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

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte LARS SEVERINSSON

Appeal 2006-2596
Application 10/869,144
Technology Center 3600

Decided: March 29, 2007

Before TERRY J. OWENS, HUBERT C. LORIN, and JENNIFER D. BAHR, *Administrative Patent Judges*.

BAHR, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Lars Severinsson (Appellant) appeals under 35 U.S.C. § 134 from the Examiner's decision rejecting claims 1-7, 9, and 10. Claim 8, the only other claim pending in the Application, is withdrawn from consideration. We have jurisdiction over this appeal under 35 U.S.C. § 6.

Appellant invented a parking brake arrangement in an electrically operated brake, in which a rotary movement of an electric motor is transformed into a translational brake applying movement, and wherein an elasticity spring is arranged in series with the elasticity of the brake to provide a rotary parking brake force. The elasticity spring is provided to address the problem of ensuring a satisfactory parking braking when disc brake portions heated during a preceding service braking cool off and return to normal size after their heat expansion (Specification [0005] – [0006]). Claim 1, the only independent claim before us on appeal, is illustrative of the invention and reads as follows:

> 1. A parking brake arrangement in an electrically operated brake, in which a service brake function is performed by a rotary movement of an electric motor, transformed into a translational brake applying movement by a force transmission mechanism, characterized in that a parking brake function is performed by a separate elasticity spring so arranged in a force transmitting chain of the brake that its elasticity is in series with the elasticity of the brake and adapted to provide a rotary parking brake force also transformed into a translation brake applying movement by the force transmission mechanism.

The Examiner relies upon the following as evidence of unpatentability:

Wolfsteiner[1]	WO 01/21977 A1	Mar. 29, 2001

[1] We, like the Examiner (Answer 3), derive our understanding of this reference from Wolfsteiner '477 (US 6,722,477 B1), which issued April 20, 2004, on the U.S. national stage patent application of Wolfsteiner.

Appellant seeks review of the Examiner's rejection of claims 1-7, 9 and 10 under 35 U.S.C. § 102(b) as anticipated by Wolfsteiner.

The Examiner provides reasoning in support of the rejection in the Final Rejection (mailed August 29, 2005) and Answer (mailed April 7, 2006). Appellant presents opposing arguments in the Brief (filed February 2, 2006, cited hereinafter as "Br.") and Reply Brief (filed May 18, 2006, cited hereinafter as "Reply Br."). We also refer in our decision to an Office Action requiring an election of species pursuant to 37 C.F.R. § 1.141 (mailed January 7, 2005, hereinafter "Election Requirement") and to Appellant's election in response to the Election Requirement (filed January 24, 2005, hereinafter "Election").

THE ISSUE

Appellant contends that Wolfsteiner does not anticipate the subject matter of claims 1-7, 9, and 10, because Wolfsteiner does not disclose a force transmission mechanism that translates a rotary parking brake force provided by an elasticity spring <u>and</u> rotary movement of the electric motor into a translational brake applying movement (Br. 5, 6; Reply Br. 2-4). The Examiner contends that both spring 14' and motor 106 of Wolfsteiner provide a rotary force at the pivots of the brake lever 121 and caliper lever 126a, which rotary force is transformed into translational movement of the brake pad (brake clip 82) toward or away from brake disc 84 (Answer 3). Consequently, the issues before us are, first, whether Wolfsteiner's brake lever 121 and/or caliper lever 126a transforms rotary movement into translational movement and, if so, whether the rotary movement of Wolfsteiner's electric motor 106 can reasonably be considered to be

transformed into a translational brake applying movement by the same force transmission mechanism that transforms a rotary parking brake force provided by spring 14' into a translation brake applying movement, as required in independent claim 1.

PRINCIPLE OF LAW

Anticipation requires that every element and limitation of the claimed invention be found in a single prior art reference, arranged as in the claim. *Karsten Mfg. Corp. v. Cleveland Golf Co.*, 242 F.3d 1376, 1383, 58 USPQ2d 1286, 1291 (Fed. Cir. 2001); *Scripps Clinic & Research Found. v. Genentech, Inc.*, 927 F.2d 1565, 1576, 18 USPQ2d 1001, 1010 (Fed. Cir. 1991).

FINDINGS OF FACT

1. Appellant describes three species of the invention. The first (Figs. 1 and 2) and third (Figs. 5 and 6) utilize a compression spring 15 as the elasticity spring. The second (Figs. 3 and 4) utilizes an elasticity spring in the form of a clock spring or spiral spring 15A instead of a compression spring (Specification [00035]).
2. The Examiner (Election Requirement 2) and Appellant (Election) agree that at least claims 1-7 are generic to all three described species of the invention.
3. In the first and third embodiments of Appellant's invention, the elasticity spring (compression spring 15) exerts a linear or translational biasing force against sleeve arm 9', which converts or

transforms the translational force into rotary movement of transmission sleeve 9 (Figs. 1, 2 and 5, 6).

