

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* SCHUYLER S. SHAW

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Appeal 2007-2642  
Application 10/387,013  
Technology Center 3600

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Decided: December 5, 2007

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Before WILLIAM F. PATE, III, MURRIEL E. CRAWFORD, and  
LINDA E. HORNER, *Administrative Patent Judges*.

HORNER, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant seeks our review under 35 U.S.C. § 134 of the Examiner's final rejection of claims 1-18, all the claims currently pending in the application. We have jurisdiction under 35 U.S.C. § 6(b)(2002).

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## SUMMARY OF DECISION

We REVERSE.

### THE INVENTION

Appellant's claimed invention is directed to a torsion pedal feel emulator (Spec. 1:10). Claim 1, reproduced below, is representative of the subject matter on appeal.

1. A torsion pedal feel emulator assembly for a motor vehicle, the assembly comprising:
  - a pedal member for receiving an applied pedal force;
  - a torsion member operably attached to the pedal member, a portion of the torsion member positioned adjacent a reaction surface, wherein the torsion member rotates as a result of the applied pedal force, and a dynamic reaction force is generated against the applied pedal force; and
  - a pivot operably attached to the torsion member and the motor vehicle.

### THE REJECTIONS

The Examiner relies upon the following evidence in the rejections:

Takagi	US 6,019,016	Feb. 1, 2000
Shaw	US 6,186,026 B1	Feb. 13, 2001

The following rejections are before us for review.

1. Claims 1-3, 5-8, 10-12, and 14-18 stand rejected under 35 U.S.C. § 102(b) as anticipated by Shaw.
2. Claims 4, 9, and 13 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Shaw and Takagi.

## ISSUE

Appellant contends that the prior art fails to disclose or suggest “the use of torsion (or a torsion-like member)” or “generating a dynamic reaction force based on the use of torsion” (Appeal Br. 6-9). The Examiner found that the pedal member 26 of Shaw is equivalent to the claimed torsion member because it rotates in response to an applied force F as shown in Figure 2 (Answer 4 and 7). The issue before us is whether a torsion member by definition must twist or rotate along its own longitudinal axis.

## FINDINGS OF FACT

We find that the following enumerated findings are supported by at least a preponderance of the evidence. *Ethicon, Inc. v. Quigg*, 849 F.2d 1422, 1427 (Fed. Cir. 1988) (explaining the general evidentiary standard for proceedings before the Office).

1. The customary meaning of the term “torsion” is the twisting or wrenching of a body by the exertion of forces tending to turn one end or part about a longitudinal axis while the other is held fast or turned in the opposite direction. *Merriam-Webster’s Collegiate Dictionary* 1320 (11th ed. 2005).

2. Appellant’s Specification does not specifically define the term “torsion member,” nor does it utilize the term contrary to its customary meaning.

3. Shaw discloses a brake pedal for a motor vehicle that includes, *inter alia*, a pedal lever 26 having an inboard end 28 and an outboard end 30 (Shaw, col. 2, ll. 33-35).

4. In response to application of a pedal force F, the pedal lever 26 resiliently flexes clockwise in cantilever spring bending mimicking the pivotal movement of a brake pedal in traditional motor vehicle brake systems (Shaw, col. 3, ll. 6-10).

5. As the pedal lever resiliently flexes clockwise in cantilever spring bending to a full brake apply position 26', its effective span progressively decreases to an effective span S<sub>2</sub> as the pedal lever reaction surface 44 progressively engages the stationary reaction surface 42 (Shaw, col. 3, ll. 20-24; Fig. 2).

6. Shaw fails to disclose a member that twists or rotates along its longitudinal axis as the result of an applied pedal force. Therefore, Shaw fails to disclose a torsion member.

7. Takagi discloses an accelerator pedal device that includes, *inter alia*, a bracket 3, a pedal arm 2 turnably supported on the bracket 3 through a pin 4 and having an accelerator pedal 1 fixed at its trailing end, and a return spring 10 arranged to surround the pin for biasing the pedal in the reverse direction to the depressing direction (Takagi, col. 1, ll. 48-53; col. 2, ll. 47-52, col. 3, ll. 7-8).

8. Takagi fails to disclose a torsion member that twists or rotates along its longitudinal axis as the result of an applied pedal force.

#### PRINCIPLES OF LAW

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior

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art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987).

“Section 103 forbids issuance of a patent when ‘the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.’” *KSR Int'l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1734 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, and (3) the level of skill in the art. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966). *See also KSR*, 127 S.Ct. at 1734 (“While the sequence of these questions might be reordered in any particular case, the [Graham] factors continue to define the inquiry that controls.”) The Court in *Graham* further noted that evidence of secondary considerations “might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.” *Graham v. John Deere Co.*, 383 U.S. at 17-18.

## ANALYSIS

### *Rejection of claims 1-3, 5-8, 10-12, 14-18 as anticipated by Shaw*

Appellant argues claims 1-3, 5-8, and 10 as a group (Appeal Br. 5). As such, we select claim 1 as a representative claim, and the remaining claims of the group, i.e., claims 2, 3, 5-8, and 10, stand or fall with claim 1. 37 C.F.R. § 41.37(c)(1)(vii) (2007).

