UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte IGNACY PUSZKIEWICZ, MOHAMED YAHIAOUI, LOUIS A. BAFILE, and ELI NEUMAN

Appeal 2008-3730
Application 10/236,911
Technology Center 3600

Decided: September 18, 2008

Before WILLIAM F. PATE, III, JENNIFER D. BAHR, and STEFAN STAICOVICI *Administrative Patent Judges*.

STAICOVICI, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Ignacy Puszkiewicz et al. (Appellants) appeal under 35 U.S.C. § 134 from the Examiner's decision rejecting claims 1-4, 6-9, 12-19, 21-26, and 28. Claim 5 has been withdrawn and claims 11, 20, and 27 have been

canceled.[1] Claim 10 has been allowed. We have jurisdiction over this appeal under 35 U.S.C. § 6 (2002).

THE INVENTION

The Appellants' invention is drawn towards a scissor lift 10 including a frame 12 supported by wheels 14, a drive mechanism 16, a scissor arm assembly 18, and a platform 20 that is secured to the scissor arm assembly 18 by fixed load sensing pins 22 and sliding load sensing pins 24 (¶ 23 and fig. 1). The fixed load sensing pins 22 (fig. 2) and the sliding load sensing pins 24 (fig. 3) are used to measure the vertical force resulting from all external loads and forces applied to the platform 20 (¶ 24) while permitting the arm assembly 18 to expand when raising the platform 20 (¶ 24 and fig. 4). The scissor lift 10 further includes an electronic interface module 30 that communicates with the load sensing pins 22 and 24, a tilt sensor 37, and an angle senor to control the drive mechanism and lift functions of the scissor lift 10 (¶¶ 30 and 31, and fig. 8). When using the scissor lift 10 with a deck extension, in addition to the loading data provided by the load sensing pins 22 and 24 the angle sensor provides data regarding platform elevation to the electronic interface module 30 such that a stability condition is determined by calculating the center of gravity of the loaded platform of scissor lift 10 (¶¶ 31 and 36).

Claim 1 is illustrative of the claimed invention and reads as follows:

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[1] Claims 11, 20, and 27 were canceled by the Appellants in the After-Final Amendment filed on February 17, 2005, which was entered upon the filing of the Notice of Appeal on March 29, 2005.

1. A scissors lift comprising:

a scissors arm assembly secured at one end to a base and coupled with a lift mechanism that expands and contracts the scissors arm assembly;

a platform supported at an opposite end of the scissors arm assembly via a plurality of load sensing pins that detect a vertical load on the platform, wherein the load sensing pins replace conventional structural pins between the platform and the opposite end of the scissors arm assembly; and

an interface module receiving signals from the load sensing pins and communicating with the lift mechanism, the interface module controlling operation of lift functions and the lift mechanism according to the signals from the load sensing pins, wherein the interface module determines a center of gravity of the vertical load on the platform based on the signals from the load sensing pins and platform height or elevation information acquired by direct or non-direct measurement.

THE REJECTIONS

The Examiner relies upon the following as evidence of unpatentability:

Kutsay	US 3,695,096	Oct. 3, 1972
Murrill	US 4,930,598	Jun. 5, 1990
Boeckman	US 5,992,562	Nov. 30, 1999
Scotese	US 2003/0060923 A1	Mar. 27, 2003
Appellants' Admitted Prior Art (Spec. 2, ¶ 6, ll. 1-4)		

The Appellants seek review of the Examiner's rejection of claims 1-4, 6-9, 12-19, 21-26, and 28 under 35 U.S.C. § 103(a) as unpatentable over

Boeckman in view of Murril or the typical scissor lift (as disclosed by applicant)[2] and further in view of Kutsay and Scotese.

The Examiner provides reasoning in support of the rejection in the Answer (mailed November 16, 2007). The Appellants present opposing arguments in the Appeal Brief (filed August 29, 2007) and the Reply Brief (filed January 16, 2008).

