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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
90/008,240	09/19/2006	5283862	LUN011/121196	2815

50947 7590 05/10/2010
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EXAMINER

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ART UNIT	PAPER NUMBER
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3992

MAIL DATE	DELIVERY MODE
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05/10/2010

PAPER

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte LUND, LLC

Appeal 2010-005851
Reexamination Control 90/008,240
Patent 5,283,862
Technology Center 3900

Decided: 10 May 2010

Before RICHARD TORCZON, SALLY C. MEDLEY, and SCOTT R.
BOALICK, *Administrative Patent Judges*.

TORCZON, *Administrative Patent Judge*.

DECISION ON APPEAL

The patent owner (Lund) seeks review under 35 U.S.C. 134 of a final rejection of claims 1, 9-12, and 20.¹ Final rejection of these claims is AFFIRMED.

¹ Claims 21-25, which were are also rejected, have been canceled. Br. at 4.

OPINION

Introduction

On appeal, the examiner maintains rejections of the appealed claims as having been anticipated by a Toshiba laid-open application² or as encompassing subject matter that would have been obvious in view of Toshiba and a patent to Crossland et al.³ The subject matter of the appealed claims is best illustrated by claim 1, which defines the invention as—⁴

- A portable computer unit comprising:
- (a) a portable computer housing;
 - (b) computer means positioned in said housing;
 - (c) flat panel display means interfaced to said computer means;
 - (d) a transparent data entry array interfaced to said computer means and overlaid on said display means; and
 - (e) closure panel means having
 - said display means and said array mounted thereon on one side and
 - reversibly hingedly connected to said housing in such a manner as to enable said closure panel means to be pivotally positioned
 - in a first position in overlying relation to said housing with said display means facing away from said housing for use of said data entry array and

² S. Kunii, *Portable computer*, Sho63/39731 (15 March 1988) (Toshiba). All references are to the translation certified by Yasuyuki Tateishi in the record. Lund and the examiner sometimes refer to Toshiba as "Panasonic".

³ W.A. Crossland et al., *Data processing terminal having support module and portable display module for liquid crystal display*, U.S. Patent 4,720,781 (19 January 1988) (Crossland).

⁴ All claim language is reproduced from the claims appendix of Lund's appeal brief except with the addition of indenting where necessary. 37 C.F.R. § 1.75(i).

alternatively to be pivotally positioned in a second position in overlying relation to said housing with said display means facing toward said housing,

said computer housing means and said closure panel means incorporating electrical connecting means adapted to electrically connect said display means and said data entry array to said computer means in both said first and said second positions.

Claim construction

Analysis of a prior art rejection begins with construction of the contested limitations. This contest focuses on Lund's use of "means". The examiner noted five⁵ instances of "means" in the claim, none of which use the typical "means for" formula to invoke 35 U.S.C. 112(6). The examiner concluded that the claims did not invoke paragraph 6 and thus must be construed broadly. Lund contends that "electrical connecting means" does invoke paragraph 6, while the others do not.

The examiner has a point that it is hard to discern any principled difference between the way "means" is used in the claim such that one skilled in the art would understand that only one such use invokes paragraph 6. The ordinary remedy for such confusion is to reject the claim under 35 U.S.C. 112(2) for indefiniteness. The Office does not reject original patent claims in reexamination under § 112, however.⁶

⁵ One instance, "said computer housing means" acutely illustrates Lund's inconsistent use of "means": the antecedent "a portable computer housing" does not actually use the word "means" to define the limitation.

⁶ 37 C.F.R. § 1.552(a).