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In order to determine the patentability of claim 1 over the cited prior art, the claim must be interpreted to ascertain its proper scope and/or meaning. In interpreting claim language, we apply the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description. *See In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997). *See also In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004) and *In re Sneed*, 710 F.2d 1544, 1548 (Fed. Cir. 1983).

Claim 1 recites, *inter alia*, “a torsion member operably attached to the pedal member, a portion of the torsion member positioned adjacent a reaction surface, wherein the torsion member rotates as a result of the applied pedal force, and a dynamic reaction force is generated against the applied pedal force.” Appellant’s Specification does not specifically define the term “torsion member” (Finding of Fact 2). The customary meaning of the term torsion is the twisting or wrenching of a body by the exertion of forces tending to turn one end or part about a longitudinal axis while the other is held fast or turned in the opposite direction (Finding of Fact 1). Furthermore, Appellant’s Specification states that the “[t]orsion bar 14 may be manufactured from a resilient material to allow one end to be turned about an axis X while the other end is held fast. The resilient material resists wear and allows the torsion bar 14 to be repeatedly twisted and un-twisted with numerous pedal force A application cycles.” (Spec. 4:7-11 and Fig. 2.)

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Thus, the description of the torsion bar 14 in Appellant's Specification is consistent with the customary meaning of the term "torsion" in the art. Accordingly, we find the term "torsion member" as customarily defined and consistent with the use in Appellant's Specification requires that the member be configured to twist or rotate about its longitudinal axis in response to an applied pedal force.

Appellant contends that Shaw fails to anticipate claim 1 because Shaw fails to disclose a torsion member as claimed (Appeal Br. 6). More specifically, Appellant contends that although the pedal lever 26 of Shaw moves in response to an applied pedal force, the "movement comprises an arcuate movement about a transverse axis without concatenate twisting or wrenching of the pedal lever 26" (Appeal Br. 7). We agree.

Shaw discloses a brake pedal for a motor vehicle that includes, *inter alia*, a pedal lever 26 having an inboard end 28 and an outboard end 30 (Finding of Fact 3). In response to application of a pedal force F, the pedal lever 26 resiliently flexes clockwise in cantilever spring bending mimicking the pivotal movement of the pedal lever in traditional motor vehicle brake systems (Finding of Fact 4). As the pedal lever resiliently flexes clockwise in cantilever spring bending to a full brake apply position 26', its effective span progressively decreases to an effective span S<sub>2</sub> as the pedal lever reaction surface 44 progressively engages the stationary reaction surface 42 (Finding of Fact 5). Shaw's pedal lever 26 does not twist or rotate along its longitudinal axis as the result of an applied pedal force. Therefore, Shaw

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fails to disclose a torsion member, as claimed (Finding of Fact 6). As such, we can not sustain the Examiner’s rejection of claims 1-3, 5-8, and 10 as anticipated by Shaw.

Appellant argues claims 11, 12, and 14-18 as a group (Appeal Br. 5). As such, we select claim 11 as a representative claim, and the remaining claims of the group, i.e., 12 and 14-18, stand or fall with claim 11. 37 C.F.R. § 41.37(c)(1)(vii) (2007).

Claim 11 defines a method of operating a pedal feel emulator. The method includes, *inter alia*, “rotating a torsion member as a result of the applied pedal force.” As discussed *supra*, we find that the term “torsion member” as customarily defined and consistent with the use in Appellant’s Specification requires that the member be configured to twist or rotate about its longitudinal axis in response to an applied pedal force.

Appellant contends that Shaw fails to anticipate claim 11 because Shaw fails to disclose a torsion member (Appeal Br. 8). We agree for those reasons presented *supra* with respect to claim 1. As such, we can not sustain the Examiner’s rejection of claims 11, 12, and 14-18.

*Rejection of claims 4, 9, and 13 as unpatentable over Shaw and Takagi*

Appellant contends that the combination of Shaw and Takagi fails to render claims 4, 9, and 13 unpatentable because the combination fails to disclose each and every claimed element (Appeal Br. 9). More specifically, Appellant contends that the combination fails to teach or suggest “the use of

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torsion (or a torsion-like member), as recited in independent claims 1 and 11, from which claims 4, 9, and 13 depend (*Id.*). Again, we agree.

Takagi discloses an accelerator pedal device that includes, *inter alia*, a bracket, a pedal arm turnably supported on the bracket through a pin and having an accelerator pedal fixed at its trailing end, and a return spring arranged to surround the pin for biasing the pedal in the reverse direction to the depressing direction (Finding of Fact 7). However, Takagi fails to overcome the deficiencies of Shaw. More specifically, Takagi fails to disclose a torsion member that twists or rotates along its longitudinal axis as the result of an applied pedal force (Finding of Fact 8). As such, we can not sustain the Examiner's rejection of claims 4, 9, and 13.

#### CONCLUSIONS OF LAW

We conclude Appellant has shown that the Examiner erred in rejecting claims 1-3, 5-8, 10-12, and 14-18 under 35 U.S.C. § 102(b) as anticipated by Shaw, and claims 4, 9, and 13 under 35 U.S.C. § 103(a) as unpatentable over Shaw and Takagi.

#### DECISION

The Examiner's decision to reject claims 1-18 is reversed.

REVERSED

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