

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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. 14

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte GORDON JAMES SMITH
and GEORGE WILLARD VAN LEEUWEN

Appeal No. 2003-0530
Application 09/598,815

ON BRIEF

Before COHEN, STAAB, and MCQUADE, Administrative Patent Judges.
MCQUADE, Administrative Patent Judge.

DECISION ON APPEAL

Gordon James Smith et al. appeal from the final rejection of claims 1 through 24, all of the claims pending in the application.

THE INVENTION

The invention relates to "dynamic adjustment of automotive vehicle drive systems based upon road conditions" (specification, page 1). Representative claim 1 reads as follows:

1. A method for producing a response to road conditions ahead of a vehicle, comprising the steps of:
 - identifying a first vehicle ahead of a second vehicle traveling along the same path.;
 - electronically sensing non-vehicular driving condition information local to said first vehicle, said step of

Appeal No. 2003-0530
Application 09/598,815

electronically sensing non-vehicular driving condition information being performed automatically by electronic apparatus within said first vehicle;

transmitting said non-vehicular driving condition information from said first vehicle to said second vehicle;

producing a response to said non-vehicular driving condition information in said second vehicle, said step of producing a response to said driving condition information being performed automatically by electronic apparatus within said second vehicle.

THE PRIOR ART

The references relied on by the examiner to support the final rejection are:

| | | |
|------------------------------|-----------|---------------|
| Rahman | 6,121,896 | Sep. 19, 2000 |
| Jitsukata et al. (Jitsukata) | 6,169,940 | Jan. 2, 2001 |

THE REJECTION

Claims 1, 3 through 8, 10, 12 through 17, 19, 20 and 22 through 24 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Jitsukata.

Claims 2, 9, 11, 18 and 21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Jitsukata in view of Rahman.

Attention is directed to the brief (Paper No. 11) and answer (Paper No. 12) for the respective positions of the appellants and examiner regarding the merits of these rejections.

DISCUSSION

I. The 35 U.S.C. § 102(e) rejection of claims 1, 3 through 8, 10, 12 through 17, 19, 20 and 22 through 24 as being anticipated by Jitsukata

Anticipation is established only when a single prior art reference discloses, expressly or under principles of inherency, each and every element of a claimed invention. RCA Corp. v. Applied Digital Data Sys., Inc., 730 F.2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir. 1984).

As framed by the appellants (see pages 3 through 8 in the brief), the dispositive issue with respect to the anticipation rejection of claims 1, 3 through 8, 10, 12 through 17, 19, 20 and 22 through 24 is whether Jitsukata meets the limitations in independent claim 1, and the corresponding limitations in independent claims 10 and 19, relating to the non-vehicular driving condition information local to a first or leading vehicle which is sensed by the vehicle and transmitted to and/or received by a second or following vehicle.

Jitsukata discloses a rather complicated multiple vehicle driving system which is adequately summarized in the reference as follows:

The automatic driving system according to the present invention comprises radar means for detecting an obstacle in front of one vehicle to generate an obstacle detecting signal, imaging means for imaging a

road surface in front of the one vehicle to output a video signal, image processing means for generating a vehicle position signal indicative of a position of the one vehicle in a width direction of the road from an image represented by the video signal, a navigation unit for generating road data indicative of the coordinates of a road in front of a current position of the one vehicle, road-to-vehicle communications means for receiving automatic drive traffic information signal, vehicle-to-vehicle communications means for transmitting and receiving a vehicle-to-vehicle running information signal between the one vehicle and at least one different vehicle other than the one vehicle, running instruction generating means for generating a running instruction, running course setting means for setting a running course based on the obstacle detecting signal, the vehicle position signal, the road data, the automatic drive traffic information signal, the vehicle-to-vehicle running information signal and the running instructions, target running trajectory calculating means for calculating a target running trajectory based on the set running course, and vehicle control means for controlling navigation of the one vehicle such that the one vehicle runs following the target running trajectory, wherein the vehicle-to-vehicle communications means transmits a running course signal indicative of the running course, and a running course setting position signal indicative of a running position of the one vehicle at the time the running course is set, thus automatically navigating a plurality of vehicles.

