

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. 16

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte JAMES W. ZEHNDER II and JOHN C. LAYMAN

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Appeal No. 2004-1109  
Application No. 09/754,686

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ON BRIEF

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Before WALTZ, TIMM, and KRATZ, Administrative Patent Judges.  
WALTZ, Administrative Patent Judge.

**DECISION ON APPEAL**

This is a decision on an appeal from the primary examiner's final rejection of claims 1, 3 through 16, and 18 through 20, which are the only claims remaining in this application.<sup>1</sup> We have jurisdiction pursuant to 35 U.S.C. § 134.

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<sup>1</sup>Appellants submitted an amendment subsequent to the final rejection, amending claims 3-6, 10 and 15, which amendment was indicated as entered upon appeal by the examiner (see the amendment dated May 23, 2003, Paper No. 8, with entry indicated as per the Advisory Action dated June 6, 2003, Paper No. 9). We note that this amendment has not been physically entered into the record. Upon return of this application to the jurisdiction of the examiner, this clerical error should be corrected by the examiner.

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According to appellants, the invention is directed to a brake pedal emulator system including a master cylinder and associated fluid reservoir, in integral association with both a gas-filled bellows emulator and a spring emulator (Brief, pages 3-4). Appellants state that the claims on appeal "should be considered as one group" (Brief, page 4). We construe this statement as meaning that the claims stand or fall together. Therefore we select independent claim 1 from the grouping and decide the ground of rejection in this appeal on the basis of this claim alone. See 37 CFR § 1.192(c)(7) (2000).

Representative independent claim 1 is reproduced below:

1. A brake-by-wire pedal feel emulator system comprising:
  - a master cylinder;
  - a first piston slidably positioned in the master cylinder;
  - a second piston slidably positioned in the master cylinder;
  - a reservoir carried near the master cylinder;
  - a first seal operably attached to the first piston wherein a force applied to said first piston positions the first seal member to isolate the reservoir from the master cylinder;
  - a second seal operably attached to the second piston wherein a force applied to said second piston positions the second seal member to isolate the reservoir from the master cylinder;
  - a gas-filled bellows emulator integral to and carried near the master cylinder wherein isolation of the reservoir from said master cylinder diverts fluid pressure into said bellows emulator; and

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a spring emulator integral to and carried near the master cylinder wherein isolation of the reservoir from said master cylinder diverts fluid pressure into said spring emulator.

The examiner has relied upon the following references as evidence of obviousness:

Campau et al. (Campau)	5,941,608	Aug. 24, 1999
Sasaki et al. (Sasaki)	6,056,013	May 02, 2000
Feigel et al. (Feigel) (published German <i>Offenlegungsschrift</i> ) <sup>2</sup>	196 40 767 A1	Apr. 09, 1998

Hoyt, Wade A. (ed.), *Reader's Digest Complete Car Care Manual* (Complete Car Care Manual), p. 111, The Reader's Digest Association, Inc., Pleasantville, New York, 1981.

The claims on appeal stand rejected under 35 U.S.C. § 103(a) as unpatentable over Campau in view of the Complete Car Care Manual, Sasaki and Feigel (Answer, page 3, referring to the complete exposition of the rejection in Paper No. 7). We affirm the rejection on appeal essentially for the reasons stated in the final Office action (Paper No. 7), the Answer, and for those reasons set forth below.

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<sup>2</sup>The examiner has relied upon U.S. Patent 6,354,673 to Feigel et al. as the "English equivalent" to DE 196 40 767 A1 (Paper No. 7, page 2). Since appellants do not contest that these documents are "equivalent" (see the Brief and Reply Brief in their entirety), for purposes of this appeal and decision, we rely upon and cite from U.S. Patent 6,354,673 as equivalent to "Feigel."

