

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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. 33

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte WOLFGANG CLAR, WALTER KUPFER,  
and GUSTAVO BRAUSCH

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Appeal No. 1999-1058  
Application No. 08/832,960

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HEARD: January 27, 2000

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Before STAAB, NASE, and GONZALES, Administrative Patent Judges.

GONZALES, Administrative Patent Judge.

DECISION ON APPEAL

Appeal No. 1999-1058  
Application No. 08/832,960

This is a decision on an appeal from the examiner's final rejection of claims 1 through 14, which are all of the claims in the application.

We REVERSE.

The subject matter on appeal is directed to a method for carrying out an automatic braking operation for a motor-vehicle brake system with an anti-lock system (ABS), and more particularly, to a method used in a system with a manual operable brake actuating device, the position of which determines the brake pressure during non-automatic normal braking, and with an ABS which detects reaching of the lock-up limit of a wheel and thereupon controls the brake pressure for at least this wheel. The method includes the steps of controlling, via the automatic braking operation, the brake pressure of at least one wheel not subjected to ABS control so as to increase the brake pressure, and using the reaching of the lock-up limit of at least one wheel as the trigger criterion. Specification, page 1.

A copy of the appealed claims is appended to the brief (Paper No. 28).

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Yoshino	5,020,863	Jun. 4, 1991
Steiner et al. (Steiner)	5,350,225	Sep. 27, 1994
		(filed Mar. 17, 1993)

Claims 1 through 14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Yoshino in view of Steiner.

The full text of the examiner's rejection and the response to the arguments presented by appellants appear in the Office actions mailed February 6 and July 18, 1997 (Paper Nos. 16 and 22, respectively) and the answer (Paper No. 29, mailed December 1, 1998), while the complete statement of appellants' arguments can be found in the brief (Paper No. 28, filed August 24, 1998).

OPINION

In reaching our decision in this appeal, we have given careful consideration to the appellants' specification and claims, to the applied prior art references, and to the respective positions articulated by the appellants and the examiner. As a consequence of our review, we conclude that the rejection cannot be sustained.

The test for obviousness is what the combined teachings of the references would have suggested to one of ordinary skill in the art. See In re Young, 927 F.2d 588, 591, 18 USPQ2d 1089, 1091 (Fed. Cir. 1991) and In re Keller, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981).

Claim 1, the only independent claim, recites a method for carrying out an automatic braking operation for a motor-vehicle brake system with a manually operable brake-actuating device, the position of which determines the brake pressure during non-automatic normal braking, a control for the automatic braking operation and an ABS which detects when a lock-up limit of a wheel is reached, thereupon controls the brake pressure for the wheel and triggers the control for the

automatic braking operation, comprising the steps of actuating an automatic braking operation upon reaching a trigger criterion based at least on a condition that one or more wheels has reached a lock-up limit to control the brake pressure of a least one wheel not subjected to ABS control so as to increase the brake pressure independently of the manually operable brake-activating device, and during the automatic braking operation, synchronously acting upon the at least one wheel not subjected to ABS control and the mechanical brake-actuating device such that the increased brake pressure for the at least one wheel not subjected to ABS control corresponds to the brake-pressure valve represented by the respective instantaneous position of the mechanical brake-activating device.

As shown in Figures 1 and 2, Yoshino discloses an anti-lock control device comprising wheel speed sensors ( $S_1$ - $S_4$ ) for detecting the wheel speed of the wheels of a motor vehicle and for outputting corresponding wheel speed signals; an electronic control unit (ECU), including a central processing