FINDINGS OF FACTS

Boeckman

We make the following findings of fact with respect to Boeckman:

1. Boeckman discloses a scissor lift 10 having a base portion 20, a vertically movable platform portion 30, and a deck 40 (col. 1, ll. 20-39 and fig. 1b).
2. The scissor lift 10 is controlled using a controller 600 that receives data inputs such as a tilt sensor input 610, a load sensor input 630, and an angle sensor input (col. 9, l. 54 through col. 10, l. 7 and fig. 7).
3. The tilt sensor input 610 measures the amount of tilt of the platform 30 such as when the scissor lift 10 is moving upward on a ramp (col. 9, ll. 58-63).

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[2] In the rejection of claims 1-4, 6-9, 12-19, 21-26, and 28 the Examiner refers to the teachings of the "typical scissor lift (as disclosed by applicant)" (Ans. 3-4). We understand the Examiner's statement to mean the "Appellants' Admitted Prior Art" as disclosed on Page 2, ¶ 6, ll. 1-4 of the Specification. Since the Examiner considers the teachings of Murrill and the Appellants' Prior Art as being equivalent, throughout this decision we will refer only to the teachings of Murrill with the understanding that they are interchangeable with the teachings of the Appellants' Prior Art.

4. The load sensor input 630 measures the amount of load carried by the platform 30 (col. 9, ll. 63-65).

5. The angle sensor input measures the elevation of the platform 30 (col. 10, ll. 1-5.

6. The controller 600 uses the information from the tilt sensor input 610, the load sensor input 630, and the angle sensor input to determine a safe mode of operation (col. 9, l. 65 through col. 10, l. 7).

Murrill

We make the following findings of fact with respect to Murrill:

7. Murrill discloses a scissor lift apparatus 25 having a chassis 27, a scissor lift assembly 29, and a platform 31 (col. 5, ll. 60-65 and fig. 1).

8. The scissor lift assembly 29 is connected to the underside of the platform 31 using pinned ears 89 (stationary pins) and ears 83 connected to cross tube 85 that slides along guiderails 87 (sliding pins) (col. 6, ll. 53-59 and fig. 1).

Kutsay

We make the following findings of fact with respect to Kutsay:

9. Kutsay discloses a load cell that is adapted to be readily interchangeable with a coupling member such as a pin or a bolt (Abstract).

10. The load cell of Kutsay is adapted to perform all the operating functions of the coupling member while also measuring the forces acting on the coupling member (col. 1, ll. 49-54; col. 1, l. 67 through col. 2, l. 7; and col. 5, ll. 45-50).

11. Kutsay discloses the desirability to use the load cell to measure the forces acting on the coupling member under actual working conditions to determine both the forces transmitted and the directions of such forces, including vertical forces (col. 1, ll. 21-26 and col. 5, ll. 54-58 and fig. 3).

Scotese

We make the following findings of fact with respect to Scotese:

12. Scotese discloses a material handler 10 having a controller that determines the center of gravity of the material handler 10 and any load supported by the material handler 10 by receiving signals from sensors that measure the relative amount of force applied to each of the wheels 18A, 18B, 20A, and 20B and then displays the center of gravity within a plane defined by the wheels 18A, 18B, 20A, and 20B (Abstract; ¶ 26; and fig. 8).

13. The position of the center of gravity is determined by the extension level of the telescoping boom 24 (and hence the elevation of fork 30), the loading conditions, the acceleration forces, and the slope and grade of the terrain (tilt) (¶ 31 and fig. 1).

14. Based on the location of the center of gravity within the plane, the controller permits the material handler to operate within a stable loading condition (productive zone 78) or prevents its operation within an unstable loading condition (non-productive zone 80) (¶ 31 and fig. 7).

OPINION

The Appellants argue the rejection under 35 U.S.C. § 103(a) of claims 1-4, 6-9, 13, 15-19, 21-26, and 28 together as a group (App. Br. 15). Therefore, in accordance with 37 C.F.R. § 41.37(c)(1)(vii) (2007), we have

selected claim 1 as the representative claim to decide the appeal, with claims 2-4, 6-9, 13, 15-19, 21-26, and 28 standing or falling with claim 1. In view of Appellants' arguments, we will address the rejection of claims 12 and 14 separately.

