

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 11

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ARMAND F. AMELIO

Appeal No. 96-1416
Application 08/118,066¹

ON BRIEF

Before CALVERT, FRANKFORT, and PATE, ***Administrative Patent Judges.***

PATE, ***Administrative Patent Judge.***

DECISION ON APPEAL

¹ Application for patent filed September 8, 1993.

This is an appeal from the final rejection of claims 1 through 5 and 9 through 11. The other remaining claims in the application, claims 6 through 8 and 12 through 14, were subject to a restriction requirement and stand withdrawn from consideration.

The invention is directed to a low profile latch mechanism for an aircraft door panel that minimizes the external structural discontinuities which would tend to increase the aircraft's radar cross-section. With reference to Figure 1, threaded insert member 20 is mounted for a free rotation on the back of the access panel or door 110. A captured floating nut 40 is provided on the inner surface of the frame. One portion of the floating nut is threaded while the other portion has a smooth cylindrical surface. A safety lock member 60 is mounted for reciprocal movement on the captured floating nut. A key 80 is provided to screw the insert member into the floating nut. When the key is withdrawn, the safety lock member which has a plug that matches the polygonal-shaped throughbore 26 in the insert member is spring-biased into the insert member preventing the insert member from loosening.

Claim 1, reproduced below, is further illustrative of the invention.

1. A low profile latch mechanism for an access panel defined by edges of a frame, the access panel being mounted in pivotable engagement with an adjacent segment of the frame, the frame having an inner surface and the access panel having mating edges complementary in configuration to the edges of the frame, an inner surface, an outer surface, and a minimal access aperture formed therethrough adjacent one mating edge thereof, comprising:

an externally threaded insert member having a polygonal-shaped internal channel extending therethrough;

an insert mounting bracket including a base plate secured in combination with the inner surface of the access panel and a cylindrical housing, said insert member being inserted in combination with the mounting bracket so that said insert member is restrained by said cylindrical housing and is rotatable with respect thereto and the internal surface of the access panel and said polygonal-shaped internal channel is aligned with the minimal access aperture of the access panel;

a captured floating nut having an internal cylindrical configuration, a first portion of said internal cylindrical configuration having threads and a second portion thereof having a smooth surface;

means for mounting said captured floating nut in nonrotatable combination with the inner surface of the frame;

a safety lock member having a polygonal-shaped body member disposed within said captured floating nut and operative for axial displacement with respect to said smooth surface of said second internal portion thereof, said polygonal shape of said body member being complementary to said polygonal shape of said internal channel; and

a removable key member having a polygonal-shaped shank sized for insertion through the minimal access aperture of the access panel, said polygonal shape of said shank being complementary to said polygonal shape of said internal channel;

said low profile latch mechanism being engaged and locked to close the access panel by inserting said polygonal-shaped shank of said removable key member through the minimal access aperture to engage said polygonal-shaped internal channel, rotating said removable key member to thread said insert member into said captured floating nut while concomitantly axially displacing said safety lock member away from said insert member, and removing said removable key member upon full engagement of said insert member within said captured floating nut wherein said safety key member is axially displaced into mechanical engagement with said polygonal-shaped internal channel of said insert member to lock said low profile latch mechanism;

said low profile latch mechanism being unlocked and disengaged by inserting said polygonal-shaped shank of said removable key member through the minimal access aperture to mechanically disengage said safety key member from said polygonal-shaped internal channel of said insert member to unlock said low profile latch mechanism, counter-rotating said removable key member to threadingly disengage said insert member from said capture floating nut which causes the one mating edge of the access panel to be pushed outwardly from the frame, and removing said removable key member upon full disengagement of said insert member from said captured floating nut wherein the access panel may be manually opened.

The references of record relied upon by the examiner as evidence of obviousness are:

Vickers (Australia)	155,583	Mar. 5, 1954
Cuss (Great Britain)	626,013	Jul. 7, 1949
Dzus (Great Britain)	765,315	Jan. 9, 1957

The examiner has rejected claims 1 through 5 and 9 under 35 U.S.C. § 112, second paragraph, as being indefinite, for failing to particularly point out and distinctly claim the subject matter which appellant regards as the invention. Specifically, the examiner states that the frame is seen to define an access opening as opposed to appellant's claimed access panel. The examiner further points to claim 1, line 14, in which it is said "internal" should be "inner" and line 42 of claim 1 in which "key" should be "lock."

