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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte LI CHONG TAI, CHIANG SUN CHEAH, and
HUN KWANG LEE

Appeal 2010-009943
Application 11/136,883
Technology Center 2600

Before CARL W. WHITEHEAD, JR., ERIC S. FRAHM, and
ANDREW J. DILLON, *Administrative Patent Judges*.

FRAHM, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE¹

Introduction

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's final rejection of claims 1, 2, and 4-21. Claim 3 has been canceled, and claim 18 is objected to as being allowable but dependent upon a rejected claim (*see* Advisory Action mailed December 29, 2009, Section 7 of action cover sheet).² We have jurisdiction under 35 U.S.C. § 6(b). We affirm.

Appellants' Disclosed Invention

Appellants disclose a user input device such as a mouse, joystick, puck, or other pointing device that re-centers the device using magnetic forces instead of a mechanical spring (Spec. ¶¶ [0001], [0002], [0004]-[0007]; Abs.; Title).

Exemplary Claim

Exemplary independent claim 1 under appeal reads as follows:

1. An apparatus, comprising:

a base;

a puck movably disposed in an area of the base, the puck movable in a generally planar region within the area of the base in directions lateral to an axis perpendicular to the planar region;

¹ Throughout our decision, we make reference to the Appeal Brief filed March 11, 2010 ("App. Br."), the Examiner's Answer mailed April 22, 2010 ("Ans."), and the Reply Brief filed June 22, 2010 ("Reply Br.").

² Appellants incorrectly state that no claims are objected to (*see* App. Br. 4), since claim 18 is objected to in the Advisory Action mailed December 29, 2009. The obviousness rejection of claim 18 has been withdrawn by the Examiner (Ans. 3).

a first magnet system fixedly coupled to the puck,
wherein the first magnet system comprises a first magnet;

a second magnet system fixedly coupled to the base,
wherein the second magnet system comprises a second annular
magnet, wherein the first magnet is disposed within a center of
the second annular magnet and within a plane of the second
annular magnet, the first and second magnet systems to
generate mutually repulsive forces in a lateral direction
substantially parallel to the planar region, the first and second
magnet systems interacting with each other with a resultant
lateral magnetic force of zero exerted upon the puck with
respect to the base when the puck is centered within the area
and with a resultant non-zero centrally-directed lateral repulsive
magnetic force exerted upon the puck when the puck is not
centered within the area, wherein the resultant lateral repulsive
magnetic forces tend to maintain the puck centered within the
area; and

a transducer system responsive to movement of the puck
with respect to the base, wherein the transducer system is
located below the plane of the second annular magnet and at
least partially directly below the first magnet so that the first
magnet moves over the transducer system in response to
movement of the puck.

Examiner's Rejections

(1) The Examiner rejected claims 1, 2, 4-7, and 17, 19, and 20 as
being unpatentable under 35 U.S.C. § 103(a) over the combination of Maatta
(US 2002/0093328 A1), Takatsuka (WO 2004/066138 A1), and Endo (US
6,670,946 B2).³ Ans. 5-12.

³ Although the Examiner indicates that claim 3 is rejected (Ans. 2 and 5),
claim 3 has been canceled, therefore we consider this to be harmless error
and treat the obviousness rejection over Maatta, Takatsuka, and Endo as

(2) The Examiner rejected claims 8-16 as being unpatentable under 35 U.S.C. § 103(a) over the combination of Maatta, Takatsuka, and Harley (US 2005/0110754 A1). Ans. 12-14.

(3) The Examiner rejected claim 21 as being unpatentable under 35 U.S.C. § 103(a) over the combination of Maatta, Takatsuka, Endo, and Harley. Ans. 15.

*Appellants' Contentions*⁴

As to claim 1, Appellants argue in the Appeal Brief that the Examiner's rejection lacks a rational underpinning (App. Br. 11-17).

Appellants also contend that the Examiner erred in rejecting claim 1 for numerous reasons, including:

(1) Takatsuka's repulsive force magnet arrangement cannot be used in Maatta's device to facilitate perpendicular movements because (a) it is not related to perpendicular movement, and (b) Takatsuka's projection 26 and

applying only to claims 1, 2, 4-7, 17, 19, and 20 (note also that the rejection of claim 18 has been withdrawn by the Examiner at pages 3 and 4 of the Answer.

