 1 (answer, p. 4). As discussed more fully below, we agree with the examiner.

The appellant argues throughout the brief and reply brief that Allen's winglet, despite Allen's use of the terminology "winglet," is not in fact a "winglet" as one of ordinary skill in the art would understand that term, because it is not fixed in an upturned or vertical position on the wing. Even accepting the definition of "winglet" as "a small, nearly vertical surface mounted at the tip of an aircraft wing to decrease drag resistance" urged by the appellant on page 8 of the brief, we find nothing in this definition that requires the winglet to be fixedly mounted to the wing as the appellant contends. Furthermore, even assuming that one of ordinary skill in the art would have an understanding that winglets are typically upturned surfaces fixed at the tip of an aircraft wing, Allen evidences a recognition in the art at the time of the appellant's invention that winglets need not be fixedly mounted and that, indeed, there are advantages to winglets which can be moved between upturned and extended positions during flight. Although not relied upon by the examiner in the rejection of claim 1 as being anticipated by Allen, the patents to Daude (US Pat. No. 4,457,479, issued July 3, 1984) and Brix (US Pat. No. 6,345,790, issued February 12, 2002) alluded to by the examiner on page 8 of the answer are further evidence of the recognition in the art at the time of the appellant's invention of the advantages of moveably mounting winglets or portions of winglets on aircraft wings.

Allen's disclosed improvement of an actuator and control system for moving the winglet between retracted or folded and extended positions no more detracts from it being a "winglet" than does appellant's improvement of a control surface on the winglet detract from it being a

“winglet.” We find no error in the examiner’s determination that Allen’s winglet 12 or 14 is a “winglet” as used in claim 1 on appeal.

The appellant (reply brief, p. 12) argues that the limitation “air flow control arrangement thereon by means of which lift generated by the winglet can be varied” is a means-plus-function recitation in accordance with 35 U.S.C. § 112, sixth paragraph, and that the structure described in appellant’s specification corresponding to this means is the variety of control arrangements (i.e., flaps, spoilers, trip device, doors and louvers) illustrated in Figures 5-11 (reply brief, p. 13). Even accepting the appellant’s contention that the examiner has erred in refusing to interpret this language as a means-plus-function recitation in accordance with 35 U.S.C. § 112, sixth paragraph, the examiner’s ultimate conclusion that the aileron illustrated (but neither numbered nor discussed) in Allen’s Figure 1 responds to this limitation is correct, as explained below.

While Allen does not specifically discuss ailerons on the wing or winglet of the inventive aircraft, the depiction on the rear of the winglet 12 in Figure 1 has the appearance and location of a classical aileron (*see* <http://en.wikipedia.org/wiki/Aileron> and http://www.aviation-history.com/theory/flt_ctl.htm, copies attached hereto) and would have been recognized by one of ordinary skill in the aircraft art at the time of appellant’s invention as such. Moreover, the appellant does not dispute in either the brief or the reply brief that Allen’s winglet 12 or 14 has an aileron thereon.

As is apparent from the appellant’s specification and as stated on page 13 of the appellant’s reply brief, the structure described in appellant’s specification corresponding to the air flow control arrangement is the control surface (i.e., flaps, spoilers, trip device, doors, louvers) shown in Figures 5-11. An aileron is a control surface, a flap or spoiler in particular, and is thus the structure described in the appellant’s specification corresponding to the recited “air flow control arrangement.”

That Allen does not disclose how such aileron is controlled or indicate whether it is moveable when the winglet 12 or 14 is in the folded or retracted position is of no relevance with

respect to claim 1, as these details relate to the control system for controlling operation of the control surface, which is not recited in claim 1, and not to the control surface itself. It is well established that limitations not appearing in the claims cannot be relied upon for patentability. *In re Self*, 671 F.2d 1344, 1348, 213 USPQ 1, 5 (CCPA 1982).

For the reasons set forth above, we arrive at the same conclusion reached by the examiner that the subject matter recited in claim 1 is anticipated by Allen. We therefore sustain the rejection of claim 1, as well as claims 2-7, 11-15, 20, 21, 23, 25 and 26, which stand or fall with claim 1, as being anticipated by Allen.

With respect to the rejection of claims 8-10 and 16-18 as being unpatentable over Allen in view of Lavelle, the focus of the appellant's argument appears to be that, as neither Allen nor Lavelle is directed to a "winglet" as used in the appellant's claims, they cannot disclose or render obvious the appellant's invention (brief, pp. 14-15; reply brief, p. 10). As discussed above, the winglets are found in the primary reference to Allen. As for the appellant's contention that there is no suggestion or motivation provided by the references for the modification proposed by the examiner, we note, at the outset, that the appellant's query as to why one of ordinary skill in the art would ignore the teaching of Lavelle and adopt the folding wing tip teaching of Allen instead (brief, p. 14) appears to mischaracterize the modification proposed by the examiner. We understand the examiner's position to be that it would have been obvious to provide a passage or slot in the winglet 12 or 14 of Allen from a lower surface to an upper surface thereof that can be opened to permit passage of air therethrough for decreasing the distance required for landing (answer, p. 5). We find such motivation in Lavelle's teaching that it was well known in the art at the time of the appellant's invention to replace or supplement the usual ailerons with controlled wing slots so that the entire length of the trailing edge of the wing could be used for landing flaps. We thus sustain the rejection of claims 8-10 and 16-18 as being unpatentable over Allen in view of Lavelle.

The appellant has not mentioned the rejection of claim 24 as being unpatentable over Allen in either the brief or reply brief. The rejection is thus summarily sustained.

CONCLUSION

To summarize, the rejection of claims 24 and 25 under the first paragraph of 35 U.S.C. § 112 is reversed and the rejections under 35 U.S.C. §§ 102 and 103 are sustained. The decision of the examiner to reject claims 1-18, 20, 21 and 23-26 is AFFIRMED.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

CHARLES E. FRANKFORT)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
JENNIFER D. BAHR)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
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ANTON W. FETTING)	
Administrative Patent Judge)	

Attachments: <http://en.wikipedia.org/wiki/Aileron> and http://www.aviation-history.com/theory/flt_ctl.htm

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APPLICATION NO. 10/476,257

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DECISION: AFFIRMED

PREPARED: Aug 15, 2006

2 Person Conf. ___ Onbrief

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PALM:

ACTS:

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