The examiner has also rejected claims 1 through 4, 9 and 10 under 35 U.S.C. § 103 as unpatentable over the Australian patent to Vickers in view of the British patent to Cuss. According to the examiner, it would have been obvious to one of ordinary skill in the art to have provided the mechanism of Vickers with the bracket “b” of Cuss to achieve the advantage of securing the insert in combination with a base member. The examiner has also rejected claims 5 and 11 under 35 U.S.C. § 103 as being unpatentable over the Australian patent to Vickers in view of the British patent to Cuss and further in view of the British patent to Dzus. According to the examiner, it would have been obvious to substitute 16 and 18 of Dzus for the mounting means 13 of Vickers, since one of ordinary skill in the art would have recognized that it would have been desirable to accommodate improperly aligned thread engagements.

Pursuant to 37 CFR § 1.192(c)(7), the appellant has grouped claims 1 through 5 and 9 through 11 together for purposes of the prior art rejection and has grouped claims 1 through 5 and 9 together with respect to the indefiniteness rejection. See Brief at page 5. Accordingly, we confine our analysis to claim 1 with respect to both rejections.

Opinion

We have carefully reviewed the rejections of the claims on appeal in light of appellant's specification, Brief, and the Examiner's Answer. As a result of this review, we have determined that the examiner has not established a *prima facie* case of obviousness with respect to the claims rejected under 35 U.S.C. § 103, nor has the examiner established the indefiniteness of claims 1 through 5 and 9. Therefore the rejections of the claims on appeal will be reversed.

With respect to the obviousness rejection of the claims on appeal we note that the appellant has argued that the external threaded insert member of Vickers does not have a polygonal-shaped internal channel extending therethrough. See Brief at page 7. It is our finding that Vickers discloses an externally threaded insert member having a polygonal channel at the exterior end and a polygonal channel at the interior end. These two channels are connected by a smaller bore of generally circular cylindrical shape. Thus the polygonal channel of Vickers does not extend through the externally threaded insert member. Since Vickers neither teaches nor suggests a polygonal shaped internal channel extending through the threaded insert member, and neither Dzus nor Cuss can cure the deficiencies of Vickers with a teaching or suggestion of such an internal channel, the prior art taken as a whole does not establish a *prima facie* case of obviousness with respect to the group of claims containing claim 1.

With respect to the axial bore limitation the examiner states, without further evidence or reasoning, that the axial bore of Vickers with its smaller circular cylindrical medial portion is “equivalent” to the claimed polygonal channel of appellant.

Leaving aside for the moment that the examiner has not established what criteria are to be used to determine whether the bore of Vickers is equivalent to the bore of appellant’s claim, we further point out that mere functional or mechanical equivalence does not establish obviousness. Expedients which are functionally equivalent are not necessarily obvious in view of one another. *In re Scott*, 323 F.2d 1016, 1019, 139 USPQ 297, 299 (CCPA 1963). Therefore the obviousness rejections of claims 1 through 5 and 9 through 11 are reversed.

With respect to the indefiniteness rejection of claims 1 through 5 and 9, we acknowledge that the examiner is generally correct with respect to his observation about the frame defining an access opening rather than an access panel. However, it is our view that one of ordinary skill in the art would have been able to establish the metes and bounds of the claimed invention notwithstanding the manner in which the access panel is defined in claim 1. With respect to the examiner’s other observation, namely the use of the word “internal” which should be “inner” and the use of “key” which should appear as “lock,” we note that the appellant has admitted that these minor errors should be corrected. Here again, these minor errors do not serve to obscure the

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metes and bounds of the claims on appeal. For these reasons, the rejection of claims 1 through 5 and 9 under 35 U.S.C. § 112 is reversed.

REVERSED

Ian A. Calvert
Administrative Patent Judge

Charles E. Frankfort
Administrative Patent Judge

William F. Pate, III
Administrative Patent Judge

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