

°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. 23

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MARC R. SIMON, LARRY MATTHIES,
WILLIAM J. JANUTKA, and SABRINA ELIZABETH KEMENY

Appeal No. 2002-0418
Application No. 08/872,836

ON BRIEF

Before BARRETT, DIXON, and LEVY, **Administrative Patent Judges**.
DIXON, **Administrative Patent Judge**.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1, 2, 4-13, and 15-40, which are all of the claims pending in this application. Claims 3 and 14 have been canceled.

We AFFIRM-IN-PART.

Appellants' invention relates to an apparatus for detecting the presence of an occupant in a motor vehicle. An understanding of the invention can be derived from a reading of exemplary claims 1 and 21, which are reproduced below.

1. A stereoscopic object detection system for sensing and categorizing objects present on a seat of a motor vehicle, the stereoscopic object detection system comprising:

a camera assembly for producing first and second images of the seat in which image features are shifted between the first and second images by an amount corresponding to distances the image features are from the camera assembly;

an image analyzer coupled to the camera assembly and processing the first and second images to determine presence of an object on the seat, and to determine a size of the object in response to a given amount that the object is shifted between the first and second images; and

an output device coupled to the image analyzer and producing a signal in an event that the presence of an object on the seat is detected, wherein the signal indicates the size of the object on the seat.

21. A method for controlling operation of an air bag in an [sic, a] vehicle, said method comprising step of:

acquiring an image of a passenger area of the vehicle;

processing the image to determine a size of a person in the passenger area; and

controlling operation of the air bag in response to the size of the person in the passenger area.

The prior art of record relied upon by the examiner in rejecting the appealed claims is as follows:

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| Tsuchiya et al. (Tsuchiya) | 5,530,420 | Jun. 25, 1996 |
| Breed et al. (Breed) | 5,835,613 | Nov. 10, 1998 |
| | | (Filed Jun. 7, 1995) |

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Claims 21, 23, 25-30 and 35 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Breed. Claims 1, 2, 4-13, 15-20, 22, 24, 31-35,¹ and 36-40 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Breed in view of Tsuchiya.

Rather than reiterate the conflicting viewpoints advanced by the examiner and appellants regarding the above-noted rejections, we make reference to the examiner's rejection (Paper No. 17, mailed Jul. 3, 2000) and the examiner's answer (Paper No. 22, mailed Apr. 3, 2001) for the examiner's reasoning in support of the rejections, and to appellants' brief (Paper No. 21, filed Jan. 16, 2001) for appellants' arguments thereagainst.

OPINION

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

At the outset, we note that we are unclear as to appellants' groupings of the claims. Appellants indicate there are three issues: "A," "B," and "C." (See brief at

¹ We note that the examiner also includes claim 35 in this rejection. We interpret this to be a typographical error and should be claim 34 since claim 35 is rejected under 35 USC § 102.

page 3.) Then appellants indicate there are three groups: “A,” “B,” and “D.” (See brief at page 4.) Next, appellants indicate that claims fall in Group B and Group C (brief at page 5), Group B (brief at page 10), and Group D (brief at page 11). Therefore, we address appellants’ specific arguments to the specifically recited claims.

35 U.S.C. § 102

With respect to independent claim 21, appellants argue that claim 21 recites acquiring an image of the passenger area and processing the image to determine the size of a person in the passenger area and that the operation of the air bag is controlled in response to the size of the person. (See brief at pages 4-5.) We agree with appellants, but note that the language of claim 21 does not recite what type of control is performed. The examiner maintains that the system of Breed determines size in addition to object shapes. (See answer at pages 6-7.) From our review of the teachings of Breed and the breadth of independent claim 21, we agree with the examiner that Breed does recognize a difference in size between a child and adult occupant in the passenger area and control of the airbag deployment to deploy or to disable the airbag.²

Appellants argue that there are three separate systems in the teachings of Breed and that the examiner is improperly picking and choosing teachings from various

² Additionally, we note that Breed also discloses that the rate of gas generation to affect the rate of inflation may also be controlled in another embodiment, but we need not rely upon this embodiment in the rejection under 35 U.S.C. § 102.

embodiments. (See brief at pages 5-6.) The examiner maintains that the pattern recognition system in Breed is a common element to the seat belt and airbag systems and that the air bag deployment system is operative only upon a determination of a proper passenger position within the seat. (See answer at page 5.) We agree with the examiner. Appellants argue that Breed detects the kind of object and not the size of an object. (See brief at page 6.) We disagree with appellants, and we find that Breed does broadly disclose the detection of the size of an occupant. Additionally, we find that Breed specifically states that an objective of the system is to “determine the position, velocity or size of an occupant in a motor vehicle and to utilize this information to control the rate of gas generation, or the amount of gas generated by an airbag inflator system.” (Breed at Col. 8; Object 3, emphasis added.) Therefore, we will sustain the rejection of independent claim 21 and its dependent claims 23 and 25-27 which have not been separately argued.

