

The opinion in support of the decision being entered today was not written for publication in a law journal and is not binding precedent of the Board.

Paper No. 20

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte RALF BERGHOLZ, HUBERT WEISSER
and KLAUS TIMM

Appeal No. 2002-1867
Application No. 08/859,635

HEARD: APRIL 10, 2003

Before KRASS, JERRY SMITH and BARRY, Administrative Patent Judges.

KRASS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 1, 2, and 12-14.

The invention is directed to a vehicle collision avoidance system. In particular, adequate space between vehicles is controlled by using vehicle speed and a transfer function which

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is adapted to a normal driving characteristic of a particular driver in order to produce the intended spacing.

Representative independent claim 1 is reproduced as follows:

1. A method for spacing control for a vehicle having an arrangement for determining an intended spacing from a vehicle traveling in front based at least in part on the vehicle speed and a normal driving style of a driver and utilizing a transfer function comprising the step of:

adapting the transfer function to a normal driving style of a particular driver to produce an intended spacing adapted to the normal driving style of the driver.

The examiner relies on the following reference:

Davidian	5,357,438	Oct. 18, 1994
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Claims 1, 2 and 12-14 stand rejected under 35 U.S.C. 103 as unpatentable over Davidian.

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

OPINION

With regard to independent claims 1 and 14, the examiner asserts that Davidian discloses the claimed subject matter,

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including a method and arrangement for space control between vehicles, based on vehicle speed and a driving characteristic of a particular driver, except for the explicit disclosure of a "transfer function." The examiner concludes that it would have been "obvious...to incorporate some form of transfer function into the calculation module [90 of Davidian] since this would have efficiently calculated the safest possible distance of a vehicle based on the alertness of the particular driver" [answer-page 3].

For their part, appellants argue that Davidian's recalculation, carried out by calculation module 90 does not involve any transfer function and, in fact there is no disclosure of a transfer function that must be used in order to change the normal safe distance to a newly calculated safe distance. Moreover, argue appellants, since the only input to the module 90 for performing the recalculation of distance is the driver alertness test result, and such test is performed before starting the vehicle, the recalculation of safe distance cannot be based, even in part, on the speed of the vehicle.

While we understand the differences between the instant disclosed invention, including fuzzy control and the ability of the controller to learn from previously received data, and that

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disclosed by Davidian, as broadly claimed, we agree with the examiner that the instant *claimed* subject matter would have been obvious in view of Davidian.

Taking instant claim 1 as exemplary, Davidian clearly discloses a method for spacing control for a vehicle having an arrangement for determining an intended spacing from a vehicle traveling in front. As the safety distance is calculated in calculation module 90 with inputs such as vehicle speed (from sensor 12) and driving ability test (element 60), it is clear to us that the spacing control in Davidian is based, at least in part, on vehicle speed, and that an algorithm within module 90 calculates distance (i.e., spacing control) from the vehicle speed and other factors, one of those factors being driver ability, wherein reaction time of the driver is taken into account. The calculation is adapted to a normal driving characteristic of a particular driver (one whose reaction time has been tested) in order to produce an intended spacing, or distance, which is different for a driver (the same or another driver) having a different reaction time result, all other factors being equal.

While Davidian does not mention a "transfer function," a transfer function is merely an algorithm which takes certain

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inputs and, based on a particular mathematical function, produces a certain output. We fail to see how what takes place within Davidian's calculation module 90, which takes certain inputs, applies them to an algorithm, and produces a result relative to a safe distance, may not be considered a "transfer function," as broadly claimed.

We are unpersuaded by appellants' argument that Davidian's recalculation of safe distance, based on a driver alertness test result, cannot be based also on vehicle speed because the vehicle is not moving when the alertness test is taken. There is nothing in the claims which precludes vehicle speed and a normal driving characteristic of a particular driver (driver alertness) from being measured at different times.

Appellants also argue that the Davidian alertness test does not affect the spacing from a vehicle in front but merely sets a minimum spacing which will cause an alarm to be set off. However, if the test results in a showing that a driver is less alert than another driver, or of the same driver at a different time, then the alarm will be set off at a greater distance so as to give the driver more time to react, this reaction itself controlling the spacing from a vehicle in front.

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Appellants' argument directed to taking into account differences in the normal driving characteristics of *different* drivers is not persuasive since it is not based on any particular claim limitation.

With regard to claim 12, appellants argue that the added limitation that the adaptation is carried out "while the vehicle is being operated..." distinguishes over Davidian since Davidian's driver alertness test is administered before the vehicle is started. Again, we agree with the examiner that the *broad* subject matter of claim 12 is made obvious by Davidian. Claim 12 does not require that the vehicle actually be moving. When Davidian's alertness test is administered, it is done so by pressing certain buttons (see test device 60 for testing driver reaction time), attached to control panel 6. Since the control panel is part of the vehicle, the driver alertness test "is carried out while the vehicle is being operated by the particular driver," as claimed.

Accordingly, since we find that the examiner has set forth a prima facie case of obviousness which has not been successfully rebutted by appellants, we will sustain the examiner's rejection of claims 1, 2 and 12-14 under 35 U.S.C. 103.

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The examiner's decision 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

ERROL A. KRASS)	
Administrative Patent Judge)	
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JERRY SMITH)	BOARD OF PATENT
Administrative Patent Judge)	APPEALS AND
)	INTERFERENCES
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