⁴ Separate patentability is not argued for any of claims 2, 4-7, and 17, 19, and 20. Appellants argue claims 1, 2, 4-7, 17, 19, and 20 as a group (App. Br. 8-17; Reply Br. 4-13), relying on the arguments presented as to claim 1 for the patentability of claims 2, 4-7, 17, 19, and 20 (App. Br. 17). Appellants argue claims 2, 4-7, and 17, 19, and 20, as well as the rejections of claims 8-16 and 21, for the same reasons presented as to claim 1 (App. Br. 17). Accordingly, we consider claim 1 to be representative of the group of claims consisting of claims 1, 2, 4-7, 17, 19, and 20, and we will decide the appeal of claims 8-16 and 21 on the same basis as claim 1. Our analysis will only address the merits of claim 1, and claims 2, 4-17, 19, 20, and 21 will not be further addressed other than our ultimate conclusions.

gap 27 cause the perpendicular movement, and not the magnets (App. Br. 11-13);

(2) Takatsuka's repulsive force magnet arrangement does not allow perpendicular movements and therefore cannot be used in Maatta's device (App. Br. 12-13);

(3) combining Takatsuka's repulsive force magnets with Maatta's attractive force magnets would change Maatta's operational principles and would thus require substantial reconstruction and redesign because it would cause Maatta's puck to separate from the rest of the device (App. Br. 13-14);

(4) Maatta teaches away from the modification and from the use of Takatsuka's repulsive force magnets (App. Br. 14-15) (although Appellants admit that Maatta does not explicitly teach away from using repulsive force magnets – *see* App. Br. 15); and

(5) modifying Maatta would render Maatta's device unsatisfactory for its intended purpose, and would prevent its puck from staying centered thus making it difficult for a user to input a navigational movement (App. Br. 15-17).

For the first time in the Reply Brief, Appellants argue (Reply Br. 12-13) the merits of Endo and the combination of Maatta and Takatsuka with Endo.⁵ We consider such arguments to be untimely and not necessitated by

⁵ “Any bases for asserting error, whether factual or legal, that are not raised in the principal brief are waived.” *Ex parte Borden*, 93 USPQ2d 1473, 1474 (BPAI 2010) (informative). *See also Optivus Tech., Inc. v. Ion Beam Appl'ns. S.A.*, 469 F.3d 978, 989 (Fed. Cir. 2006) (“[A]n issue not raised by an appellant in its opening brief . . . is waived.”) (citation omitted). Any new arguments in the Reply Brief not presented in the Appeal Brief will not be considered “absent a showing of good cause” why the arguments could

any new findings or determinations in the Answer. Additionally, Appellants present similar arguments in the Reply Brief as to contentions (2)-(5) covered above with regard to the Appeal Brief, and added some additional bases for these arguments (e.g., hindsight, Reply Br. 7; different flux distribution, Reply Br. 9). These arguments and additional bases are also untimely and are not necessitated by any new findings or determinations in the Answer.

Issue on Appeal

Based on Appellants' arguments, the following single issue is presented for appeal:

Did the Examiner err in rejecting claims 1, 2, 4-7, 17, 19, and 20 as being obvious because Maatta, Takatsuka, and Endo are (1) not properly combinable, and/or (2) the combination of Maatta, Takatsuka, and Endo fails to teach or suggest the limitations of representative claim 1 at issue?

The determination of the issue regarding representative claim 1 will similarly determine the appeal with respect to the rejection of (1) claims 8-16 as being unpatentable under 35 U.S.C. § 103(a) over the combination of Maatta, Takatsuka, and Harley, and (2) claim 21 as being unpatentable under 35 U.S.C. § 103(a) over the combination of Maatta, Takatsuka, Endo, and Harley.

not have been presented in the Appeal Brief. *See Borden*, 93 USPQ2d at 1477.

PRINCIPLES OF LAW

In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the Examiner to establish a factual basis to support the legal conclusion of obviousness. *See In re Fine*, 837 F.2d 1071, 1073 (Fed. Cir. 1988). The Examiner's articulated reasoning in the rejection must possess a rational underpinning to support the legal conclusion of obviousness. *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 418 (2007) (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

Common sense teaches that familiar items may have obvious uses beyond their primary purposes, and persons of ordinary skill can often fit the teachings of multiple patents together like pieces of a puzzle. *KSR*, 550 U.S. at 420. Thus, it is not necessary that the references be physically combinable, without change, to render obvious the invention under review. *In re Sneed*, 710 F.2d 1544, 1550 (Fed. Cir. 1983) (citations omitted). The criteria instead is what these references "would have meant to a person of ordinary skill in the field of the invention." *In re Gorman*, 933 F.2d 982, 986 (Fed. Cir. 1991) (citation omitted).

ANALYSIS

We have reviewed the Examiner's rejections in light of Appellants' contentions in the Appeal Brief (App. Br. 9-17) and the Reply Brief (Reply Br. 6-15) that the Examiner has erred. We disagree with Appellants' conclusions. With regard to claim 1, we adopt as our own (1) the findings and reasons set forth by the Examiner in the action from which this appeal is taken, and (2) the reasons set forth by the Examiner in the Examiner's

Answer in response to Appellants' Appeal Brief (*see* Ans. 5-22). We concur with the conclusions reached by the Examiner.