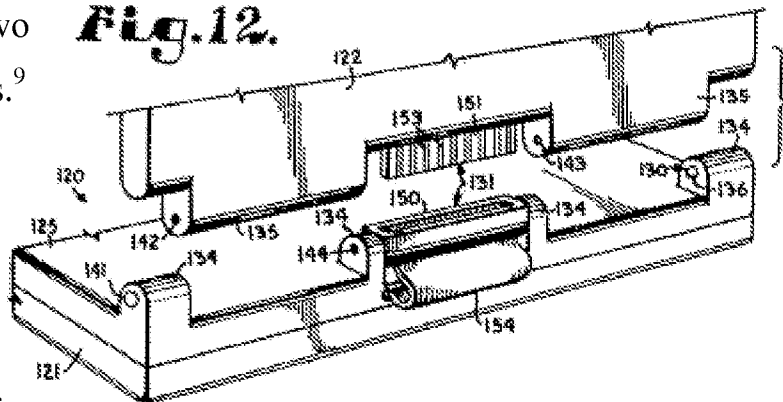
Similarly, claim breadth and indefiniteness are not interchangeable concepts.⁷ Thus, it does not follow that a confusing inconsistency must result in a broad construction. For the purposes of the obviousness rejection, we assume (without deciding) that "electrical connecting means" invokes treatment under paragraph 6.⁸

Paragraph 6 requires corresponding structure in the specification.

Lund's brief identifies two corresponding structures.⁹

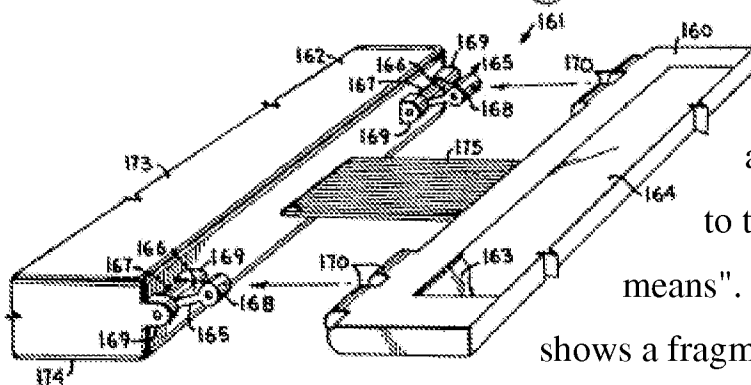
Lund's Figure 12 (right) shows a fragmentary side perspective view of a computer unit, illustrating the details of a separable hinge and a separable electrical connector assembly 131.

Fig. 12.



Lund's Figure 15 (left) shows a fragmentary perspective view of a separable hinge and a separable electrical connector assembly 131.

Fig. 15.



According to Lund, the elements of the electrical connector assembly 131 correspond to the "electrical connecting means". Lund's Figure 15 (left) shows a fragmentary perspective view

⁷ *In re Gardner*, 427 F.2d 786, 788 (CCPA 1970).

⁸ *Ex parte Tanksley*, 26 USPQ2d 1384, 1387 (BPAI 1991); *accord Eli Lilly & Co. v. Bd. of Regents of Univ. of Wa.*, 334 F.3d 1264, 1271 (Fed. Cir. 2003) (result the same under either construction).

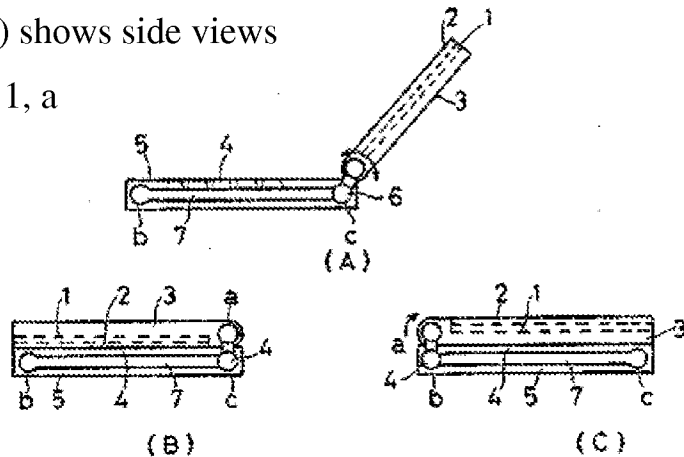
⁹ Br. at 8 and 13.

