

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 20

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte RAYMOND JACQUES GERARD BERLIOZ,  
PHILIPPE ALAIN JEAN ROLLET and  
VINCENT FREDERIC SAINTAGNE,

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Appeal No. 2000-0230  
Application No. 08/761,671

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HEARD: November 7, 2001

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Before KRASS, DIXON and BLANKENSHIP, Administrative Patent Judges.

KRASS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 1-4 and 6. Claims 5 and 7 have been canceled.

The invention is directed to an aircraft display for indicating altitude and vertical speed.

Independent claim 1 is reproduced as follows:

1. An altitude and vertical speed indicator for aircraft, the indicator comprising:

first and second sensors for measuring an altitude and a vertical speed of the aircraft, respectively, and for supplying signals representing the altitude and the vertical speed;

processing means for processing the signals supplied by said first and second sensors to produce processed signals; and

display means, comprising a display screen, for displaying on the display screen an altitude indication and a vertical speed indication representing the processed signals, the display means comprising:

altitude indication means for displaying on the display screen the altitude indication; and

vertical speed indication means, in line with said altitude indication means, for displaying on the display screen the vertical speed indication;

said altitude indication means and said vertical speed indication means being coupled such that the vertical speed indication is at all times in line with a future altitude indication which represents a future altitude corresponding to the vertical speed;

wherein:

said altitude indicator means comprises a graduated scale mobile past a fixed marker;

said vertical speed indicator means comprises a pointer rotatable about a point of intersection of a straight line segment through said fixed marker and a straight line segment through said pointer and pointing towards said mobile graduated scale, an angle defined by said fixed marker and said pointer being representative of the vertical speed; and

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said display means further comprises means for displaying an artificial horizon and an altimeter on the display screen, the pointer being disposed between the artificial horizon and the altimeter and pointing towards the altimeter.

The examiner relies on the following reference:

Konicke et al. [Konicke]                      4,860,007                      Aug. 22, 1989

Claims 1-4 and 6 stand rejected under 35 U.S.C. § 103 as unpatentable over Konicke.

Reference is made to the briefs and answer for the respective positions of appellants and the examiner.

#### OPINION

The examiner contends that Konicke teaches the claimed invention but for specifically stating that altitude and vertical speed are found by first and second sensors, or that the vertical speed pointer is disposed between the artificial horizon and the altimeter, it instead being shown on the right hand side of the artificial horizon and altimeter in Konicke.

Appellants counter that the placement of the pointer, as defined in the instant claims, “offers an advantage over the subject matter of Konicke” [principal brief-page 4] in terms of assisting the pilot with the control over the flight of an aircraft such as a helicopter and that this advantage “flows from the readability associated with the logical eye movements of the pilot. The pointer rotates in a logical and appropriate manner

about the point of intersection” [principal brief-page 4]. Thus, in appellants’ view, it would not have been obvious to place the vertical speed pointer between the artificial horizon and the altimeter.

Appellants offer no argument regarding the obviousness of providing first and second sensors for detecting altitude and vertical speed. Accordingly, there is no dispute on this issue.

Thus, we focus on the obviousness of disposing the vertical speed pointer between the artificial horizon and the altimeter.

We agree with appellants that the instant claimed subject matter would have been unobvious over the applied reference. The specification is very specific, at page 9, as to the advantages achieved by placing the vertical speed pointer between the artificial horizon and the altimeter:

...the vertical speed pointer 11 is between the artificial horizon 15 and the altimeter 7, 10, pointing towards the latter, of course. This position of the pointer 11 is in fact fundamental to assisting with control of the flight of the aircraft. In particular when the latter is a helicopter, for reasons of readability associated with the logical eye movements of the pilot. The pointer rotates in a logical and appropriate manner about the center of the instrument panel screen.

The use of the indicator therefore becomes second nature, because of a knock-on effect.

The specification then continues on to explain the “knock-on effect:

-the pilot essentially controls the trim of the helicopter...to adapt it to an optimal vertical speed...and monitors the trim using the artificial horizon 15 (in the center in the figure 5),

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-this attitude modification indirectly generates variations in the indications of the vertical speed pointer 11, to the right of the artificial horizon, and then consecutive variations in the indications of the altimeter, also to the right of the pointer,

so that the observed variations of the aforementioned three parameters are in the same sense, which is highly advantageous.

In other words, the action of the pilot generates effects that propagate in the correct sense towards the exterior of the indicator, from the modification of the trim, via that of the pointer to, finally, that of the altimeter.

Thus, the instant specification provides particular reasons for placing the vertical speed pointer between the artificial horizon and the altimeter, viz., to take advantage of natural eye movement from left to right as a trim adjustment. Using the artificial horizon affects the vertical speed pointer which, in turn, affects the altimeter reading. The examiner's reasons for modifying Konicke to resemble the instant claimed subject matter are insufficient, in view of this disclosed, critical, nature of the claimed positioning of the vertical speed pointer.

The examiner opines that it would have been obvious to place the position of the vertical speed pointer and indicator between the artificial horizon and altimeter "merely depending on the flight priorities and routes of a pilot" [answer-page 5]. The examiner further explains that the "movement of the vertical speed indicator would have merely been tantamount to a rearrangement of parts in an obvious manner, and would not have modified operation of the display device" [answer-page 5]. Such a rationale is

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tantamount to a declaration of obviousness based on a design choice. However, this reasoning is not persuasive in view of the criticality of the positioning of the vertical speed pointer for the reasons particularly pointed out by appellants in the instant specification, noted supra. Only appellants, and not the applied prior art, teach the placement of the vertical speed pointer as claimed.

Accordingly, the examiner's decision rejecting claims 1-4 and 6 under 35 U.S.C. § 103 is reversed.

REVERSED

ERROL A. KRASS	)	
Administrative Patent Judge	)	
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	)	
	)	BOARD OF PATENT
JOSEPH L. DIXON	)	APPEALS
Administrative Patent Judge	)	AND
	)	INTERFERENCES
	)	
	)	
HOWARD B. BLANKENSHIP	)	
Administrative Patent Judge	)	

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