The issue presented in the appeal of the rejection of claims 1-4, 6-9, 13, 15-19, 21-26, and 28 is whether it would have been obvious to combine Boeckman, Murrill, Kutsay, and Scotese as proposed by the Examiner and, if so, whether the of combination of Boeckman, Murrill, Kutsay, and Scotese proposed by the Examiner would result in the claimed invention.

The Examiner asserts that

> [i]t would have been obvious to one of ordinary skill in the art at the time the invention [w]as made to modify Boeckman…to have pivot pin connections between his platform and scissors arms, as taught by…Murrill…to facilitate the lifting of his platform, and to substitute load sensing pins, as taught by Kutsay,…for sensing the load on his platform and [for] sending…signal[s] to his controller, and for his controller to determine a center of gravity of the load of his platform…as taught by Scotese, to ensure a safe operation of his lift. [(Ans. 4).]

The Appellants argue that the Examiner's motivation "'to substitute load sensing pins, as taught by Kutsay,…<u>for sensing the load on his platform and sending such signal to his controller</u>...'" (underlining in original) is redundant to an already existing structure in Boeckman because the structure of Boeckman includes a load sensor that provides a load sensor input 630 to a controller (App. Br. 15). Furthermore, the Appellants argue that "Kutsay does not in any manner disclose or suggest that multiple pin connections

between the platform and the scissors arm assembly should be replaced with the Kutsay structure" (Reply Br. 1-2).

In response, the Examiner takes the position that replacing the pins in the scissor lift of Boeckman in view of Murrill with the load cell of Kutsay would not be redundant because although Boeckman discloses a load sensor Boeckman does not disclose the location and the type of the load sensor, hence prompting one of ordinary skill in the art to replace the conventional load shear pins in the scissor lift of Boeckman and Murrill with the load cell of Kutsay (Ans. 5).

We agree with the Examiner. While there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness, "the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ." *KSR Int'l. Co. v. Teleflex lnc.*, 127 S. Ct. 1727, 1741 (2007).

> When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.

Id. at 1740. We must ask whether the improvement is more than the predictable use of prior art elements according to their established functions.

Id. In this case, Boeckman discloses a scissor lift having a platform and a controller which uses a load sensor input to determine a safe mode of operation of the scissor lift (Findings of Fact 1, 2, 4, and 6). Murrill discloses a scissor lift apparatus that requires stationary and sliding pins to connect the underside of the platform to the scissor lift (Findings of Fact 7 and 8). Kutsay discloses a load cell that is adapted to be readily interchangeable with a coupling member, such as a pin, that performs all the operating functions of the pin while also measuring the forces acting on the pin (Findings of Fact 9 and 10). Furthermore, Kutsay specifically discloses the desirability of replacing the pin with the load cell in order to measure the forces and the direction of such forces acting on the pins during actual working conditions (Finding of Fact 11). Hence, in view of the explicit teachings of Kutsay, a person of ordinary skill in the art would have been prompted to replace the pins in the scissor lift of Boeckman in view of Murrill with the loading cell of Kutsay because Kutsay specifically discloses that the load cell performs in the same manner as the pins and additionally, measures the forces acting on the pins during actual working conditions, hence providing for improved measuring of the forces transmitted and the directions of such forces. Moreover, modifying the scissor lift of Boeckman in view of Murrill to provide the load cell of Kutsay would not have been uniquely challenging to a person of ordinary skill in the art because it is no more than "the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for the improvement." *KSR*, 127 S. Ct. at 1740. The substitution appears to be the product not of innovation but of ordinary skill and common sense. We thus

conclude that the substitution would have been obvious to a person of ordinary skill in the art at the time of the Appellants' invention.