**OPINION**

The examiner finds that Campau discloses a master cylinder 12, reservoir 20, gas-filled emulator 31, and a spring emulator 26b (Paper No. 7, page 2). The examiner recognizes that Campau fails to disclose the details of the master cylinder, that the specific gas-filled emulator may be a gas-filled bellows emulator, and that the emulators may be integral with the master cylinder (*id.* at pages 2-3). Therefore the examiner applies the Complete Car Care Manual for its teachings that a standard master cylinder in a hydraulic brake system contains two pistons, each with a seal, and corresponding first and second chambers and bypass ports (*id.*, paragraph bridging pages 2-3).<sup>3</sup> The examiner also applies Sasaki for the teaching of a bellows type accumulator, noting that Campau discloses that the accumulator, which is structurally similar to an emulator, can be a bellows type (*id.* at page 3). Finally, the examiner applies Feigel for the teaching of a "brake-by-wire" system with a spring type travel simulator integral with the master cylinder (*id.*). From these findings, the examiner concludes that it would have been obvious to one of ordinary skill in this art at the time of

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<sup>3</sup>Campau discloses that the master cylinder is preferably a tandem master cylinder having two service pistons (col. 3, ll. 6-10, and col. 20, ll. 38-42).

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appellants' invention to have used the standard dual master cylinder as taught by the Complete Car Care Manual, with a bellows membrane or emulator as shown by Sasaki and Campau, with all emulators integral with the master cylinder as taught by Feigel, in the braking system of Campau to improve the "pedal feel" of the system (*id.* at pages 3-4). We agree.

Appellants concede that "the individual elements of the instant invention may be taught separately" by Campau, the Complete Car Care Manual, Sasaki, and Feigel (Reply Brief, page 3). Furthermore, appellants admit that a "known device" that mimics pedal feel includes an elastomeric spring emulator that is integrated with the master cylinder (specification, page 1, ll. 24-27).<sup>4</sup> However, appellants' principal argument is that none of the references, alone or in combination, disclose or suggest that emulators are "integral" with the master cylinder, i.e., "constituent parts, so combined as to constitute a unitary whole" (Brief, pages 5-6). Appellants additionally argue that the

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<sup>4</sup>It is axiomatic that admitted prior art in an applicant's specification may be used in determining the patentability of a claimed invention (*In re Nomiya*, 509 F.2d 566, 570-71, 184 USPQ 607, 611-12 (CCPA 1975)); and that consideration of the prior art cited by the examiner may include consideration of the admitted prior art found in an applicant's specification (*In re Davis*, 305 F.2d 501, 503, 134 USPQ 256, 258 (CCPA 1962); *cf.*, *In re Hedges*, 783 F.2d 1038, 1039-40, 228 USPQ 685, 686 (Fed. Cir. 1986)).

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examiner has not demonstrated any suggestion or motivation for combining the prior art references to arrive at the claimed invention, nor shown any reasonable expectation of success (Reply Brief, pages 3-4).

Appellants' arguments are not persuasive. As correctly stated by the examiner, Feigel teaches making the simulator (emulator) integral with the master cylinder, specifically teaching the option of having the simulator apart or integral with the master cylinder, although the option of having the simulator integral with the master cylinder is *preferable* (see Figures 1 and 2; col. 1, l. 46-col. 2, l. 4, especially col. 1, l. 61; and col. 2, ll. 14-19). Additionally, we note that Campau teaches, at col. 15, ll. 32-50:

It should be noted that many of the components described and illustrated as discrete components may be easily combined in a single compact housing. For example, the master cylinder **12**, the isolation valves **22a** and **22b**, the simulator valve **28**, the pedal simulator **26** ... could be integrated into one unit with or without the reservoir **20** included therein.

. . .

Indeed, it is contemplated that any or all of the components discussed in this paragraph could be highly integrated into one unit.

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Accordingly, we determine that sufficient evidence has been presented to establish that making the emulators integral with the master cylinder would have been obvious to one of ordinary skill in this art, as well as demonstrating a motivation and reasonable expectation of success in so making the components integral.

For the foregoing reasons and those stated in the final Office action and the Answer, we determine that the examiner has established a *prima facie* case of obviousness. Based on the totality of the record, including due consideration of appellants' arguments, we determine that the preponderance of evidence weighs most heavily in favor of obviousness within the meaning of section 103(a). Therefore we affirm the examiner's rejection of claims 1, 3-16, and 18-20 under 35 U.S.C. § 103(a) over Campau in view of the Complete Car Care Manual, Sasaki, and Feigel.

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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**

Thomas A. Waltz	)	
Administrative Patent Judge	)	
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	)	
	)	BOARD OF PATENT
Catherine Timm	)	APPEALS
Administrative Patent Judge	)	AND
	)	INTERFERENCES
	)	
	)	
	)	
Peter F. Kratz	)	
Administrative Patent Judge	)	

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