of a computer unit with a compound hinge and a ribbon cable 175 connecting the computer base and cover. According to Lund, the ribbon cable 175 also corresponds to the "electrical connecting means". In keeping with this identification, we construe "electrical connecting means" to include any structure equivalent either¹⁰ to the reversible connector assembly 131 or to the ribbon cable 175.¹¹ No structure beyond what is needed "to electrically connect said display means and said data entry array to said computer means in both said first and said second positions" is required.¹²

Graham factors

Scope and content of the prior art

Toshiba teaches a portable computer with a display and an input tablet. Toshiba Figure 1 (right) shows side views of the computer with a display 1, a transparent tablet 2 over the display 1, an upper cover 3, a keyboard 4, a main body case 5, a hinge 6, and a slide rail 7. The figure shows three configurations (A)-(B). In configuration (A), the cover 3 is open, but



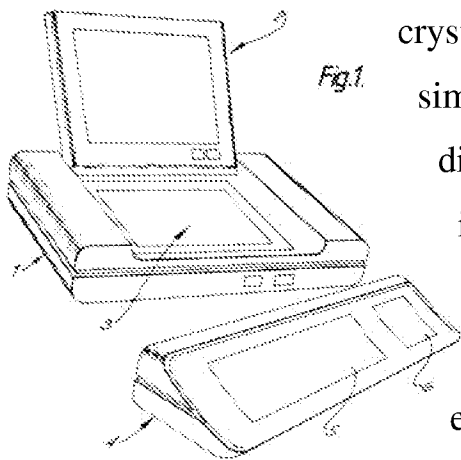
¹⁰ *Ishida Co. v. Taylor*, 221 F.3d 1310, 1316 (Fed. Cir. 2000) (explaining alternative corresponding structures).

¹¹ While the examiner argues that the ribbon cable 175 in Lund's Figure 15 is too short to be functionally reversible, the hypothetical person of skill must be presumed to be able to make routine adjustments. *In re Sovish*, 769 F.2d 738, 742-43 (Fed. Cir. 1985).

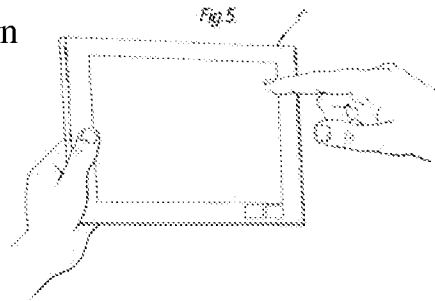
¹² *Asyst Techs. v. Empak, Inc.*, 268 F.3d 1364, 1371 (Fed. Cir. 2001).

it can close to protect the case 5, as shown in configuration (B). In configuration (C), the cover 3 is reversed so the display 1 faces out through the transparent tablet 2. The tablet 2 provides an alternative to the keyboard 4 as an input device. The cover reversal is achieved by sliding the hinge 6 along the rail 7 from position c to position b.¹³ Toshiba explains that the (C) configuration with an exposed, horizontal tablet 2 provides advantages of compactness and ease of use.¹⁴ The examiner¹⁵ notes that some sort of electrical connection between the cover and the main body must exist.

Crossland teaches data processing terminals with flat-panel liquid-



crystal displays. Crossland FIG. 1 (left) shows a simplified perspective view of a terminal with a display 2 in the cover and a second display 3 in the body, as well as a detachable keyboard 4.¹⁶ Crossland FIG. 5 (below, right) shows an embodiment in



which the display 2 is removed from and operated separately from the terminal.¹⁷ The display may have a touch-sensitive overlay

¹³ Toshiba at 7-9.

¹⁴ Toshiba at 10.

¹⁵ Ans. at 14.

¹⁶ Crossland at 1:61-2:2.