unit and a solenoid actuating circuit, for processing the wheel speed signals so as to determine whether the front and rear wheels are exhibiting a tendency to enter a locked state or recovering from a locked state, and for outputting pressure control signals for selectively reducing, maintaining, and increasing a braking pressure applied to the wheels; and a fluid pressure control unit, including solenoids (SL<sub>1</sub>-SL<sub>4</sub>) for controlling the braking pressure applied to the right front and left front wheels in accordance with the pressure control signals and solenoids (SL<sub>5</sub>-SL<sub>8</sub>) for controlling the braking pressure applied to the right rear and left rear wheels in accordance with the pressure control signals. The central processing unit is programmed to select one of a first control mode in which the pressure control signals for selectively reducing, maintaining, and increasing a braking pressure applied to the right front and left front wheels are determined independently from one another, and a second control mode in which the pressure control signals for the right front and left front wheels are determined based on a

locking tendency of one of the right front and left front wheels having a higher wheel speed than the other. A timer is also provided for measuring a duration in which the first and second pressure control signals are both for one of continuously reducing, and alternatively reducing and maintaining, the braking pressure to the right front wheel and the left front wheel, respectively. The central processing unit selects the first control mode when the duration is less than a predetermined value and the second control mode when the duration is more than a predetermined value. Similar calculations and judgements for anti-lock control are made for the rear wheels (col. 4, lines 51-53).

Steiner discloses an automatic vehicle brake-pressure control device for a vehicle equipped with an ABS (29), including a vacuum brake power assist unit (18). In order to trigger the actuation of the automatic braking system in Steiner, the speed with which the driver operates the brake pedal (19) is continuous monitored. If this speed overshoots a prescribed threshold value  $M_1$ , the brake power assist unit

(18) is activated by connecting the working chamber (33) of unit (18) with atmospheric pressure. This brings the braking force of wheel brakes (11-14) to a value as high as possible at as early as possible an instant in the course of braking, and limits the value, if necessary along with the action of the ABS (29), to ensure the dynamically stable deceleration of the vehicle. See, Figure 1 and column 8, lines 20-37).

The examiner describes Yoshino as disclosing an independent control mode in which any non-skidding wheel would be controlled by the pressure coming from the master cylinder (Paper No. 16, page 3). As far as Steiner is concerned, the examiner considers Steiner to show an ABS having a traction control system "of the type claimed" (*id.* at 4). It is the examiner's position<sup>1</sup> that it would have been obvious "to have actuated the automatic braking independently of the manual

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<sup>1</sup> Page 3 of the answer directs our attention to the discussion of the ground of rejection at paragraph 3 in Paper No. 22 and paragraphs 4 and 7 in Paper No. 16. We remind the examiner that an answer should not refer, either directly or indirectly, to more than one prior Office action. Thus, only those statements of grounds of rejection appearing in a single prior action may be incorporated by reference. See Manual of Patent Examining Procedure (MPEP) § 1208 (7th ed., Jul. 1998).

braking actuation in situation which requires traction control as is taught by Steiner" (Paper No. 22, page 2).

We cannot support the examiner's position. In order to establish the prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 985, 180 USPQ 580, 583 (CCPA 1974). Like appellants (brief, pages 15-17), we are unable to find, and the examiner has not specifically identified, where in the references the steps recited in claim 1 are found.

We point out that Yoshino discloses an ABS control device, not a method for carrying out an automatic braking operation, in which the wheels located on the same axle are controlled either independently by the ABS or together depending on the duration of brake pressure control signals to the right and left wheels. Steiner does teach a method for carrying out an automatic braking operation, but it uses the speed with which the driver operates the brake pedal as the

trigger criterion, not the lock-up limit of one or more wheels as recited in the method of claim 1.

Since all the claim limitations are not taught or suggested by the applied prior art, the examiner has failed to establish a prima facie case for the obviousness of claim 1 and the rejection of that claim cannot be sustained.

Claims 2 through 14 are dependent on claim 1 and contain all of the limitations of that claim. Therefore, we will also not sustain the standing 35 U.S.C. § 103 rejection of claims 2 through 14.

CONCLUSION

To summarize, the rejection of claims 1 through 14 under 35 U.S.C. § 103 is reversed.

REVERSED

LAWRENCE J. STAAB )  
Administrative Patent Judge )  
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