We agree with the Examiner's response at pages 17-21 of the Answer, that bodily incorporation of the references is not required, and that combining Maatta, Takatsuka, and Endo would have been obvious and would teach or suggest the features of claim 1. We also agree with the Examiner (Ans. 18-19) that replacing Maatta's magnet systems with the magnet arrangement taught by Takatsuka will provide perpendicular movement and still allow the sensors to detect movement of the magnets in order to provide input to the system (Ans. 19). We find the Examiner is also correct that Maatta (i) does not teach away from the modification, (ii) describes using attractive forces, and (iii) does not teach that repulsive forces *cannot* be used⁶ (Ans. 20).

An obviousness determination does not require that the underlying teachings of the references be physically combinable without modification. *Sneed*, 710 F.2d at 1550. Specifically, it is not necessary to find precise teachings in the prior art directed to the specific subject matter claimed because inferences and creative steps that a person of ordinary skill in the art would employ can be taken into account. *KSR*, 550 U.S. at 418. We find the Examiner's reasoning as to the obviousness of claim 1 to be credible. One skilled in the art would have been able to replace Maatta's attractive force magnet arrangement with Takatsuka's repulsive force magnet arrangement. Further, one skilled in the art would have been able to (i) center the modified puck using the repulsive magnetic forces as taught by

⁶ Notably, Appellants admit that "Maatta does not *explicitly* teach away from the use of repulsive forces" (App. Br. 15).

Takatsuka to increase functionality of input operations by allowing perpendicular and lateral movement (Ans. 8-9), and (ii) locate the transducer system below the magnets in view of Endo's teachings "in order to allow for more accurate movement detection which saves space" (Ans. 9).

We do not agree with Appellants' arguments (App. Br. 13-17; Reply Br. 8-11) that modifying the puck and magnet systems of Maatta in view of Takatsuka's centering magnetic puck with repulsive magnetic forces, and Endo's placement of a transducer system below a plane of the second magnet, would destroy the essential function of Maatta's puck which uses attractive magnetic forces. The Examiner's modification of Maatta with Takatsuka's repulsive force magnet arrangement is based on replacing Maatta's attractive force magnet arrangement with Takatsuka's repulsive force magnet arrangement (Ans. 17-19). Appellants' argument (App. Br. 14) that using repulsive force magnets in a system having attractive force magnets would require substantial reconstruction and redesign of Maatta's system/elements is misplaced, since the attractive force magnet arrangement of Maatta would obviously be replaced by the repulsive force magnet arrangement of Takatsuka. To the contrary, we agree with the Examiner (Ans. 20-21) that Maatta's modified puck input device would still allow inputs to be generated as per its intended purpose, and would generate inputs related to repulsive forces of magnets as taught by Takatsuka.

Assuming, *arguendo*, Appellants' arguments in the Reply Brief regarding Endo are properly before us, Appellants' contentions (Reply Br. 12-13) that modifying Takatsuka with Endo "would deteriorate the performance of the magnetic arrangement as taught by Takatsuka" and reduce the accuracy of Takatsuka's sensors are unpersuasive.

In view of the foregoing, Appellants have not sufficiently shown that the Examiner erred in finding that (i) it would have been obvious to modify Maatta with the teachings of Takatsuka and Endo, or (ii) the combination of Maatta, Takatsuka, and Endo teaches or suggests the apparatus recited in claim 1. Accordingly, we will sustain the obviousness rejection of representative claim 1 based upon the combined teachings and suggestions of Maatta, Takatsuka, and Endo, as well as claims 2, 4-7, 17, 19, and 20 which all ultimately depend from claim 1.

CONCLUSIONS

(1) The Examiner has not erred in rejecting claim 1 as being obvious, because (a) Maatta, Takatsuka, and Endo are properly combinable, or (b) the combination of Maatta, Takatsuka, and Endo teaches or suggests the limitations of claim 1 at issue.

(2) Appellants have not established that the Examiner erred in rejecting: (i) claims 1, 2, 4-7, 17, 19, and 20 as being unpatentable under 35 U.S.C. § 103(a) over the combination of Maatta, Takatsuka, and Endo; (ii) claims 8-16 as being unpatentable under 35 U.S.C. § 103(a) over the combination of Maatta, Takatsuka, and Harley; or (iii) claim 21 as being unpatentable under 35 U.S.C. § 103(a) over the combination of Maatta, Takatsuka, Endo, and Harley.

(3) The Examiner has not erred in rejecting claims 1, 2, 4-17, and 19-21 as being unpatentable under 35 U.S.C. § 103(a).

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DECISION

The Examiner's rejections of claims 1, 2, 4-17, and 19-21 under 35 U.S.C. § 103(a) are 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)(1)(iv).

AFFIRMED

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