With respect to dependent claims 28-30, appellants argue that the claims all relate to analyzing an image to determine kinematic information about a vehicle passenger and that Breed merely teaches position information. (See brief at page 7.) The examiner maintains that Breed teaches the velocity information with respect to head position in the seatbelt control. The examiner cites to various portions of Breed to support this conclusion. From our review of these portions of Breed, we find no clear teaching of the use of kinematic information in the control of an airbag. Therefore, we cannot sustain the rejection of dependent claims 28-30.

With respect to dependent claim 35, appellants argue that Breed does not control the rate at which the airbag is deployed. (See brief at page 7.) We disagree with appellants. Clearly, columns 1 and 8 of Breed disclose that inflation is used to control deployment based upon the size of the occupant. Therefore, we will sustain the rejection of dependent claim 35.

35 U.S.C. § 103

With respect to independent claim 1, appellants argue that all of the claims under the rejected claims specify a stereoscopic image analyzer or method that determines the size of an object on a vehicle seat in response to a given amount that the object is shifted between first and second images. (See brief at page 8.) We note that the language of independent claim 1 recites “to determine a size of the object in response to a given amount that the object is shifted between the first and second images.” Here, we note that the examiner indicates that considering “all six arguments,” he disagrees with appellants. Yet, we find that the examiner provides responses up to “[f]ourthly” then addresses “[l]astly.” (See answer at pages 8 and 9.) We find no response to appellants’ fifth argument. Appellants argue that Tsuchiya is concerned with images outside the vehicle to monitor traffic and does not sense the size of a passenger inside a vehicle. (See brief at pages 8-9.) We find no response to appellants’ discussion of the Tsuchiya reference beyond the examiner’s statement that size is taught by Breed and need not be met by the Tsuchiya reference. We do not understand the examiner’s disregard for this argument since the examiner is relying

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upon the teaching of Tsuchiya for the stereoscopic processing of the images to obtain the more accurate and usable distance information which may be used to trigger the airbag. (See rejection at pages 4-5.) Appellants argue that detecting the type of object is not the same as detecting the size of the object. We disagree with appellants' general argument, and we find that Breed does disclose the size which may be the difference between a big and small object to distinguish an adult and infant. Here, appellants have not recited a range of values of size or required a numeric value to be determined. While we do find that Breed does disclose the determination of a size of an object, we find no teaching or suggestion to "determine a size of the object in response to a given amount that the object is shifted between the first and second images." While Breed does disclose the use of plural sensors and a "stereographic analysis can be made by circuitry 120" (Breed at col. 13), we find no discussion by the examiner of the processing which must use the "shift" between the two images. Since we find no discussion of the specific processing at the specific portions of Tsuchiya cited by the examiner, and we further find no convincing line of reasoning why it would have been obvious to one of ordinary skill in the art to look to the teachings of Tsuchiya to determine the size of a passenger inside a vehicle, we will not sustain the rejection of independent claims 1, 15, and 36 and their dependent claims 2, 4-13, 16-20, 33, 34, and 37-40.

With respect to dependent claims 22 and 24, we find no specific rebuttal to the examiner's rejection of these two claims. (See brief at pages 12 and 13.) We find that

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appellants merely paraphrase the language of claims and relies upon the arguments we found unpersuasive with respect to independent claim 21. Appellants argue that the combined teachings of the references do not teach or suggest determining the size of person in the images much less controlling the airbag in response to such a size determination. (See brief at page 13.) As discussed above, we found that Breed teaches the use of plural images and distance determinations to determine size and the control of the airbag based thereon. Therefore, this argument is not persuasive, and we will sustain the rejection of dependent claims 22 and 24.

CONCLUSION

To summarize, the decision of the examiner to reject claims 21, 23, 25-27, and 35 under 35 U.S.C. § 102 is affirmed; the decision of the examiner to reject claims 28-30 under 35 U.S.C. § 102 is reversed; the decision of the examiner to reject claims 22 and 24 under 35 U.S.C. § 103(a) is affirmed; and the decision of the examiner to reject claims 1, 2, 4-13, 15-20, 33, 34, and 36-40 under 35 U.S.C. § 103(a) is reversed.

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

AFFIRMED-IN-PART

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| LEE E. BARRETT |) | |
| Administrative Patent Judge |) | |
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| |) | BOARD OF PATENT |
| JOSEPH L. DIXON |) | APPEALS |
| Administrative Patent Judge |) | AND |
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| STUART S. LEVY |) | |
| Administrative Patent Judge |) | |

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