The Appellants further argue that although Scotese teaches determining the center of gravity, Scotese does not teach "[a] structure that determines the center of gravity based not only on the signals from the load sensing pins but also on platform height or elevation" (Reply Br. 3). We find the Appellants' argument unpersuasive, because the Examiner does not rely solely on Scotese for these features. References cannot be attacked individually when the rejection is predicated upon a combination of prior art disclosures. *See In re Merck & Co. Inc.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986). While the Appellants may be correct that the structure of Scotese does not teach determining the center of gravity based on measurements of the platform (fork) elevation, the rejection is not based on Scotese alone, but rather on the combination of Boeckman, Murrill, Kutsay, and Scotese, and as shown above, Boeckman specifically discloses using an angle sensor to measure the elevation of the platform (Finding of Fact 5) which is then input, with the load and tilt measurements, to the controller to determine a safe mode of operation (Finding of Fact 6). Furthermore, we note that Scotese discloses that the position of the center of gravity is influenced, among other factors, by the elevation level of the fork (platform) (Finding of Fact 13). Therefore, we find that it would have been an obvious matter of common sense to a person of ordinary skill in the art to modify the controller of Boeckman in view of Murrill and further in view of Kutsay to use the measurements of the angular sensor of Boeckman to thereby determine the center of gravity of the platform as taught by Scotese. After all, "[a] person of ordinary skill is also a person of ordinary creativity, not an automaton."

KSR Int'l. Co. v. Teleflex Inc., 127 S. Ct. 1727, 1742 (2007). Therefore, the rejection of claim 1, and claims 2-4, 6-9, 13, 15-19, 21-26, and 28 standing or falling with claim 1, is sustained.

With respect to claim 12, which depends from claim 1, the Appellants further argue that the references of record do not disclose "that the interface module detects a stability condition based on the center of gravity of the vertical load on the platform" (App. Br. 17) (underlining added). According to the Appellants, the controller of Scotese determines the center of gravity based on the forces applied to the wheels of the material handler (Finding of Fact 12) and not to the fork (platform). Although we agree with the Appellants' position that neither of the references by itself teaches that "the interface module detects a stability condition based on the center of gravity of the vertical load on the platform," we note once again that the Appellants appear to be arguing against the references individually when the rejection is based on the combination of Boeckman, Murrill, Kutsay, and Scotese. Therefore, we disagree with the Appellants' position because the controller of Boeckman as modified by Murrill, Kutsay, and Scotese is able to detect a stable operating condition based on the center of gravity of the vertical forces acting on the platform of the scissor lift of Boeckman. That is, the controller in the scissor lift of Boeckman as modified by Murrill, Kutsay, and Scotese detects a stable operating condition by determining the center of gravity of the scissor lift using input from the load cell of Kutsay that measures the forces acting on the load cell and the direction of such forces, hence measuring the forces acting on the platform and the direction of such forces, including vertical forces.

For the reasons discussed above, the Appellants' argument does not demonstrate error in the Examiner's rejection of claim 12. Accordingly, we sustain the rejection of claim 12.

Regarding claim 14, namely that the load cell of Kutsay "would not function properly as a sliding pin" because the "load cell is configured to determine both amplitude and direction of load" (App. Br. 16-17), we note that the Appellants do not provide any evidence that this is the case. An attorney's arguments in a brief cannot take the place of evidence. *In re Pearson*, 494 F.2d 1399, 1405 (CCPA 1974). Because the load cell of Kutsay and the pin it replaces have essentially similar dimensions, we conclude that the person ordinarily skilled in the art has the knowledge to make adjustments to the load cell of Kutsay to include a roller to allow the load cell to travel in the guiderails as the scissor lift expands, and at the same time to prevent the load cell from rotating and from axial dislodgment as it slides in the guiderails.

For the reasons discussed above, the Appellants' argument does not demonstrate error in the Examiner's rejection of claim 14. Accordingly, we also sustain the rejection of claim 14.

DECISION

The decision of the Examiner to reject claims 1-4, 6-9, 12-19, 21-26, and 28 under 35 U.S.C. § 103(a) as unpatentable over Boeckman in view of Murril and further in view of Kutsay and Scotese 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) (2007).

AFFIRMED

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NIXON & VANDERHYE, PC
901 NORTH GLEBE ROAD, 11TH FLOOR
ARLINGTON, VA 22203