4. Appellant's electric motor 3 rotates its drive shaft 4 to provide rotary movement, which is transmitted, via coupling 5, coupling shaft 6, gear 7, planet gear 8, and intermediate gear 10, to thrust rod gears 11 of thrust rods 12. The thrust rods 12 transform rotary movement of thrust rod gear 11 into linear movement of a part connected to a first disc brake pad 13 at one side of brake disc 2 (Specification [00017] – [00019]). Accordingly, in Appellant's invention, the thrust rods 12 (or single thrust rod in the third embodiment) are the "force transmission mechanism" that transforms rotary movement provided, via a series of gears, by both the elasticity spring and the electric motor into a linear or translational brake applying movement.

5. Wolfsteiner's motor 106 provides rotary movement at its output shaft 108, which is engaged by toothed belt 110, which in turn is engaged by pinion 112. Thus, the rotary movement of output shaft 108 is transmitted to pinion 112. The rotary movement of pinion 112 is then transmitted and ultimately converted to linear motion of cover 120 by a series of sleeves, spindles, and nuts (Wolfsteiner '477, col. 5, l. 3 to col. 6, l. 14).

6. Wolfsteiner's spring 14' provides linear movement, via ring-shaped slide 16', interior sleeve 20', and interior bush 66', to cover 120 (Wolfsteiner '477, col. 5, ll. 27-32).

7. Translational movement of Wolfsteiner's cover 120 causes angular and translational movement of brake lever 121, which in turn acts

> upon eccentric 122. Eccentric 122 has an eccentric shaft 124 coupled to caliper lever 126a, which is pivotably secured at one end to plunger rod adjuster 128 (Wolfsteiner '477, col. 5, ll. 32-45). Consequently, when cover 120 moves linearly, in response to movement provided by spring 14' and/or motor 106, to move brake lever 121 angularly and translationally, caliper lever 126a is pivoted, via eccentric 122 and eccentric shaft 124, about the pivot attachment to plunger rod adjuster 128, thereby causing translational movement of brake clip 82 toward or away from brake disc 84.

ANALYSIS

Wolfsteiner's motor 106 provides rotary movement of caliper lever 126a about its pivot axis (Findings of Fact 5 and 7). Wolfsteiner's spring 14' likewise provides rotary movement of caliper lever 126a about its pivot axis (Findings of Fact 6 and 7). The rotary movement of caliper lever 126a provided by motor 106 and spring 14' is transformed by caliper lever 126a into linear or translational brake applying movement of brake clip 82 toward or away from brake disc 84 (Finding of Fact 7). Therefore, caliper lever 126a does transform rotary movement to linear or translational movement. Further, the rotary movement of caliper lever 126a provided by spring 14' is transformed into translational brake applying movement of brake clip 82 by the same force transmission mechanism, caliper lever 126a, that transforms rotary movement of caliper lever 126a provided by motor 106 into translational brake applying movement of brake clip 82, thereby satisfying the claim language at issue.

We recognize that motor 106 produces rotary movement of caliper lever 126a via output shaft 108, toothed belt 110, pinion 112, a series of sleeves, spindles, and nuts, cover 120, brake lever 121, eccentric 122, and eccentric shaft 124 (Findings of Fact 5 and 7) and that spring 14' produces rotary movement of caliper lever 126a via ring-shaped slide 16', interior sleeve 20', interior bush 66', cover 120, brake lever 121, eccentric 122, and eccentric shaft 124 (Findings of Fact 6 and 7). Claim 1, however, contains no limitation that excludes either the motor or spring producing the recited rotary motion through any number of intermediate components. Moreover, claim 1 does not exclude intermediate rotary-to-linear and/or linear-to-rotary movement transformations to produce the recited rotary movement. In fact, in the first and third embodiments of Appellant's disclosed invention, which are covered by claim 1 (Finding of Fact 2), the compression spring 15 produces rotary movement by first producing linear movement, which is then transformed into the rotary movement (Finding of Fact 3) that is transformed into a translational brake applying movement by thrust rod(s) 12, the force transmission mechanism recited in claim 1. Similarly, Appellant's electric motor 3 rotates its drive shaft 4 to provide rotary movement, which is transmitted, via coupling 5, coupling shaft 6, gear 7, planet gear 8, and intermediate gear 10, to thrust rod gear(s) 11 of thrust rod(s) 12, the force transmission mechanism recited in claim 1 (Finding of Fact 4).

In light of the above, we conclude that Appellant has not demonstrated that the Examiner erred in rejecting claim 1 as anticipated by Wolfsteiner. The rejection of claim 1, as well as dependent claims 2-7, 9,

and 10, which Appellant has not argued separately from claim 1, is sustained.

SUMMARY

The decision of the Examiner to reject claims 1-7, 9, and 10 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv) (2006).

AFFIRMED

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