¹⁷ Crossland at 2:2-17 and abstract.

for data entry.¹⁸ Crossland recognizes that connecting the removable display 2 presents an electrical connection problem that could be solved "various ways." Crossland specifically offers as examples either a direct plug-and-socket connection or the use of a flexible cable with its own plug and socket.¹⁹

Differences

Toshiba does not identify precisely how the electrical connection is achieved in its hinge and rail system. In particular, it does not disclose a cable that follows the hinge along the rail or a reversible connector in the hinge engaging reciprocal connectors at positions b and c.

Crossland's display/tablet is detachable, but is not disclosed to be reversible. Similarly, Crossland's plug-and-socket connector is not disclosed to be reversible. Crossland's flexible cable is not specifically a ribbon cable. Moreover, Crossland's cable has a plug and a socket, whereas Lund's ribbon cable 175 is not shown to have any plug or socket.

Level of skill

Both Toshiba and Crossland indicate considerable skill in the art when it comes to making connections between the display and the main computer housing. Toshiba is utterly silent about how the connection is achieved in its rather complex hinge-and-rail system. Crossland indicates that "various" ways of making a connection between the detachable display and terminal are possible, while providing two examples. Crossland, thus, suggests that

¹⁸ Crossland at 3:12-16.

¹⁹ Crossland at 2:46-60.

other alternatives would be readily apparent to those skilled in the art. Moreover, Crossland's examples (direct plug and flexible cable) are in the same class as Lund's embodiments.

Lund's disclosure supports a finding that those in the art were readily aware of appropriate existing connection technologies. Lund's description of the card-edge connector 151²⁰ and the ribbon cable 175²¹ is terse, which indicates a confidence that those in the art were already familiar with the specific structures that Lund disclosed.

Other evidence

We have not been directed to testimony or evidence of secondary considerations.²²

Analysis

Claim 1

The cited prior art shows that the subject matter of a portable computer with a cover combining a display and a transparent data-entry tablet was known. Moreover, such covers were taught to be optionally reversible or detachable, with advantages associated with each option. Those skilled in the art knew how to employ a variety of electrical connections and would tailor their choice to the design of the cover (i.e.,

²⁰ Lund at 13:52-68.

²¹ Lund at 14:59-64.

²² Br., evidence appendix: "None."

reversible, detachable, or both).²³ Crossland's suggestion to use a flexible cable is explicit and would (by virtue of its flexibility) permit reversibility. Ribbon cable was just one common example of a flexible cable.²⁴ Whether the cable had external plugs and sockets would depend on whether the cover was also intended to be detachable. If not, then the cable could be permanent and would not need such connectors. In sum, the use of an equivalent to Lund's ribbon cable 175 would have been a readily apparent expedient to one in the art seeking to connect a reversible, but not detachable cover to the main body of a portable computer.

Claim 20

Lund separately argues the construction of claim 20. Lund acknowledges that claim 20 lacks the "electrical connecting means" of claim 1, but contends that the "closure panel means" will necessarily include an electrical connecting means as in claim 1. Accordingly, Lund relies on its arguments for claim 1 to distinguish claim 20 as well. Assuming without deciding that Lund is correct in its construction of "closure panel means", its construction does not distinguish the prior art for claim 20 any more than it did for claim 1.

²³ *KSR Int'l v. Teleflex Inc.*, 550 U.S. 398, 415 (2007) (holding that obviousness requires a functional approach).

²⁴ *See Thomas & Betts Corp. v. Litton Systems, Inc.*, 720 F.2d 1572, passim (Fed. Cir. 1983) (discussing ribbon cable in the context of "the crowded art of electrical connectors").

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Anticipation

Affirmance of the obviousness rejection for all claims makes it unnecessary to reach the anticipation rejection.²⁵

Holding

The final rejection of claims 1, 9-12, and 20 is—

AFFIRMED

J.M. Gilbreth, GILBRETH & ASSOCS., of Bellaire, Texas for the patentee

Morton Amster, AMSTER, ROTHSTEIN & EBENSTEIN, LLP, of New York,
New York for the requester

²⁵ *Cf. In re Gleave*, 560 F.3d 1331, 1338 (Fed. Cir. 2009) (not reaching obviousness after finding anticipation).