Therefore, the running course signal indicative of a set running course and the running course setting position signal indicative of a running position of the one vehicle at the time the running course is set are transmitted and received between vehicles, and a running target trajectory can be set for each vehicle based on the running course and the running course setting running position from the received signals to carry out automatic navigation. Therefore, subsequent vehicles can maintain smooth navigation suitable therefor even if a preceding vehicle, which has transmitted the signals, is in a running condition in which it is not drawing a

smooth curve along a lane [column 2, lines 15 through 57].

Of particular concern in this appeal is the information transmitted by Jitsukata from vehicle to vehicle:

As illustrated in FIG. 5, a vehicle 8 equipped with the automatic driving system according to the present invention sets a target running trajectory 10 through the aforementioned processing of the total plan ECU 13, when receiving a vehicle leading signal indicative of a leading vehicle in a group including a plurality of vehicles running on the same lane, so that the vehicle 8 is steered to draw a smooth running trajectory in a central portion of a lane 7 of a road.

Further, another vehicle (hereinafter referred to as the "subsequent vehicle") 9 following the vehicle 8 receives a running course signal and a running course setting position signal from the vehicle 8 which has become a leading vehicle (hereinafter referred to the "leading vehicle 8"), through the vehicle-to-vehicle communications unit 16. When the subsequent vehicle 9 reaches the position indicated by the running course setting position signal, after receiving those signals, the subsequent vehicle 9 sets a target running trajectory based on the running course signal received from the leading vehicle 8 to run along a running trajectory suitable for the subsequent vehicle 9 and current running conditions (speed, acceleration, orientation and so on). The set target running trajectory is output to the vehicle control ECU 23 which outputs control signals to a throttle actuator, a brake actuator and a steering actuator, not shown, based on the target running trajectory for automatic vehicle driving.

As described above, the subsequent vehicle 9 sets a target running trajectory suitable therefor based on a running course 10 set by the leading vehicle 8, and performs automatic navigation along the target running trajectory. It is therefore possible to trace a smooth running trajectory along a lane without depending on the

Appeal No. 2003-0530
Application 09/598,815

position of the aforementioned lane markers [column 7, lines 7 through 40].

The examiner's finding (see pages 3, 4, 6 and 7 in the answer) that the running course and running course setting position signals transmitted by Jitsukata from the leading vehicle to the subsequent vehicle meet or correspond to the non-vehicular driving condition information claim limitations at issue is not well taken. Although these signals are derived from non-vehicular driving condition information local to and sensed by the leading vehicle, they do not themselves embody this particular type of information. Hence, notwithstanding the examiner's determination to the contrary, Jitsukata does not disclose each and every element of the subject matter recited in independent claims 1, 10 and 19.

Accordingly, we shall not sustain the standing 35 U.S.C. § 102(e) rejection of independent claims 1, 10 and 19, and dependent claims 3 through 8, 12 through 17, 20 and 22 through 24, as being anticipated by Jitsukata.

II. The 35 U.S.C. § 103(a) rejection of claims 2, 9, 11, 18 and 21 as being unpatentable over Jitsukata in view of Rahman

In addition to not disclosing subject matter meeting the non-vehicular driving condition information limitations in independent claims 1, 10 and 19, Jitsukata would not have

Appeal No. 2003-0530
Application 09/598,815

suggested same to a person having ordinary skill in the art. The examiner's application of Rahman for its disclosure of a system producing an alert indication perceptible to a vehicle occupant does not cure this deficiency.

Therefore, we also shall not sustain the standing 35 U.S.C. § 103(a) rejection of dependent claims 2, 9, 11, 18 and 21 as being unpatentable over Jitsukata in view of Rahman.

SUMMARY

The decision of the examiner to reject claims 1 through 24 is reversed.

REVERSED

| | | |
|-----------------------------|---|-----------------|
| IRWIN CHARLES COHEN |) | |
| Administrative Patent Judge |) | |
| |) | |
| |) | BOARD OF PATENT |
| |) | |
| |) | APPEALS AND |
| LAWRENCE J. STAAB |) | |
| Administrative Patent Judge |) | INTERFERENCES |
| |) | |
| |) | |
| |) | |
| |) | |
| |) | |
| |) | |
| JOHN P. MCQUADE |) | |
| Administrative Patent Judge |) | |

JPM/kis

Appeal No. 2003-0530
Application 09/598,815

ROY W. TRUELSON, ESQ.
IBM CORPORATION
3605 HIGHWAY 52 NORTH
ROCHESTER, MN 55901-7829